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# **Redwood Parkway – Fairgrounds Drive Improvement Project**

SOLANO COUNTY, CALIFORNIA

DISTRICT 04-Sol-80 PM 4.0/4.9

04-Sol-37 PM 10.6/11.2

EA 4A4410/Project No. 0400020584

SCH No. 2011012032

## **Final Environmental Impact Report/ Environmental Assessment (EIR/EA)**



Prepared by the State of California Department of Transportation and  
Solano Transportation Authority

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.



**June 2015**

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## General Information About This Document

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SCH No. 2011012032  
DISTRICT 04-SOL-80-PM 4.0/4.9  
04-Sol-37 PM10.6/11.2  
EA 4A4410/Project No. 0400020584

Widen and improve Fairgrounds Drive from the Interstate 80/Redwood Parkway interchange (post mile 4.0/4.9) to the State Route 37/Fairgrounds Drive interchange (post mile 10.6/11.2), including interchange and intersection modifications.

**FINAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT**

Submitted Pursuant to: (State) Division 13, California Public Resources Code  
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA  
Department of Transportation

and

SOLANO TRANSPORTATION AUTHORITY

June 17, 2015  
Date of Approval

Daniel J. McElhenny  
*Chief Deputy For* Bijan Sartipi  
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JUNE 2, 2015  
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CALIFORNIA DEPARTMENT OF TRANSPORTATION  
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

*Redwood Parkway – Fairgrounds Drive Improvement Project*  
*EA 4A4410/Project No.0400020584*  
*Final EIR/EA*

FOR

The California Department of Transportation (Caltrans) has determined that the Build Alternative will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) for the Redwood Parkway – Fairgrounds Drive Improvement Project which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA.

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.

June 17, 2015  
Date

David A. McElhenny  
Chief Deputy for Bijan Sartipi  
Department District Director  
Department of Transportation, District 4

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## Summary

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The Solano Transportation Authority (STA), Solano County, and the City of Vallejo, in cooperation with the California Department of Transportation (Department), propose to modify the existing Interstate 80 (I-80)/Redwood Parkway interchange to a tight diamond configuration, realign Fairgrounds Drive to a tee intersection north of the I-80 westbound ramps, widen Fairgrounds Drive between Redwood Street and State Route 37 (SR 37), widen the westbound exit ramp from SR 37 to Fairgrounds Drive, and improve the intersections at the SR 37/Fairgrounds Drive Interchange. Current transportation issues in this area include poor circulation during peak commute periods, long delays at intersections, short acceleration and deceleration areas, and limited sight distance. In addition, the existing capacity of the roadways in this area would not accommodate the projected future traffic volumes. **Figure 1-1** depicts the project location and **Figures 1-2a** through **1-2c** depicts the proposed Build Alternative improvements.

### JOINT CEQA/NEPA DOCUMENT

The project is subject to Federal and State environmental review requirements because STA proposes the use of federal funds from the Federal Highway Administration (FHWA) and/or project requires an approval from FHWA. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). STA is the project proponent and the lead agency under CEQA. FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to Section 6005 of SAFETEA-LU codified at 23 United States Code (USC) 327(a)(2)(A). With NEPA Assignment, FHWA assigned and the Department assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, quite often a "lower level" document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA was prepared. STA and the Department undertook additional environmental and/or engineering studies to address comments. The Final EIR/EA includes responses to comments received on the Draft EIR/EA and identifies the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and the Department will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

Any changes to the draft EIR/EA, as a result of comments received, are denoted with a vertical line in the right margin and referenced in **Chapter 4.0, Comments and Coordination**.

## OVERVIEW OF THE PROJECT AREA

The proposed improvements are located within an existing urban context, with a mixture of commercial, office, residential, and recreation facility developments. Beginning at the southernmost portion of the project study area, the I-80/Redwood Parkway interchange and Redwood Parkway/Fairgrounds Drive intersection are surrounded by a mixture of commercial and residential development. The area along Fairgrounds Drive, between Valle Vista Avenue and Coach Lane is developed with multi-family homes and medical office buildings, as well as vacant lands. The area between Coach Lane and SR 37 along Fairgrounds Drive is primarily developed with recreational facilities. Six Flags Discovery Kingdom Amusement Park (Six Flags) and associated surface parking areas are located to west of Fairgrounds Drive. Lake Chabot is also on the west side of Fairgrounds Drive. The Solano County Fairgrounds and associated surface parking areas are located to the east, along with a Courtyard Marriot hotel and fast-food restaurants. The area to the north of SR 37, along Fairgrounds Drive, is comprised of single-family homes, a gas station, and Best Western Inn hotel.

Rindler Creek enters the project study area at the intersection of Coach Lane and Fairgrounds Drive, from under I-80 and then follows the outer boundary of the County Fairgrounds property. The creek flows northwest along Fairgrounds Drive before crossing beneath the road via a series of culverts. The creek forms some backwater channels between the road embankment and the embankment for the Six Flags Amusement Park, and then flows into Lake Chabot.

## Related Projects

The revitalization of the 149-acre Solano County Fairgrounds property, located on the east side of Fairgrounds Drive, between Coach Lane and SR 37 is planned for future redevelopment. Future land uses include features such as a public entertainment zone and the fair of the future zone. The public entertainment zone would provide an active gathering place that would be home to a waterside pedestrian trail, restaurants, public art,



main street shops, terraced seating, and water-related activities. The fair zone continues the 60-year tradition of the annual Solano County Fair and would house a world class exhibition hall, organic demonstration farm, children's discovery island, and flexible sports fields and other multi-use facilities. The analyses of the potential effects of the proposed Build Alternative reflect the local land use and road improvements planned to be in place by 2035.

## PURPOSE AND NEED

Current transportation issues within the project corridor include poor circulation during peak commute periods, long delays at intersections, short acceleration and deceleration areas, and limited sight distance. In addition, the existing capacity of the roadways in this area will not accommodate projected future traffic volumes planned for in the project vicinity.

The purpose of the project is to address these issues by:

- Relieving existing congestion and improving traffic flow on the local roadway network for approved redevelopment and planned land uses in the area;
- Improving the existing interchanges and intersection operations; and
- Improving the safety of the local roadway network by reducing congestion.

## PROPOSED ACTION

The types of interchange improvements that would be possible at the existing Fairgrounds Drive/SR 37 and the Redwood Parkway/I-80 interchange are limited because these areas are physically constrained by the existing residential and commercial development. With the exception of the Build Alternative, other interchange configurations would require the reconstruction of the existing overcrossing structures and have severe right-of-way impacts combined with extremely high construction costs. Similarly, along the Fairgrounds Drive right-of-way, no other alignment alternatives were possible because of the steep grades and developed land uses and/or water features on either side of the roadway.

Because of these constraints, no other design alternatives were carried forward beyond initial design screenings. The alternatives evaluated in this environmental document include the Build Alternative and the No-Build (No Action) Alternative.

## Build Alternative

**Figures 1-2a** through **1-2c** illustrate the improvements proposed under the Build Alternative, which would include the following major elements:

- Modification of the Redwood Parkway/I-80 Interchange
- Relocation of the Fairgrounds Drive/Redwood Street Intersection

- Moorland Street Cul-de-sacs
- Widening of Fairgrounds Drive
- Modifications to the Fairgrounds Drive/SR 37 interchange
- Signal Modifications

The total length of the project corridor is approximately 1.5 miles, and extends from the Fairgrounds Drive/ SR 37 interchange (postmile 4.0-4.9) to the Redwood Parkway/Interstate 80 (I-80) interchange (postmile 10.6-11.2).

## No-Build (No Action) Alternative

The No-Build Alternative is being evaluated in accordance with NEPA and CEQA requirements, and serves as the baseline comparison to the Build Alternative. Under the No-Build Alternative, Fairgrounds Drive would maintain its existing configuration. No realignment of the Fairgrounds Drive/Redwood Street intersection would occur. There would be no improvements to the SR 37/Fairgrounds Drive or I-80/Redwood Parkway/Admiral Callaghan Lane interchanges.

Traffic volumes within the project corridor would increase under the No-Build Alternative. As there are no improvements proposed to the existing local roadway network, the No-Build Alternative would not achieve the project purpose of increasing the local roadway network capacity to accommodate existing and approved redevelopment and growth in the area. In addition, the increased traffic volumes without capacity improvements would worsen the congestion and slow traffic flow on the local roadway network. Without the realignment of the Fairgrounds Drive/Redwood Street intersection, the No-Build Alternative would not improve the current safety issues related to limited sight distance in this area. In addition, without modifying the I-80 eastbound ramps to a tight diamond configuration, short acceleration and deceleration lanes would remain, resulting in nonstandard merge and diverge distances.

## Project Impacts

**Table S-1** summarizes the adverse effects of the Build Alternative in comparison with the No-Build Alternative. The proposed avoidance, minimization, and/or mitigation measures to reduce the effects of the Build Alternative are also presented. For a complete description of potential adverse effects and recommended measures, please refer to the specific sections within **Chapter 2.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures**.

Table S-1 Project Impacts

Environmental Topic	No Build Alternative	Build Alternative	Avoidance, Minimization, and/or Mitigation Measures
<b>Air Quality</b>			
Emissions from construction equipment	None expected	Temporary due to construction	Construction-related mitigation
<b>Land Use</b>			
Division of an established community	None expected	None expected	None
Compatibility with land use plans	Low	High consistency	None
Compatibility with habitat conservation plan	Not applicable	Not applicable	None
<b>Growth</b>			
No Effect			
<b>Farmlands/Timberlands</b>			
No Effect			
<b>Community Impacts</b>			
Displacement of existing housing/commercial and 17 commercial parcels	None	19 residential parcels potentially affected	Caltrans Relocation Assistance Program
Disproportionately affect environmental justice communities	No	No	None
<b>Utilities/Emergency Services</b>			
No Effect			
<b>Traffic and Transportation</b>			
Conflict with applicable plans, ordinances, policies, or programs	None	None	None
Increase congestion	Yes	Will reduce congestion	None

Environmental Topic	No Build Alternative	Build Alternative	Avoidance, Minimization, and/or Mitigation Measures
Increase hazards as a result of a design feature	None	None	None
<b>Visual Resources</b>			
Adverse effect on scenic views/damage scenic resources	Same as Build Alternative	No scenic resources in project area	None
Degradation of existing visual character or quality	None expected	Potential visual quality lost	Roadway design would adhere to City of Vallejo Standard Specifications All landscaping removed by project would be replaced
Create a new source of light or glare	None expected	Temporary due to construction	Caltrans light and glare screening measures
<b>Cultural Resources</b>			
Create an adverse change in the significance of a historical resource	None expected	No historical resources in project vicinity	None
Create an adverse change in the significance of an archaeological resource	None expected	No archaeological resources in project vicinity.	An Archaeological Monitoring and Discovery Plan has been prepared that specifies the appropriate construction monitoring locations and protocols recommended for an area near the known redeposit of archaeological materials outside of the project's area of potential effect (APE).
Disturbance to human remains	None expected	None expected	If human remains discovered, activity will stop (State Health and Safety Code Section 7050.5). If the remains are thought to be Native American, the Native American Heritage Commission will be contacted (Public Resources Code Section 5097.98).

Environmental Topic	No Build Alternative	Build Alternative	Avoidance, Minimization, and/or Mitigation Measures
<b>Hydrology and Floodplain</b>			
Within a 100-year floodplain	Same as Build Alternative	Small portion of Fairgrounds Drive, north of Coach Lane	None
Expose people/structures to a significant risk of loss	Unknown	None expected	None
<b>Water Quality and Storm Water Runoff</b>			
Result in substantial drainage pattern alteration	None	None expected	None
Violation of water quality standards	None	Temporarily during construction	Storm Water Pollution Prevention Plan
Change to groundwater supply or groundwater recharge	None	None	None
Substantially degrade water quality	None	Possible operation impacts	Design Pollution Prevention and Treatment Best Management BMPs.
<b>Geology</b>			
Expected Likelihood of seismic related issues, including ground shaking and liquefaction	Same as Build Alternative	High potential for ground shaking, liquefaction potential varies	Caltrans seismic design standards
Expose people or structures to potential adverse effects	None expected	Worker safety	Occupational Safety and Health Act Section 5(a)(1)
<b>Paleontology</b>			
Unearth previously unidentified paleontological resources (i.e., fossil remains and sites)	None expected	Potential due to excavation and construction activities	Preparation and implementation of a Department-approved paleontological monitoring and mitigation program. See Mitigation Measure PAL-1

Environmental Topic	No Build Alternative	Build Alternative	Avoidance, Minimization, and/or Mitigation Measures
<b>Hazardous Materials</b>			
Create a hazard to the environment	None expected	Potential due to excavation and construction activities	Additional subsurface sampling, Soil Management Plan, and Caltrans Variance  Follow regulations requiring abatement of asbestos-containing materials and lead-based paint.
Create a hazard to the public	None expected	None expected	Additional subsurface sampling, Soil Management Plan, and Caltrans Variance  Follow regulations requiring abatement of asbestos-containing materials and lead-based paint.
Location on a site that is included on a list of hazardous materials sites	Same as Build Alternative	Varies throughout project area, sites on several lists	Additional subsurface sampling, Soil Management Plan, and Caltrans Variance  Follow regulations requiring abatement of asbestos-containing materials and lead-based paint.
<b>Noise</b>			
Exposure of the public to excessive noise levels, including groundborne noise levels	None	Some temporary noise effects, no permanent ambient noise increase with mitigation	Noise abatement measures, sound walls
A substantial increase in permanent noise levels	None expected	Potential permanent noise level increases ranging from 0 to 6 dBA (varies throughout project area)	Potential noise abatement measures
A substantial increase in temporary noise levels	None	Due to construction activities	Restricted construction hours, equipment mufflers, equipment placed away from sensitive receptors, "quiet" air compressors, no unnecessary idling, equipment must conform to Standard Specifications

Environmental Topic	No Build Alternative	Build Alternative	Avoidance, Minimization, and/or Mitigation Measures
<b>Energy</b>			
No Effect			
<b>Biological Resources</b>			
Effects to sensitive or special status species	None	Western pond turtle, potential effect to bird habitat	Limit construction zone, limit artificial lighting, dispose of food-related trash, no firearms on site, no pets on site, conduct nesting bird surveys prior to construction and butterfly survey, biological monitor present during Rindler Creek relocation
Effects to habitat or sensitive natural communities	None	Wetlands/riparian woodlands effected due to realignment of Rindler Creek	Compensatory mitigation for jurisdictional water features. See Mitigation Measure BIO-1.
Conflict with local policies/plans	None	None	None

## COORDINATION WITH PUBLIC AND OTHER AGENCIES

### Notice of Preparation and Scoping

“Scoping” is the process of determining the scope, focus, and content of an environmental document. The scoping process allows agencies and other interested parties to provide input on the proposed project, range of alternatives, topics being evaluated, environmental effects, methods of assessment, and mitigation measures being considered.

Scoping for this project included the use of several channels of communication, including the Notice of Preparation (NOP), mailers, internet, and newspaper ads. In addition, a public open house scoping meeting was held on January 26, 2011 to inform the public and agencies of the project and scoping process. The NOP was issued to the State Clearinghouse on January 11, 2011. A mailer, which provided information on the project and details of the scoping meeting, was distributed to approximately 2,000 stakeholders in the project vicinity. Stakeholders include property owners within 500 feet of the project, elected officials and public agencies, special interest organizations, and neighborhood groups. The list of stakeholders was developed with the aid of the City of Vallejo Planning Department, the Solano 360 project stakeholder list, and local parcel data. This information was also posted on January 11, 2011 to the STA website: [www.sta.ca.gov](http://www.sta.ca.gov). The project information on the website was available both in English and Spanish and provided project location maps.

An e-mail address ([fairgroundsdiveproject@gmail.com](mailto:fairgroundsdiveproject@gmail.com)) was created as an additional method for the public to comment on the Build Alternative.

A display advertisement announcing the scoping period and the public open house scoping meeting ran in the Vallejo Times-Herald and Cronicas (the local Spanish-language newspaper) on Tuesday, January 11, 2011.

There were eight written comments submitted at the January 26 scoping meeting. Two comment sheets were mailed to STA and six e-mails were received via [fairgroundsdiveproject@gmail.com](mailto:fairgroundsdiveproject@gmail.com). One comment letter was received from the California Department of Fish and Game, one letter was received from the Governor’s Office of Planning and Research, and one comment letter was received from the California Transportation Commission. Key issues raised during the scoping period are addressed in **Chapter 2.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures**, of this environmental document.

A public meeting was held on January 18, 2012 to provide information and answer questions about the Build Alternative. Invitation letters were sent to property owners whose residence or business may potentially be directly impacted by the project. Thirteen property owners and residents signed in at the meeting and one written comment was received.



The public review period of the draft EIR/EA started September 21, 2012 and ended November 5, 2012. A public meeting was also held on October 11, 2012 during the 45-day review period of the draft EIR/EA. The meeting was held from 7:00 to 8:00 p.m at Cooper Elementary School, located at 612 Del Mar Avenue in Vallejo, California. The primary purpose of the meeting was to provide information, answer questions, and receive comments on the draft EIR/EA for the project. The secondary purpose of the meeting was to present the findings of the noise abatement options evaluated at potential noise affected areas along the project corridor, and receive public comments regarding the potential barrier locations.

Twenty-nine attendees signed in at the meeting. The meeting format was an open house, where attendees could view exhibit boards illustrating the proposed Build Alternative improvements and submit verbal and written comments. Members of the project team were present to answer questions and provide project information. A Spanish translator was present to assist with Spanish translation.

A total of 16 written comment forms were received at the meeting. No verbal comments were submitted. The majority of the concerns raised by the attendees were regarding right-of-way acquisition of private property. Other issues raised included general support or dislike for the project, the placement of noise barriers, and traffic safety. Copies of the written comments received during the meeting are included in **Section 4.2.2, Responses to Comments**.

## Necessary Permits and Approvals

**Table S-2** identifies the permits/approvals that would be required for project construction.

Table S-2 Permits and Approvals

Agency	Permit/Approval	Status
United States Army Corps of Engineers	Section 404 Permit – Nationwide	Issued during the Final Design Phase
United States Fish and Wildlife Service	Concurrence with “no effect” determination	Issued during the Final Design Phase
California Department of Fish and Game <sup>1</sup>	1602 Agreement	Issued during the Final Design Phase
California Water Resources Board	NPDES Permit	Issued during the Final Design Phase
Regional Water Quality Control Board	Section 401 Certification	Issued during the Final Design Phase

Agency	Permit/Approval	Status
Metropolitan Transportation Commission (MTC) Air Quality Conformity Task Force/ Federal Highway Administration (FHWA)	Regional Air Quality Conformity <sup>1</sup>	MTC Determination December 17, 2014 FHWA Determination February 2, 2015
	Project-Level Air Quality Conformity	MTC Determination October 6, 2011 FHWA Concurrence May 21, 2015
State Historic Preservation Officer (SHPO)	Concurrence on Eligibility Determinations/Finding of No Historic Properties Affected	Concurrence issued March 1, 2012

<sup>1</sup> As of January 1, 2013, the California Department of Fish and Game (CDFG) changed its name to California Department of Fish and Wildlife (CDFW). Because the draft EIR/EA was published in September 2012, prior to the agency's name change, "CDFG" is referenced in relevant correspondence and discussion in order to maintain consistency with the project's administrative record.

Temporary construction easements may be required from the City of Vallejo and Solano County to accommodate work outside State-owned right-of-way.

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## List of Acronyms

AB 32	Assembly Bill 32
AB 1493	Assembly Bill 1493
ACM	asbestos containing material
ADT	average daily trips
APE	area of potential effect
ARB	California Air Resources Board
ASR	Archaeological Survey Report
BAAQMD	Bay Area Air Quality Management District
BMPs	Best Management Practices
BSA	biological study area
CAAQS	California Ambient Air Quality Standards
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Compensation and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
CWA	Clean Water Act
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO-CAT	Costal Ocean Climate Action Team
CSA	construction staging area
CTP	Solano Comprehensive Transportation Plan
dB	decibel
dBA	A-weighted decibel
DEIR	Draft Environmental Impact Report
Department	California Department of Transportation
DI	De-Ionized
DSA	Disturbed Soil Area
EIS	Environmental Impact Statement
EO	Executive Order
EOS	Edge of Shoulder
ESL	Environmental Screening Limits

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FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Maps
FONSI	Finding of No Significant Impact
FSTIP	Federal Statewide Transportation Improvement Program
FTA	Federal Transit Administration
FY	fiscal year
GHGs	greenhouse gases
GVRD	Greater Vallejo Recreation District
H <sub>2</sub> S	Hydrogen Sulfide
HFC-134a	s, s, s, 2 –tetrafluoroethane
HFC-152a	difluoroethane
HFCs	hydrofluorocarbons
HFC-23	fluoroform
HOV	high occupancy vehicle
HPSR	Historic Property Survey Report
HRER	Historic Resources Evaluation Report
I-80	Interstate 80
IGR	Intergovernmental Review
IPCC	Intergovernmental Panel on Climate Change
ITS	Intelligent Transportation System
Leq	The average A-weighted noise level during the measurement period
L <sub>max</sub>	The maximum A-weighted noise level during the measurement period
LEDPA	least environmentally damaging practicable alternative
LOS	Levels of Service
LT	long-term
LUST	Leaking Underground Storage Tank
MCE	Maximum Credible Earthquake
MLD	Most Likely Descendent
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4s	Municipal Separate Storm Sewer Systems
MSAT	Mobile Source Air Toxics
MTC	Metropolitan Transportation Commission
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria

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NADR	Noise Abatement Decision Report
NAHC	Native American Historic Commission
NEPA	National Environmental Protection Act
NES	Natural Environment Study
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic Atmospheric Administration
NOAA Fisheries	National Marine Fisheries Service
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O <sub>3</sub>	ozone
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Act
OSTP	Office of Science and Technology Policy
PA	Programmatic Agreement
Pb	lead
PFCs	perfluorocarbons
PID	Project Initiation Document
PM	particulate matter
POAQC	projects of air quality concern
PRC	Public Resources Code
RAP	Relocation Assistance Program
Resources Agency	California Natural Resources Agency
ROW	Right of Way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
RWQCB GT	Regional Water Quality Control Board Geotracker
RCRA	Resource Conservation and Recovery Act of 1976
SF <sub>6</sub>	sulfur hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMP	Soil Management Plan
SO <sub>2</sub>	sulfur dioxide
SR 37	State Route 37
ST	short-term
STA	Solano Transportation Authority
STLC	Solubility Threshold Concentration Limit
SVOCs	semi-volatile organic compounds
SWDR	Storm Water Data Report

SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TASAS	Traffic Accident Surveillance and Analysis Systems
TIP	Transportation Improvement Plan
TMDL	Total Maximum Daily Loads
TOAR	Traffic Operation Analysis Report
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
TTLC	Total Threshold Limit Concentrations
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
V/C	volume to roadway capacity
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WDRs	Waste Discharge Requirements
WET	Waste Extraction Testing
WPCP	Water Pollution Control Plan

# 1.0 Proposed Project

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## 1.1 INTRODUCTION

The California Department of Transportation (Department) is the lead agency under the National Environmental Protection Act (NEPA). Solano Transportation Authority (STA) is the lead agency under the California Environmental Quality Act (CEQA).

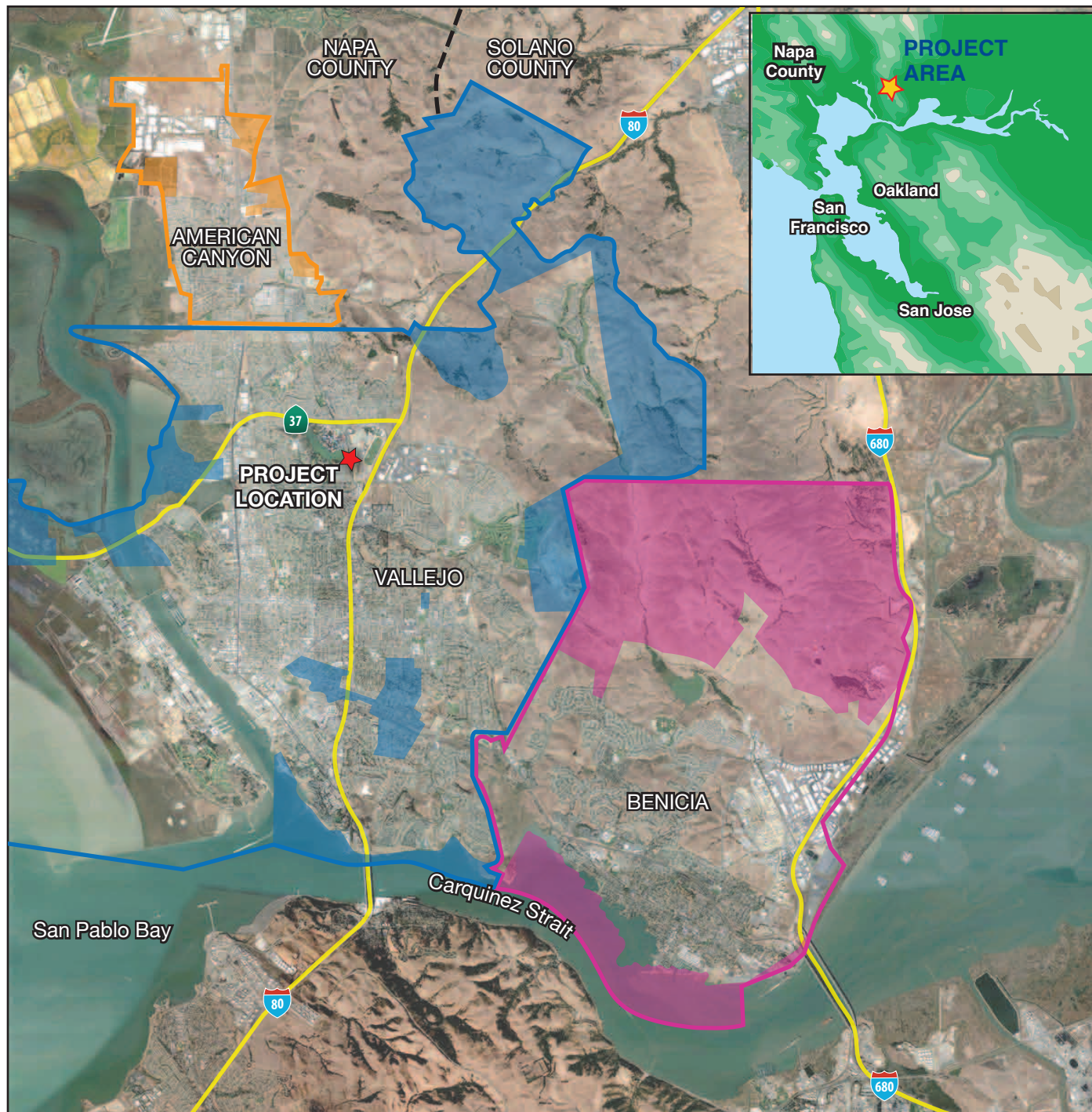
STA, Solano County, and the City of Vallejo, in cooperation with the Department, proposes to modify the existing Interstate 80 (I-80)/Redwood Parkway interchange to a tight diamond configuration, realign Fairgrounds Drive to a tee intersection north of the I-80 westbound ramps, widen Fairgrounds Drive between Redwood Street and State Route (SR 37), widen the westbound exit ramp from SR 37 to Fairgrounds Drive, and improve the intersections at the SR 37/Fairgrounds Drive interchange. Current transportation issues in this area include poor circulation during peak commute periods, long delays at intersections, short acceleration and deceleration areas, and limited sight distance. Additionally, the existing capacity of the roadways in this area would not accommodate the projected future traffic volumes. **Figure 1-1** depicts the project location and **Figures 1-2a** through **1-2c** depict the proposed improvements.

## STATE/REGIONAL/LOCAL PLANNING




The project is included in the fiscal year (FY) 2010/2011 Metropolitan Transportation Commission's (MTC) Transportation Improvement Program (TIP) as project number SOLO90015. MTC approved the financially constrained TIP on October 27, 2010.<sup>1</sup> Following approval by the Department, the Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) incorporated the TIP into the Federal Statewide Transportation Improvement Program (FSTIP) on December 14, 2010.





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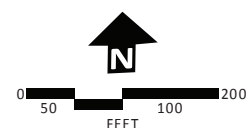
<sup>1</sup> The TIP was amended and approved by MTC on December 17, 2014 to reflect that the Redwood Parkway – Fairgrounds Drive Improvements Project (# 230313) is modeled as a non-exempt construction project. Accordingly, the update is listed as a technical correction to the projects/programs listed in Appendix B1 of the 2015 TIP. The proposed project meets regional air quality conformance requirements.



# Legend

-  Project Location
-  City of Vallejo
-  Vallejo Sphere of Influence

-  City of Benicia
-  Benicia Sphere of Influence
-  City of American Canyon
-  American Canyon Sphere of Influence

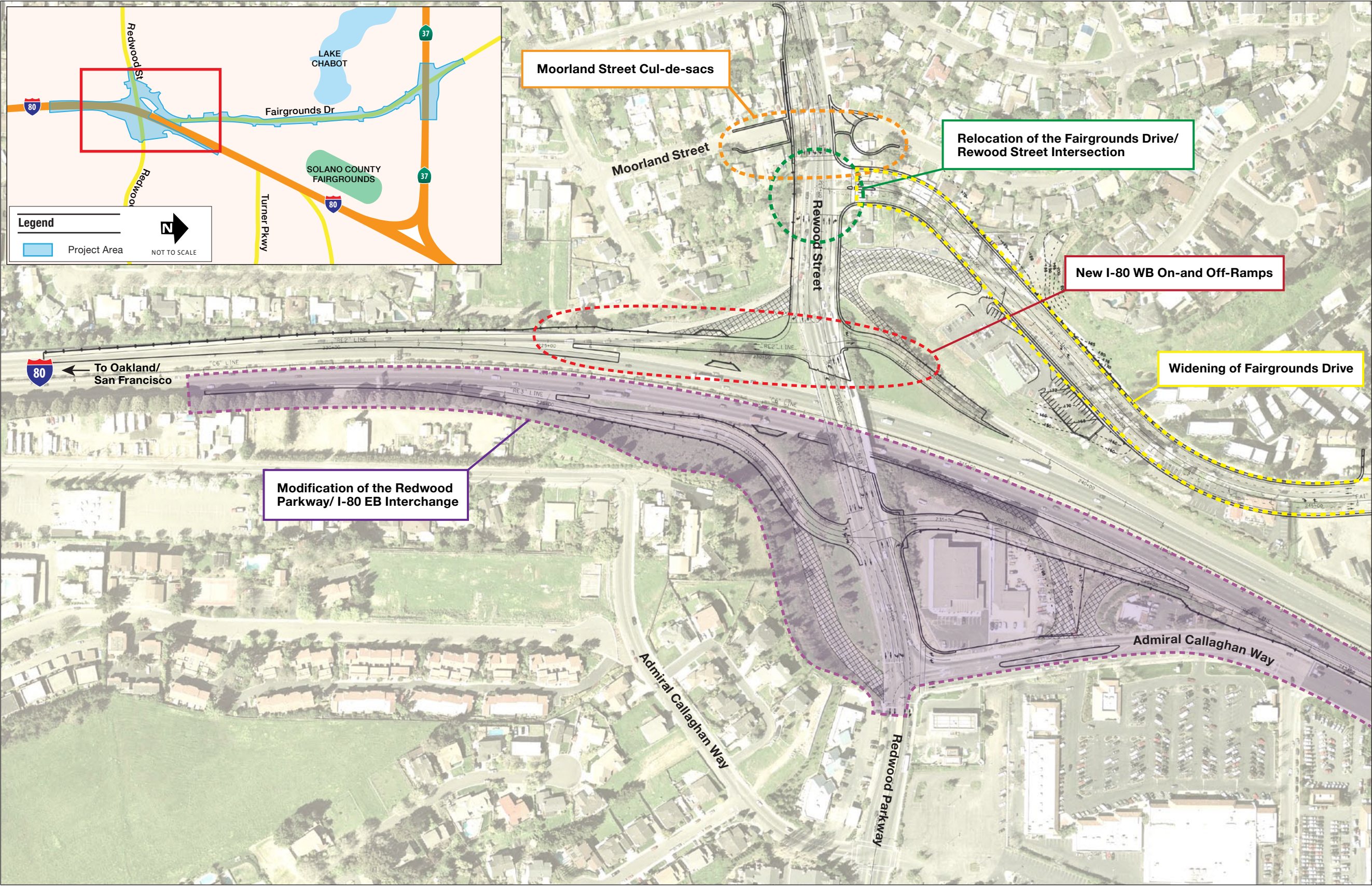


Project Location

Figure

1-1





**Legend**

- Build Alternative Layout
- Existing Roadway to be Removed
- Improvements to be Constructed 2035\*

\*Note: Modification of the Redwood Parkway/I-80 EB Interchange would occur concurrently with the construction of the I-80 High-Occupancy-Vehicle (HOV) lane project, which is anticipated to be completed in 2035.

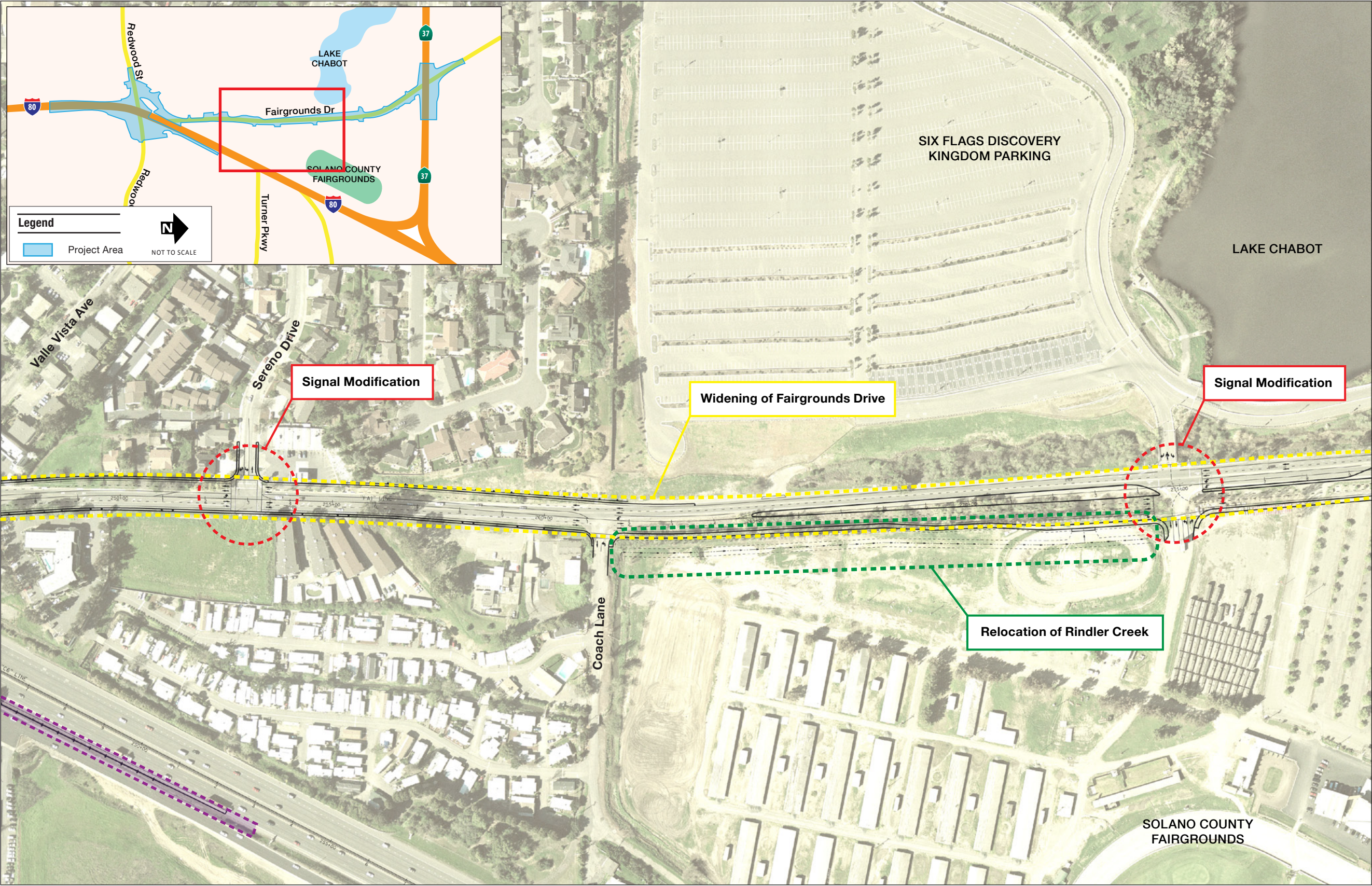
Build Alternative Layout  
Figure 1-2a

Source: HQE, 2012.



Figure 1-2a Build Alternative Layout (back)





- Legend**
- Build Alternative Layout
  - Existing Roadway to be Removed
  - Improvements to be Constructed 2035\*

\*Note: Modification of the Redwood Parkway/I-80 EB Interchange would occur concurrently with the construction of the I-80 High-Occupancy-Vehicle (HOV) lane project, which is anticipated to be completed in 2035.

Build Alternative Layout

Figure

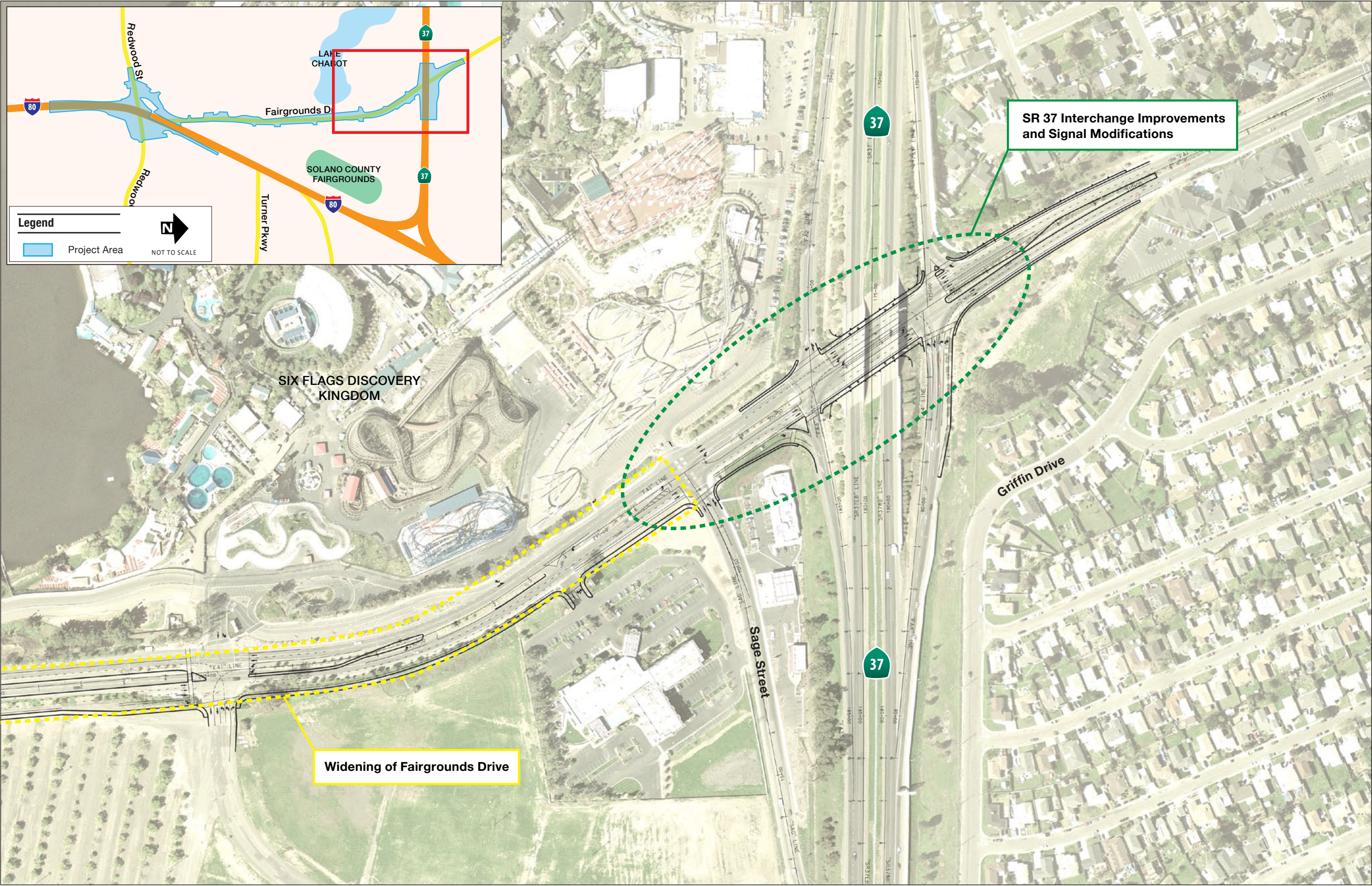
1-2b

Source: HQE, 2012.



Figure 1-2b Build Alternative Layout (back)





Build Alternative Layout

Figure

1-2c

Source: HQE, 2012.



Figure 1-2c Build Alternative Layout (back)

The project is also included in the fiscally constrained Solano Regional Transportation Plan (RTP) Project List that was adopted by STA on May 22, 2011. This list was prepared by the County for submittal to MTC's 2013 update to its RTP (also known as T-2040 Update "Plan Bay Area"). In the Solano RTP, the project (No. 230313) is identified as fiscally constrained with committed funds of \$62 million (local funding) and \$3 million in discretionary funds, for a total of \$65 million. The preliminary cost estimate for the Build Alternative is \$55.8 million, which includes \$34.2 million for construction and \$21.6 million for right of way and utility relocations.

## 1.2 PURPOSE AND NEED

### PURPOSE

Current transportation issues within the project corridor include poor circulation during peak commute periods, long delays at intersections, short acceleration and deceleration area, and limited sight distance. In addition, the existing capacity of the roadways in this area will not accommodate projected future traffic volumes planned for in the project vicinity.

The purpose of the project is to address these issues by:

- Relieving existing congestion and improving traffic flow on the local roadway network for approved redevelopment and planned land uses in the area;
- Improving the existing interchanges and intersection operations; and
- Improving the safety of the local roadway network by reducing congestion.

### NEED

#### Existing and Future Traffic Congestion

##### Existing Conditions

Level of Service (LOS) is a measure of actual traffic conditions and the perception of such conditions by motorists. There are six LOS ratings, ranging from LOS A (free traffic flow with low volumes and high speeds, resulting in low vehicle densities) to LOS F (traffic volumes exceeding the capacity of the infrastructure, resulting in forced flow operations, slow speeds, and high vehicle densities). The following intersections within the project limits currently experience heavy congestion and long delays<sup>2</sup>, as indicated by a Level of Service (LOS) D or worse:

- Fairgrounds Drive at Sage Street
- Fairgrounds Drive at Redwood Street/westbound I-80 ramps

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<sup>2</sup> Department, 2012j.

## **Future Conditions**

Traffic forecasts were prepared, based on the latest version of the Solano-Napa Phase II county-wide transportation model. This model was provided by STA and modifications were made to ensure that it accurately reflected the road improvement projects expected to be in place by 2035. Some additional modifications were made to improve the representation of the road network within the study area<sup>3</sup> and to incorporate the changes in land use that are expected to occur by both 2015 and 2035. This was based on input received from STA, Solano County, and City of Vallejo.

The land use assumptions in the 2010 travel demand model have been used for 2010 land use assumptions; however, the land use files for 2030 did not reflect current expectations about development within the study area. The Solano County Fairgrounds are now expected to be redeveloped with a mixture of hotel, retail, and entertainment uses as described in the Solano 360 Vision Report, dated May 28, 2009. This redevelopment is expected to be in place by 2030. Additionally, the existing Elks Club located at 2850 Redwood Parkway, is expected to be replaced in the near future by a small retail development, known as the Winco Foods project.

### *2015 Traffic Congestion*

Without the project, the Traffic Operation Analysis Report (TOAR) shows that the following intersections within the project limits would operate at unacceptable Levels of Service (LOS D or worse) during the PM peak periods in 2015:

- Fairgrounds Drive at westbound SR 37 ramps
- Fairgrounds Drive at Sage Street
- Fairgrounds Drive at Redwood Street/westbound I-80 ramps
- Admiral Callaghan Lane at eastbound I-80 ramps

### *2035 Traffic Congestion*

Without the project, the TOAR shows that the following intersections within the project limits would operate at unacceptable Levels of Service (LOS D or worse) during the AM and PM peak periods in 2035:

- Fairgrounds Drive at westbound SR 37 ramps
- Fairgrounds Drive at eastbound SR 37 ramps
- Fairgrounds Drive at Sage Street
- Fairgrounds Drive at Fairground gate

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<sup>3</sup> The study area for the traffic analysis encompasses an approximately 4.6 mile segment of the I-80 freeway corridor, an approximately 1.7 mile segment of the SR 37 corridor, and 20 local intersections along Fairgrounds Drive and connecting roadways.



- Fairgrounds drive at Six Flags gate
- Fairgrounds Drive at Coach Lane
- Fairgrounds Drive at Sereno Drive
- Fairgrounds Drive at Valle Vista Avenue
- Fairgrounds Drive at Redwood Street/westbound I-80 ramps
- Admiral Callaghan Lane at Redwood Parkway
- Admiral Callaghan Lane at eastbound I-80 ramps

### **Existing Operations and Deficiencies**

#### *Accident Data*

Accident data for the three-year period from April 1, 2007 to March 31, 2010 was obtained from Caltrans Traffic Accident Surveillance and Analysis Systems (TASAS) data and is summarized below in **Table 1-1**. The summaries are shown for the following project elements:

- I-80 eastbound ramps
- I-80 westbound ramps
- SR 37 eastbound ramps
- SR 37 westbound ramps

The accident information includes the number of fatal (F), fatal plus injury (F+I) and the total (Total) accidents on the study area ramps. The actual rates for the project area are compared with the statewide averages for similar facilities in urban areas.

A majority of the accidents within the study area were rear end collisions caused by drivers speeding with traffic slowing and/or stopped. Most of the accidents occurred during day time under clear and dry conditions. Bad driving behavior was a major factor that contributed to most of the accidents. About six percent of the accidents involved drivers under the influence of alcohol. Approximate 60 percent of all the drivers in the reported accidents were speeding or were cited for some other traffic violation.

#### *Non-Standard Roadway Design Features*

The existing I-80/Redwood Parkway interchange facility is over 50 years old and several non-standard features are present with the study limits. The Redwood Parkway eastbound interchange configuration consists of short, tight radius hook ramps connecting to Admiral Callaghan Lane rather than the cross road that they serve, resulting in nonstandard merge and diverge distances. In the westbound direction, the entrance and exit ramps form a five-legged intersection with Redwood Street and Fairgrounds Drive with poor stopping and corner sight distance.

Table 1-1 Accident Rates for I-80 and SR 37 Ramps

Location	No. of Accidents			Actual Rates			State Average Rates		
	F	F+I	Total	F	F+I	Total	F	F+I	Total
<b>I-80 Eastbound</b>									
Exit to EB Redwood Street/Admiral Callaghan Lane	0	1	1	0.000	0.21	0.21	0.004	0.26	0.85
Exit to Redwood Street/Admiral Callaghan Lane	0	1	5	0.000	0.11	0.54	0.004	0.28	0.95
Entrance from Redwood Street/Admiral Callaghan Lane	0	0	0	0.000	0.00	0.00	0.002	0.16	0.55
<b>I-80 Westbound</b>									
Entrance from Redwood Street/Fairgrounds Drive	0	1	7	0.000	0.06	0.43	0.002	0.14	0.45
Exit to Redwood Street/Fairgrounds Drive	0	1	3	0.000	0.18	0.55	0.004	0.42	1.20
<b>SR 37 Eastbound</b>									
Exit to Fairgrounds Drive	0	2	4	0.000	<b>0.72</b>	<b>1.43</b>	0.004	0.42	1.20
Entrance from Fairgrounds Drive	0	3	7	0.000	0.16	0.38	0.002	0.26	0.75
<b>SR 37 Westbound</b>									
Exit to Fairgrounds Drive	0	5	20	0.000	0.26	1.05	0.004	0.42	1.20
Entrance from Fairgrounds Drive	0	0	3	0.000	0.00	<b>1.14</b>	0.002	0.26	0.75

Source: HQE, Inc. 2011.

Note: **Bold** text indicates x.xx = Actual rate is higher than average rate; F=Fatal; I=Injury

SR 37 is a four-lane, east-west freeway connecting State Route (SR 29) and I-80 within the city of Vallejo. The westerly project limit includes SR 37/Fairgrounds Drive interchange, a tight diamond configuration, and the I-80/SR 37 freeway to freeway interchange, constructed in the late 1970s is the easterly project limit. The majority of this segment was constructed in the mid- to late 1970s while the Fairgrounds Drive/SR 37 interchange was built in the early 1990s. This segment of SR 37 consists of 12-foot lanes, 5-foot left shoulders, and 10-foot right shoulders. The existing pavement section is constructed of asphaltic concrete on top of cement treated base. There is less than 300 feet spacing between adjacent eastbound and westbound ramp intersections causing short queuing storage lengths.

Within the project study limits, Fairgrounds Drive is a conventional 2-lane, undivided local arterial with two 12-foot lanes, flanked by 2 to 4 foot non-standard shoulders. Moorland Street is a two-lane residential roadway that runs parallel to the west of Fairgrounds Drive. The roadway continues south, between Redwood Street and Greenfield Avenue, however, only the northern portion of Moorland Street connects

directly to Redwood Street. The portion of Moorland Street south of Redwood Street is currently a non-standard dead-end that does not provide an adequate turning radius for emergency fire response vehicles.

## INDEPENDENT UTILITY AND LOGICAL TERMINI

The Fairgrounds Drive/SR 37 and the Redwood Parkway/I-80 interchanges are logical termini for the Build Alternative as they represent the major links to the freeway network for the local traffic along Fairgrounds Drive. In addition, the project corridor termini are of sufficient length to address environmental matters on a broad scope.

The project would result in improvements to the current traffic conditions along the existing roadway network without any additional improvements being made in the area. As such, the project is considered to have independent utility. Furthermore, the project would not restrict considerations of alternatives for other reasonably foreseeable transportation improvements in the area.

## 1.3 PROJECT DESCRIPTION

The Redwood Parkway–Fairgrounds Drive Improvements Project (Build Alternative) would construct several roadway improvements along portions of Fairgrounds Drive and Redwood Parkway/Redwood Street within the city of Vallejo. The total length of the project corridor is approximately 1.5 miles, and extends from the Fairgrounds Drive/ I-80 interchange (post mile 4.0 to 4.9) to the Fairgrounds Drive/ SR 37 interchange (post mile 10.6 to 11.2). Detailed descriptions of the existing facilities within the project study limits, and associated deficiencies, are discussed above under project need. The purpose of the project is to relieve congestion and improve traffic flow on the local roadway network; improve the existing interchange and intersection operations; improve the safety of the local roadway network by reducing congestion; and increase the local roadway network capacity.

## ALTERNATIVES

The types of interchange improvements that would be possible at the existing Fairgrounds Drive/SR 37 and the Redwood Parkway/I-80 interchange are limited because these areas are physically constrained by the existing residential and commercial development. With the exception of the Build Alternative (described below), other interchange configurations would require the reconstruction of the existing overcrossing structures and have severe right-of-way impacts combined with extremely high construction costs. Similarly, along the Fairgrounds Drive right-of-way, no other alignment alternatives were possible because of the steep grades and developed land uses and/or water features on either side of the roadway.

Because of these constraints, no other design alternatives were carried forward beyond initial design screenings. The alternatives evaluated in this environmental document include the Build Alternative and the No-Build (No Action) Alternative.

## **Build Alternative**

The Build Alternative would construct several roadway improvements along portions of Fairgrounds Drive and Redwood Parkway/Redwood Street, within the city of Vallejo.

**Figures 1-2a** through **1-2c** illustrates the improvements proposed under the Build Alternative which would include the major elements described below.

### **Modification of the Redwood Parkway/I-80 Interchange**

The existing Redwood Parkway/I-80 interchange would be reconstructed as a tight diamond configuration that utilizes the existing I-80 overcrossing structure. The existing Redwood Street overcrossing structure would not be replaced. **Figures 1-2a** through **1-2c** illustrate the proposed through-lanes, turning lanes, and intersection configurations of the new Redwood Parkway/I-80 interchange.

New I-80 westbound on- and off-ramps would be constructed to directly connect with Redwood Street as a signalized four-way intersection, independent of the Fairgrounds Drive/Redwood Street intersection, and closer to the I-80 freeway right-of-way. West of the I-80 overcrossing structure, Redwood Street would be widened to accommodate new turning lanes to and from the proposed I-80 westbound ramps, requiring additional right-of-way acquisition from existing residential land uses.

The existing tight radius hook on- and off-ramps connecting I-80 eastbound to Admiral Callaghan Lane would be replaced with a new Redwood Parkway/I-80 eastbound on-ramp that follows the proposed tight diamond interchange configuration. Similar to the proposed Redwood Street/I-80 westbound ramps, new I-80 eastbound on- and off-ramps would be constructed to directly connect with Redwood Parkway as a signalized four-way intersection, independent of the Redwood Parkway/Admiral Callaghan Lane intersection, and closer to the I-80 freeway right-of-way. Construction of the new I-80 eastbound on-ramp would require additional right-of-way acquisition from existing commercial land uses.

By eliminating the existing unconventional five-way intersection, the potential for conflicts due to driver error should be reduced. Improving the angle of the ramps would aid in improving drivers' ability to avoid crashes, and the maneuverability of turning vehicles through the ramp intersections.

### **Relocation of the Fairgrounds Drive/Redwood Street Intersection**

The existing Fairgrounds Drive/Redwood Street intersection would be relocated approximately 200 feet west of its current location. In doing so, the corner sight distance at the peak of the roadway curve on Fairgrounds Drive near Redwood Street would be improved from 55 feet to 300 feet. As discussed above, the new three-way signalized

intersection would be independent from the proposed Redwood Street/I-80 westbound ramps. **Figures 1-2a** through **1-2c** illustrate the proposed through-lanes, turning lanes, and Fairgrounds Drive/Redwood Street intersection configuration.

### **Moorland Street Cul-de-sacs**

The existing Redwood Street/Moorland Street intersection would be removed. The termini of Moorland Street, both north and south of Redwood Street, would be reconfigured as cul-de-sacs. Each of the cul-de-sacs would be designed to provide an adequate turning radius for emergency fire response vehicles. The alignment of the Moorland Street cul-de-sacs would require additional right-of-way acquisition from existing residential land uses.

### **Widening of Fairgrounds Drive**

Fairgrounds Drive would be widened from two to four lanes from Redwood Street to Coach Lane, and from four to five lanes from Coach Lane to SR 37 (see **Figures 1-2a** through **1-2c**). The two-way left turn lane would be maintained between Redwood Street and Coach Lane to accommodate frontage property access. As a result of the widening, approximately 1,300 linear feet of Rindler Creek that parallels Fairground Drive would be relocated to the east. Five-foot sidewalks would be provided in the southbound directions from Redwood Street to Coach Lane. A ten-foot sidewalk is proposed in the northbound direction north of Coach Lane. Class II bike lanes are planned in both direction of travel from Redwood Street to the SR 37 interchange.

### **Modifications to the Fairgrounds Drive/SR37 Interchange**

As described above, the portion of Fairgrounds Drive that crosses under SR 37 would be widened to better accommodate queuing issues associated with closely spaced intersections. However, the existing tight diamond configuration of the Fairgrounds Drive/SR 37 interchange would largely remain unchanged. Minor modifications to the SR 37 westbound exit ramp would include the addition of a right-turn lane and reconfiguration of the turning lanes to and from Fairgrounds Drive (see **Figures 1-2a** through **1-2c**).

### **Signal Modifications**

As described above, all of the new intersections associated with the interchange modifications and relocation of the Fairgrounds Drive/Redwood Street intersection would be signalized. In addition, the Build Alternative includes the signalization of the Fairgrounds Drive/Sage Street intersection.

The Built Alternative would also include signal modifications at Fairgrounds Drive/SR 37 westbound ramps, Fairgrounds Drive/SR37 eastbound ramps, Fairgrounds Drive/Solano County Fairgrounds Development Entrance (north), Sereno Drive/Fairgrounds Drive, and Redwood Parkway/Admiral Callaghan Way.

## Construction Staging

The design and construction phases of the project will be staged to coordinate with a future High Occupancy Vehicle (HOV)/ Toll lanes (express lanes) project along I-80. The portion of the I-80 corridor through Solano County has been identified by the Metropolitan Transportation Commission (MTC) as part of a feasible express lane network throughout the San Francisco Bay Area. STA has completed a study to prioritize implementation of the HOV/express lanes along the I-80 corridor. In order to construct the HOV/express lanes, additional work along the I-80 mainline would be necessary. In order to maximize efficiencies and reduce costs it has been determined that the design and construction of eastbound improvements on I-80 as part of the Build Alternative should be done concurrently with the future I-80 HOV/express lanes project.

The projected opening day for the Build Alternative improvements located on the west side of I-80 would occur by the year 2015 through multiple construction packages. This includes the modification of the Redwood Parkway/I-80 westbound ramps, the relocation of the Fairgrounds Drive/Redwood Street Intersection, the completion of the Moorland Street cul-de-sacs, the widening of Fairgrounds Drive, the relocation of Rindler Creek, and the modification of the Fairgrounds Drive/SR 37 interchange. All improvements associated with the modification of the Redwood Parkway/I-80 eastbound ramps (east of I-80), including the replacement of the existing Admiral Callaghan hook ramps would be constructed by the year 2035, concurrently with the construction of the I-80 HOV /express lanes Project. This would ensure that the proposed Build Alternative improvements could accommodate any changes in the I-80 eastbound lane widths, or related lane alignment shifts, caused by the future construction of an HOV lane in this area. **Figures 1-2 a - c** identify which Build Alternative improvements would occur in 2035.

The construction of the I-80 HOV /express lanes project is not part of the Build Alternative, and is evaluated under separate environmental review. This environmental document only evaluates the environmental effects associated with the Build Alternative, including those improvements that would occur in 2015 and 2035.

## Construction Methods

Construction of the Build Alternative would include grading (earthwork), paving, drainage facilities, retaining walls, sound walls, overhead signs, utility protection and/or relocation, temporary traffic control, storm water pollution prevention measures (permanent and temporary), temporary creek diversion, permanent realignment of the man-made channel for Rindler Creek, temporary construction easements, and right-of-way acquisition.

The Build Alternative would shift approximately 1,300 linear feet of the Rindler Creek watercourse and its associated riparian vegetation east from its current man-made alignment to accommodate the widening of Fairgrounds Drive. This would occur between Coach Lane and the southern entrance to the Solano County Fairgrounds property. Realignment of the creek involves clearing, grubbing, dewatering, and backfilling the

current man-made channel. The realigned Rindler Creek would be slightly larger than the existing creek and re-vegetated to maintain hydrological and biological function. Staging of the realignment is expected to require a temporary creek diversion during the low-flow period, between April 15 and August 15.

To avoid and minimize effects to wildlife species and their habitats, the Build Alternative includes a number of general measures that are considered part of the project design. The measures summarized below are discussed in full detail in the appropriate sections of **Section 2.3, Biological Resources**. All measures would be implemented prior to and during construction activities, and would be included as part of the special provisions of the bid package.

- Retain a biological monitor during the dewatering and backfill of Rindler Creek
- Conduct pre-construction nesting bird surveys
- Establish temporary construction zone exclusion fencing
- Minimize nighttime artificial lighting
- Maintain good housekeeping practices regarding food-related trash items
- Restrict firearms from the construction areas, except for those carried by authorized personnel
- Restrict pets from the construction areas
- Develop a stormwater pollution prevention plan (SWPPP)
- Designate areas for the storage of grindings and asphalt-concrete waste
- Re-vegetate all areas temporarily affected by construction activities

## Transportation Management Plan

In order to minimize traffic delays while maintaining worker safety, there would be four major stages of construction for the Build Alternative. Detailed Stage Construction/Traffic Handling plans will be prepared during final design phase of the project.

### Stage 1

All existing traffic movements would be maintained utilizing temporary railing to separate public traffic and construction activities. The contractor may elect to close the ramps while installing the temporary rail. The westbound I-80 mainline lanes would require short-term closures for temporary restriping activities. Temporary lane closures would be required on Redwood Parkway in order to remove the existing raised median.

At the SR 37/Fairgrounds Drive interchange, pedestrians would be relocated to the northbound side of Fairgrounds Drive using temporary crossings at the existing intersections.

Along Fairgrounds Drive, the two-way left turn lane would be utilized to maintain one through lane in each direction, between Redwood Street and Valle Vista Avenue. Pedestrians would be restricted to one side of the roadway and bicyclists would use a temporary Class III route<sup>4</sup>, riding with motor vehicles through the construction zone.

### **Stage 2**

Temporary closures would be required at all ramp entrances and exits. Traffic on the westbound I-80 ramps would be shifted to the east onto temporary adjacent pavement separated by temporary railing.

At the SR 37/Fairgrounds Drive interchange, pedestrians would be detoured to the new sidewalk location along the southbound side of Fairgrounds Drive, and bicyclists would use a temporary Class III route, riding with motor vehicles through the construction zone. Alternately, cyclists may choose to walk their bikes on the sidewalk.

Weekend closures of Fairgrounds Drive would be required prior to shifting traffic to the west to maintain one through lane in each direction between Redwood Street and Valle Vista Avenue. Pedestrians would be restricted to one side of the roadway, and bicyclists would use a temporary Class III route, riding with motor vehicles through the construction zone.

### **Stage 3**

Traffic using the eastbound I-80 diagonal off-ramp would be shifted to the new intersection with Redwood Parkway, and the existing hook off-ramp would be closed. Traffic using the eastbound I-80 entrance ramp would be shifted to detour pavement constructed adjacent to the existing ramp. Temporary westbound and eastbound ramp closures would be required. Short-term closure of the third westbound I-80 mainline lane would be required.

Traffic would be shifted to the outside the existing roadway at the SR 37/Fairgrounds Drive Interchange, to the east along Fairgrounds Drive. Temporary lane closures would be required to set temporary railings as required for the median work.

### **Stage 4**

Traffic using the eastbound I-80 entrance ramp would continue to use the detour pavement constructed in Stage 2. Traffic would be shifted to the new westbound I-80 exit ramp.

The contractor would be required to submit a traffic control plan at least one week prior to any ramp or lane closure. The traffic control plan would contain a detailed contingency plan to ensure opening of ramps or closed lanes by the designated time. During construction activities requiring lane closure, the contractor shall provide appropriate personnel to monitor activities and make decisions regarding activation of contingency plans.

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<sup>4</sup> On-street signed bicycle route



During the final design phase of the project, a detailed Transportation Management Plan would be developed to facilitate access and reduce traffic congestion during construction. The Transportation Management Plan would include four broad strategy categories: public information, motorist information, incident management, and construction. Under this plan, mailers would be sent to notify and inform motorists, business community groups, local entities, emergency services, and elected officials of upcoming road closures and detours. Freeway ramp and lane closures would be displayed on changeable message, signs, and construction area signs would be used to direct traffic. A Construction Zone Enhanced Enforcement Program would be implemented to engage California Highway Patrol (CHP) officers for ramp or lane closures, and to provide for enforcement of speed restrictions and faster incident response. Traffic management strategies that require action by the construction contractor would be presented in detail in the Build Alternative's technical specifications of the bid contract.

## Transportation System Management and Transportation Demand Management Alternatives

Transportation System Management strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Although Transportation System Management measures alone could not satisfy the purpose and need of the Build Alternative, the following Transportation System Management measures have been incorporated into this project:

- Include bike lanes and sidewalks along Fairgrounds Drive;
- Maintain existing in-road sensor loops<sup>5</sup>; and
- Include ramp metering at the I-80/Redwood Parkway interchange.

There are several transportation demand management strategies within the San Francisco Bay Area that are used to reduce the number of vehicle trips along the I-80 corridor. Rideshare offers carpoolers reduced bridge tolls as well as access to carpool lanes. There is also a vanpool for larger groups of commuters. Transportation demand management may also involve the provision of contract funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals. Increased vehicle occupancy reduces traffic volumes during peak commuting periods on the freeway; however, it would not improve the safety and operation of the local roadway network. Accordingly, a transportation demand management alternative would not satisfy the purpose of the Build Alternative.

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<sup>5</sup> When you approach a traffic signal you may notice a rectangular "scar" where the road surface has been cut with a saw and then re-sealed. This is the sensor loop. The system detects (through detection loops in the pavement) traffic volumes so that the "green-light" signals can be appropriately timed.

## No-Build (No Action) Alternative

The No-Build Alternative is being evaluated in accordance with NEPA and CEQA requirements, and serves as the baseline comparison to the Build Alternative. Traffic operations analysis of the No-Build alternative represents the baseline condition against which the effectiveness and impacts of alternatives are measured. Traffic forecasts were prepared based on the latest version of the Solano-Napa Phase II countywide transportation model. This model reflects the land use and road improvement projects planned to be in place by 2035. Some additional modifications were made to improve the representation of the road network within the project study area and to incorporate the changes in land use that are expected to occur by both 2015 and 2035.

Traffic volumes within the project study area would increase with the No-Build Alternative. As there are no improvements proposed to the existing local roadway network, the No-Build Alternative would not achieve the project purpose of improving traffic flow, intersection operations, and safety on the local roadway network. In addition, the increased traffic volumes would most likely worsen the congestion and slow traffic flow on the local roadway network. Without the realignment of the Fairgrounds Drive/Redwood Street intersection, the No-Build Alternative would not improve the current safety issues related to limited sight distance in this area. The eastbound I-80 hook ramps would continue to have nonstandard merge and diverge area, as well as limited sight distance.

## IDENTIFICATION OF A PREFERRED ALTERNATIVE

Within the existing project corridor, no other build alternatives were deemed viable because of the physical constraints and developed land uses surrounding the roadways (see discussion below). As such, the alternatives considered for the project include the Build Alternative and the No-Build Alternative. The Build Alternative has been identified as the preferred alternative. Final identification of the preferred alternative occurred after the public review and comment period.

The following summarizes the reasons for choosing the Build Alternative over the No Build Alternative:

- **Relieve existing congestion and improving traffic flow on the local roadway network for approved redevelopment and planned land uses in the area.** The Build Alternative would include the reconfiguration and signalization of several intersections to improve the operation of the local roadway network.

The Build Alternative would improve intersection operations under 2015 and 2035 conditions, which would improve traffic flow and reduce congestion along the local roadway network. With the Build Alternative, the majority of the study intersections would operate at LOS C or better during the morning and evening peak commute hours in 2015 and 2035. Without the Build Alternative, the

majority of the study intersections would operate at unacceptable LOS D or worse during the peak commute periods by 2035.

- **Improve the existing interchanges and intersection operations.** The Build Alternative would modify the existing I-80/Redwood Parkway interchange to a tight diamond configuration, realign Fairgrounds Drive to a tee intersection north of the I-80 westbound ramps, widen the westbound exit ramp from SR 37 to Fairgrounds Drive, and improve the intersections at the SR 37/Fairgrounds Drive interchange. These direct improvements to the existing interchanges and intersections would correct non-standard design features and provide traffic lane configurations that would improve existing and future interchange and intersection operations.
- **Improve the safety of the local roadway network.** The Build Alternative would eliminate the existing unconventional five-way Redwood Parkway/I-80 interchange, thereby reducing the potential for conflicts due to driver error. The Redwood Parkway/I-80 interchange configuration under the Build Alternative would also improve the angle of the ramps and the sight distance before the Fairgrounds Drive/Redwood Parkway intersection, which would aid in improving drivers' ability to avoid crashes, and the maneuverability of turning vehicles through the intersections. Under the Build Alternative, the short deceleration and acceleration hook ramps on eastbound I-80 to and from Admiral Callaghan Lane would be eliminated, resulting in increased deceleration length, weaving length and improved sight distance.

The Build Alternative is the preferred alternative because the final design could accommodate intersection improvements that meet the purpose and need of the project. The No-Build Alternative would not satisfy the purpose and need of the project.

## ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DISCUSSION

### PRIOR TO DRAFT EIR/EA

Several additional interchange configurations were investigated during the development of the Build Alternative. These included a partial-cloverleaf (parclo) interchange, a trumpet interchange, and an urban (single point) interchange. All interchange configurations other than the diamond type would require reconstruction of the Redwood Parkway overcrossing structure and have severe right-of-way impacts combined with extremely high construction costs. Constructing a roundabout on the westbound side of the Redwood Parkway interchange was also investigated. This was found to be infeasible due to the grades.

Similarly, along the Fairgrounds Drive right-of-way, no other alignment alternatives were possible because of the steep grades and developed land uses and/or water features on either side of the roadway.

Various intersection modifications to the signal timing and turning lane configurations were analyzed to determine the minimum improvements that would be needed to provide an acceptable traffic operations under 2035 conditions. In several cases, there was more than one acceptable design for each intersection. The final design of the intersection

improvements was selected in consultation with the traffic engineers so the improvements could accommodate other requirements, such as sight distance, deceleration, and available right-of-way. The proposed Build Alternative encompasses the best possible intersection designs, based on the predicted 2035 traffic conditions.

A detailed description of each alternative that was considered is provided in the Project Study Report (PSR). **Table 1-2** summarizes the description of each considered alternative and the reason it was withdrawn.

Table 1-2 Alternatives Considered But Withdrawn

Alternative	Summary of Reason for Withdrawal
2B	Alternative 2B would construct an overcrossing at Turner Parkway. The Turner Parkway overcrossing would not alleviate congestion at the I-80/Redwood interchange nor the SR 37/Fairgrounds Drive interchange. Both would have intersections that continue to operate at unacceptable levels of service in future years. Therefore, this alternative does not meet the purpose and need for the project. In addition, construction of the overcrossing has the high potential for biological impacts related to Rindler Creek and potential wetlands on the east side of Admiral Callaghan Lane.
3A	Alternative 3A would reconfigure the I-80/Redwood Parkway interchange as a standard partial cloverleaf interchange instead of the Build Alternative's proposed diamond configuration. A partial cloverleaf interchange at this location would require constructing a new bridge over I-80. A new structure would need to meet current standards, including minimum vertical clearances, sight distance, and horizontal clearances to the new bridge abutments. In addition, the bridge would have to be designed to accommodate standard lane widths, including a future HOV/Express lanes planned for I-80. All of these elements, combined with the steep grade on Redwood Parkway east of I-80 and the installation of loop ramps, would result in additional right-of-way and construction costs in the range of \$50-\$60 million, almost double the current estimated cost of the project.
3B	Alternative 3B would reconfigure the I-80/Redwood Parkway interchange as a modified partial cloverleaf interchange, with the westbound I-80 exit ramp connecting to Fairgrounds Drive. This configuration would decrease the amount of residential right-of-way required for the project, but would increase the amount of commercial property acquisitions, including Denny's and the dental office building. Alternative 3B would require construction of a new bridge over I-80, which would result in the additional impacts listed above under Alternative 3A.
3C	Alternative 3C would reconfigure the I-80/Redwood Parkway interchange as a modified partial cloverleaf with the westbound I-80 exit ramp connecting to Fairgrounds Drive, across from Valle Vista. This alternative would likely require additional intersection improvements at Fairgrounds Drive/Redwood Parkway. Alternative 3C would also result in non-standard shoulders (2 to 3 feet) on I-80 where loop ramp entrances connect.
4A	Alternative 4A would construct westbound I-80 hook ramps over ¼ mile away from the cross street they serve (Redwood Parkway) connecting to Valley Vista Avenue. This configuration would result in impacts to the mobile home park and Blue Rock Springs Creek. Alternative 4A would likely require additional intersection improvements at Fairgrounds Drive/Redwood Parkway due to the change in ramp traffic patterns (traffic that would need to use Fairgrounds Drive). In addition, hook ramps tend to have higher accident rates than diamond or loop ramps due to small radius curves.

Alternative	Summary of Reason for Withdrawal
<b><i>Alternatives Considered But Withdrawn, continued.</i></b>	
4B	Alternative 4B would construct a westbound I-80 hook exit ramp connecting to Valle Vista Avenue. The existing I-80 entrance ramp would remain at Redwood Street. Under this alternative, operations at existing intersections would not be acceptable in 2035. Similar to Alternative 4A, this alternative would result in impacts to the mobile home park and Blue Rock Springs Creek and require additional intersection improvements.
5	Alternative 5 would reconfigure the I-80/Redwood Parkway interchange as a pitchfork configuration. Alternative 5 would result in non-standard shoulders (2 to 3 feet) on I-80 at the Redwood Parkway overcrossing. This Alternative would also increase the potential for wrong-way movements. Additional residential right-of-way acquisitions would be required in the southwest quadrant of the proposed interchange improvements.
6	Alternative 6 would reconfigure the I-80/Redwood Parkway interchange as a roundabout configuration. The steep grades in this area would not support this configuration. The roundabout configuration would not balance the flow of traffic in and out of the interchange.
7	Alternative 7 would reconfigure the I-80/Redwood Parkway interchange as an urban interchange configuration. It would be difficult to construct and stage, as it would have to be right on top of the existing bridge. A new bridge over I-80 would be required (see Alternative 3 for impacts). Alternative 7 eliminates access to westbound I-80 from Fairgrounds Drive. This alternative would also require three westbound through travel lanes on Redwood Parkway.
VA 1.1	Alternative VA 1.1 would improve the existing I-80 Redwood Parkway interchange by adding lanes. Modification of the existing interchange configuration does not work from an operational standpoint. The five-legged intersection at westbound I-80 Ramps/Redwood Street/Fairgrounds Drive would operate at LOS E under 2035 evening peak commute hours. In addition, the queuing associated with the evening peak traffic conditions at all intersections would cause unacceptable congestion and block adjacent intersections.
VA 1.2	Alternative VA 1.2 would improve the existing eastbound I-80 ramps by adding lanes. The queuing associated with the 2035 evening peak traffic conditions at the existing eastbound I-80 Ramps/Admiral Callaghan Lane intersection and the Redwood Parkway/Admiral Callaghan Lane/I-80 EB exit ramp intersection would cause unacceptable congestion and block adjacent intersections.
VA 1.3	Alternative VA 1.3 would construct a diverging diamond interchange serving the eastbound I-80 ramps/Redwood Parkway intersection. This alternative is not feasible due to the close proximity of the Redwood Parkway/Admiral Callaghan Lane intersection, and the 8 percent grade that would need to be maintained in order to use the existing overcrossing structure. In addition, this alternative poses substantial schedule delays as this interchange type has not been accepted in California.

Source: HQE, Inc., 2011

## PERMITS AND APPROVALS NEEDED

**Table 1-3** identifies the permits/approvals that would be required for project construction.

Table 1-3 Permits and Approvals

Agency	Permit/Approval	Status
United States Army Corps of Engineers	Section 404 Permit – Nationwide	Issued during the Final Design Phase
United States Fish and Wildlife Service	Concurrence with “no effect” determination	Issued during the Final Design Phase
California Department of Fish and Game	1602 Agreement	Issued during the Final Design Phase
California Water Resources Board	NPDES Permit	Issued during the Final Design Phase
Regional Water Quality Control Board	Section 401 Certification	Issued during the Final Design Phase
Metropolitan Transportation Commission (MTC) Air Quality Conformity Task Force/ Federal Highway Administration (FHWA)	Regional Air Quality Conformity <sup>1</sup>	MTC Determination December 17, 2014 FHWA Determination February 2, 2015
	Project-Level Air Quality Conformity	MTC Determination October 6, 2011 FHWA Concurrence May 21, 2015
State Historic Preservation Officer (SHPO)	Concurrence on Eligibility Determinations/Finding of No Historic Properties Affected	Concurrence issued March 1, 2012

Temporary construction easements and/or encroachment permits may be required from the City of Valley and Solano County to accommodate work outside state-owned right-of-way.

## PROJECT COST AND FUNDING

### Cost

The breakdown of remaining anticipated costs is \$58,000,000 for the Build Alternative (see **Table 1-4**).

Table 1-4 Construction Cost Estimate Summary

	Build Alternative
Final design phase (includes 10 percent of construction cost plus 3 percent of right-of-way cost for ROW engineering)	\$3,900,000
Construction Management at 12 percent	\$4,100,000
Construction Administration at 3 percent	\$1,000,000
Construction	\$34,300,000
Right-of-Way	\$14,700,000
<b>Total Cost</b>	<b>\$58,000,000</b>

## Funding

The funding for the majority of the project is Local Funding that will come from traffic impact fees. The Fiscally Constrained Solano RTP Project List for submittal to MTC (T2040 Update “Plan Bay Area”) was adopted by the STA Board on May 22, 2011. Project Number 230313 identifies the Redwood Parkway/Fairgrounds Drive Improvements project as Fiscally Constrained with Committed Funds of \$62 million (Local Funding) and \$3 million in Discretionary Funds, for a total of \$65 million. MTC’s RTP update is anticipated to be approved in the spring of 2013.

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## 2.0 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

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Table 2-1 Issues With No Adverse Impacts

<b>Introductory Note:</b> As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document.	
<b>Growth</b>	The project would not result in any direct growth-inducing impacts, because no development is tied to the construction of the widening, ramp improvements, and intersection improvements. The Build Alternative would not expand an essential public service and would not require public services once operational. The Build Alternative is not considered growth inducing with respect to removal of an impediment to growth and economic growth.
<b>Parks and Recreational Facilities</b>	<p>There are no parks and recreation facilities within the project study limits. Three parks are located within a quarter-mile of the project area; Fairmont Park, Dan Foley Community Park, and Camino Alto are each 0.2 miles from the project area. Given the distance between the project area and these parks, no direct or indirect effect from the project construction would occur. In addition, the Build Alternative would not increase population in the area and therefore would not result in an impact to existing parks and recreational facilities in the project area.</p> <p>Section 4(f) resources include publicly-owned parks, recreational areas, and wildlife refuges. Additionally, historic sites on or eligible for the <i>National Register of Historic Places</i> and archaeological sites on or eligible for the <i>National Register of Historic Places</i> and which warrant preservation are protected. There are no parks present in the project area or vicinity that are protected under 4(f). As mentioned above, the closest park is within 0.2 miles of the project area, and is the closest 4(f) resource. There are no historical sites, or wildlife refuges on or near the project area. Therefore, the proposed Build Alternative would have no impact on these resources.</p>
<b>Coastal Zone</b>	The Build Alternative is not located in the Coastal Zone. As such, no coastal resources would be directly affected by construction or operation of the Build Alternative.
<b>Wild and Scenic Rivers</b>	The Build Alternative is not located near any rivers designated as part of the National Wild and Scenic Rivers System. The closest designated river, the American River, is over 50 miles away. As such, no wild or scenic rivers would be directly affected by construction or operation of the Build Alternative.

<b>Issues With No Adverse Impacts, continued.</b>	
<b>Farmlands/Timberlands</b>	There is no land used for, designated as, or zoned as agricultural or timberland in the project area. <sup>1</sup> The project area is made up of residential and commercial uses, with surrounding uses that include public facilities and other planned developments. There are lands used for grazing purposes to the east of the Build Alternative, but it is physically separated from the project area by several freeways and commercial and residential developments. Therefore, no farmland or timberland would be affected by the Build Alternative.
<b>Utilities</b>	The Build Alternative is a transportation improvement project, and would not directly increase in the number of residences within the project area. . Therefore, there would be no increase in demand to water, wastewater, or electrical and natural gas services, and utility services in the project area would not be disrupted as a result of project construction or operation. Additionally, the Build Alternative would not conflict with any utility facilities in the project area, and no utility relocations would occur as a result of the project. As such, there would be no utilities affected by the Build Alternative.
<b>Emergency Services</b>	<p>Police protection within the project area is provided by the Vallejo Police Department and the California Highway Patrol. Fire protection is provided by the Vallejo Fire Department. No property of emergency providers would be acquired or used for the Build Alternative. Project implementation is anticipated to reduce congestion, thereby improving safety for motorists and maintenance workers. The reduction in congestion would help emergency crews reach their destinations faster.</p> <p>Project construction may result in a temporary increase in localized delays and congestion at some locations within the project area. These impacts are considered temporary and are not expected to adversely affect emergency services. Further, a detailed Traffic Management Plan (TMP) would be developed to minimize potential traffic delay impacts that construction activities would have on the traveling public and emergency services.</p>
<b>Energy</b>	The Build Alternative involves no planned use of natural resource beyond fuel and energy needed during construction activities. Furthermore, the Build Alternative would help reduce wasteful energy consumption by improving operations and alleviating congestion. When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the Build Alternative would not have substantial energy impacts.

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<sup>1</sup> Department, 2012c.

## 2.1 HUMAN ENVIRONMENT

### 2.1.1 LAND USE

#### Existing and Future Land Use

##### **Existing Land Use Patterns**

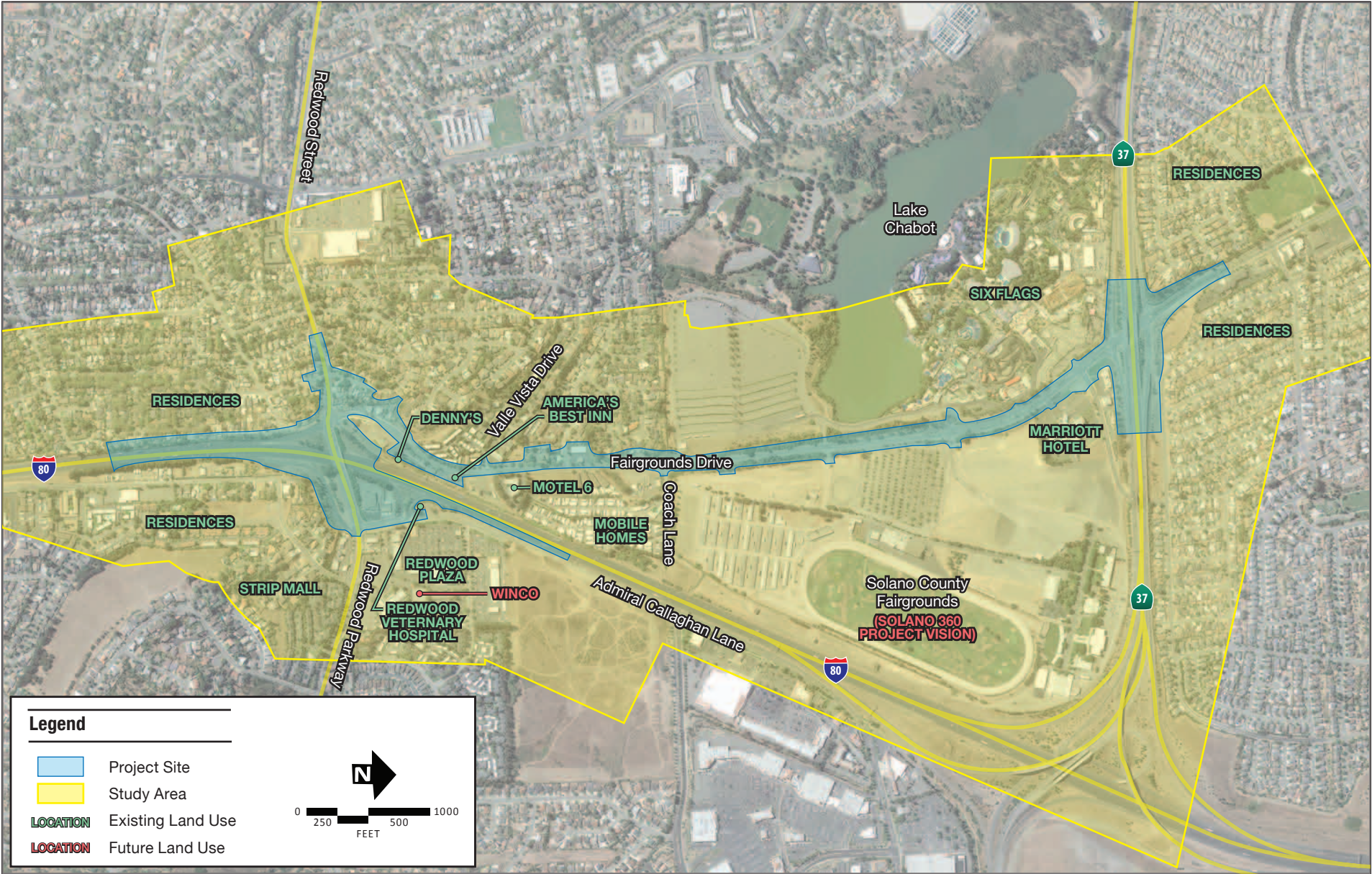
The proposed Build Alternative would be constructed within an existing urban context, with a mixture of commercial, office, residential, and recreation facility developments,. The land use study area is shown in **Figure 2-1**, which includes the proposed Build Alternative and surrounding land uses within 1,000 feet. Beginning at the southernmost portion of the study area, the Redwood Parkway/I-80 and Redwood Parkway/Fairgrounds Drive intersections are surrounded by a mixture of commercial and residential development. The northeastern corner of the Redwood Parkway/I-80 intersection, just west of Admiral Callaghan Lane, includes a furniture store and an equipment rental store. The area to the east of Admiral Callaghan Lane is developed with the Redwood Plaza, which includes a Shell gas station, Safeway grocery store, AutoZone auto supply store, a Starbucks coffee shop, and other small commercial vendors. The Redwood Veterinary Hospital is also located northeast of this intersection.

The area to the south of the Redwood Parkway/I-80 intersection is primarily developed with single-family homes, with the exception of a small strip mall with a pizza delivery shop and other small commercial vendors.

The area surrounding the Redwood Parkway/Fairgrounds Drive intersection is comprised of a mix of single-family and multi-family homes, as well as a gas station, dentist office, Denny's restaurant, and an America's Best Inn motel. A private day care facility operates from a single-family home on Redwood Parkway, just west of Fairgrounds Drive.

Farther north along the study area, land uses surrounding the intersection of Valle Vista Avenue/Fairgrounds Drive includes a mix of residential and commercial developments. Multi-family homes, a Chinese restaurant (Annie's Panda Garden), and a surface asphalt-paved parking area utilized for storing vacant mobile homes are located to the south of this intersection. The Lee's Market and Gas Station, JJ's Fish and Chicken restaurant, and Motel 6 motel are located near the Sereno Drive/Fairgrounds Drive intersection.

The area on Fairgrounds Drive between Valle Vista Avenue and Coach Lane is developed with multi-family homes and medical office buildings, as well as vacant lands. The area between Coach Lane and SR 37 on Fairgrounds Drive is primarily developed with recreational facilities. Six Flags Discovery Kingdom Amusement Park (Six Flags) and associated surface parking areas are located to the west of Fairgrounds Drive. Lake Chabot is also on the west side of Fairgrounds Drive. The Solano County Fairgrounds and associated surface parking areas are located to the east, along with a Courtyard Marriot hotel and fast-food restaurants. The area to the north of SR 37 on Fairgrounds Drive is comprised of single-family homes, a gas station, and Best Western Inn hotel.



Land Use Study Area and  
Existing and Future Land Uses

Figure



### **Planned Development**

There are two planned developments within the land use study area. Solano County and the City of Vallejo are planning for the redevelopment of the 149-acre Solano County Fairgrounds property. The Solano County Fairgrounds are now expected to be redeveloped with a mixture of hotel, retail, and entertainment uses as described in the Solano 360 Vision Report, dated May 28, 2009. The Solano 360 Project Vision seeks to establish a pedestrian-friendly, community gathering place, and destination for visitors. In addition, the project intends to generate revenues for the County and City, introduce a mix of complementary land uses, and to enhance the physical connectivity with the adjacent Six Flags Discovery Kingdom, downtown Vallejo, and existing commercial operations. This redevelopment is expected to be in place by 2030. **Figure 2-1** shows planned projects in the project vicinity.

The City of Vallejo is currently processing a plan to construct a new Winco Foods Store (a discount grocery store) at the intersection of Redwood Parkway and Admiral Callaghan Lane, within the existing Elks Club property. The project is consistent with the existing commercial development at this intersection.

### **Consistency with State, Regional, and Local Plans and Programs**

#### **Regional Transportation Plans**

The project is included in the Metropolitan Transportation Commission's (MTC) fiscal year 2010/2011 Transportation Improvement Program (TIP) as project number SOL090015. MTC approved the financially constrained TIP on October 27, 2010.<sup>1</sup> Following approval by the Department, the Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) incorporated the TIP into the Federal Statewide Transportation Improvement Program (FSTIP) on December 14, 2010.

The project is also included in the fiscally-constrained Solano Regional Transportation Plan (RTP) Project List that was adopted by STA on May 22, 2011. This list was prepared by Solano County for submittal to MTC's 2013 update to its RTP (also known as T-2040 Update "Plan Bay Area").

Consistent with the goals of the 2010/2011 TIP, MTC sponsored development of the San Francisco Bay Area Regional Intelligent Transportation System (ITS) Plan as a roadmap for transportation systems integration in the Bay Area over the next 10 years. The ITS Plan identifies ITS strategies such as vehicle detection, ramp metering, closed caption television cameras, and changeable message signs for the I-80 corridor.

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<sup>1</sup> The TIP was amended and approved by MTC on December 17, 2014 to reflect that the Redwood Parkway – Fairgrounds Drive Improvements Project (# 230313) is modeled as a non-exempt construction project. Accordingly, the update is listed as a technical correction to the projects/programs listed in Appendix B1 of the 2015 TIP. The proposed project meets regional air quality conformance requirements.

**Solano Bicycle Transportation Plan**

In December, 2011, STA published the Final Bicycle Transportation Plan (Bicycle Plan) for Solano County. The Bicycle Plan serves as a guide to planning and engineering professionals to encourage the development of a unified bicycle system throughout the Solano County. The system consists of the physical bikeway routes, way finding signage, and associated amenities such as bicycle lockers, showers, etc. The Bicycle Plan focuses on a bikeway network that will provide origin and destination connections in and surrounding Solano County. The Bicycle Plan includes the potential construction of an off-street bike/pedestrian path (Class I) along Fairgrounds Drive, from Marine World Parkway to Redwood Street.

**City of Vallejo General Plan**

The Build Alternative is located within the jurisdiction of the City of Vallejo. The City of Vallejo General Plan provides policies and goals for the development along Fairgrounds Drive.

The City of Vallejo General Plan Circulation and Traffic Element includes planning several goals, objectives and policies that relate to the Build Alternative.

*Mobility Goal:* To have mobility for all segments of the community with a transportation system that minimizes pollution and conserves energy and that reduces travel costs, accidents and congestion.

Policy 1. When evaluating future expansion of street and highways, consider incorporation of public transit, bicycle and pedestrian right-of-way, and distribution of goods and services as a system to maintain the citizenry, rather than as a system devoted solely to the accommodation of the private automobile.

Policy 4. The toll of deaths and injuries that result from transportation accidents should be kept to a minimum.

*Street and Highway System Goal:* To have a functional street and highway system that provides appropriate access to the industrial, commercial and residential areas of the city.

*Traffic Safety Goal:* To have a street and highway system that is safe to use.

Policy 3. Sight distances should be consistent with probable traffic speed, terrain and alignments. Horizontal and vertical street alignments should relate to the natural contours of the site insofar as is practical and should be consistent with other design objectives. They should be selected to minimize grading quantities. Existing unpaved street rights-of-way too steep for cars or not needed should be abandoned or unused to provide landscaping.

*Compatibility with Adjoining Land Uses Goal:* To have a street and highway system that services all land uses with a minimum adverse impact.

Policy 4. Street widening should not be approved in existing neighborhoods where there is significant opposition from the immediate residents. Alternative mitigation should be initiated prior to such widening, including modification of street signalization, rerouting of cross-town traffic, creating one-way streets and eliminating on street parking. Street widening should include street planting to give an immediate landscaped appearance.

## **Environmental Consequences**

### *Compatibility with Regional Transportation Plans*

The Build Alternative is consistent with the project list included in MTC's TIP, as incorporated into FHWA's FSTIP. The Build Alternative is also consistent with the project list incorporated into STA's current RTP.

The Build Alternative is consistent with MTC's ITS plan in that it proposes to maintain the existing I-80 traffic operations system elements like in-road sensor loops<sup>2</sup>, and would include ramp metering at the I-80/Redwood Parkway interchange.

### *Compatibility with the Solano Bicycle Transportation Plan*

The Bicycle Plan includes the potential construction of an off-street bike/pedestrian path (Class I) along Fairgrounds Drive, from Marine World Parkway to Redwood Street. Under the Build Alternative, this bike path would be changed to a designated on-street bike lane (Class II). Although the Build Alternative does not propose the construction of a separated bike path, such as the one proposed in the Bicycle Plan, the proposed improvements would establish the bicycle network connectivity the Bicycle Plan intended to establish along Fairgrounds Drive. As such, the proposed Build Alternative is not considered to be in conflict with the Bicycle Plan.

### *Compatibility with City of Vallejo General Plan*

The Build Alternative is consistent with the applicable goals and policies presented in the Circulation and Traffic Element of the City of Vallejo General Plan. The Mobility Goal encourages mobility for communities with a transportation system that minimizes pollution, conserves energy, and reduces travel costs, accidents and congestion. The Build Alternative would alleviate roadway congestion by increasing the capacity of the local roadway to accommodate for existing and planned increases in traffic. This in turn would minimize pollution and conserve energy usually emitted or wasted by idling automobiles.

The Build Alternative would also be consistent with the Street and Highway System Goal, which encourages functional street and highway systems in the City, and the Traffic Safety Goal, which calls for street and highway systems to be safe for use. As the Build

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<sup>2</sup> When you approach a traffic signal you may notice a rectangular "scar" where the road surface has been cut with a saw and then re-sealed. This is the sensor loop. The system detects (through detection loops in the pavement) traffic volumes so that the "green-light" signals can be appropriately timed.

Alternative objectives include improving traffic flow and safety on the local roadway network, the project would be consistent with these goals.

The Compatibility with Adjoining Land Uses Goal promotes street and highways systems that service land uses with a minimum adverse impact. Policy 4 of the goal states that street widening should not be approved in existing neighborhoods where there is significant opposition from the immediate residents. Although the Build Alternative would displace several residential and commercial businesses along the project corridor, these displacements would not divide the existing community within the project area.

### **No-Build Alternative**

Under the No-Build Alternative, Fairgrounds Drive would maintain its existing configuration. No realignment of the Fairgrounds Drive/Redwood Street intersection would occur. There would be no improvements to the SR 37/Fairgrounds Drive or I-80/Redwood Parkway/Admiral Callaghan Lane interchanges and there are no improvements proposed to the existing local roadway network, the No-Build Alternative would not increase the local roadway network capacity to accommodate existing and approved redevelopment and growth in the area. In addition, the increased traffic volumes without capacity improvements would most likely worsen the congestion and slow traffic flow on the local roadway network. Without the realignment of the Fairgrounds Drive/Redwood Street intersection, the No-Build Alternative would not improve the current safety issues related to limited sight distance in this area.

As such, the No-Build Alternative is not consistent with any of the applicable local or regional planning documents described above.

### **Avoidance, Minimization, and/ or Mitigation Measures**

Because the Build Alternative is consistent with local planning goals and policies to improve traffic circulation and improve safety on the local roadway network and at the existing interchange, no minimization or mitigation measures are needed.

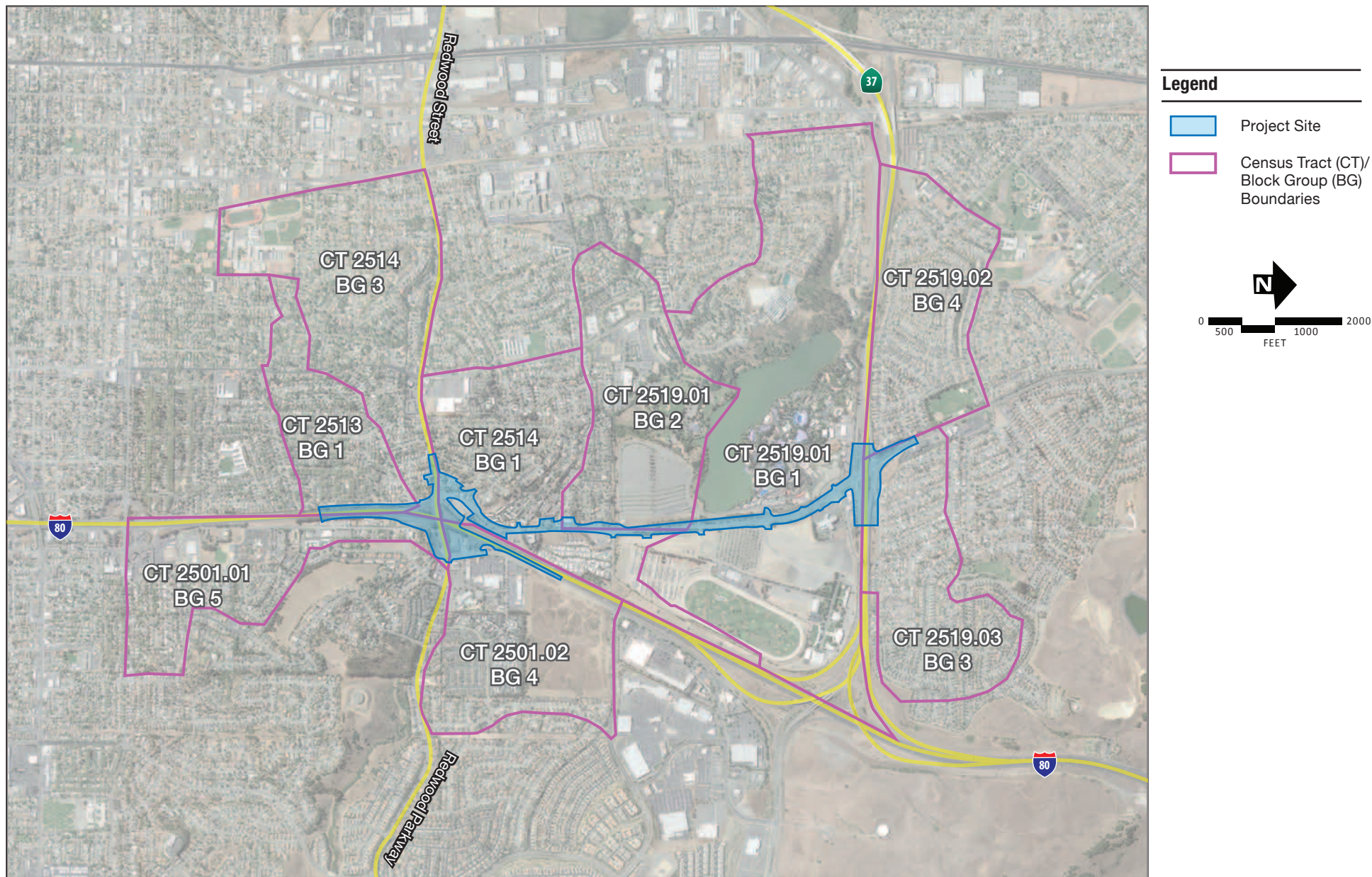
## **2.1.2 COMMUNITY IMPACTS**

### **Community Character and Cohesion**

The following analysis is based on the Community Impact Assessment (CIA) completed in October 2011 (Department, 2012c). The study area for community impacts from the Build Alternative includes the area to the east and west of Fairgrounds Drive and I-80 and is defined as the census tract block groups that are crossed by or surround the project alignment. The entire study area for community impacts lies within the City of Vallejo.

For the purposes of this analysis, the CIA study area is defined by available statistical data describing the City of Vallejo and the nine census tract block groups that are crossed by or adjacent to the Build Alternative. **Figure 2-2** shows the boundary of each census tract and block group within the vicinity of the CIA study area.





Census Tracts and Block Groups in the Project Area

Figure

Source: U.S. Census Bureau, 2000; Circlepoint, 2011.

Table 2.1.2-1 Study Area Racial and Ethnic Composition, 2000

	CT 2501.01 BG 5	CT 2501.02 BG 4	CT 2513 BG 1	CT 2514		CT 2519.01		CT 2519.02 BG 4	CT 2519.03 BG 3	City of Vallejo
				BG 1	BG 3	BG 1	BG 2			
Total Population	1,547	1,831	1,038	2,186	1,859	2,005	1,231	2,228	2,377	116,760
White	638	336	741	964	1,173	307	578	137	177	35,533
Hispanic or Latino	231	154	100	271	215	214	150	323	270	18,591
Black/African American	332	539	64	449	218	1,073	258	664	1,255	27,201
American Indian and Alaska Native	3	5	2	9	4	5	1	3	5	547
Asian	264	666	73	327	161	351	165	954	518	27,829
Native Hawaiian and Other Pacific Islander	4	12	6	29	5	16	30	28	16	1,188
Some Other Race	2	3	0	5	6	6	4	9	4	312
Two or More Races	73	116	52	132	77	33	45	110	132	5,559
Minority Population (Percentage)	58.8%	81.6%	28.6%	55.9%	36.9%	84.7%	53%	93.9%	92.6%	69.6%

Source: U.S. Census, 2000.

Notes: CT= Census tract, BG = Block group

## Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 as amended, established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 U.S.C. 4331 (b)(2)]. The Federal Highway Administration (FHWA) in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services. Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

## Affected Environment

### *Demographic Profile*

City of Vallejo has a population of 116,760 in 2000, with the CIA study area comprising approximately 14 percent of the total population.

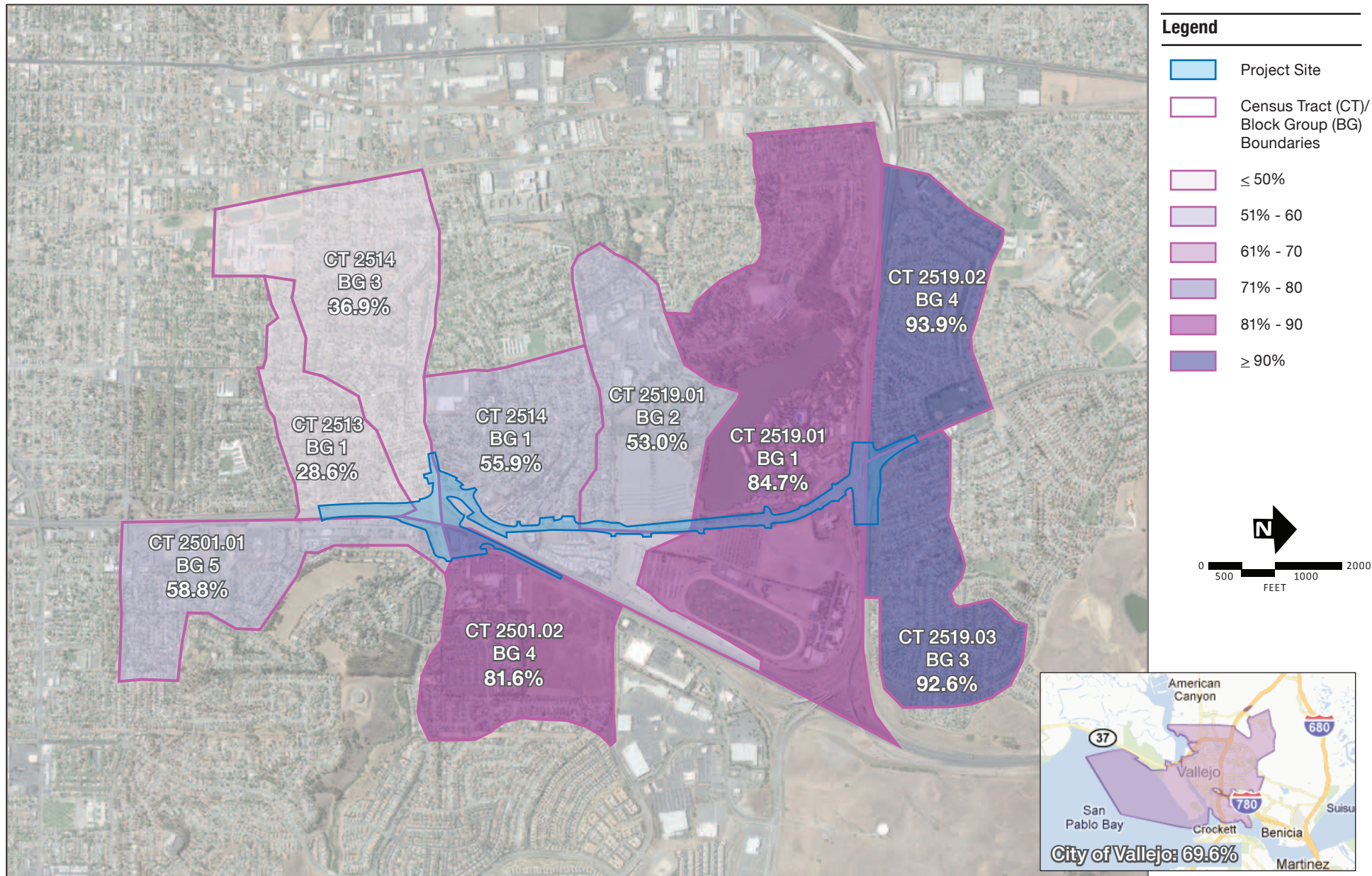
**Table 2.1.2-1** shows the racial and ethnic composition of the City of Vallejo and the CIA study area. The racial and ethnic composition of the City is comprised of predominantly 30 percent Whites, 24 percent Asians, 23 percent Black/African American, and 16 percent Hispanic or Latino. Overall, the minority<sup>3</sup> population in the City of Vallejo is approximately 70 percent. The minority population within Build Alternative's nine census tract block groups ranges from 28.6 percent to 93.9 percent. As shown in **Figure 2-3**, census tract block groups with higher minority populations are concentrated in the eastern portion of the Build Alternative. As a whole, the CIA study area is comprised of predominantly of 31 percent Whites, 21 percent Asians, 30 percent Black/African American, and 12 percent Hispanic or Latino. The CIA study area has a similar racial and ethnic composition to the City of Vallejo, with the exception of a higher Black/African American population and a lower Asian and Hispanic or Latino population in the study area when compared to the City.

Median household incomes in the City of Vallejo (\$50,030) are well above the State average (\$47,493), but below the Solano County average (\$54,099). **Table 2.1.2-2** shows the income and poverty levels for the CIA study area in comparison to the City of Vallejo. The median household income within the CIA study area ranges from \$45,684 to \$77,245. With the exception of two census tracts, the median household incomes within the CIA study area are well above the City's average. Per capita income in the City of Vallejo (\$20,415) is below the State average (\$22,711) and Solano County average (\$21,731). In

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<sup>3</sup> According to Executive Order 12898, the term "minority" includes any individual who is American Indian or Alaskan Native, Asian or Pacific Islander (including Native Hawaiian), Black/African American (not of Hispanic Origin), or Hispanic/Latino.





Minority Populations in Project Area

Figure

Source: U.S. Census Bureau, 2000; Circlepoint, 2011.

the CIA study area, per capita income ranges from \$18,037 to \$42,870. Approximately half of the CIA study area's census tracts are above the City's per capita income average, whereas the other half is below.

Approximately 10.1 percent of the City of Vallejo residents were below the poverty level in 1999, whereas the State average was 14.2 percent and the Solano County average was 8.3 percent. As shown in **Table 2.1.2-2**, the percentage of population in poverty within the study area ranges from 3.2 percent to 10.8 percent. With the exception of census tracts 2519.02 and 2519.03, the study area's population in poverty is well below the City's average. Census tract 2519.02 and 2519.03's population in poverty is slightly higher than the City average.

Table 2.1.2-2 Study Area Income and Poverty, 1999

	CT 2501.01	CT 2501.02	CT 2513	CT 2514	CT 2519.01	CT 2519.02	CT 2519.03	City of Vallejo
Per Capita Income	\$24,129	\$26,097	\$42,870	\$22,581	\$18,037	\$16,668	\$18,426	\$20,415
Median Household Income	\$64,375	\$77,245	\$56,382	\$50,000	\$45,684	\$58,284	\$62,606	\$50,030
Population in Poverty	486	232	210	334	525	683	606	11,588
Percentage in Poverty	6.6%	3.2%	6.9%	6.2%	9.7%	10.8%	10.3%	10.1%

Source: U.S. Census, 2000.

Notes: CT = Census tract

**Table 2.1.2-3** compares the housing characteristics of the CIA study area to the City of Vallejo. Approximately 96 percent of the housing units in the City of Vallejo are occupied. Of these occupied units in the City, approximately 63 percent of the housing units are owner-occupied and 37 percent are renter-occupied units. Within the CIA study area, 97 percent the housing units are occupied. Of the occupied units in the CIA study area, 65 percent of the housing units are owner-occupied and 35 percent are renter-occupied housing units. The study area has a slightly higher percentage of owner-occupied housing units when compared to the City.

### *Community Profile*

The CIA study area is comprised of a mixture of commercial, office, residential, and recreational facility developments. Please refer to **Subsection 2.1.1** for a discussion on the existing land use patterns in the project study area.

Commercial businesses in the CIA study area are concentrated around the Redwood Parkway intersection with Fairgrounds Drive, I-80, and Admiral Callaghan Lane; along Fairgrounds Drive; and at the intersection of Fairgrounds Drive and SR 37. Businesses in the CIA study area include gas stations, restaurants including fast-food chains, hotels/motels, and neighborhood-serving businesses such as grocery stores and markets.

A dental office, medical office building, veterinary hospital, and a private day care facility are also located within the CIA study area.

Residential neighborhoods are located in the southern and northern portions of the CIA study area. In the southern portion of the CIA study area, the Redwood Parkway/I-80 and Redwood Parkway/Fairgrounds Drive intersections are surrounded by a mixture of single-family and multi-family homes. Single family homes are located to the west of Fairgrounds Drive from Redwood Parkway to Coach Lane. In the northern portion of the CIA study area, single-family homes are clustered north of SR 37 on both sides of Fairgrounds Drive.

There are no schools or parks located immediately adjacent to the Build Alternative study area. The closest schools, Highland Elementary School and Johnston Copper Elementary School, are located 0.5 mile from the Build Alternative. Three neighborhood community parks are located within a ¼ mile from the Build Alternative.

### **Environmental Consequences**

#### *Build Alternative*

Impacts to neighborhoods arising from transportation projects are generally related to the division of existing neighborhoods. According to the Department's *Environmental Handbook Volume 4 – Community Impact Assessment*, transportation projects may divide neighborhoods when they act as physical barriers or when they are perceived as psychological barriers by neighborhood residents. In addition, transportation project perceived as physical or psychological barriers may isolate a portion of a neighborhood. This is a particularly sensitive issue within ethnic neighborhoods.

However, transportation projects may also increase cohesion within neighborhoods by diverting vehicular traffic to other roadways and increasing the desirability of pedestrian activity through a neighborhood.

The Build Alternative would involve the widening of Fairgrounds Drive, modifications to the I-80/Redwood Parkway interchange and several intersections in the CIA study area. Implementation of the Build Alternative would impact several parcels and require the displacement of several residential and commercial uses in the CIA study area, predominantly along Fairgrounds Drive between Redwood Street and Sereno Drive.

Businesses displaced along Fairgrounds Drive provide commercial services ranging from medical offices, lodging and food services, to gas and furniture sales. Displacement of these businesses is not anticipated to adversely affect the local community because there are several other businesses in the project study area that offer these same services.

Residential displacements would primarily occur near the intersection of Fairgrounds Drive and Redwood Street and near the intersection of Fairgrounds Drive and Sereno Drive. These residential uses are located at the periphery of the residential neighborhoods and comprise a relatively small proportion of these neighborhoods. The residential displacements are not expected to substantially alter the physical character of the neighborhood nor divide, fragment or break up the community. Potential displacements are further discussed in **Relocation and Real Property Acquisition**, below.

Table 2.1.2-3 Study Area Housing Characteristics, 2000

	CT 2501.01	CT 2501.02	CT 2513	CT 2514		CT 2519.01		CT 2519.02	CT 2519.03	Study Area Total	City of Vallejo
	BG 5	BG 4	BG 1	BG 1	BG 3	BG 1	BG 2	BG 4	BG 3		
Average Household Size	2.7	2.6	2.5	2.5	2.4	2.8	2.2	3.9	3.5	2.78*	2.9
Total Housing Units	581	728	437	938	792	730	419	567	692	5,884	41,219
Occupied Housing Units	571	707	424	857	775	706	409	560	678	5,687	39,601
Owner Occupied Units	309	197	362	452	608	493	209	485	598	3,713	25,020
Renter Occupied Units	262	510	62	405	167	213	200	75	80	1,974	14,581
Vacant Units	10	21	13	81	17	24	10	7	14	197	1,618

Source: Notes: CT = Census tract, BG = Block group

\* This number indicates the average household size in the project area.

### *No-Build Alternative*

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways within the study area, and would therefore avoid the effects to community character and cohesion associated with the Build Alternative.

### **Avoidance, Minimization, and/ or Mitigation Measures**

As the Build Alternative would not significantly affect the character and/or cohesiveness of the study area, no avoidance, minimization, and/or mitigation measures would be required.

## **Relocation and Real Property Acquisition**

### **Regulatory Setting**

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see **Appendix B** for a summary of relocation benefits.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000d, et seq.). Please see **Appendix C** for a copy of the Department's Title VI Policy Statement.

### **Affected Environment**

Most of the proposed improvements would be constructed within the existing right-of-way. However, in order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative could require the acquisition of commercial and residential properties adjacent to these areas. These affected properties are concentrated mainly in the southern portion of the project study area.

### **Environmental Consequences**

#### *Build Alternative*

Based on preliminary design, implementation of the Build Alternative would impact private property in several areas within the study area including portions of Fairgrounds Drive, along Redwood Parkway/Redwood Street, along Moorland Street, along Sereno Drive, and along Admiral Callaghan Lane all within the City of Vallejo. **Figures 2-4 and 2-5** depict the proposed parcels that would be affected by the Build Alternative.

The Build Alternative would impact 37 parcels in total. Out of these 37 impacted parcels, 7 are vacant and do not contain structures on site. The majority of the parcels consist of existing single/multi-family residential uses and several single/multi-commercial uses.



### Residential Property Acquisition

The Build Alternative would affect 20 existing single/multi-family residential parcels along Fairgrounds Drive, Redwood Street, and Moorland Street due to the proposed widening of Fairgrounds Drive and the relocation of the Fairgrounds Drive/Redwood Street intersection. Of the 20 residential parcels, 19 of these residential parcels currently contain existing single family/multifamily homes.<sup>4</sup> The Build Alternative may result in the displacement of 14 of the 19 existing single/multi-family residences.

**Table 2.1.2-4** lists the potentially affected residential parcels based on preliminary design information. Parcels are listed in order from east to west within the project area and correspond to **Figures 2-4** and **2-5**.

According to the 2010 U.S. Census, there are 44,433 total housing units in the City of Vallejo. Of these, 3,874 housing units are vacant, representing approximately 9 percent of the total housing units in the City of Vallejo. Given the high vacancy rate of housing units within the City, there are sufficient resources for the impacted residents to relocate within the City and community, if necessary.

### Commercial Property Acquisition

The Build Alternative would affect 17 commercial parcels along Fairgrounds Drive, Admiral Callaghan Lane, and Sereno Drive due to the proposed widening of Fairgrounds Drive, the relocation of the Fairgrounds Drive/Redwood Street intersection, and the design modification of the I-80/Redwood Parkway interchange. Of the 17 commercial parcels, 11 of these commercial parcels currently contain existing structures.<sup>5</sup> Ten businesses along Fairgrounds Drive would be impacted as a result of implementing the Build Alternative. Of these ten existing businesses, the Build Alternative may result in displacement of six businesses. **Table 2.1.2-5** lists the potentially affected commercial parcels based on preliminary design information. Parcels are listed in order from east to west within the project area and correspond to **Figures 2-4** and **2-5**.

Among the businesses potentially displaced by the Build Alternative include Lee's Market and Gas, medical offices, Annie's Panda Garden Restaurant, America's Bets Inn, 76 Gas Station, and American Furniture Galleries. Five of the six businesses potentially displaced provide commercial services ranging from lodging and food services, to gas and furniture sales. The medical office building does not appear to provide emergency services. Impacts to these businesses would not adversely impact the local community because there are several other businesses in the study area that offer these same services.

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<sup>4</sup> As shown in Table 2.1.2-4, parcel 7 is vacant.

<sup>5</sup> As shown in Table 2.1.2-5, parcels 8, 9, 13, 31, and 32 are vacant. Further parcel 35, the Solano County Fairgrounds, does not have any structures on site and is considered 'vacant.'

Table 2.1.2-4 Potentially Affected Residential Parcels in the Study Area

Parcel No.	APN No.	Existing use	Size of Parcel	Acres Needed for Build Alternative	Physical Address	Reason for Displacement
1	0052-311-170	Single family	0.29 acre	0.07 acre	67 Emerald Circle	--
5	0052-303-210	Single family	0.33 acre	0.09 acre	437 Fairgrounds Drive	Fairgrounds Drive widening
6	0052-303-220	Single family	0.25 acre	0.10 acre	No address on record	Fairgrounds Drive widening
7	0052-303-230	Vacant residential	0.57 acre	0.13 acres	No address on record	Fairgrounds Drive widening
15	0052-270-090	Single family	0.37 acre	0.03 acres	1345 Del Mar Avenue	--
16	0053-232-350	Multi-family	0.32 acre	0.32 acre	251 Fairgrounds Drive	Relocation of Fairgrounds Drive/ Redwood Street intersection
18	0053-232-320	Single family	0.17 acre	0.01 acre	444 Moorland Street	--
19	0053-232-340	Single family	0.15 acre	0.15 acre	436 Moorland Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
20	0053-232-110	Single family	0.14 acre	0.14 acre	432 Moorland Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
21	0053-232-100	Single family	0.18 acre	0.18 acre	424 Moorland Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
22	0053-232-090	Single family	0.17 acre	0.17 acre	416 Moorland Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
23	0053-232-040	Single family	0.12 acre	0.12 acre	2624 Redwood Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
24	0053-232-050	Single family	0.13 acre	0.13 acre	2618 Redwood Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
25	0053-232-060	Single family	0.13 acre	0.13 acre	2612 Redwood Street	Relocation of Fairgrounds Drive /Redwood Street intersection
26	0053-232-070	Single family	0.13 acre	0.13 acre	2606 Redwood Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
27	0053-232-080	Single family	0.13 acre	0.13 acre	400 Moorland Street	Relocation of Fairgrounds Drive /Redwood Street intersection
28	0054-082-180	Single family	0.15 acre	0.15 acre	20 Howard Avenue	Relocation of Fairgrounds Drive/ Redwood Street intersection
29	0054-082-190	Single family	0.19 acre	0.19 acre	2519 Redwood Street	Relocation of Fairgrounds Drive/ Redwood Street intersection
30	0054-083-180	Single family	0.26 acre	0.06 acre	330 Moorland Street	--
36	0054-083-100	Single family	0.67 acres	0.01 acre	328 Moorland Street	--

Parcel No. corresponds to Figures 2-4 and 2-5Source: Department, 2012c.

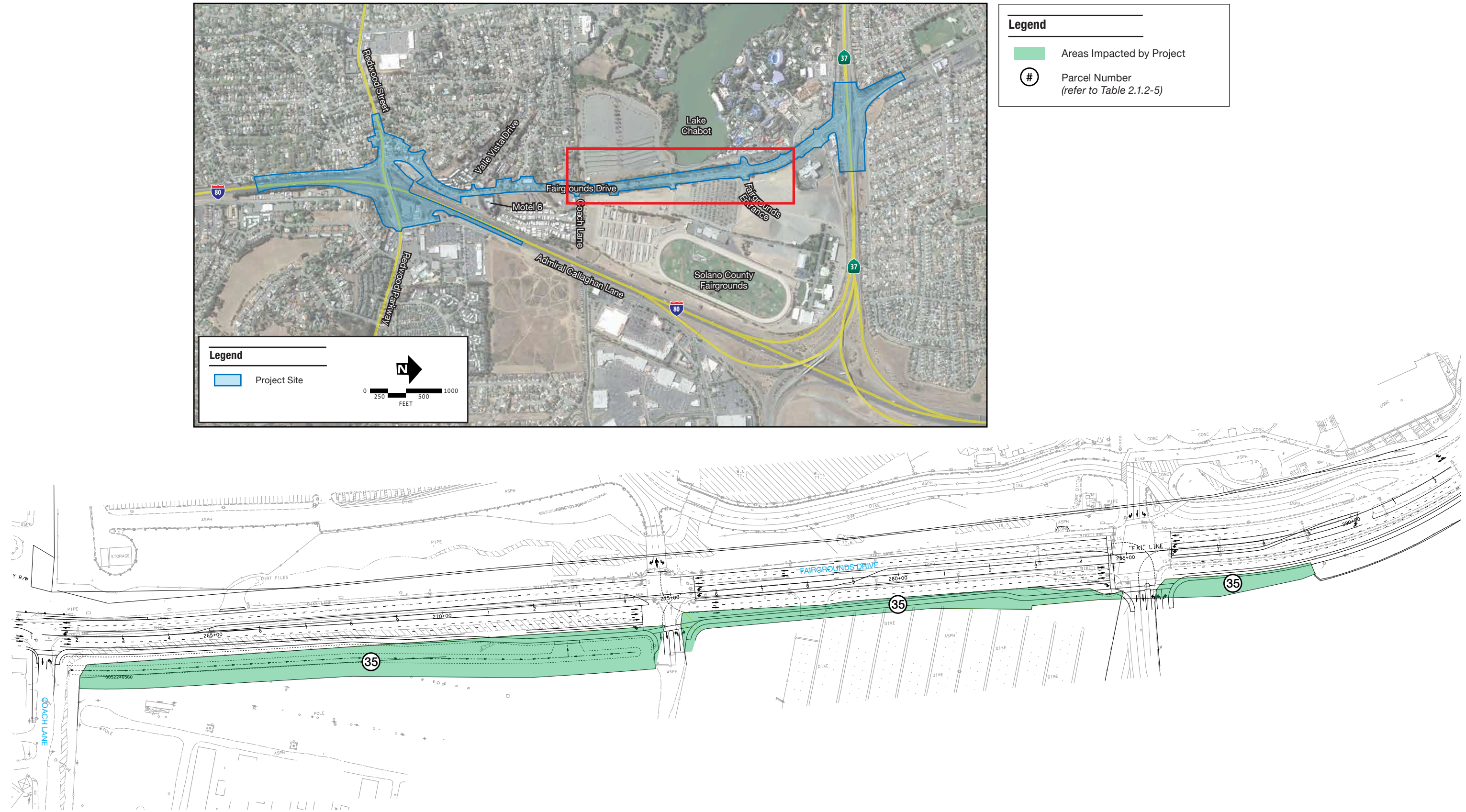
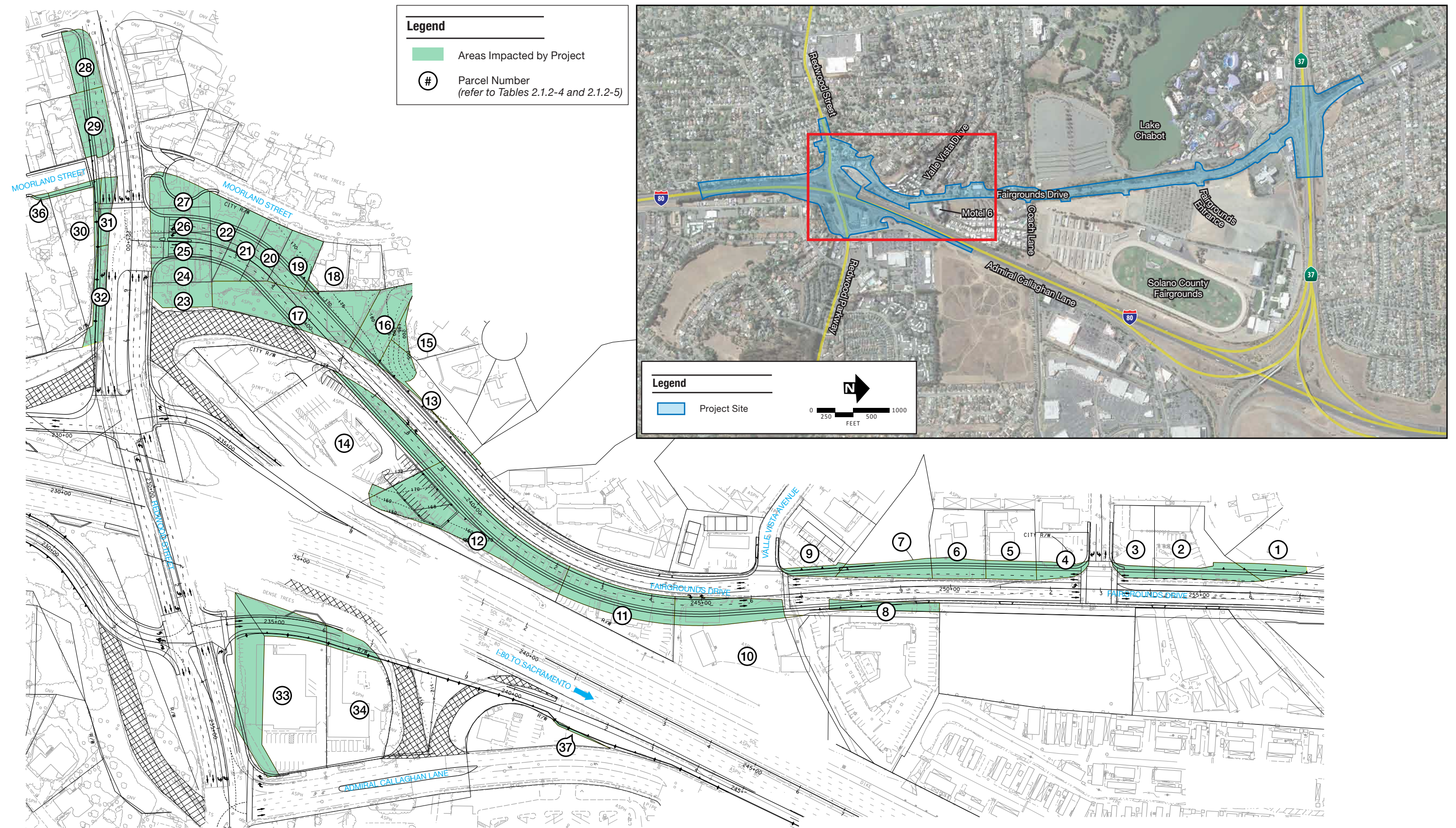


Figure 2-4 Property Right-of-Way Acquisitions (back)





### Proposed Right-of-Way Acquisitions



Figure 2-5 Property Right-of-Way Acquisitions (back)

Table 2.1.2-5 Potentially Affected Commercial Parcels in the Study Area

Parcel No.	APN No.	Business Name	Size of Parcel	Amount to be Acquired	Physical Address	Reason for Displacement
2	0052-302-080	Lee's Market & Gas (Multi-business)	0.52 acre	0.12 acre	511 Fairgrounds Drive	Fairgrounds Drive widening
3	0052-302-090	Lee's Market & Gas (Multi-business)	0.29 acre	0.04 acre	501 Fairgrounds Drive	Fairgrounds Drive widening
4	0052-303-010	Medical Offices (Single business)	0.18 acre	0.07 acre	1999 Sereno Drive	Fairgrounds Drive widening
8	0052-320-100	Vacant (N/A)	0.04 acres	0.04 acre	No address on record	Fairgrounds Drive widening
9	0052-471-010	Vacant (N/A)	0.32 acres	0.05 acre	No Address on record	Fairgrounds Drive widening
10	0052-320-280	Legacy Homes Sales (Single business)	1.38 acres	0.25 acre	384 Fairgrounds Drive	--
11	0052-320-380	Annie's Panda Garden Restaurant (Single business)	0.49 acre	0.30 acre	320 Fairgrounds Drive	Fairgrounds Drive widening
12	0053-233-070	America's Best Inn (Single business)	0.95 acre	0.73 acre	300 Fairgrounds Drive	Fairgrounds Drive widening
13	0053-232-360	Vacant (N/A)	0.17 acre	0.10 acre	No address on record	Fairgrounds Drive widening
14	0053-233-020	Denny's Restaurant (Single business)	1.11 acres	0.20 acre	250 Fairgrounds Drive	--
17	0053-232-180	76 Gas Station (Single Business)	0.63 acre	0.63 acre	223 & 225 Fairgrounds Drive	Relocation of Fairgrounds Drive/ Redwood Street intersection
31	0054-083-140	Vacant (Government & Misc.)	0.15 acre	0.15 acre	No address on record	Relocation of Fairgrounds Drive/ Redwood Street intersection
32	0054-083-160	Vacant (Government & Misc.)	0.29 acre	0.29 acre	No address on record	Relocation of Fairgrounds Drive/ Redwood Street intersection
33	0069-340-130	American Furniture Galleries (Single business)	1.08 acres	0.57 acre	709 Admiral Callaghan Lane	Modification of the I-80/Redwood Parkway interchange to a tight diamond configuration
34	0069-340-150	Tell Rental (Single business)	0.69 acre	0.08 acre	711 Admiral Callaghan Lane	--
35	0052-240-560	Solano County Fairgrounds (Government & Misc.)	148.62 acres	3.18 acres	No address on record	Fairgrounds Drive widening
37	0069-340-060	Redwood Veterinary Hospital (Single business)	0.21 acres	0.01 acre	731 Admiral Callaghan Lane	--

Parcel No, correspond to Figures 2-4 and 2-5

Source: Department, 2012c.

Relocation of a business can result in unemployment and associated financial impacts. If the company can relocate within the same area and remain viable, the effects of unemployment would be temporary. The loss of a small business, however, is likely to have a lesser effect on employment in the community because of the fewer number of households affected.

The City of Vallejo's Economic Development Information System indicated that there are approximately 67 office building properties, 30 industrial buildings, 79 retail buildings, and 14 warehouse building vacant in the City of Vallejo. Given the number of vacant commercial properties in the City, there are sufficient existing resources for the impacted commercial businesses to relocate within the community and City, if necessary.

#### *No-Build Alternative*

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways within the study area, and would therefore avoid relocations or acquisitions associated with the Build Alternative.

#### **Avoidance, Minimization, and/ or Mitigation Measures**

The Department's Relocation Assistance Program would help eligible displaced individuals or businesses move with as little inconvenience as possible. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, would be strictly adhered to. The rights of non-tenured occupants of displaced properties would be preserved. It is Department policy that persons displaced as a result of Department-sponsored transportation programs shall receive fair and humane treatment and shall not suffer unnecessarily as a result of projects designed for the benefit of the public. No occupants would be required to relocate until comparable replacement housing has been made available to them.

It is possible that some homeowners of the affected properties would have negative equity<sup>6</sup> on their mortgages. In recognition of this issue, the project sponsor will work closely with homeowners and the banks during the property acquisition phase of the project.

As the Build Alternative would provide for the equitable relocation of occupants and businesses, and there are sufficient residential and commercial vacancies available in the area for relocation, no avoidance, minimization, and/or mitigation measures would be required. For more details on the Department's Relocation Assistance Program, refer to **Appendix B** and **Appendix F**.

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<sup>6</sup> Negative equity occurs when the value of an asset used to secure a loan is less than the outstanding balance on the loan. In terms of mortgages, this is also referred to as being "underwater" or "upside down."



## Environmental Justice

### Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994. This Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2011, this was \$22,350 for a family of four.<sup>7</sup>

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. The Department's commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in **Appendix C** of this document.

### Affected Environment

Per EO 12898, a population, as evaluated by U.S. census block groups, is subject to environmental justice analysis if it meets at least one of the following criteria:

- A low-income population that is greater than 25 percent of the total population of the community, or a minority population that is greater than 50 percent of the total population of the community; or
- A low-income and/or minority population that is more than 10 percentage points higher than the City or County average.

**Tables 2.1.2-1** and **2.1.2-2**, above include pertinent demographic and socioeconomic data for the census tracts and block groups in the study area for use in determining the whether the community qualifies as an environmental justice community.

#### *Demographic Data: Minority Populations*

**Table 2.1.2-1** summarizes the racial and ethnic composition of the City of Vallejo and block groups located within the study area. Based on the 2000 U.S. Census data, the City of Vallejo has a 69.6 percent minority population. This data indicates that there is a high minority population in the City of Vallejo as a whole. Given that the minority population in the City as a whole is well over 50 percent, the entire City of Vallejo would meet the criteria of an environmental justice community. The minority population within the project area range from 28.6 percent to 93.9 percent. **Figure 2-3** shows the minority population percentages for each block group in the project area.

As previously discussed, an environmental justice community under the minority population threshold would either:

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<sup>7</sup> U.S. Department of Health & Human Services. 2011 HHS Poverty Guidelines. <<http://aspe.hhs.gov/poverty/11poverty.shtml>>. Accessed November 21, 2011.

- be greater than 50 percent of the community population, or
- be more than 10 percentage points higher than the City average.

Seven out of the nine block groups studied have minority populations greater than 50 percent. Out of those six block groups, four block groups in the study area (census tract 2501.01, block group 4; census tract 2519.01, block group 1; census tract 2501.02, block group 4; and census tract 2501.03, block group 3) are comprised of minority populations that are also 10 percent or more above the City's average of 69.6 percent. Two block groups with the study area (census tract 2513, block group 1 and census tract 2514, block group 3), with minority populations of 28.6 percent and 36.9 percent, respectively, are substantially less ethnically diverse compared to the City and surrounding block groups.

However, as a whole, the project area would meet the criteria as an environmental justice community given the minority population is greater than 50 percent.

#### *Socioeconomic Data: Low-Income Populations*

**Table 2.1.2-2** presents percentage of the population at or below the poverty level in 1999 for the City of Vallejo and the census tracts in the project area.<sup>8</sup> As shown, 10.1 percent of the population within the City of Vallejo is at or below the poverty level. The population in poverty within the project area varies from 3.2 percent to 10.8 percent.

As previously discussed, an environmental justice community under the low-income population threshold would either:

- be greater than 25 percent of the total population of the community, or
- be more than 10 percentage points higher than the City average.

None of the census tracts in the study area have populations in poverty that are greater than 25 percent. With the exception of two census tracts (census tract 2519.02 and census tract 2519.03), the remaining five census tracts in the project area are also below the City's poverty average. The percentage of the population in poverty in census tract 2519.02 and census tract 2519.03 are 10.8 percent and 10.3, respectively. Although these percentages are slightly higher than the City's average of 10.1 percent, they would not qualify as an environmental justice community under the low-income threshold as they are not more than 10 percentage points above the City average.

There are no census tracts within the project area that would meet the criteria as an environmental justice community under the low-income thresholds.

### **Environmental Consequences**

#### *Build Alternative*

Although none of the census tracts/block groups in the study area were considered to be low-income environmental justice communities, seven out of nine block groups in the study area qualify as environmental justice minority populations as the minority population in these areas are well above 50 percent.

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<sup>8</sup> Income and poverty level data is not available at the block group level.

As shown in **Figure 2-6**, displacements associated with the Build Alternative would occur in census tract 2501.02, block group 4; census tract 2519.01, block group 2; census tract 2514, block group 1; and census tract 2514, block group 3. **Table 2.1.2-6** below shows the number of potential displacements (residential and business) associated with each of these four census tracts/block groups.

Table 2.1.2-6 Displacements in Study Area Census Tracts/Block Groups

CT/BG	Minority Population in CT/BG	Number of Potential Residential Displacements	Number of Potential Business Displacements
CT 2501.02, BG 4	81.6%	0	1
CT 2519.01, BG 2	53.0%	0	1 (on two parcels)
CT 2514, BG 1	55.9%	12	4
CT 2514, BG 3	36.9%	2	0

Source: American Community Survey, U.S. Census Bureau, 2009.

A displacement would occur in census tract 2501.02, block group 4 (minority population of 81.6 percent), however, this is a commercial displacement, and not a residential displacement. Similarly, two commercial displacements would occur in census tract 2519.01, block group 2 (minority population of 53.0 percent). Two residential displacements would occur in census tract 2514, block group 3 (minority population 36.9 percent). In census tract 2514, block group 1, with a minority population of 55.9 percent, 12 residential and 6 business displacements are expected to occur.

Although the Build Alternative would result in the displacement of several homes and businesses within the study area, these displacements would actually occur in the block groups that have a substantially lower minority population than other surrounding block groups and the City of Vallejo as a whole. Given that the City's minority population is 69.6 percent, census tract 2514, block group 1 and 2, and census tract 2519.01, block group 2 are below the City's average. While census tract 2501.02, block group 4 does consist of a minority population above the City's average, the displacement in the community would be limited to one business.

The Build Alternative would occur wholly within an area and community with a high minority population that qualifies as an environmental justice community. As such, the Build Alternative's impacts, including residential/business displacements, increase noise levels and temporary construction-period impacts (e.g. dust and noise impacts) would be borne by this same community. However, as the Build Alternative's purpose is to relieve congestion and improve traffic flow on the local roadway network along Fairgrounds Drive and Redwood Parkway/Redwood Street, the Build Alternative would directly benefit this same community. Given this situation, the environmental effects of the Build Alternative that would be borne by the minority population within the study area would not be more severe or greater in magnitude than the adverse effects that would be suffered by non-minority populations.

### *No-Build Alternative*

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway or the connecting freeways within the study area. Implementation of the currently planned and funded transportation projects outside the study area but within the project region would be subject to the same potential environmental justice communities as the Build Alternative, since they would occur in the same general region. These projects would be required to comply with E.O. 12898 regarding potentially disproportionate impacts to environmental justice communities. The potentially disproportionate impacts to environmental justice communities would be determined under separate environmental review.

### **Avoidance, Minimization, and/ or Mitigation Measures**

Based on the above discussion and analysis, the Build Alternative will not cause disproportionately high and adverse effects on any minority or low-income populations as per E.O. 12898 regarding environmental justice. No avoidance, minimization, and/or mitigation measures would be required.

## **2.1.3 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES**

### **Regulatory Setting**

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

The Department is committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

### **Affected Environment**

This section discusses the Build Alternative's effects on motor vehicle traffic and circulation. Information in this section is based on the *Redwood Parkway-Fairgrounds Drive Improvements Traffic Operations Analysis Report* prepared in September 2011 (Department, 2012j).

The study area was developed in consultation with the Solano Transportation Authority (STA), City of Vallejo, Solano County, and the Department, and is intended to capture the potential local and regional traffic effects of the Build Alternative. The study area encompasses an approximately 4.6 mile segment of the I-80 freeway corridor; an approximately 1.7 mile segment of the SR 37 corridor; and 20 local intersections along Fairgrounds Drive and connecting roadways (see **Figure 2-7**).



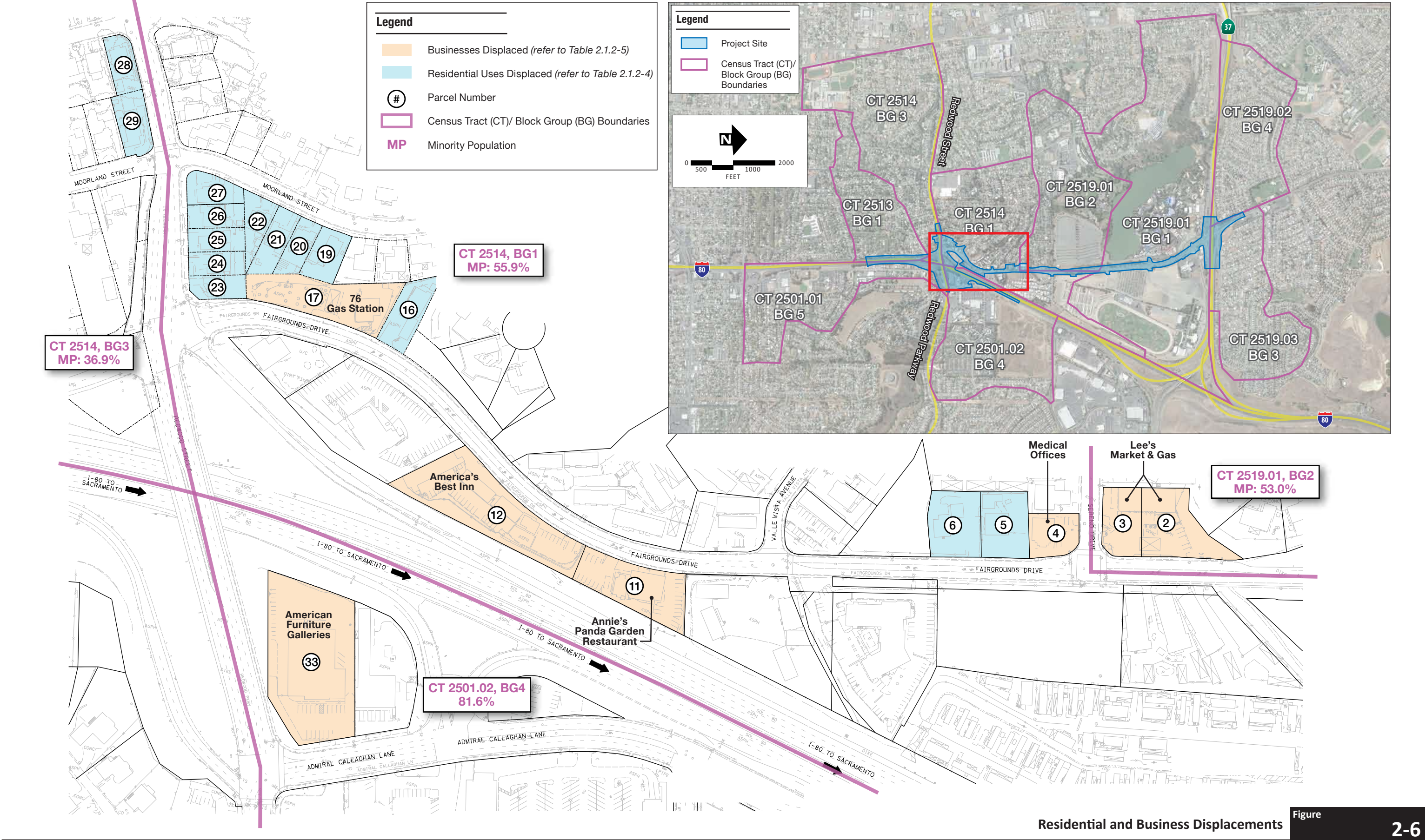


Figure 2-6 Residential and Business Displacements (back)

### Analysis Approach

The traffic operations analysis evaluates three distinct traffic conditions:

- existing (2010);
- projected opening day of the improvements (2015); and
- 20 years after the opening day(2035).

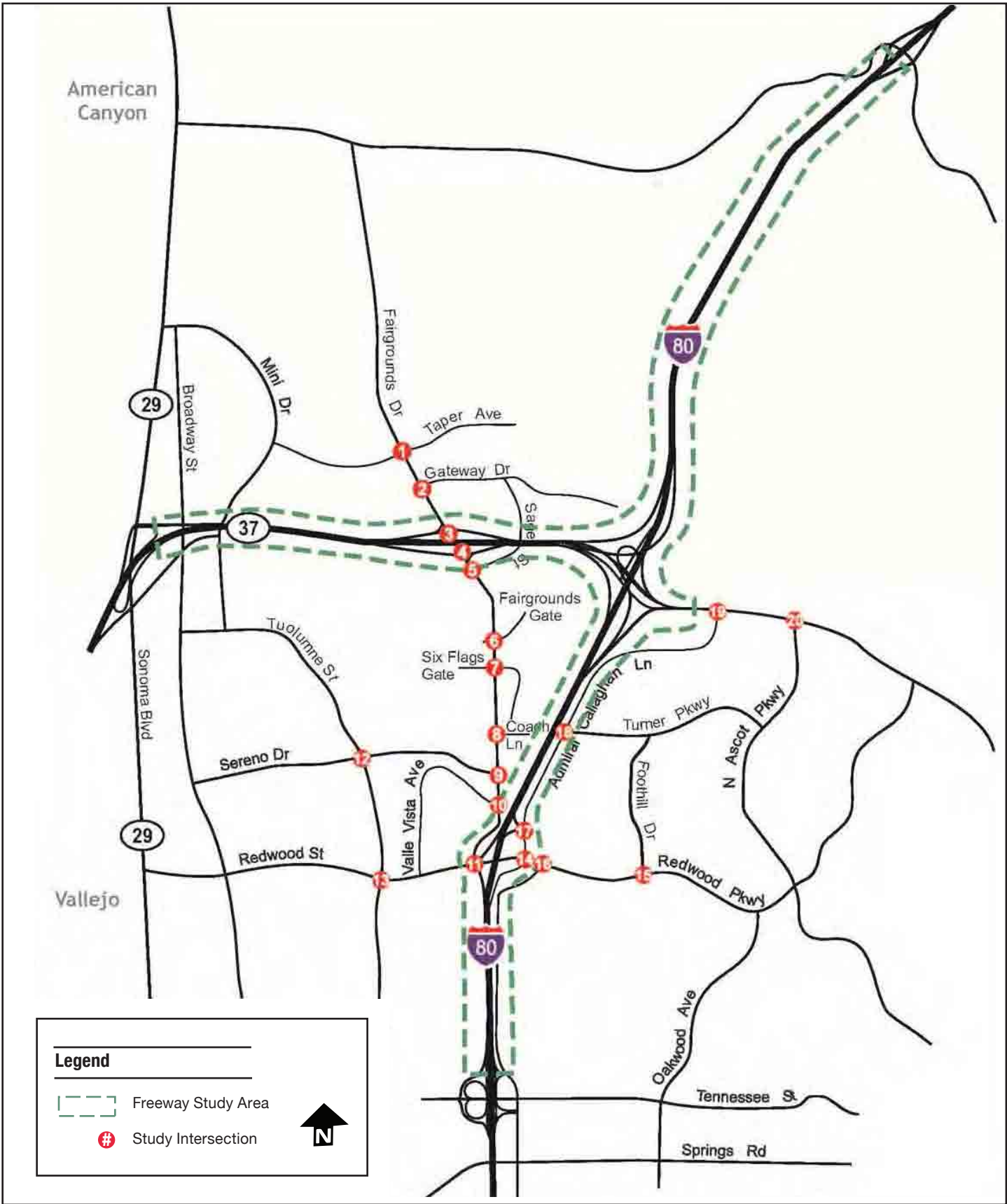
The design and construction phases of the project will be staged to coordinate with a future High Occupancy Vehicle (HOV)/ Toll lanes (express lanes) project along I-80. The portion of the I-80 corridor through Solano County has been identified by the Metropolitan Transportation Commission (MTC) as part of a feasible express lane network throughout the San Francisco Bay Area. STA has completed a study to prioritize implementation of the HOV/express lanes along the I-80 corridor. In order to construct the HOV/express lanes, additional work along the I-80 mainline would be necessary. In order to maximize efficiencies and reduce costs it has been determined that the design and construction of eastbound improvements on I-80 as part of the Build Alternative should be done concurrently with the future I-80 HOV/express lanes project.

The projected opening day for the Build Alternative improvements located on the west side of I-80 would occur by the year 2015 through multiple construction packages. This includes the modification of the Redwood Parkway/I-80 westbound ramps, the relocation of the Fairgrounds Drive/Redwood Street Intersection, the completion of the Moorland Street cul-de-sacs, the widening of Fairgrounds Drive, the relocation of Rindler Creek, and the modification of the Fairgrounds Drive/SR 37 interchange. All improvements associated with the modification of the Redwood Parkway/I-80 eastbound ramps (east of I-80), including the replacement of the existing Admiral Callaghan hook ramps would be constructed by the year 2035, concurrently with the construction of the Vallejo I-80 HOV /express lanes project (subject to funding not yet identified). This would ensure that the proposed Build Alternative improvements could accommodate any changes in the I-80 eastbound lane widths, or related lane alignment shifts, caused by the future construction of an HOV lane in this area. **Figures 1-2 a - c** identify which Build Alternative improvements would occur in 2035.

The construction of the Vallejo I-80 HOV /express lanes project is not part of the Build Alternative, and is evaluated under separate environmental review. This environmental document only evaluates the environmental effects associated with the Build Alternative, including those improvements that would occur in 2015 and 2035.

Future traffic conditions were prepared, based on the latest version of the Solano-Napa Phase II countywide transportation model. Modifications to the model were made to improve the representation of the roadway network within the study area, and to ensure that the model accurately reflected planned and funded development and transportation projects expected to be in place by 2015 and 2035. The land use assumptions in the 2010 travel demand model have been used for 2010 land use assumptions; however, the land use assumptions in the model for 2030 did not reflect current expectations about development within the study area. The Solano County Fairgrounds are now expected to be redeveloped with a mixture of hotel, retail, and entertainment uses. This redevelopment is expected to be in place by 2030. Additionally, the existing Elks Club





Traffic Study Freeway Limits and Study Intersections

Figure



located at 2850 Redwood Parkway, is expected to be replaced in the near future by a small retail development, known as the Winco project. The 2030 land use assumptions in the transportation model were updated to reflect these reasonably foreseeable development projects.

The current *Transportation Plan for the San Francisco Bay Area*, approved by the MTC in 2009, lists high-occupancy vehicle (HOV)/express lanes to be installed along I-80 from Carquinez straight to Fairfield and beyond. The traffic analysis assumes that HOV/express lanes would be in place by the year 2035 and operational along the segment of I-80 that runs within the study area.

The following measures of effectiveness are used to evaluate traffic conditions within the study area:

- *Number of Vehicles and Persons Served* is a measure of the total throughput of the corridor. This measure takes into consideration the actual volume served versus the demand
- *Average Speed* is a measure of the average speeds on all roadways throughout the study area
- *Total Delay* is the amount of vehicle delay incurred during the peak period as a result of the congestion and demand exceeding the capacity of the highway and/or local roadways
- *Average Delay per Vehicle* is the amount of vehicle delay incurred per vehicle
- *Average Travel Time* is a measure of the time it takes (on average) to travel from one point to another during peak commute hours. The travel time calculation considers the average delay throughout the study area, vehicle queues, and delay caused by merging vehicles.

### **Level of Service**

Level of Service (LOS) is a measure of actual traffic conditions and the perception of such conditions by motorists. There are six LOS ratings, ranging from LOS A (free traffic flow with low volumes and high speeds, resulting in low vehicle densities) to LOS F (traffic volumes exceeding the capacity of the infrastructure, resulting in forced flow operations, slow speeds, and high vehicle densities). This traffic analysis evaluates traffic operations based on the LOS criteria for highway mainline and weaving segments, local intersections, and peak commute hour vehicle speeds and average travel times. The criteria used in this traffic analysis are consistent with the procedures contained in the Highway Capacity Manual.<sup>9</sup>

### **Analysis of Weaving, Merge, and Diverge Areas**

The LOS criteria for weaving segments (i.e., ramp junctions); and merge and diverge areas is based on vehicle density (vehicles per travel lane per mile) using the relationships presented in **Tables 2.1.3-1** and **2.1.3-2**. The Department's policy is to maintain highway operations at the LOS D threshold.

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<sup>9</sup> The Highway Capacity Manual (2000) is a publication of the United States Transportation Research Board. It contains concepts, guidelines, and procedures for computing the capacity and quality of service of various transportation facilities, including highways, arterial roads, and intersections.

Table 2.1.3-1 LOS Criteria

LOS	Description	Basic Freeway Sections
		Maximum Density (Passenger Car/Lane/Mile)
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream	<11
B	Free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted	>11 to 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	>18 to 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	>26 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing. <sup>1</sup>	>35 to 45
F	Represents a breakdown in flow	>45

Source: Department, 2012j.

Table 2.1.3-2 Freeway Weaving Segments Level of Service Criteria

LOS	Merge and Diverge Areas	Weaving Segments	
		Freeway Weaving Segment	Multilane and Collector-Distributor Weaving Segments
A	≤10	≤10	≤12
B	>10 and ≤ 20	>10 and ≤20	>12 and ≤24
C	>20 and ≤28	>20 and ≤28	>24 and ≤32
D	>28 and ≤ 35	>28 and ≤35	>32 and ≤36
E	>35	>43	>36 and ≤40
F	Demand Exceeds Capacity	>43	>40

Source: Department, 2012j.

## Intersection Analysis

### *LOS Criteria*

At signalized intersections, the LOS rating is based on the average delay of all vehicle movements measured in seconds per vehicle. Peak commute hour traffic volumes, lane configurations, and signal timing plans are used as inputs in the LOS calculations. For all-way stop-controlled (i.e., unsignalized) intersections, the LOS is also based on the average delay of all vehicle movements. At side-street stop-controlled intersections, the LOS rating is based on the level of delay at the worst case vehicle movement. **Table 2.1.3-3** summarizes the relationship between the level of delay per vehicle and LOS for signalized and unsignalized intersections. Each study intersection was analyzed using existing lane configurations and traffic signal timing data provided by the City of Vallejo and the Department. Existing intersection peak hour turning movement volumes are based on numerous counts at intersections and ramps, most of which were conducted during the period 2008 to 2010.

The Department's policy is to maintain intersection operations at the LOS D threshold; however, in existing urban areas, an LOS E is acceptable if there is no practical alternative to the intersection alignment. For the purposes of this analysis, the Department has accepted LOS E as being reasonable for locations at which the No-Build Alternative would have a worse LOS than when compared to the Build Alternative.

The City of Vallejo's *Traffic Impact Analysis/Study Guidelines* considers traffic impacts as "significant" when the traffic volume to roadway capacity (V/C) ratio increases between the No-Build and Build Alternative more than the threshold identified in **Table 2.1.3-4**. For example, an intersection operating as LOS C under both the No-Build conditions and Build Alternative conditions, must have an increased V/C ratio of more than 0.04 for the deterioration of the intersection performance to be considered significant.

### *Using LOS to Define the Build Alternative*

The intersection analysis was first conducted under year 2035 conditions for the study intersections that fall within the Build Alternative's limits. Various modifications to the signal phasing, signal timing, and intersection geometry were analyzed to determine the minimum improvements that would be needed to provide an acceptable LOS under the 2035 conditions. For the proposed new and reconfigured intersections at the Redwood Parkway interchange, various alternative configurations were investigated in order to ascertain whether it would be possible to reduce the number of proposed lanes, which in turn would reduce the right-of-way required to provide the proposed improvements. Several different arrangements of the reconfigured eastbound I-80 off-ramp were also analyzed to attempt to minimize the potential for traffic queues overflowing in the short-left turn lanes on Redwood Parkway.

In several cases, there was more than one acceptable design for each intersection. The final design of these intersections was selected in consultation with traffic engineers so

that the improvements could accommodate other requirements, such as sight distance, deceleration requirements, and right-of-way availability. The proposed Build Alternative encompasses the best possible intersection designs, based on the predicted 2035 traffic conditions.<sup>10</sup>

Study intersections outside the Build Alternative limits were also studied to verify that no impacts on those intersections would occur as a consequence of the Build Alternative. Signal timing was optimized for the future traffic demand in order to calculate the expected LOS. No geometric improvements are proposed for those intersections.

Table 2.1.3–3 Intersection Level of Service Criteria

LOS	Description of Traffic Conditions	Average Control Delay Per Vehicle
<b>Signalized Intersections</b>		
A	Insignificant Delays: No approach phase is fully utilized and no vehicle waits longer than on red indication.	≤10
B	Minimal Delays: An occasional approach to phase is fully utilized. Drivers begin to feel restricted.	>10-20
C	Acceptable Delays: Major approach phase may become fully utilized. Most drivers feel somewhat restricted.	>20-35
D	Tolerable Delays: Drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays	>35-55
E	Significant Delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long vehicle queues from upstream.	>55-80
F	Excessive Delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	>80
<b>Unsignalized Intersections</b>		
A	No delay for stop-controlled approaches.	≤10
B	Operations with minor delay.	>10-15
C	Operations with moderate delays.	>15-25

<sup>10</sup> The traffic impact analysis included in the Solano 360 Specific Plan draft EIR (November 2012) proposes an additional northbound right-turn lane at the Fairgrounds Drive/SR-37 EB ramps intersection beyond what is included under the Build Alternative (see **Figure 1-2c, Build Alternative Layout**). No other modifications to the intersection configurations proposed under the Build Alternative were included in the Solano 360 Specific Plan draft EIR.

For the purposes of the environmental analysis of the Build Alternative, the redevelopment of the fairgrounds property was assumed to be in place by 2030. It is likely that the permitting processes and construction of the Fairgrounds Drive improvements under the Build Alternative would occur well before to the initial phases of construction for the Solano 360 Specific Plan. The Department and STA will work with Solano County and City of Vallejo to see if it is possible to combine the two proposed configurations for the Fairgrounds Drive/SR-37 EB ramps intersection at the time construction planning begins. However, an independent review of the environmental effects of the additional right-turn lane, and any relevant mitigation measures required to offset the physical impacts from this improvement, would need to be addressed by the Solano 360 Specific Plan project sponsor(s). The Build Alternative will not be revising the configuration of the Fairgrounds Drive/SR-37 EB ramps intersection to accommodate those impacts caused by the Solano 360 Specific Plan.

LOS	Description of Traffic Conditions	Average Control Delay Per Vehicle
D	Operations with some delays.	>25-35
E	Operations with high delays, and long queues.	>35-50
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	>50

Source: Department, 2012j.

Table 2.1.3-4 City of Vallejo Traffic Impact Guidelines

LOS	Threshold V/C increase
A, B	N/A
C	>0.04
D	>0.02
E,F	>0.01

Source: 2012j.

### Existing Transportation Facilities

**I-80:** In general, I-80 is a six-lane freeway with three mixed-flow lanes in each direction. The I-80/Redwood Parkway interchange has a mixture of ramp types, as described below. **Figure 2-8a** illustrates the I-80 lane configuration within the project study area.

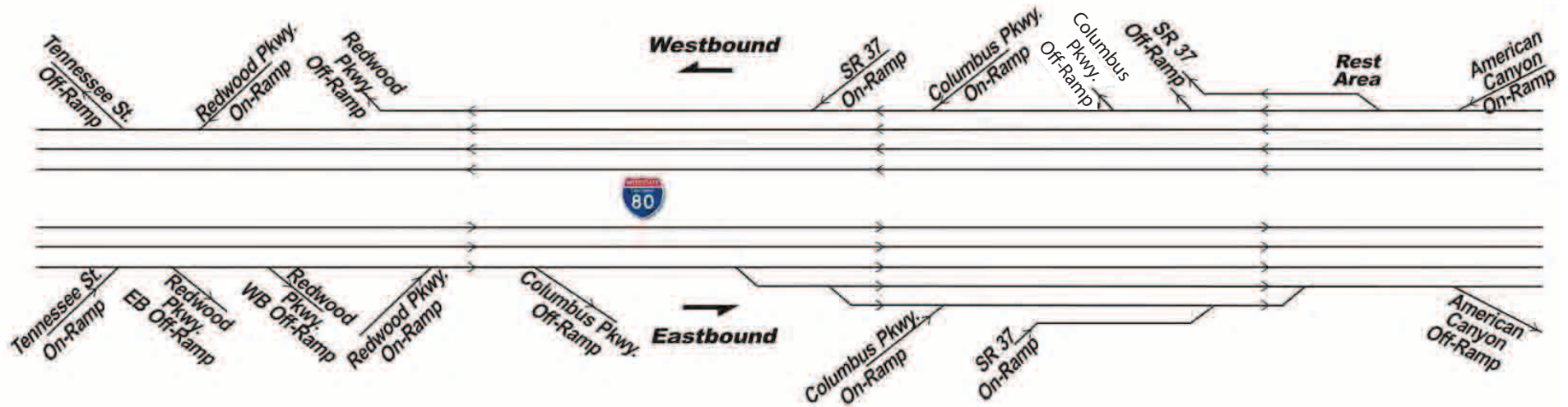
**SR 37:** Within the project study area, SR 37 is a four-lane, east-west freeway connecting SR 29 and I-80 within the City of Vallejo. The majority of this segment was constructed in the mid- to late 1970s while the Fairgrounds Drive/SR 37 interchange was built in the early 1990's. This segment of SR 37 consists of 12-foot lanes, 5-foot left shoulders, and 10-foot right shoulders. The SR 37/Fairgrounds Drive interchange is a tight diamond-shaped interchange. **Figure 2-8b** illustrates the SR 37 lane configuration within the project study area.

**Local Roadways:** Within the traffic study area, Fairgrounds Drive is a conventional two-lane, undivided local arterial with two 12-foot lanes and a continuous two-way left turn lane, flanked by 2 to 4 foot non-standard shoulders. Moorland Street is a two-lane residential roadway that runs parallel to the west of Fairgrounds Drive. The roadway continues south, between Redwood Street and Greenfield Avenue; however, only the northern portion of Moorland Street connects directly to Redwood Street.

### Non-Standard Features

The following non-standard features are present within the traffic study area:

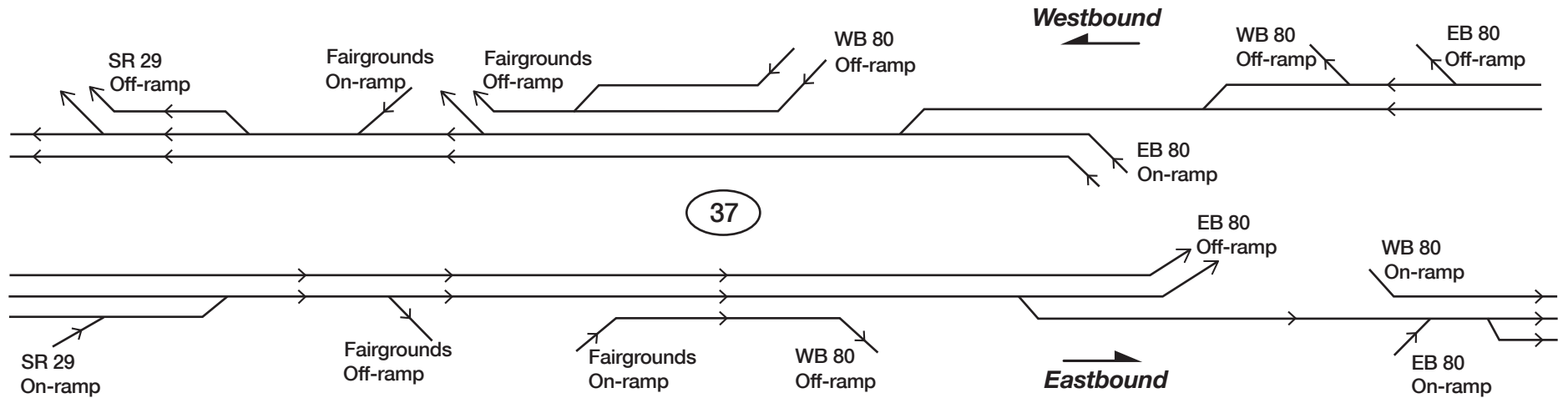
- The existing I-80/Redwood Parkway interchange facility is over 50 years old. Westbound ramps to and from I-80 form a non-standard five-way intersection with Redwood Street and Fairgrounds Drive (see **Figure 2-9**).
- On the east side of the freeway, one eastbound I-80 off-ramp forms a non-standard four-way intersection with Redwood Parkway and Admiral Callaghan Lane (see **Figure 2-10**). Approximately 200 feet north of the four-way intersection, another



Existing I-80 Freeway Lanes

Figure

2-8a



Existing SR 37 Freeway Lanes

Figure

2-8b



Existing Fairgrounds Drive, I-80 WB Ramps, Redwood Street Intersection

Figure

2-9

Source: Department, 2012k; Google Earth, 2011.



Existing Redwood Parkway, Admiral Callaghan Lane, I-80 EB Off-Ramp Intersection

Figure

2-10

Source: Department, 2012k; Google Earth, 2011.





Existing Admiral Callaghan Lane, I-80 EB Ramps Intersection

Figure

2-11

pair of eastbound I-80 hook ramps connect to Admiral Callaghan Lane, as shown in **Figure 2-11**. The interchange configurations consists of short, tight radius hook ramps connecting to parallel arterial roadways rather than the cross road that they serve.

- The portion of Moorland Street south of Redwood Street is currently a non-standard dead-end that does not provide an adequate turning radius for emergency fire response vehicles.

### Existing and No-Build Traffic Conditions

#### *Merge, Diverge, and Weaving Analysis*

At each location at which there is merge, diverge, or weaving activity, the LOS rating was calculated for the peak commute hours. The results are illustrated in **Table 2.1.3-5** through **Table 2.1.3-8** for both existing and future Build and No-Build conditions. The Build Alternative would not affect the traffic volumes on I-80 and SR 37. Under the Build Alternative, the I-80/Redwood Parkway interchange configuration would result in the consolidation of eastbound freeway on- and off-ramps. These improvements would result in small differences in the eastbound I-80 operations, as depicted in **Table 2.1.3-5**. Future Build and No-Build conditions would be the same for westbound I-80 and both directions of SR 37, since the ramp configurations in these areas would not substantially change. Field observations confirmed that localized traffic congestion does occur in the freeway lanes adjacent to on- and off-ramps. The areas with the worst congestion include the eastbound I-80/SR 37/Columbus off-ramp diverge, the westbound I-80/SR 37 on-ramp merge, and the weaving segment from the eastbound SR 37/Fairgrounds on-ramp to the westbound I-80 off-ramp. These areas experience an LOS F during both morning and evening peak commute hours.

Table 2.1.3-5 Eastbound I-80 Merge, Diverge and Weaving Segment LOS (Build and No-Build)

Location	Type	Peak Hour	LOS				
			Existing	2015 No-Build	2015 Build	2035 No-Build	2035 Build
Off-ramp to EB Redwood	Diverge	AM PM	D E	D E	D <sup>1</sup> E	D F	D <sup>1</sup> F
Off-ramp to WB Redwood	Diverge	AM PM	D D	D E		D E	
On-ramp from Redwood	Merge	AM PM	D E	D E	D E	C E	C E

Source: Department, 2012j.

Note: **Bold** indicates unacceptable LOS.

1. Under the Build Alternative, the I-80/Redwood Parkway interchange configuration would result in the consolidation of eastbound freeway on- and off-ramps.

**Table 2.1.3-6 Westbound I-80 Merge, Diverge and Weaving Segment LOS (Build and No-Build)**

Location	Type	Peak Hour	LOS		
			Existing	2015 Build/No-Build Alternative	2035 Build/No-Build Alternative
Off-ramp to Redwood	Diverge	AM PM	C C	C C	D C
On-ramp from Redwood	Merge	AM PM	C D	D D	<b>E</b> D

Source: Department, 2012j.

Note: Bold indicates unacceptable LOS

Future Build and No-Build Alternative conditions are the same.

**Table 2.1.3-7 Eastbound SR 37 Merge, Diverge and Weaving Segment LOS (Build and No-Build)**

Location	Type	Peak Hour	LOS		
			Existing	2015 Build/No-Build Alternative	2035 Build/No-Build Alternative
Off-ramp to Fairground	Diverge	AM PM	C D	C <b>E</b>	C <b>E</b>
Fairgrounds on-ramp to the WB I-80 off-ramp	Weave	AM PM	<b>F</b> <b>F</b>	<b>F</b> <b>F</b>	<b>F</b> <b>F</b>

Source: Department, 2011m.

Note: Bold indicates unacceptable LOS

Future Build and No-Build Alternative conditions are the same.

**Table 2.1.3-8 Westbound SR 37 Merge, Diverge and Weaving Segment LOS (Build and No-Build)**

Location	Type	Peak Hour	LOS		
			Existing	2015 Build/No-Build Alternative	2035 Build/No-Build Alternative
Off-ramp to Fairgrounds	Diverge	AM PM	C C	C C	D C
On-ramp from Fairgrounds	Merge	AM PM	C D	D D	<b>E</b> D

Source: Department, 2012j.

Note: Bold indicates unacceptable LOS

Future Build and No-Build Alternative conditions are the same.

### *Intersection Analysis*

**Table 2.1.3-9** summarizes the existing traffic conditions at the study intersections. With the exception of the following intersections, the majority of the study intersections currently operate at LOS C or better during the morning and evening peak commute hours. The following study intersections currently operate at unacceptable LOS D or worse during the evening peak period:

Table 2.1.3–9 Intersection LOS under Existing and 2015 Conditions (Build and No–Build)

Intersection ID	Study Intersection	Signal Control Type	Existing				2015 No Project				2015 With Project			
			AM		PM		AM		PM		AM		PM	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Fairgrounds Dr at Taper Ave	Signalized	19.9	B	21.3	C	20	C	21.2	C	20	C	21.2	C
2	Fairgrounds Dr at Gateway Dr	Signalized	7	A	7.3	A	7.3	A	7.5	A	7.3	A	7.5	A
3	Fairgrounds Dr at WB 37 Ramps	Signalized	20.4	C	33.1	C	20.6	C	43.9	D	16.3	B	17.1	B
4	Fairgrounds Dr at EB 37 Ramps	Signalized	15.6	B	22.4	C	16.7	B	28.3	C	14.5	B	18.2	B
5	Fairgrounds Dr at Sage St	Stop <sup>1,2</sup> controlled <sup>1,2</sup>	24.7	C	59.2	F	26.6	D	88.6	F	12.4	B	13.3	B
6	Fairgrounds Dr at Fairground Gate	Signalized	3.3	A	9	A	12.5	B	19.4	B	9.7	A	14.5	B
7	Fairgrounds Dr at Six Flags Gate	Signalized	8.7	A	9.3	A	5.8	A	14.3	B	8	A	10.1	B
8	Fairgrounds Dr at Coach Lane	Stop controlled <sup>1</sup>	11.6	B	16.4	C	12.7	B	20.7	C	14.2	B	18.6	C
9	Fairgrounds Dr at Sereno Dr	Signalized	12.4	B	17.9	B	22.4	C	18.1	B	17.4	B	13.2	B
10	Fairgrounds Dr at Valle Vista Ave	Stop controlled <sup>1</sup>	11.6	B	13.3	B	12.2	B	15.7	C	11.1	B	13.4	B
11	Fairgrounds Dr at Redwood St/WB I-80 Ramps	Signalized	33.7	C	38.7	D	33.6	C	38.7	D	NA		NA	
12	Tuolumne St at Sereno Dr	Signalized	27.2	C	31.6	C	27.7	C	30.6	C	27.7	C	30.6	C
13	Tuolumne St at Redwood St	Signalized	32.4	C	59.8	E	34.8	C	62.5	E	34.8	C	62.5	E
14	Redwood Pkwy at EB I-80 Ramps	Signalized	27.7	C	32.8	C	26.6	C	28.7	C	NA		NA	
15	Redwood Pkwy at Foothill Dr	Stop controlled <sup>1</sup>	23.8	C	26.9	D	27.7	D	29.8	D	27.7	D	29.8	D
16	Admiral Callaghan S Ln at Redwood Pkwy	Signalized	16.3	B	24.1	C	17.8	B	23.4	C	13.4	B	17.8	B
17	Admiral Callaghan Ln at EB I-80 Ramps	Stop controlled <sup>1</sup>	9.5	A	14.7	B	9.6	A	29.8	D	NA		NA	
18	Admiral Callaghan Ln at Turner	Signalized	9.9	A	14	B	8.2	A	13.4	B	8.2	A	13.4	B
19	Admiral Callaghan at Columbus	Signalized	10.5	B	26.7	C	27.7	C	36.3	D	27.7	C	36.3	D

Intersection ID	Study Intersection	Signal Control Type	Existing				2015 No Project				2015 With Project			
			AM		PM		AM		PM		AM		PM	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
20	Columbus Pkwy at Ascot Pkwy	Signalized	11.5	B	8.2	A	13.2	B	11.4	B	9.4	A	12	B
21	Fairground Dr at Redwood St										6.9	A	9.2	A
22	Redwood St at I-80 WB Ramps										17.7	B	17.9	B
23	Redwood St at I-80 EB Ramps <sup>3</sup>													
24	Admiral Callaghan N at Redwood <sup>3</sup>													

Source: Department, 2012j.

Note: **Bold** indicated unacceptable LOS

1 Two-way-stop-control intersection: delay and LOS of the worst movement is reported

2. Signalized intersection in Build scenario

3. I-80 EB ramps will be constructed after the completion of the proposed I-80 HOV lane project (anticipated to be operational in year 2035)

- Fairgrounds Drive/Sage Street (LOS F) – Unsignalized
- Fairgrounds Drive at Redwood Street/Westbound I-80 Ramps (LOS D) – Signalized
- Tuolumne Street/Redwood Street (LOS E) – Signalized
- Redwood Parkway/Foothill Drive (LOS D) - Unsignalized

The LOS F rating for the unsignalized intersection of Sage Street/Fairgrounds Drive only represents the left turning movement out of Sage Street. At this intersection, drivers were observed to make a two-stage turn; first picking a gap in the northbound traffic then waiting in the shadow of the central median before picking a gap in the southbound traffic. The drivers' overall delay at this location is therefore more than what is represented in this analysis.

As previously discussed, the intersection analysis was first conducted under year 2035 conditions to determine the minimum improvements that would be needed to provide an acceptable LOS. The proposed Build Alternative encompasses the best possible intersection designs, based on the predicted 2035 traffic conditions. The intersection operations under 2035 conditions are evaluated further below, and illustrate that the Build Alternative would comply with the City's traffic impact thresholds. Because the 2035 conditions represent a worst-case scenario in terms of traffic volumes, an evaluation of intersection operation under the City of Vallejo capacity-based LOS thresholds (V/C ratio) was not warranted for the 2015 condition.

#### *Pedestrian and Bicycle Facilities*

Fairgrounds Drive has sidewalks on both sides of the roadway from Redwood Street to just north of the intersection with Sereno Drive. The sidewalk on the west side of Fairgrounds Drive is discontinued north of Sereno Drive, while the sidewalk on the east side of the roadway continues all the way to SR 37. North of Sereno Drive to the signalized intersection at the Solano County Fairgrounds Gate, a bicycle lane is present on the east side of Fairgrounds Drive. Sidewalks exist on the north side of Redwood Street/Redwood Parkway. Bike lanes/shoulders are present on both sides of Redwood Street/Redwood Parkway, approaching Fairgrounds Drive, and end just west of the intersection of Redwood Street and Fairgrounds Drive.

## Environmental Consequences

### **Opening Year 2015 (Build and No-Build)**

The improvements proposed under the Build Alternative would have little to no impact on the distribution of traffic within the study area. Based on the 2015 model forecasts, during the morning peak commute hours, there would be a maximum of five additional vehicles attracted to southbound Fairgrounds Drive, and no change in the northbound volume. During the evening peak commute hours, there would be no change in the southbound Fairgrounds Drive volume, an additional four northbound vehicles from Redwood Parkway, and an additional ten northbound vehicles north of Sereno Drive. There would be no impact on the traffic volumes using I-80 or SR 37. Traffic volumes entering and leaving the land use development within the study area would be the same, with or

without the Build Alternative. There would be no change in the volumes on Redwood Parkway between the freeway ramp intersections.

#### *Freeway Mainline Analysis*

When compared to the existing conditions, I-80 and SR 37 freeway mainline operations would generally operate with little to no traffic congestion, at the current LOS ratings. Eastbound I-80 segment between the Tennessee Street on ramp and Redwood Parkway off-ramp would slightly degrade from an LOS C in the morning and LOS D in the evening, to an LOS D and E, respectively. The only improvement in this area that would affect freeway operations is the consolidation of the existing two eastbound I-80 off-ramps. This improvement was accounted for in the operations analysis by manually reassigning traffic counts at this location.

For the westbound direction of I-80 and both directions of SR 37, there would be no difference in the geometry of the freeway, or the associated ramps.<sup>11</sup> As such, there would be no difference in the operation of these sections of freeways with or without the Build Alternative. While the Build Alternative would change the intersection and ramp configurations at Redwood Parkway, the overall capacity of the ramps would not change. It is therefore assumed that the volumes entering and leaving I-80 at this interchange would be the same, under either the Build or No-Build Alternative. Tables 2.1.3-5 through Table 2.1.3-8 summarize the overall performance of the study area freeways under the 2015 conditions.

#### *Merge, Diverge, and Weaving Analysis*

As previously stated, evening peak commute conditions are expected to slightly deteriorate along eastbound I-80 by the year 2015. During the evening peak commute hours, under the No-Build scenario, traffic congestion is expected to occur on the approach to the eastbound I-80/Tennessee Street on-ramp, as the traffic volumes entering the merge area would exceed capacity. This bottleneck is not unexpected, since the existing condition currently shows some localized slowing in the right lanes at this location. Between the eastbound I-80/Tennessee Street on-ramp and the first Redwood Parkway off-ramp, travel speeds would decrease and travel times would increase. Similar traffic congestion is expected to occur under the Build Alternative. The bottleneck would appear at the same location, and the slow traffic beyond the bottleneck to the proposed consolidated Redwood Parkway off-ramp would be the same. There would be little to no difference in the operation of westbound I-80 and both directions of SR 37, between the existing conditions, No-Build, and Build Alternatives. The analysis of localized conditions at the merge, diverge and weaving locations is summarized in **Table 2.1.3-9**.

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<sup>11</sup> Changes to the intersection geometry (i.e., reconfiguration of the turning lanes) at the westbound I-80 and SR 37 ramp termini would occur, as described in **Section 1.3, Project Description**. However, these intersection improvements are not considered part of the ramp geometry that connects directly to the freeway, and do not have an effect on the freeway mainline operations.



*Intersection Analysis*

**Table 2.1.3-9** summarizes the study intersection operating conditions for the year 2015 under both the Build and No-Build Alternatives. Under existing conditions, the majority of the study intersections currently operate at LOS C or better during the morning and evening peak commute hours. Four study intersections currently operate at unacceptable LOS D or worse during the evening peak period. With the exception of this improvement, operations under the 2015 No-Build Alternative would generally deteriorate at the majority of the study intersections.

The intersection improvements proposed under the Build Alternative would improve intersection operations under 2015 conditions. With the exception of the following, the majority of the study intersections would operate at LOS C or better during the morning and evening peak commute hours:

- Admiral Callaghan Lane/Columbus Parkway (LOS D-evening peak hours)-Signalized
- Tuolumne Street/Redwood Street (LOS E-evening peak hours)-Signalized
- Redwood Parkway/Foothill Drive (LOS D -morning and evening peak hours) - Unsignalized

There is no difference in operations between the Build and No-Build Alternatives for these intersections. The proposed improvements do not degrade operations over the no build condition.

Because the Build Alternative would improve intersection operations under 2015 conditions, an analysis using the City of Vallejo traffic impact guidelines (V/C ratio) was not required.

*Pedestrian and Bicycle Improvements*

Class II bike lanes<sup>12</sup> and sidewalks would be constructed to fill the gaps along Fairgrounds Drive, and would provide continuous bicycle and pedestrian access from the Redwood Street/Fairgrounds Drive intersection to the Fairgrounds Drive/SR 37 interchange. Pedestrian and bicycle facilities along Redwood Street/Redwood Parkway would remain the same as the existing condition.

The existing sidewalks on both eastbound and westbound Fairgrounds Drive under SR-37 would be relocated to be between the piers and the abutments of the freeway overcrossing. Placing the sidewalks behind the existing overcrossing piers would increase the separation between the people using the sidewalks and the vehicular traffic along Fairgrounds Drive, and should improve pedestrian safety.

In December, 2011, STA published the Final Bicycle Transportation Plan (Bicycle Plan) for Solano County.<sup>13</sup> The Bicycle Plan serves as a guide to planning and engineering professionals in Solano County's jurisdictions, to encourage the development of a unified

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<sup>12</sup> Class II bike lanes are areas within paved streets that are identified with striping, stencils, and signs for preferential (semi-exclusive) bicycle use.

<sup>13</sup> Solano Transportation Authority, 2011.

bicycle system throughout the County. The system consists of the physical bikeway routes, wayfinding signage, and associated amenities such as bicycle lockers, showers, etc. The Bicycle Plan focuses on a bikeway network that will provide origin and destination connections in Solano County as well as to surrounding counties. It is important to note that each city and the County can adopt the Bicycle Plan and meet the state and federal requirements for grant funding sources to develop the projects contained within. However, each jurisdiction can also develop and approve its own bicycle plan, or use some portion of the Bicycle Plan to do so.

The Bicycle Plan includes the potential construction of a Class I bike path<sup>14</sup> along Fairgrounds Drive, from Marine World Parkway to Redwood Street. Under the Build Alternative, this bike path would be reduced to a Class II bike lane facility. Although the Build Alternative does not propose the construction of a separated bike path, such as the one proposed in the Bicycle Plan, the proposed improvements would establish the bicycle network connectivity the Bicycle Plan intended to establish along Fairgrounds Drive. As such, the proposed Build Alternative is not considered to be in conflict with the Bicycle Plan.

#### *Safety Improvements*

The Build Alternative would eliminate the five-way non-standard intersection of westbound I-80/Redwood Street Interchange on- and off-ramps and Fairgrounds Drive. The Build Alternative would improve the angle at which the freeway on and off ramps intersect with Redwood road and separate and move the intersection of Fairgrounds Drive and Redwood Parkway 200 feet to the west. In doing so, the corner sight distance at the peak of the roadway curve on Fairgrounds Drive near Redwood Street would be improved from 55 feet to 300 feet. Eliminating the unconventional five legged intersection should reduce the potential for conflicts due to driver error. Improving the angle of the ramps and the sight distance before the Fairgrounds Drive/Redwood Parkway intersection would aid in improving drivers' ability to avoid crashes, and the maneuverability of turning vehicles through the intersections.

Historic data shows that hook off-ramps have accident rates that are higher than traditional diamond type ramps.<sup>15</sup> The short deceleration and acceleration hook ramps on eastbound I-80 to and from Admiral Callaghan Lane would be eliminated, resulting in increased deceleration length, weaving length and improved sight distance.

#### **Design Year 2035 (Build and No-Build)**

An HOV/Express lane will be in place in both eastbound and westbound directions of I-80 by 2035, between Carquinez Strait and Fairfield. No HOV lanes are programmed for SR 37 at this time, and the number of freeway lanes would not change from the current conditions. When comparing No Build and Build 2035 conditions, traffic volumes on

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<sup>14</sup> Class I off-street bike paths are facilities for use exclusively by bicycles and pedestrians, with minimal cross-flow by motor vehicles. They are often located in a separate right-of-way.

<sup>15</sup> Federal Highway Administration. 1997. Statistical models of accidents on interchange ramps and speed-change lanes. Report Number FHWA-RD-97-106. Available online at: <http://www.fhwa.dot.gov/publications/research/safety/97106/index.cfm>. Last accessed: January 11, 2012.

highways, arterial roads, and local streets are generally anticipated to increase. It is expected that there will be increased long distance commuting traffic on I-80, with significant increases in peak hour volumes east of SR 37, which will be associated with forecast increases in population in the Fairfield area and further east. As a result, there is expected to be some diversion of traffic traveling between the Carquinez Bridge and the American Canyon/Napa area. When comparing No Build and Build 2035 conditions, this means that SR 29, Broadway and other parallel roads are expected to have increased travel during peak hours, as the available capacity on I-80 is used to accommodate the increased regional trips to and from the east.

As a result of this expected change in traffic patterns, the volumes on some of the ramps of I-80 and SR 37 are expected to reduce. In particular, the movements between SR 29 north of SR 37 and I-80 south of SR 37 are expected to reduce between 2010 and 2035. The route on which this phenomenon is most noticeable is eastbound on I-80 to westbound SR 37 then off to SR 29. This route shows significant reductions in both AM and PM peak periods by 2035.

When comparing year 2015 with design year 2035 conditions, there would be no change in the traffic volumes travelling southbound on Fairgrounds Drive or on westbound I-80. Similarly, there would be no change in the forecast volumes on Redwood Parkway between the I-80 ramp intersections, when comparing 2015 with 2035 conditions. All other facilities within the traffic study area would experience a slight increase in traffic volumes, as described above.

#### *Merge, Diverge, and Weaving Analysis*

The analysis of the merge and diverge locations along eastbound I-80 is summarized in **Table 2.1.3-5**. During the morning peak commute period, the merge and diverge locations along eastbound I-80 would operate at an acceptable LOS, while majority of these same locations would experience LOS E or LOS F during the evening peak commute hours. No congestion is expected in the westbound direction of I-80 or SR 37 under the 2035 condition. Along eastbound SR 37, the weaving section between Fairgrounds Drive and the westbound I-80 off-ramp is expected to continue to have a poor LOS.

#### *Intersection Analysis*

**Table 2.1.3-10** summarizes the study intersection operating conditions for the year 2035 under both the Build and No-Build Alternatives. Under existing conditions, the majority of the study intersections currently operate at LOS C or better during the morning and evening peak commute hours. Four study intersections currently operate at unacceptable LOS D or worse during the evening peak period. Under 2035 No-Build Alternative evening conditions, the vehicle delay at the majority of the study intersections would deteriorate.

The improvements proposed under the Build Alternative would improve intersection operations under 2035 conditions. With the exception of the following, the majority of the study intersections would operate at LOS C or better:

- Fairgrounds Drive/Coach Lane (LOS F-evening peak hours)-Stop controlled
- Fairgrounds Drive/Valle Vista Ave (LOS F-evening peak hours)-Stop controlled
- Tuolumne Street/Sereno Drive (LOS D-evening peak hours)-Signalized

- Tuolumne Street/Redwood Street (LOS E-morning peak hours, LOS F-evening peak hours)-Signalized
- Redwood Parkway/Foothill Drive (LOS E-morning peak hours, LOS F-evening peak hours)-Stop controlled
- Admiral Callaghan Lane/Columbus Parkway (LOS D-morning peak hours, LOS D-evening peak hours)-Signalized
- Columbus Parkway/Ascot Parkway (LOS F-morning peak hours, LOS D-evening peak hours)-Signalized
- Redwood Street/I-80 eastbound Ramps (LOS D-evening peak hours)-

There are three existing unsignalized intersections within the project limits on Fairgrounds Drive: Sage Street, Coach Lane and Valle Vista Avenue. It is proposed to signalize the Sage Street intersection, and it will operate satisfactorily. As discussed in section 7.1, the low-volume left turn movements at Coach Lane and Valle Vista Avenue, that would experience long delays according to this analysis, are not likely to materialize in practice. Drivers wishing to make these movements are likely to either turn right instead (experiencing much less delay), or (in the case of Valle Vista) choose an alternative route.

The proposed project will not add traffic to any of these intersections, and the project will significantly improve the expected operation in 2035. There is little or no chance that the volumes will exceed the thresholds required to meet a traffic signal warrant during the analysis period at Coach Lane or Valle Vista Avenue, and there are no project impacts that require mitigation.

For intersections that are studied, but are not within the construction footprint, the operation of the signal was optimized for the future traffic demand in order to calculate the expected LOS. These intersections were studied to verify that there are no impacts on those intersections as a consequence of the project. No geometric improvements are proposed for those intersections.

Table 2.1.3-10 Intersection LOS under Existing and 2035 Conditions (Build and No-Build)

Intersection ID	Study Intersection	Signal Control Type	Existing Conditions				2035 No Project				2035 With Project			
			AM		PM		AM		PM		AM		PM	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Fairgrounds Dr at Taper Ave	Signalized	19.9	B	21.3	C	28.9	C	25.6	C	28.9	C	25.6	C
2	Fairgrounds Dr at Gateway Dr	Signalized	7	A	7.3	A	9.2	A	9.9	A	9.2	A	10	A
3	Fairgrounds Dr at WB 37 Ramps	Signalized	20.4	C	33.1	C	60.9	E	87.6	F	17.4	B	23.8	C
4	Fairgrounds Dr at EB 37 Ramps	Signalized	15.6	B	22.4	C	38.4	D	110.3	F	16.7	B	27.4	C
5	Fairgrounds Dr at Sage St	Stop controlled <sup>1,2</sup>	24.7	C	59.2	F	72.1	F	2248	F	10.1	B	12.7	B
6	Fairgrounds Dr at Fairground Gate	Signalized	3.3	A	9	A	22.7	C	68.5	E	15.5	B	24.7	C
7	Fairgrounds Dr at Six Flags Gate	Signalized	8.7	A	9.3	A	16	B	201.7	F	9.3	A	20.2	C
8	Fairgrounds Dr at Coach Lane	Stop controlled <sup>1</sup>	11.6	B	16.4	C	21.1	C	799.1	F	24.6	C	121.2	F
9	Fairgrounds Dr at Sereno Dr	Signalized	12.4	B	17.9	B	15	B	60.6	E	13	B	21.9	C
10	Fairgrounds Dr at Valle Vista Ave	Stop controlled <sup>1</sup>	11.6	B	13.3	B	28.3	D	1571.3	F	16.2	C	196.3	F
11	Fairgrounds Dr at Redwood St/WB I-80 Ramps	Signalized	33.7	C	38.7	D	78.2	E	142	F				
12	Tuolumne St at Sereno Dr	Signalized	27.2	C	31.6	C	33.6	C	46.9	D	33.6	C	46.9	D
13	Tuolumne St at Redwood St	Signalized	32.4	C	59.8	E	64.5	E	110.9	F	64.5	E	110.9	F
14	Redwood Pkwy at EB I-80 Ramps	Signalized	27.7	C	32.8	C	29	C	57.5	E	NA		NA	
15	Redwood Pkwy at Foothill Dr	Stop controlled <sup>1</sup>	23.8	C	26.9	D	42.5	E	61.6	F	42.5	E	61.6	F
16	Admiral Callaghan S at Redwood	Signalized	16.3	B	24.1	C	25.8	C	41.6	D	14	B	26.7	C
17	Admiral Callaghan Ln at EB I-80 Ramps	Stop controlled <sup>1</sup>	9.5	A	14.7	B	10.5	A	31.6	D				
18	Admiral Callaghan Ln at Turner Pkwy	Signalized	9.9	A	14	B	9.5	A	15	B	9.5	A	15	B
19	Admiral Callaghan Ln at Columbus Pkwy	Signalized	10.5	B	26.7	C	50.1	D	50.5	D	50.1	D	50.5	D

Intersection ID	Study Intersection	Signal Control Type	Existing Conditions				2035 No Project				2035 With Project			
			AM		PM		AM		PM		AM		PM	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
20	Columbus Pkwy at Ascot Pkwy	Signalized	11.5	B	8.2	A	101.7	F	52.4	D	101.7	F	52.4	D
21	Fairground Dr at Redwood St										10.8	B	23	C
22	Redwood St at I-80 WB Ramps										18	B	16.8	B
23	Redwood St at I-80 EB Ramps										16.2	B	36.4	D
24	Admiral Callaghan N at Redwood										12.9	B	20.7	C

Source: Department, 2012j.

Note: 1 Two-way-stop-control intersection: delay and LOS of the worst movement is reported

2. Signalized intersection in Build scenario



The study intersections outside the project limits were analyzed to determine whether the Build Alternative would comply with City of Vallejo's capacity-based traffic impact guidelines (V/C ratio), to show that the Build Alternative has no significant impact on those intersections. As shown in **Table 2.1.3-11**, in all cases except one, the expected change in V/C is below the City's thresholds. The exception is the Redwood Parkway/Admiral Callaghan Lane (south) intersection. This exceedance is due to a modeling assumption of independent signal timing at this location. Contrary to the modeling assumption, it is anticipated that this intersection would be synchronized with the other traffic signals to the west during the peak commute periods. The cycle length at this intersection during the peaks periods would be driven by the other, more heavily used intersections, which would result in shorter cycle lengths under the Build Alternative when compared to the No-Build Alternative. The operation of this intersection is anticipated to be more efficient under the Build Alternative, with a lower estimated delay and superior LOS, as shown in **Table 2.1.3-11**. However, the calculated V/C would be slightly higher simply because of the different cycle length. Therefore, no action is required.

#### *Temporary Construction Impacts*

As discussed in **Chapter 1.0, Proposed Project**, the Build Alternative would be constructed in multiple stages in order to minimize traffic delays and congestion caused by construction activities. The exact staging of the construction phases would be determined during the final design process. It is anticipated that the proposed construction would require temporary roadway and shoulder closures.

#### **No-Build Alternative**

Under the No-Build Alternative, Fairgrounds Drive would maintain its existing configuration. No realignment of the Fairgrounds Drive/Redwood Street intersection would occur. There would be no improvements to the SR 37/Fairgrounds Drive or I-80/Redwood Parkway/Admiral Callaghan Lane interchanges. The No-Build Alternative would include the planned and funded projects within the corridor, as described in **Chapter 1.0, Proposed Project**. As presented in the analyses above, the increased traffic volumes without capacity improvements would most likely worsen the congestion and slow traffic along Fairgrounds Drive. Without the realignment of the Fairgrounds Drive/Redwood Street intersection, the No-Build Alternative would not improve the current safety issues related to limited sight distance in this area.

For the westbound direction of I-80 and both directions of SR 37, there would be no difference in the geometry of the freeway, or the associated ramps. As such, there would be no difference in the operation of these sections of freeways with or without the Build Alternative. While the Build Alternative would change the intersection and ramp configurations at Redwood Parkway, the overall capacity of the ramps would not change. The forecasting model is not sufficiently sensitive to reliably estimate minor changes in volume that could result from changes in delays at the interchange intersections. It is therefore assumed that the volumes entering and leaving

Table 2.1.3-11 Change in Intersection v/c Under 2035 Conditions (Build and No-Build)

Intersection ID	Study Intersection	Signal Control Type	2035 No-Build				2035 Build							
			AM		PM		AM		V/C Change	Exceeds Thresholds	PM		V/C Change	Exceeds Thresholds
1	Fairgrounds Dr at Taper Ave	Signalized	0.88	C	0.83	C	0.88	C	0.00	No	0.83	C	0.00	No
2	Fairgrounds Dr at Gateway Dr	Signalized	0.66	A	0.72	A	0.66	A	0.00	No	0.72	A	0.00	No
3	Fairgrounds Dr at WB 37 Ramps	Signalized	1.04	E	0.98	F	0.64	B	-0.40	No	0.62	C	-0.36	No
4	Fairgrounds Dr at EB 37 Ramps	Signalized	0.75	D	1.05	F	0.71	B	-0.04	No	0.83	C	-0.22	No
5	Fairgrounds Dr at Sage St	Stop controlled <sup>1,2</sup>	0.57	F	4.85	F	0.34	B	-0.23	No	0.53	B	-4.32	No
6	Fairgrounds Dr at Fairground Gate	Signalized	0.58	C	1.02	E	0.36	B	-0.22	No	0.64	C	-.038	No
7	Fairgrounds Dr at Six Flags Gate	Signalized	0.65	B	1.48	F	0.26	A	-.039	No	0.80	C	-0.68	No
8	Fairgrounds Dr at Coach Lane	Stop controlled <sup>1</sup>	.48	C	1.70	F	0.32	C	-0.16	No	0.56	F	-1.14	No
9	Fairgrounds Dr at Sereno Dr	Signalized	0.58	B	0.99	E	0.50	B	-0.08	No	0.82	C	-0.17	No
10	Fairgrounds Dr at Valle Vista Ave	Stop controlled <sup>1</sup>	0.43	D	5.42	F	0.23	C	-0.20	No	1.29	F	-4.13	No
11	Fairgrounds Dr at Redwood St/WB I-80 Ramps	Signalized												
12	Tuolumne St at Sereno Dr	Signalized	0.71	C	0.91	D	0.71	C	0.00	No	0.91	D	0.00	No
13	Tuolumne St at Redwood St	Signalized	0.79	E	1.15	F	0.73	E	0.00	No	1.15	F	0.00	No
14	Redwood Pkwy at EB I-80 Ramps	Signalized												
15	Redwood Pkwy at Foothill Dr	Stop controlled <sup>1</sup>	0.47	E	0.63	F	0.45	E	-0.02	No	0.63	F	0.00	No
16	Admiral Callaghan S Ln at Redwood	Signalized	0.48	C	0.79	D	0.48	B	0.00	No	0.84	C	0.05	Yes

Intersection ID	Study Intersection	Signal Control Type	2035 No-Build				2035 Build							
			AM		PM		AM		V/C Change	Exceeds Thresholds	PM		V/C Change	Exceeds Thresholds
17	Admiral Callaghan at EB I-80 Ramps	Stop controlled <sup>1</sup>	0.24	A	0.79	D	0.24		0.00	No	0.39		-0.40	No
18	Admiral Callaghan Ln at Turner Pk	Signalized	0.23	A	0.61	B	0.23	A	0.00	No	0.61	B	0.00	No
19	Admiral Callaghan Ln at Columbus	Signalized	0.98	D	0.92	D	0.98	D	0.00	No	0.92	D	0.00	No
20	Columbus Pkwy at Ascot Pkwy	Signalized	1.06	<b>F</b>	0.93	D	1.06	<b>F</b>	0.00	No	0.93	D	0.00	No
21	Fairground Dr at Redwood St						0.60	B			0.92	C		
22	Redwood St at I-80 WB Ramps						0.74	B			0.80	B		
23	Redwood St at I-80 EB Ramps						0.63	B			1.01	D		
24	Admiral Callaghan N Ln at Redwood Pkwy						0.53	B			0.83	C		

Source: Department, 2012j.

Note: **Bold** indicates unacceptable LOS

1. Two-way-stop-control intersection: delay and LOS of the worst movement is reported

2. Signalized intersection under Build Alternative

I-80 at this interchange would be the same, under either the Build or No-Build Alternative. The only improvement proposed under the Build Alternative that would affect freeway operations is the consolidation of the existing two eastbound I-80 off-ramps. Under the No-Build Alternative, eastbound I-80 freeway operations would experience a slight decrease in travel speeds and a minor degradation of LOS ratings in some locations.

In December, 2011, STA published the Final Bicycle Transportation Plan (Bicycle Plan) for Solano County. The Bicycle Plan includes the potential construction of a Class I bike path along Fairgrounds Drive, from Marine World Parkway to Redwood Street. Assuming that the City of Vallejo adopts the County's Bicycle Plan, this bike path would potentially be constructed under the No-Build Alternative. Under the Build Alternative, this bike path would be reduced to a Class II bike lane facility.

### Avoidance, Minimization, and/or Mitigation Measures

As described in **Chapter 1.0**, a preliminary Transportation Management Plan (TMP) has been developed in order to minimize traffic delays while maintaining worker safety during the construction of the Build Alternative. During the final design phase of the project, a detailed TMP would be developed to minimize delays during construction. The objective of the TMP would be to minimize the impacts that construction activities would have on the traveling public. The plan would include press releases to notify and inform motorists, business community groups, local entities, emergency services, and elected officials of upcoming road closures and detours. Traffic management strategies that require action by the construction contractor would be presented in detail in the Build Alternative's technical specifications of the bid contract, and are considered part of the project.

#### 2.1.4 VISUAL/AESTHETICS

##### Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 as amended establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings [42 U.S.C. 4331(b)(2)]. To further emphasize this point, the Federal Highway administration in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

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

## Affected Environment

Information in this section is based on the *Visual Impact Assessment* prepared for the project (Department, 2012k). The visual impact assessment was prepared in accordance with the guidelines in the Federal Highway Administration's *Visual Impact Assessment for Highway Projects* (FHWA, 1981). The study area for visual resources (visual study area) encompasses the project's viewshed which is defined as the immediate areas in which proposed improvements would occur as well as areas visible from the project area and views from off-site locations toward the project area. The viewshed is limited to the south and west by existing development and topography. The viewshed is more expansive to the east, especially in the northern portion of the project limits. The project site is located along portions of Fairgrounds Drive and Redwood Parkway/Redwood Street within the City of Vallejo and extends from the Fairgrounds Drive/ SR 37 interchange to the Redwood Parkway/ I-80 interchange.

### Local Policies and Guidelines

Local city and county land use plans were reviewed to identify goals and policies concerning visual resources in the visual study area.

The City of Vallejo Department of Public Works' *Regulations and Standard Specifications for Public Improvements* (1992) includes policies geared toward the design of streets (Section 3) and landscaping (Section 5). These regulations identify design standards for street width, pavement type, and the type and size of roadside landscaping that would ensure visual consistency in the visual study area.

The Solano County General Plan Resources Element (2008) lists roadways considered scenic by the County. The County considers the portions of I-80 and SR 37 in the project vicinity as scenic roadways.

The Department has a scenic highway program. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. No officially designated State scenic highways, or highways eligible for such designation, are within the visual study area.

### Visual Setting

The regional area surrounding the visual study area consists of urban development immediately surrounding Vallejo, with open land areas in the northeast portions of Vallejo and throughout much of Benicia's sphere of influence area. Urban development in this region consists mainly of shopping and service areas, commercial, and residential development. Rolling hillsides and Sulphur Springs Mountain are located to the northeast portion of Vallejo. According to the Vallejo General Plan, Sulphur Springs Mountain provides an important visual amenity to both residents and visitors passing through the city.

The local setting of the visual study area consists of residential and commercial development, moderately trafficked arterials, and heavily trafficked highways. There are views of the hillsides and Sulphur Springs Mountain from a number of locations within the project limits. From the intersection of Fairgrounds Drive and Redwood Parkway, traveling in the northbound direction on Fairgrounds Drive, motorists, pedestrians and

residents have views of residential and commercial development immediately adjacent to the roadway. As travelers continue north along Fairgrounds Drive to SR 37, views of the hillsides and Sulphur Springs Mountain appear and remain visible. Lake Chabot is located on the east side of Fairgrounds Drive; however, because of dense vegetation, the Lake is not visible to motorists and pedestrians travelling on Fairgrounds Drive. There are highly visible views of Six Flags Discovery Kingdom, on the west side of Fairgrounds Drive, which include colorful signage and large roller coasters. On the east side of Fairgrounds Drive, the Solano County Fairgrounds, with its large parking area, stadium and race track, and golf course are visible.

Views at the SR 37/Fairgrounds Drive intersections include some newer commercial development such as fast-food establishments and a hotel complex. North of SR 37 are single-family residential subdivisions.

### **Existing Visual Quality**

The visual setting and visual quality of the study area can be described by five distinct landscape units. Landscape units are geographically discreet areas that are often separated by natural features such as bodies of water, ridges, or changes in vegetation. Each landscape unit has a certain visual character based upon the land uses and features that comprise it. **Figure 2-12** depicts the location of these landscape units.

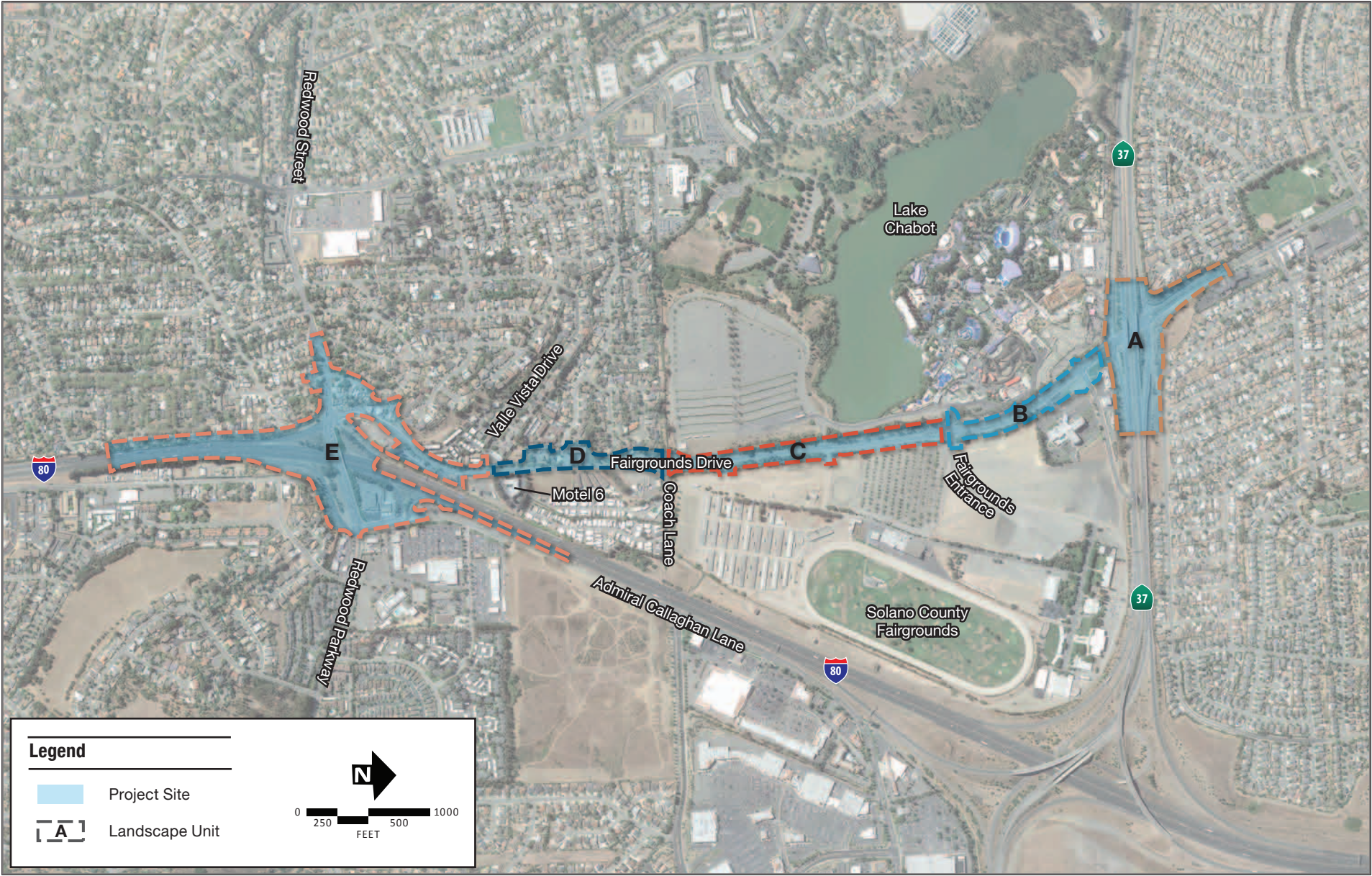
#### *Landscape Unit A*

This landscape unit is characterized as a transportation corridor surrounded by a suburban neighborhood with moderate density residential development, and a Best Western Inn & Suites located on the east side of Fairgrounds Drive. There is ornamental landscaping along the sides of the Fairgrounds Drive and along the median (see **Figure 2-13**). Motorists' and pedestrians/bicyclists' views are generally restricted to the roadway itself. The landscape elements do not combine to create a striking and distinctive pattern, resulting in low vividness. There is man-made development interspersed with natural elements of the landscape such as trees, hills, and grass, resulting in high intactness. The landscape unit as a whole provides a visually coherent arrangement of man-made and natural elements resulting in moderate unity. Therefore, this landscape unit can be classified as having moderate visual quality.

#### *Landscape Unit B*

This landscape unit is characterized as generally rural, open land with limited structures and some ornamental landscaping (see **Figure 2-14**). Many of the structures (including signage and an ornamental wall) in this landscape unit are associated with Six Flags Discovery Kingdom, which is located on the west side of Fairgrounds Drive. There are also views of some commercial development and a hotel on the east side of Fairgrounds Drive and views of the hillsides to the northeast.





Landscape Units

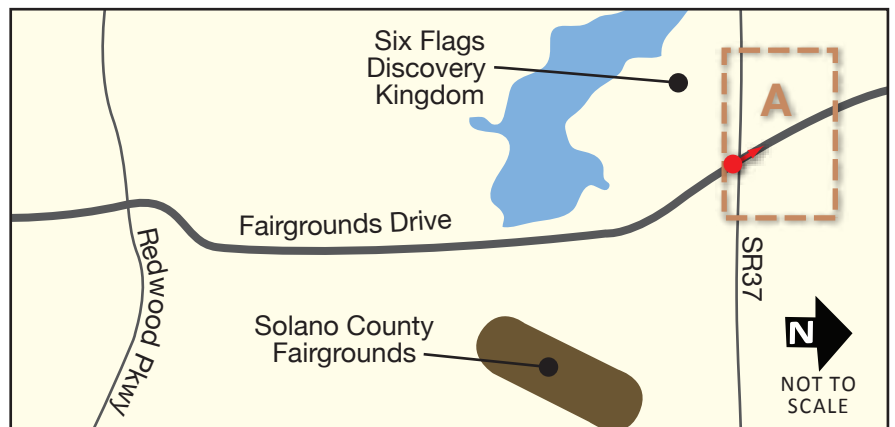
Figure

Source: Department, 2012L.





South of Fairgrounds Drive/State Route 37 Interchange looking north



Landscape Unit A: Existing Conditions

Figure

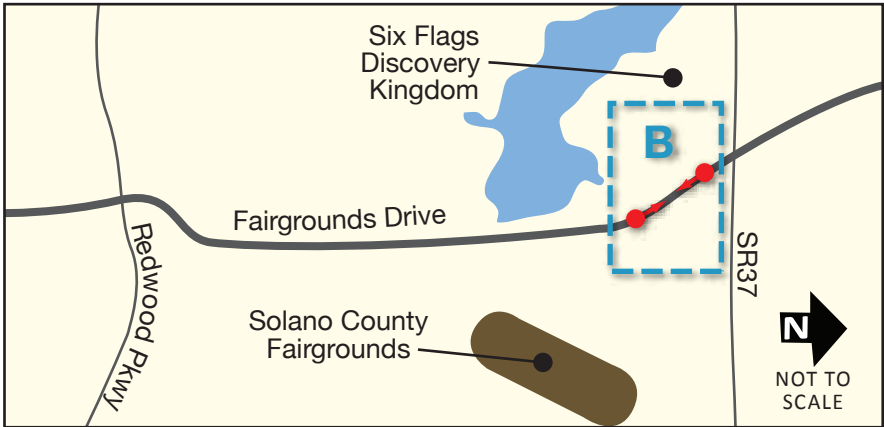
2-13



South of Fairgrounds Drive/State Route 37 Interchange looking south



Fairgrounds Drive looking north towards Six Flags Discovery Kingdom



Landscape Unit B: Existing Conditions

Source: Department, 2012l.

The landscape elements in this landscape unit do not combine to create a striking and distinctive pattern, resulting in low vividness. The integration of man-made and natural landscape in this landscape unit can be described as having moderate intactness and low unity. This landscape unit can be classified as having low visual quality.

#### *Landscape Unit C*

This landscape unit is characterized as a flat valley with heavy vegetation and includes surface parking to both the east and west associated with Six Flags Discovery Kingdom and the Solano County Fairgrounds. Within this landscape unit, there are views of the hillsides to the northeast and of Six Flags Discovery Kingdom to the west (see **Figure 2-15**). There are sporadic views of the hillsides to the east, through some open spaces in vegetation. This landscape unit also includes Rindler Creek and a riparian area on the west side of Fairgrounds Drive. There is moderate vividness, visual intactness, and unity in this landscape unit as the dense vegetation along both sides of Fairgrounds Drive provides integrity and cohesiveness to the visual pattern. This landscape unit can be classified as having moderate visual quality.

#### *Landscape Unit D*

This landscape unit is characterized as a suburban area with moderate residential density and some commercial development (see **Figure 2-16**). The area includes one-story single-family housing, a gas station, restaurant, and some small businesses. The area to the west of Fairgrounds Drive and north of Lee's Market Gas Station located at the Sereno Drive and Fairgrounds Drive intersection is steeply-sloped with light vegetation. There are views of the hillsides to the north and east from within this landscape unit. This landscape unit can be described as having moderate vividness as the man-made development contrasts visually somewhat in form, line and color for the setting. There is high intactness due to the distinction between the man-made environment and natural environment. There is low visual unity as there is no coherent visual pattern. The landscape unit can be classified as having moderate visual quality.

#### *Landscape Unit E*

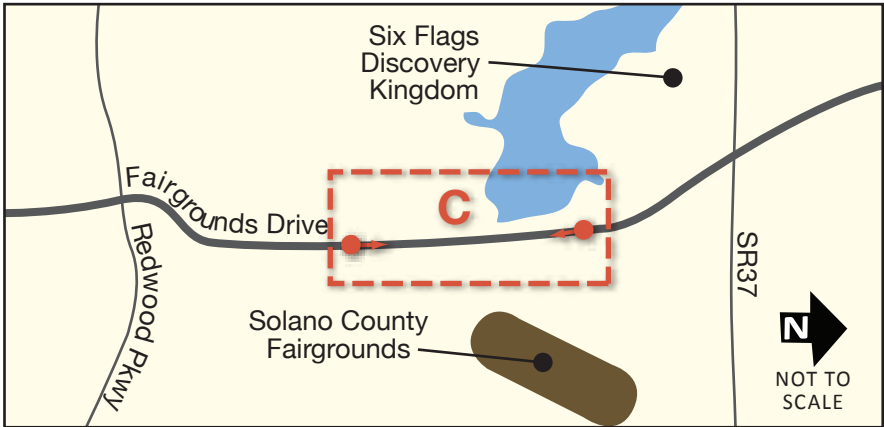
This landscape unit is characterized as a transportation corridor with one-story single family housing and some commercial development (see **Figure 2-17**). This is a heavily trafficked area with motorists traveling east and west on Redwood Parkway and north and south on Fairgrounds Drive and Admiral Callaghan Lane (on the east side of I-80). The commercial development in the area includes gas stations, fast-food restaurants, and strip malls. There are some views of the hillsides to the northeast. This landscape unit can be described as having low vividness as the man-made development is only minimally visually contrasting in form, line, or color. There is low visual intactness as the man-made development appears to be encroaching on the natural environment. As the landscape elements do not join together to form a cohesive visual pattern, the visual unity is low. This landscape unit can be classified as having low visual quality.



Fairgrounds Drive at Solano County Fairgrounds entrance looking south



Fairgrounds Drive at Coach Lane looking north



Landscape Unit C: Existing Conditions

Source: Department, 2012l.

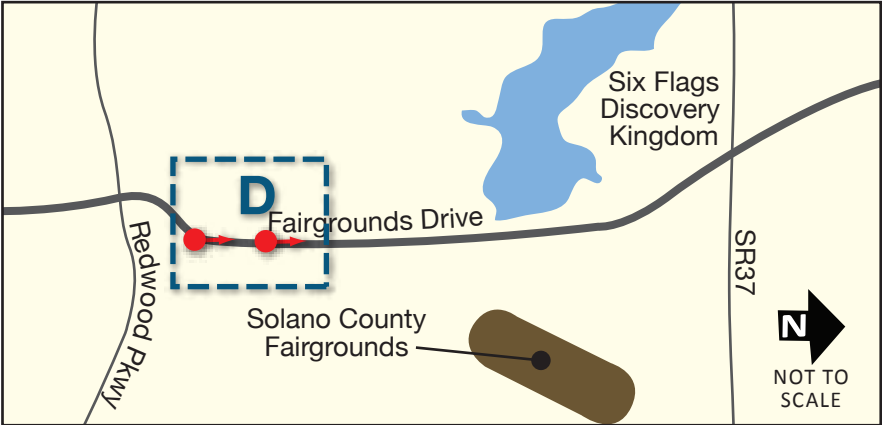




Fairgrounds Drive north of Sereno Drive looking north



Fairgrounds Drive at Valle Vista Avenue looking north



Landscape Unit D: Existing Conditions

Source: Department, 2012l.



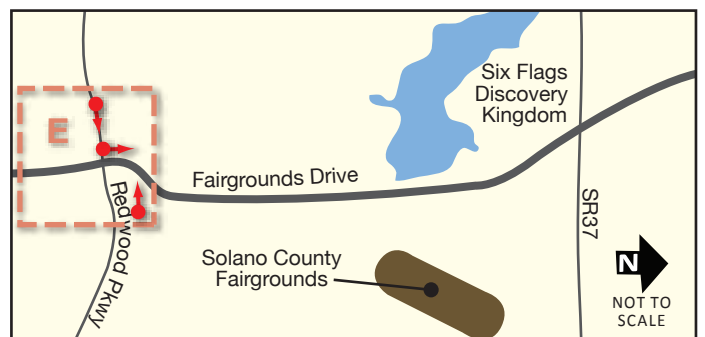
Looking north towards Fairgrounds Drive  
from Redwood Parkway



Redwood Street at Moorland Street looking east



Admiral Callaghan Lane looking west





## **Viewer Groups**

Viewer groups within the visual study area include motorists, bicyclists/pedestrians, residents in the surrounding homes, and employees and patrons of the commercial businesses along the project limits. Viewer sensitivity is defined both as the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view.

### *Motorists*

Motorists include both drivers and passengers traveling along Fairgrounds Drive within in the project area and through the SR 37/Fairgrounds Drive interchange, Redwood Street/Fairgrounds Drive intersections, and the I-80/Redwood Parkway interchange. Motorists drive through the project area daily. These viewers experience a short and constantly changing sequence of views as they travel through the project limits.

Drivers traveling along at normal speeds typically focus their attention on long-range, non-peripheral views while maintaining focus on the roadways and traffic in front of them.<sup>16</sup> Passengers would likely have a heightened awareness of a wide range of views while traveling since they are not focused on the task of driving. Motorist sensitivity to visual change within the project limits would be considered moderate to low because there are few to no substantial visual resources within the project limits and project viewshed and the high levels of traffic that occur on a daily basis along project roadways.

### *Bicyclist and Pedestrians*

Fairgrounds Drive has sidewalks on both sides of the road from the southern end of Fairgrounds Drive until just north of the intersection with Sereno Drive. North of Sereno Drive, there is a sidewalk and a bicycle lane on both sides of the road. A bike lane/shoulder exists on both sides of Redwood Street and a sidewalk on the north side of Redwood Street, approaching Fairgrounds Drive.<sup>17</sup> Pedestrians and bicyclists generally have a heightened awareness of a wide range of views as they are slow-moving and can look at views for a greater length of time. Bicyclists and pedestrian sensitivity to visual change within the project limits would be considered moderate to low because there are few to no substantial visual resources within the project limits and project viewshed and the high levels of traffic that occur on a daily basis along project roadways.

### *Residents*

There are several residential neighborhoods and multi-family apartment buildings along and near the visual study area. The majority of residences are located at the south end of the project limits, on the west side of Fairgrounds Drive and north and south of Redwood Street and on Moorland Street. These residents' sensitivity to visual change within the visual study area would be considered moderate because of their immediate and direct views of the project area.

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<sup>16</sup> *Visual Impact Assessment for Highway Projects*, Federal Highway Administration (FHWA), March 1981

<sup>17</sup> The bike lanes end at the intersection of Fairgrounds Drive and Redwood Street.

Residences are also located in the south-east quadrant of the I-80/Redwood Parkway interchange and north of the SR 37/Fairgrounds Drive interchange. These residents sensitivity to visual change is considered low because views of the project would be blocked by intervening structures (e.g., SR 37), topography or orientation of the residences. Furthermore, these residents are located on a hill and so have primarily unobstructed views. These residents sensitivity to visual change is considered low.

#### *Commercial Area Employees and Customers*

There are a number of commercial uses, ranging from restaurants to hotels and businesses, along portions of Fairgrounds Drive, Admiral Callaghan Lane, and Redwood Parkway. Because these viewers would have relatively short-duration views of the project site their sensitivity to visual change is considered low.

## Environmental Consequences

### **Build Alternative**

#### *Landscape Unit A*

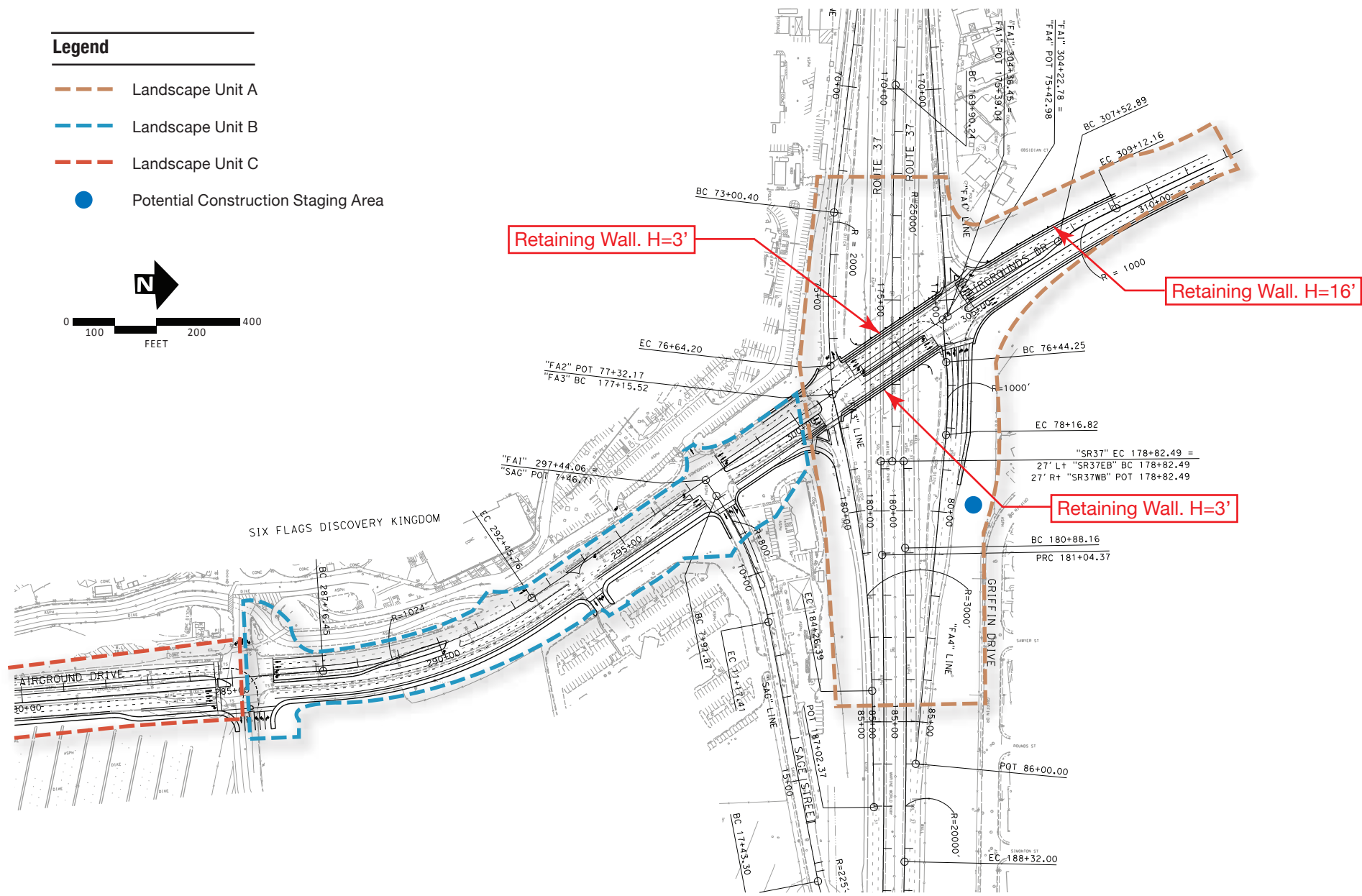
The Build Alternative would not alter the overall aesthetic character of Landscape Unit A. The Build Alternative would only modify the existing roadway by widening the existing roadway and restriping the pavement. The Build Alternative would not add or remove any elements that would impact views (see **Table 2.1.4-1**). The Build Alternative would include two 3-foot (maximum) retaining walls, one on either side of Fairgrounds Drive, underneath the SR 37 overcrossing. As these retaining walls would be located below the overcrossing and views to the retaining walls would be limited, their installation would not affect visual quality nor block any existing views. These retaining walls would be designed such that they match the Six Flags Discovery Kingdom ornamental walls with decorative waves.

Table 2.1.4-1 Visual Quality Change from Landscape Unit A

Alternative	Vividness	Intactness	Unity	Overall Visual Quality
Existing Conditions	Low	High	Moderate	Moderate
No-Build Alternative	No Change	No Change	No Change	No Change
Build Alternative	Negligible	Negligible	Negligible	Negligible

Source: Department, 2012k.

The Build Alternative would also include a 16-foot retaining wall (at its highest point) on the west side of Fairgrounds Drive, just north of SR 37. The location of all of the retaining walls is shown in **Figure 2-18**. There is an existing retaining wall at this location with landscaping and existing residences above it. The Build Alternative would rebuild and raise this wall by a maximum of 3 feet taller than the existing wall. This would occur where the existing wall is approximately 10 to 11 feet.



Landscape Unit A CSA and Retaining Walls

Figure

Source: Department, 2012I.

At this area, the proposed wall would be approximately 13 to 14 feet. This retaining wall would be designed such it would match the Six Flags Discovery Kingdom ornamental walls with decorative waves. Motorists traveling through the SR 37/Fairgrounds Drive interchange would see a similar aesthetic, although a slightly higher and more massive retaining wall. This addition would not result in a substantial change from the existing aesthetic, and the main elements of the view and visual quality in this area would not change. Views to the west from Fairgrounds Drive would not be affected.

The Build Alternative would result in negligible changes to the vividness, intactness, and unity within Landscape Unit A. The vividness would continue to be low as the Build Alternative would not combine landscape elements to create a striking and distinctive pattern. The intactness would remain high as the man-made development within this Landscape Unit would remain interspersed with natural elements of the landscape. The landscape unit would continue to have moderate unity as the arrangement of man-made and natural elements would continue to be visually coherent. Therefore, the change in overall visual quality would be negligible and the resulting visual quality would be moderate.

#### *Landscape Unit B*

The project would result in the widening of Fairgrounds Drive to the east to provide additional through lanes and turn lanes. The median of the roadway, sidewalk, and entry drives along the east-side of the roadway would be re-built. The horizontal and vertical alignment of the roadway would not change. The widening would primarily affect existing landscaped areas along the east side of Fairgrounds Drive associated with commercial development. The overall aesthetic of the roadway would not change substantially but would appear to be slightly larger due to the additional lane in the northbound direction. The southbound direction and west side of the Fairgrounds Drive would not change within Landscape Unit B. As a result, the Build Alternative would not alter views from or within this landscape unit. Views of the hillsides to the east would remain intact.

The Build Alternative would result in negligible changes to the vividness, intactness, and unity within Landscape Unit B. The vividness would continue to be low as the Build Alternative would not combine landscape elements to create a striking and distinctive pattern. The intactness would remain moderate and the unity would remain low as the integration of man-made features and the natural landscape in this landscape unit would not be altered. Therefore, the change to overall visual quality would be negligible and the resulting visual quality would be low (see **Table 2.1.4-2**).

Table 2.1.4-2 Visual Quality Change from Landscape Unit B

Alternative	Vividness	Intactness	Unity	Overall Visual Quality
Existing Conditions	Low	Moderate	Low	Low
No-Build Alternative	No Change	No Change	No Change	No Change
Build Alternative	Negligible	Negligible	Negligible	Negligible

Source: Department, 2012k.

### *Landscape Unit C*

The Build Alternative would widen Fairgrounds Drive from a two-lane roadway (one lane in each direction) to a four-lane roadway (two lanes in each direction) within Landscape Unit C.<sup>18</sup> The vertical alignment of the roadway would not change. The widening would occur to the east onto the Solano Fairgrounds property and require the relocation of Rindler Creek which would be relocated to parallel the east side of the widened roadway. The project would not widen the roadway to the west and the existing drainage feature and associated vegetation on the west side of Fairgrounds Drive would not be affected by the project.

As a result, the overall visual character of Landscape Unit C would not change dramatically. Fairgrounds Drive would appear as a much larger and wider roadway. However the primary elements that comprise the visual quality in this area would remain; Fairgrounds Drive lined by vegetation and drainage features on both the east and west sides. Views of the hillsides and of Six Flags Discovery Kingdom would also remain intact. Mitigation measures listed in **Avoidance, Minimization, and/or Mitigation Measures** below would require trees that are removed to realign Rindler Creek be replanted. With this mitigation, there would be not substantial change in the aesthetic quality of Rindler Creek and existing views within Landscape Unit C would be restored.

The Build Alternative would result in negligible changes to the vividness, intactness, and unity within Landscape Unit C. Although the Build Alternative would include the realignment of Rindler Creek, the vividness, intactness, and unity within the landscape unit would continue to be moderate as the Build Alternative would replant the removed vegetation. Therefore, the change to overall visual quality would be negligible and the resulting visual quality would be moderate (see **Table 2.1.4-3**).

The Build Alternative would result in negligible changes to the vividness, intactness, and unity within Landscape Unit C. Although the Build Alternative would include the realignment of Rindler Creek, the vividness, intactness, and unity within the landscape unit would continue to be moderate as the Build Alternative would replant the removed vegetation. Therefore, the change to overall visual quality would be negligible and the resulting visual quality would be moderate (see **Table 2.1.4-3**).

Table 2.1.4-3 Visual Quality Change from Landscape Unit C

Alternative	Vividness	Intactness	Unity	Overall Visual Quality
Existing Conditions	Moderate	Moderate	Moderate	Moderate
No-Build Alternative	No Change	No Change	No Change	No Change
Build Alternative	Negligible	Negligible	Negligible	Negligible

Source: Department, 2012k.

<sup>18</sup> Fairgrounds Drive is a two-lane road south of the Six Flags Discovery Kingdom parking lot exit and a four-lane road north of the exit.

### *Landscape Unit D*

The Build Alternative would widen Fairgrounds Drive from a 2-lane roadway with a median turn lane to a 4-lane roadway with a median turn lane. The vertical alignment of the roadway would not change. Fairgrounds Drive would be widened to both the east and west which would affect landscaped areas, private property and result in the displacement of the Lee's Market Gas Station located at 501 Fairgrounds Drive, and JJ's Fish and Chicken located at 515 Fairgrounds Drive. A maximum 20-foot retaining wall would be installed on the west side of Fairgrounds Drive, just south of Coach Lane. **Figure 2-19** shows the location of the retaining wall. As there is an existing steep slope adjacent to the road which currently blocks views to the west, the installation of the retaining wall would not change existing views (see **Figure 2-20**). Viewer groups would experience a noticeable visual change due to the removal of the commercial developments and road-widening, however the main elements of visual character of the area would remain intact. Motorists and residents would continue to experience views of the roadway and surrounding development with long-distance views of the hillsides. Therefore, while the addition of the retaining wall and the removal of buildings would change the visual appearance of the Landscape Unit, viewer response is not expected to be adverse and the overall visual quality would not be affected (see **Table 2.1.4-4**).

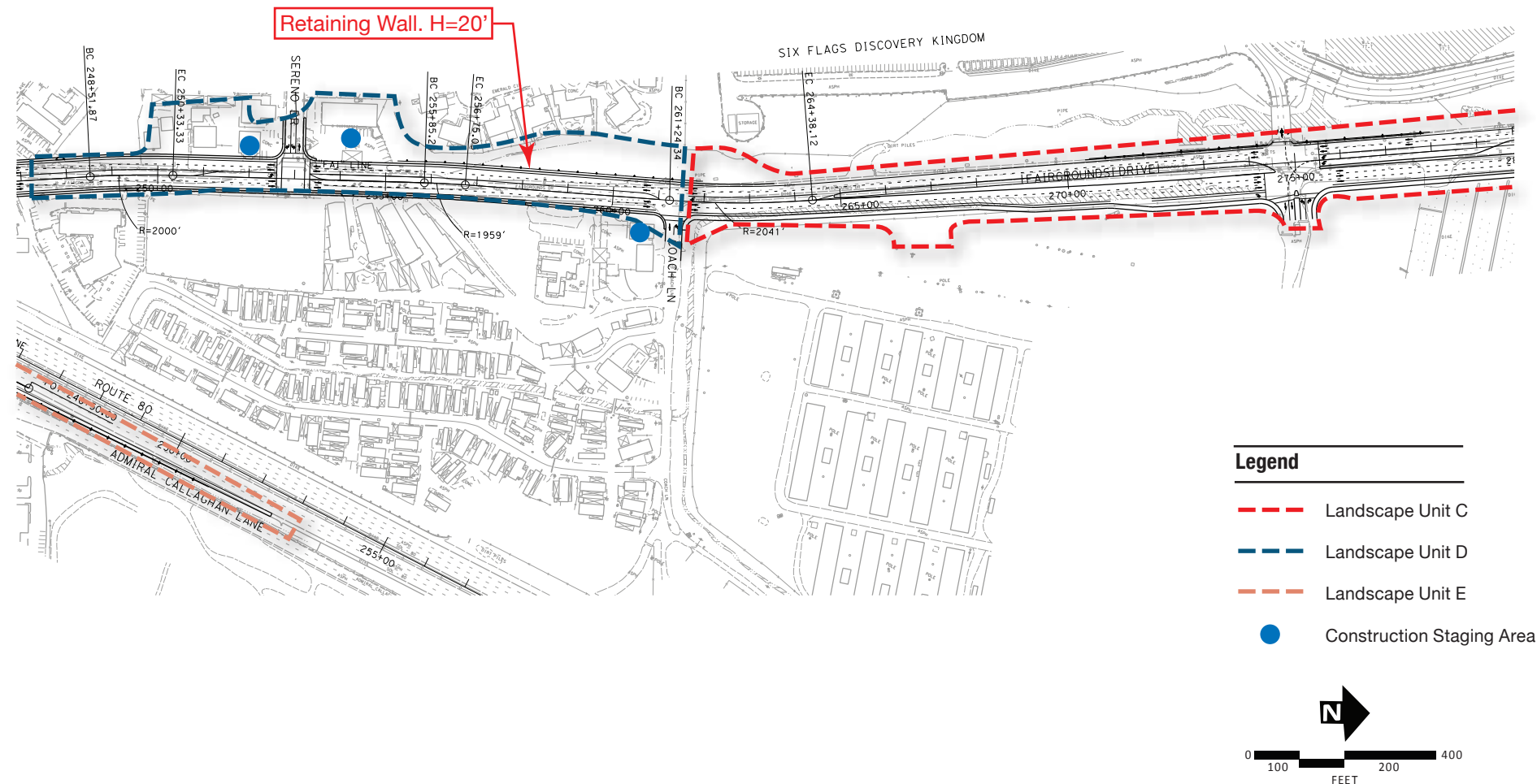
Table 2.1.4-4 Visual Quality Change from Landscape Unit D

Alternative	Vividness	Intactness	Unity	Overall Visual Quality
Existing Conditions	Moderate	High	Low	Moderate
No-Build Alternative	No Change	No Change	No Change	No Change
Build Alternative	Negligible	Negligible	Negligible	Negligible

Source: Department, 2012k.

### *Landscape Unit E*

On the west side of I-80, the Build Alternative would realign Fairgrounds Drive to connect with Redwood Street farther to the west. In doing so, Moorland Street, on the north side of Redwood Street, would no longer connect to Redwood Street and would end in a cul-de-sac. These improvements would result in the displacement of several residences to accommodate the realigned Fairgrounds Drive and cul-de-sacing of Moorland Street. The westbound on- and off-ramps to I-80 at Redwood Parkway would also be realigned to form a tight-diamond configuration. Several retaining walls would be constructed along Fairgrounds Drive (a maximum of 6 to 8 feet high) and one retaining wall would be constructed along Redwood Street (a maximum of 10 feet high) (see **Figure 2-21**).



Landscape Unit D Retaining Wall

Figure **2-19**

Source: Department, 2012I.

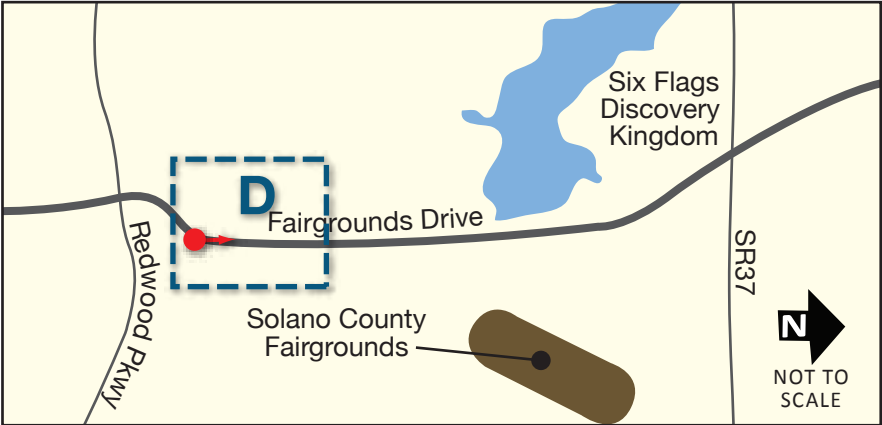




Fairgrounds Drive at Sereno Drive looking north



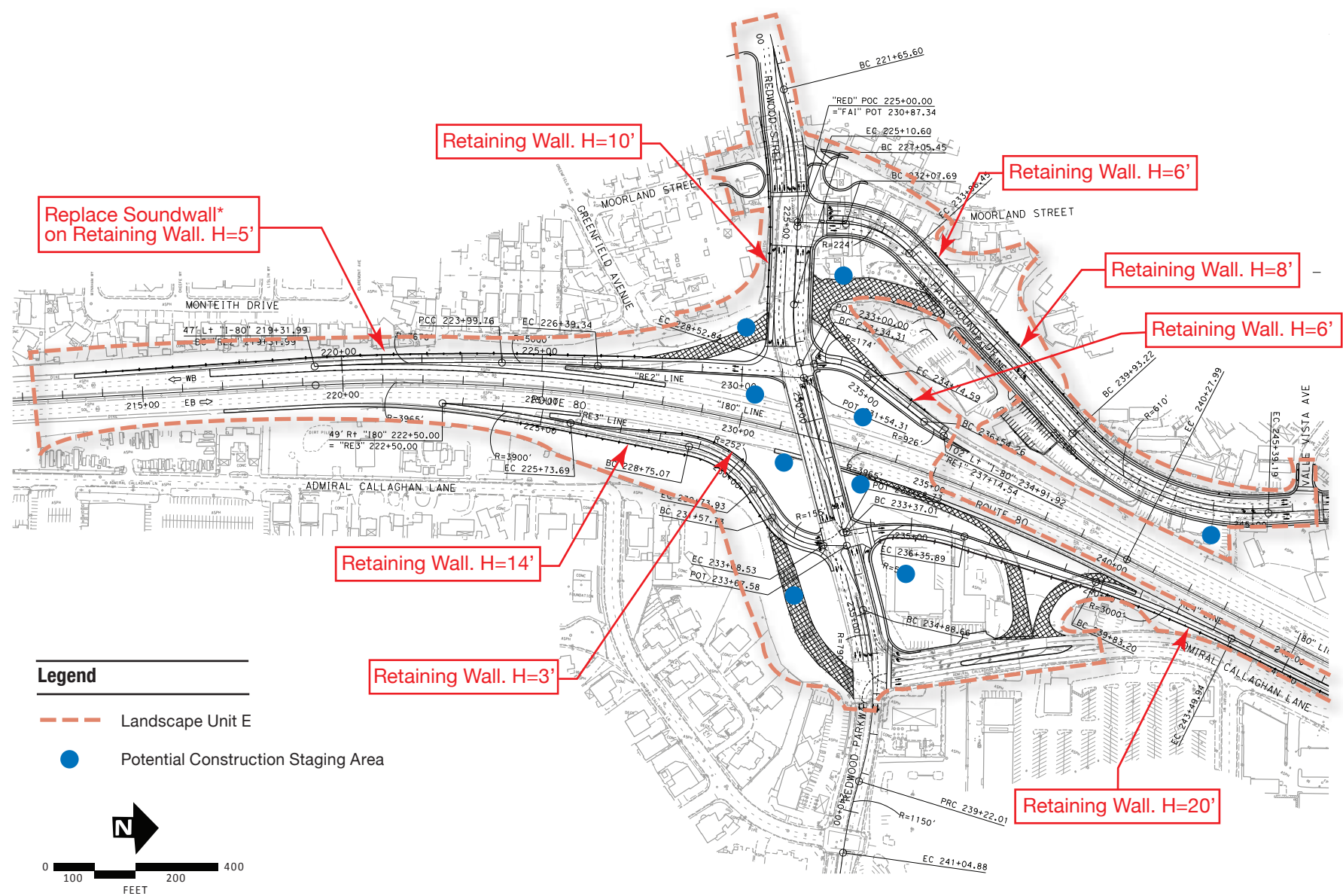
Visual Simulation of Build Alternative



Landscape Unit D: Visual Simulation

Figure

Source: Department, 2012f.



\*Note: The total height for this retaining wall would be 5 feet.

Landscape Unit E CSA and Retaining Walls

Figure

Fairgrounds Drive would be widened which would result in the displacement of multi-family residences, located at 251 Fairgrounds Drive; the 76 gas station, located at 223 Fairgrounds Drive, America's Best Inn, located at 300 Fairgrounds Drive; and Annie's Panda Garden, located at 320 Fairgrounds Drive.

There are five potential noise barriers located within Landscape Unit E (see **Figure 2-22** and **Table 2.1.4-5**). These walls could range in height from 6 to 16 feet tall. The Project Development Team will make the final decision regarding noise abatement to be included in the project and will incorporate that decision into the final environmental documentation. Any proposed changes to the noise abatement subsequent to adoption of the final environmental document must be reviewed with the Caltrans noise specialists to ensure adequate acoustic performance.

Table 2.1.4-5 Potential Noise Barrier Locations

Noise Barrier ID	Location
1	Eastbound I-80 ("C6 Line 210+00 to 225+00)
2	Westbound Redwood Street Right-of-Way ("Red" Line 221+00 to 227+00)
3	Southbound Fairgrounds Drive ROW ("FAI" Line 231+00 to 236+00)
4	Southbound Fairgrounds Drive ("FAI" Line 236+50 to 239+30)
5	Southbound Fairgrounds Drive Right-of-Way ("FAI" Line 241+00 to 246+00)

Source: Department, 2012k.

Noise barrier 1 would be visible to motorists travelling along I-80, but would not be visible to residents in the surrounding area. There would not be a substantial change in views.

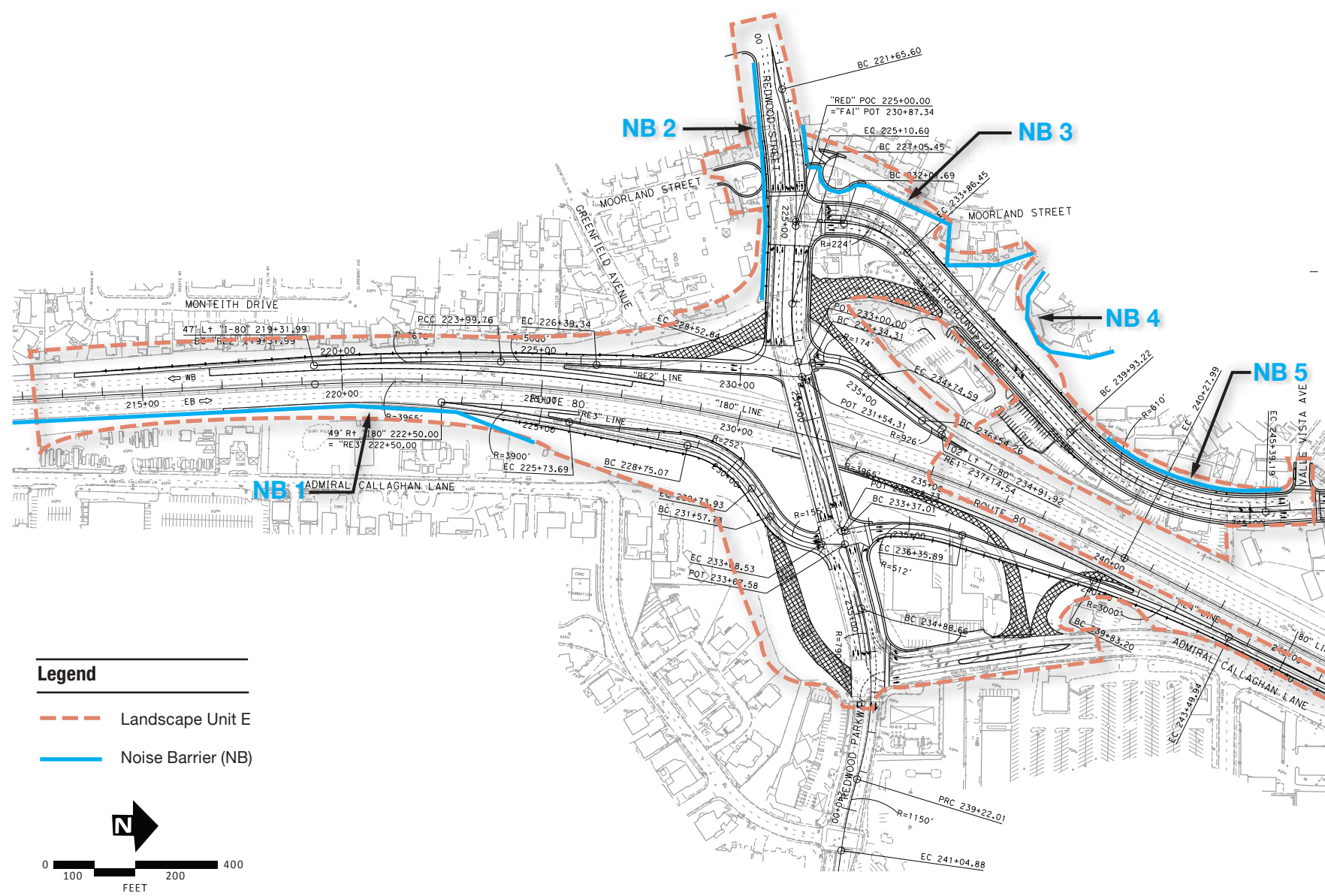
Noise barrier 2 would be located in an area dominated by existing roadway and a commercial building. This noise barrier could potentially block views from residences of surrounding roadways and commercial development which could potentially be a beneficial effect on views.

Noise barrier 3 could block views to the east from residences located on Moorland Street (see **Figure 2-23**).

Noise barrier 4 would be located behind residences on the top of a hill adjacent to Fairgrounds Drive. This noise barrier could block views to the east from residences in this area.

Noise barrier 5 would be located along existing apartment buildings on Fairground Drive. This wall would block views from lower levels of the apartment buildings. However, lower units do not have significant views beyond the immediate street due to intervening topography. The upper units have views to the east. And typically, the height of the noise barrier would not be high enough to block views from these units.





Landscape Unit E Potential Noise Barrier Locations

Figure

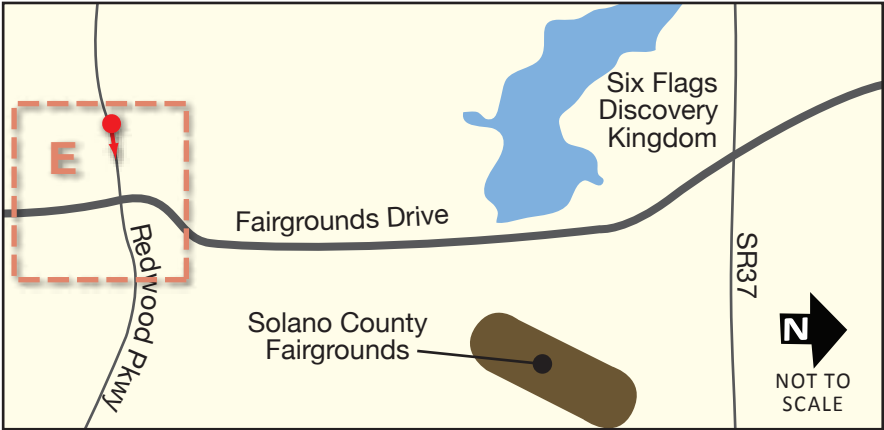
Source: Department, 2012f.



Redwood Street at Moorland Street looking east



Visual Simulation of Build Alternative



Landscape Unit E: Visual Simulation

Figure

Source: Department, 2012l.

As shown in **Figure 2-23**, the Build Alternative would result in substantial visual change on the west side of I-80 as a result of the potential residential and commercial displacement, realigned roadways and noise barrier location.<sup>19</sup> This change however would not result in a substantial effect on visual quality. The existing visual quality of this area is low with low vividness, intactness, and unity (see **Table 2.1.4-6**). There are no scenic resources or substantial scenic views in this area. The predominate viewer groups consist of motorists and residents who currently have views of busy streets and I-80. As a result, while the visual changes will be noticeable to motorists, residents and employees in the area, viewer response is expected to be minimal.

On the eastside of I-80, the Build Alternative would include realigning the eastbound off-and on-ramps from I-80 to Redwood Parkway. These improvements would result in the potential displacement of the American Furniture Gallery commercial building, located at 709 Admiral Callaghan Lane. A large retaining wall (up to 14 feet high) would be constructed along the eastbound off-ramp to Redwood Parkway at the bottom of a large slope (See **Figure 2-22**). Minor widening and restriping would also occur on Admiral Callaghan Lane and Redwood Parkway. The visual changes in this area would be less dramatic than on the west side of I-80. The realigned roadway and business displacement would be noticeable, but would occur in close proximity to the existing freeway in an area with low visual quality and no scenic resources. While viewer groups would notice the visual change, their response to this change is expected to be minimal (see **Table 2.1.4-6**).

Table 2.1.4-6 Visual Quality Change from Landscape Unit E

Alternative	Vividness	Intactness	Unity	Overall Visual Quality
Existing Conditions	Low	Low	Low	Low
No-Build Alternative	No Change	No Change	No Change	No Change
Build Alternative	Negligible	Negligible	Negligible	Negligible

Source: Department, 2012k.

### Temporary Construction Impacts

During project construction, equipment would be present to widen and realign the roadways and the visual study area would appear as a large construction zone. Construction would result in the removal of residences, commercial buildings, vegetation, grading for the widened and realigned roadways, and utility relocations which would be highly visible and distinct.

<sup>19</sup> **Figure 2-23** depicts noise barrier 3 as a 10-foot-high wall. Ten feet is the minimum wall height required to achieve the noise abatement threshold established by Caltrans (noise reduction of at least 5 dBA).



Nighttime construction activities may temporarily add new sources of light and glare for residents, businesses and local motorists in Landscape Units A, D, and E. One construction staging area (CSA) would potentially be located within Landscape Unit A as shown in **Figure 2-18**. The CSA would be located on a plot of land between Griffin Drive and SR37, on the northeast side of the Fairgrounds Drive/SR37 Interchange. There would be potentially three CSAs located within Landscape Unit D as shown in **Figure 2-19**. As shown in **Figure 2-21**, there would be potentially nine CSAs located within Landscape Unit E. As construction equipment and machinery would potentially be stationed at any of the potential CSAs, temporary sources of light and glare would be added to these landscape units during the construction phase. However, temporary visual effects from the construction of the Build Alternative would be typical of any major corridor improvement project, and are not considered to be significant.

### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive or the connecting roadways and interchanges. Under the No-Build Alternative, Fairgrounds Drive would not be widened, there would be no intersection modifications, and several intersections would not be signalized. Transportation projects planned and funded within Solano County would not be in the same viewshed as the Build Alternative and would avoid potential aesthetic and visual effects. The visual quality of the study area would remain the same.

### **Avoidance, Minimization, and/or Mitigation Measures**

The Department and the FHWA mandates that a qualitative/aesthetic approach should be taken to mitigate for visual quality loss in the project area. Visual mitigation for adverse project impacts addressed in landscape unit assessments and summarized in the previous section will consist of adhering to the following design requirements in cooperation with the Caltrans District Landscape Architect. The requirements are arranged by project feature and include design options in order of effectiveness. All visual mitigation will be designed and implemented with the concurrence of the Caltrans District Landscape Architect.

Aesthetic treatments for retaining walls will help integrate roadway elements into the urban design of adjacent local streets. Aesthetic treatments will include adding texture and architectural detailing to retaining walls. The final decision regarding the types of aesthetic treatments on retaining walls will be made during the final design process, and include coordination with the local jurisdiction.

The project applicant shall implement the following mitigation measures to increase visual quality of the project site during construction and operation:

- The design of the roadways outside of the State right-of-way shall adhere to the City of Vallejo Standard Specifications.
- As directed by the Department, appropriate light and glare screening measures shall be used at the Construction Staging Areas including the use of downward cast lighting and motion-sensored lighting.

- As directed by the Department, all landscaping removed by the project shall be replaced along Fairgrounds Drive, I-80, Redwood Parkway, and Redwood Street within the project limits. Landscape plans shall be developed and approved by the Department during the final design phases. Landscape plans for areas outside of the State right-of-way shall also adhere to the City of Vallejo Standard Specifications.

### 2.1.5 CULTURAL RESOURCES

#### Regulatory Setting

“Cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, the Federal Highway Administration (FHWA), State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the Advisory Council’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 327) (July 1, 2007).

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires the Department to inventory state-owned structures in its rights-of-way.

#### Affected Environment

The analysis in this section is based on the Historic Property Survey Report (HPSR) completed in January 2012 (Department, 2012e). The HPSR incorporates the results of the Archaeological Survey Report (ASR), Extended Phase I Geoarchaeological Explorations, and the Historic Resources Evaluation Report (HRER). An area of potential effect (APE) for a project encompasses all areas that fall within the physical footprint of the proposed improvements (i.e. the Build Alternative), and areas that may either be directly or indirectly affected by project-related construction activities. The APE includes the

horizontal extent of the proposed realignment of Fairgrounds Drive, the Redwood Parkway intersection, and I-80 and SR 37 freeway ramps, totaling 70.5 acres. The vertical APE varies greatly within the project APE, with excavations ranging from three to 25 feet throughout.

### **Archaeological Resources**

An archival records search and an archaeological field survey of the APE were conducted as part of the Archaeological Survey Report. No archaeological material was observed within the APE during the field survey. No known archaeological resources were identified within the APE.

One previously identified archaeological site was identified just west of the APE. This site is reported as a redeposit of flaked stone, shell fragments and a few possibly fire-affected rocks. While this site is not located within any portion of the APE, SHPO has recommended that the area be monitored during adjacent construction of the Build Alternative. Consequently, an Archaeological Monitoring and Discovery Plan that specifies the appropriate construction monitoring locations and protocols has been prepared.

The soil and geology of the APE consists primarily of sandstone and shale of the Great Valley Sequence and alluvial fan and fluvial deposits from the Holocene Epoch. Approximately 10 percent of the APE is identified as having a high potential for buried archaeological resources in two specific areas. Both areas are situated along the margins of the former Blue Rock Springs Creek. The first area is located on the east side of Fairgrounds Drive, between Fairgrounds Drive and Lake Chabot. The second area is located off of Admiral Callaghan Lane, where the proposed I-80/Redwood Parkway eastbound entrance ramp would be located. An Extended Phase I Geoarchaeological Investigation was conducted at these two areas of high sensitivity. Eleven trenches were excavated, in addition to one hand auger, and no archaeological materials were uncovered. The lack of discovery from the excavations determined that the likelihood of encountering significant archaeological material in these areas and other parts of the APE during construction is considered low.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact District 4 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

### **Historic Resources**

A records search, review of historic and current maps, and a field surveys were conducted to determine the presence of historical architectural resources within the APE. Sixteen historic-era properties were identified and evaluated for their eligibility to the National Register of Historic Places (NRHP) within the APE located at:

- 67 Emerald Circle, Vallejo (APN 0052-311-170)
- 501-515 Fairgrounds Drive, Vallejo (APN 0052-302-080; 0052-302-090)
- 510-534 Fairgrounds Drive, Vallejo (APN 0052-320-040)
- 437 Fairgrounds Drive, Vallejo (APN 0052-303-210)
- 435 Fairgrounds Drive, Vallejo (APN 0052-303-220)
- 444 Moorland Street, Vallejo (APN 0053-232-320)
- 436 Moorland Street, Vallejo (APN 0053-232-340)
- 424 Moorland Street Vallejo (APN 0053-232-100)
- 2612 Redwood Street, Vallejo (APN 0053-232-060)
- 2618 Redwood Street, Vallejo (APN 0053-232-050)
- 2624 Redwood Street, Vallejo (APN 0053-232-040)
- 20 Howard Avenue, Vallejo (APN 0054-082-180)
- 18 Howard Avenue, Vallejo (APN 0054-082-170)
- 337 Moorland Street, Vallejo (APN 0054-082-020)
- 328 Moorland Street, Vallejo (APN 0054-083-100)
- 711 Admiral Callaghan Lane, Vallejo (APN 0081-030-150)

In a letter dated March 1, 2012, the SHPO concurred with the Department's determination that none of the architectural resources listed above were eligible to the NRHP and that a finding of "No Historic Properties Affected" was appropriate for the Build Alternative, due to the absence of any identified historic properties within the APE. Please see **Appendix D** for SHPO's letter of concurrence.

### **Environmental Consequences**

#### **Build Alternative**

Based on the investigations conducted, there are no archaeological or historical resources within the Build Alternative's APE. The Historic Property Survey Report determined a CEQA finding of no impact to historic properties and a Section 106 determination of no historic properties affected was filed with the California SHPO. The Build Alternative would therefore not result in the use (direct or indirect) of a historic property qualifying for protection under Section 4(f).

Although no known archaeological resources exist within the APE, construction activities could potentially unearth previously unidentified resources. Provisions to address these circumstances are included in the Avoidance, Minimization, and/or Mitigation Measures section below. In addition, an Archaeological Monitoring and Discovery Plan has been

prepared that specifies the appropriate construction monitoring locations and protocols recommended for an area near the known redeposit of archaeological materials outside of the APE.

#### *Native American Consultation*

In February 2011, a Sacred Lands File search was conducted by the Native American Heritage Commission (NAHC) to determine if there were known cultural sites within or near the APE. Following the records search, the NAHC stated that the file search showed no recorded resources within the APE.

The NAHC also provided a list of interested Native American groups and individuals in the study area. Letters requesting input from interested parties were sent to the Native American groups and individuals in April 2011. Mr. Reno Keoni Franklin, Director of Cultural Resources and Tribal Historic Preservation Officer for the Yocha Dehe Wintun Nation, requested more specific information about the project, including a more detailed project description, which was provided. Mr. Marshall McKay, Yocha Dehe Wintun Tribal Chairman, stated that the Yocha Dehe have a cultural interest in the proposed project area and stated their intention to initiate consultation with the Department and STA. Mr. McKay requested a project timeline and the latest cultural study. The Department provided Mr. McKay with the ASR. In response to the request for formal consultation, the project was discussed at the quarterly meeting of the Department's Office of Cultural Resource Studies and the Yocha Dehe Wintun Nation. Discussion of the project focused on the ASR, post mile 317, and the potential for archaeological testing for buried resources in the APE.

Mr. Kesner Flores of the Cortina Band of Indians responded, stating that they would like to monitor construction activities at the location of P-48-000152/CA-SOL-315, noting that there is a potential that more material could be encountered. Mr. Flores also requested that Patwin Wintun Cultural Management Response Plan be followed if unexpected cultural resources are encountered, and if cultural resources are discovered during project activities that he be notified. The Department responded with a letter that discussed the procedures for monitoring, and how the Department ensures the dignified treatment and disposition of Native American Human remains and associated grave artifacts.

Mr. Dave Jones of the Wintun Environmental Protection Agency stated that the project area is on the south edge of their ancestral territory, and that they have little information of the area. He asked that if cultural materials are encountered during the project, that they be notified.

#### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways. Implementation of the currently planned and funded transportation projects outside the project limits but within Solano County could result in similar effects to archaeological and historic resources as the Build Alternative, since they would occur in the same region. These projects would be required to comply with local, State and Federal law protecting cultural resources as well as the Department's standard design and construction guidelines regarding cultural resources.

### Avoidance, Minimization, and/or Mitigation Measures

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact District 4 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

In addition, an Archaeological Monitoring and Discovery Plan has been prepared that specifies the appropriate construction monitoring locations and protocols recommended for an area near the known redeposit of archaeological materials outside of the APE. During the construction of the Build Alternative, a professional archaeologist will be assigned to monitor construction work in the vicinity of the known archaeological site for the purpose of identifying and evaluating any newly discovered materials. Implementation of the provisions outlined in the Archaeological Monitoring and Discovery Plan would ensure that no adverse effects to the nearby archaeological materials occur as a result of the Build Alternative.



## 2.2 PHYSICAL ENVIRONMENT

### 2.2.1 HYDROLOGY AND FLOODPLAIN

#### Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments;
- Risks of the action;
- Impacts on natural and beneficial floodplain values;
- Support of incompatible floodplain development; and
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

#### Affected Environment

The analysis in this section is based on the Location Hydraulic Study Report prepared in July 2011 (Department, 2011b). The Location Hydraulic Study Report incorporates information from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Solano County, FEMA Flood Insurance Study, and the Vallejo Sanitation & Flood Control District Storm Drain Master Plan (November 2002).

The only portion of the Build Alternative improvements that would be located within an existing base floodplain is the area where Rindler Creek parallels Fairgrounds Drive, north of Coach Lane. This area makes up the hydrologic study area for determining potential adverse effects related to flooding and floodplain encroachment.

#### Floodplain

According to the FEMA FIRM Map for Solano County (see **Figure 2-24**), areas adjacent to Rindler Creek which parallels Fairgrounds Drive, north of Coach Lane, fall within the base floodplain, Zone AE.<sup>1</sup> This indicates that this area is subject to inundations by the 1-percent annual chance flood event. Other areas along Fairgrounds Drive, Redwood Parkway, Redwood Street, Admiral Callaghan Lane, I-80 and SR 37 are not within a designated floodplain.

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<sup>1</sup> FEMA FIRM Map No. 06095C044OE

Although some portions of Fairgrounds Drive are identified as being within the 100-year floodplain (Zone AE), based on the 2009 FEMA Flood Insurance Study for Solano County, there is no history of flooding on Fairgrounds Drive during the 100-year storm event. The flood profile for Rindler Creek in the Flood Insurance Study indicated that the 1-percent annual chance flood elevations are either at or below Fairground Drive's original elevation. In addition, the Vallejo Sanitation & Flood Control District Storm Drain Master Plan shows no evidence of flooding on Fairgrounds Drive (see **Figure 2-25**).

## Environmental Consequences

### Build Alternative

The Build Alternative proposes shifting the Rindler Creek channel and its associated riparian vegetation to the east in order to accommodate the widening of Fairgrounds Drive, which would add approximately 380,000 cubic feet of embankment within the existing 100-year base floodplain. The placement of new embankment within the floodplain could result in a rise in water surface elevation within Rindler Creek; however, the Build Alternative proposes a deeper and wider creek channel that would be able to offset the volume equivalent to this rise in water surface elevation. This offset would ensure that the new embankment associated with the relocation of Rindler Creek would have no effect on the hydrology and existing drainage pattern within the floodplain.

In addition, the Build Alternative would create an increase of approximately 3.7 acres of impervious area due to the conversion of existing unpaved surfaces to paved improvements. This increase in impervious area would result in a slight increase in the stormwater flow from the project area by approximately 0.09 percent of the total discharge volume, and would raise the water surface elevation within the floodplain by 0.09 inches. This level of floodplain elevation is considered negligible, and would have no adverse effect on the hydrology and existing drainage pattern within the floodplain.

In summary, with the proposed relocation of Rindler Creek as a slightly larger channel than what currently exists, neither the addition of impervious area nor the added embankment within the floodplain will significantly affect the discharge rates or water surface elevation of the floodplain within the project limits. As such, this floodplain encroachment is not considered an environmental risk in terms of flooding.

The realigned Rindler Creek would be slightly larger than the existing creek and re-vegetated to maintain hydrological and biological function (beneficial floodplain values). Refer to **Subsection 2.2.2, Water Quality**, and **Section 2.3, Biological Environment**, for a detailed description of the measures that would be taken to protect hydrology and water quality.



FEMA Flood Insurance Rate Map

Figure

Source: Federal Emergency Management Agency; Map Number 06095C0440E, 2009.





Reported Flooding within the Hydrologic Study Area

Source: Vallejo Sanitation and Flood Control District - Storm Drain Master Plan, October 2002;  
Circlepoint, 2012.

**No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways. The No-Build Alternative would therefore not affect the hydrology or result in floodplain development within the areas evaluated above. Implementation of the currently planned and funded transportation projects outside the project limits but within the hydrologic study area would require a review of the FEMA FIRMs under separate environmental review in order to determine if any of those projects would be located within a 100-year floodplain.

**Avoidance, Minimization, and /or Mitigation Measures**

The Build Alternative proposes a deeper and wider Rindler Creek channel that would be able to offset the volume equivalent to the rise in water surface elevation. This would ensure that the relocation of Rindler Creek would have no effect on the hydrology and existing drainage pattern within the floodplain. There will be no impacts on I-80 and SR 37, and the impact on the base water surface elevation near Fairgrounds Drive is not significant. As such, no avoidance, minimization, or mitigation measures are proposed.

**2.2.2 WATER QUALITY****Regulatory Setting****Federal Requirements: Clean Water Act**

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S. to obtain certification from the State that the discharge will comply with other provisions of the act. (Most frequently required in tandem with a Section 404 permit request. See below.)
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administers this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

USACE issues two types of 404 permits: Standard and General Permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404 (b)(1) Guidelines (U.S. EPA CFR 40 Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

#### **State Requirements: Porter-Cologne Water Quality Control Act**

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

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. States designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and



vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source controls, the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

### **State Water Resources Control Board and Regional Water Quality Control Boards**

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

### **National Pollution Discharge Elimination System (NPDES) Program**

#### *Municipal Separate Storm Sewer Systems*

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water dischargers, including Municipal Separate Storm Sewer Systems (MS4s). The U.S. EPA defines an MS4 as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. The SWRCB has identified the Department as an owner/operator of an MS4 by the SWRCB. This permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 Permit, under revision at the time of this update, contains three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs) and other measures.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce

pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed Project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Part of and appended to the SWMP is the Storm Water Data Report (SWDR) and its associated checklists. The SWDR documents the relevant storm water design decisions made regarding project compliance with the MS4 NPDES permit. The preliminary information in the SWDR prepared during the Project Initiation Document (PID) phase will be reviewed, updated, confirmed, and if required, revised in the SWDR prepared for the later phases of the project. The information contained in the SWDR may be used to make more informed decisions regarding the selection of BMPs and/or recommended avoidance, minimization, or mitigation measures to address water quality impacts.

The Department has also identified the need to develop consistent guidance, tools and examples of documentation to meet the Hydromodification Requirement from the upcoming Caltrans NPDES Permit. The Department's Division of Design Business Plan, Fiscal Year 2012-2013, identified Activity No. 7 as negotiating and implementing a statewide Hydromodification Strategy for all projects. Later phases of this project will address these strategies as required.

#### *Construction General Permit*

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and, for Risk Level 3 projects with more than 30 acres of disturbed soil area, require before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

### *Section 401 Permitting*

Under Section 401 of the Clean Water Act (CWA), any project requiring a federal license or permit that may result in a discharge to a water body must obtain a 401 Certification, which certifies that the project will be in compliance with State water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the U.S. Army Corps of Engineers (USACE). The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board (RWQCB), dependent on the project location, and are required before USACE issues a 404 permit.

In some cases the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

### *City of Vallejo's Hydromodification Management Plan*

The City of Vallejo, the local MS4 Permittee, transmitted a Final Hydromodification Management Plan (HMP) in April 2013 for approval by the RWQCB. The HMP was prepared to comply with the Municipal Regional Stormwater NPDES Permit, Provisions C.3.g.v.

The HMP outlines three implementation methods to comply with the Hydromodification (HM) Performance Standard:

- On-Site HM Control that is designed to provide flow duration control to the pre-project condition at the point(s) where stormwater runoff discharges from the project site, meet the erosion potential performance standard, and comply with the HMP.
- Regional HM Control, where the point of compliance is at the point where the regional HM control discharges instead of at the project outlet.
- In-Stream HM Control. This is an option in lieu of or in combination with on-site and regional controls where an approved plan is in place that accounts for the stream changes expected to result from changes in the project's runoff conditions. In-stream HM control measures are an option only where the stream channel which receives runoff from the project is already impacted by erosive flows and altered land use (i.e. shows evidence of excessive sediment, erosion, deposition, or is a hardened channel).

## **Affected Environment**

The analysis in this section is based on the Water Quality Assessment Technical Report prepared in January 2012 (Department, 2012l).

The hydrologic study area consists of the watershed that contains Rindler Creek, North and South Fork Rindler Creek, Blue Rock Spring Creek, and Lake Chabot. The watershed drains westerly to San Pablo Bay through Chabot Creek. Surface runoff from the

hydrologic study area flows through a series of dikes, open channels, and subsurface drainage systems into Rindler Creek and Blue Rock Springs Creek. Both creeks flow into Lake Chabot located approximately 1,800 feet north of I-80 and 400 feet west of SR 37, then continues to the northwest and ultimately discharges into the Napa River located approximately 2.5 miles from the study area. Lake Chabot serves as a flood control retention basin for the watershed. The Napa River is on the 2010 Section 303(d) list for impairment of nutrients, pathogens and sediments. Lake Chabot is not on the 2010 Section 303(d) list. Rindler Creek is on the 2010 Section 303(d) list for elevated levels of trash.

The Build Alternative is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB), which implements water quality protection through the issuance of permits for projects found to be in compliance with the San Francisco Basin Plan. The RWQCB separates the San Francisco Bay Region into seven hydrologic planning areas, with the hydrologic study area falling in the San Pablo – Napa River Hydrologic area.

## Environmental Consequences

### **Build Alternative**

#### *Temporary Construction Related Effects*

Construction would require the temporary disturbance of surface soils and removal of vegetative cover. During the construction period, grading and excavation activities would result in exposure of soil to runoff, potentially causing erosion and entrainment of sediment in the runoff. The accumulation of sediment could result in blockage of water flows, potentially resulting in increased localized ponding or flooding. The potential for chemical releases is present at most construction sites associated with refueling equipment, lubricants, and solvents. Once released, these substances could be transported to nearby surface waterways and/or groundwater in storm water runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters.

#### *Permanent Operation Effects*

The operation of roadways could result in permanent adverse effects to storm water quality because of contaminant discharge to the environment that could be transported by runoff away from the roadways and new or modified ramps. These pollutants could reach receiving waters and potentially increase the incremental pollutant load discharged to the Napa River. Pollutants associated with roadways include metals and petroleum hydrocarbons contained in fuels and lubricants and pollutants associated with wear of tires and brake pads such as particulate matter and metals.

### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways. Existing storm water treatment systems would remain unchanged. The currently planned and funded transportation projects within the hydrologic study area would be required to adhere to the applicable State requirements and permitting issued by San Francisco Bay RWQCB, which would protect water quality in the study area under separate review.

## Avoidance, Minimization, and/ or Mitigation Measures

Construction activities and operation of the roadway improvements would be regulated under the applicable Department NPDES permits and SWMP, which regulate storm water discharge from activities on local roadways. Compliance with the NPDES permit and SWMP would require the implementation of maximum extent practicable (MEP) pollutant control for roadway runoff. In addition, construction site runoff must be controlled using best available technology economically achievable (BAT) for toxic pollutants, and best conventional pollutant control technology (BCT) for other pollutants. Full compliance with the provisions of existing NPDES permits and SWMP would minimize potential adverse effects to water quality.

The terms for coverage under the Department's NPDES permit also require that a SWPPP be developed and implemented for the Build Alternative during construction to reduce the potential for adverse water quality effects from erosion and sedimentation. To eliminate run-off of sediment from the proposed work area during and after construction, the *Caltrans Storm Water Quality Handbooks – Project Planning and Design Guidelines* would be used to determine the Best Management Practices (BMPs) that are appropriate to install. Typical temporary construction site BMPs may include, but are not limited to, temporary storm drain inlet protection, concrete cleanout facilities, and stabilized construction entrances/exits. Proposed areas where soils will be disturbed will either be hardscaped or re-vegetated to reduce the potential for future soil erosion and sedimentation issues. A planting plan would be prepared for restoration of temporary work areas.

Implementation of the SWMP also requires that long-term pollution prevention and control measures be incorporated into the Build Alternative design. Typical permanent treatment BMPs may include vegetated basins and/or swales along the roadways that collect stormwater runoff. The basins allow pollutants to settle and filter out prior to the stormwater entering the drainage systems. Specific temporary construction and permanent pollution prevention BMPs would be determined during the final design phase of the Build Alternative.

Incorporation of these BMPs and any measures outlined in the SWPPP, full compliance with the NPDES permit, and compliance with the City of Vallejo's Hydromodification Management Plan, would ensure that the Build Alternative would not adversely affect water quality in local waterways or groundwater quality.

Section 401 permit certification would be obtained from the San Francisco Bay RWQCB. The stormwater treatment obligation for post-construction conditions would be calculated based on the 3.7 acres of impervious surfaces created by the Build Alternative, and an additional 2.3 acres of reworked areas.<sup>2</sup>

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<sup>2</sup> Issuance of a Section 401 Certification from the RWQCB requires the inclusion of reworked areas, defined as paved areas that have been removed and replaced down to base rock, in the total area of treatment obligation.

### 2.2.3 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

#### Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department’s Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE), from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

#### Affected Environment

The analysis in this section is based on the Preliminary Geotechnical and Foundations Report completed in May 2012 (Department, 2012i). The geologic study area includes those geologic features within which the Build Alternative improvements would be located.

##### **Site Geology and Subsurface Conditions**

No natural landmarks or other examples of major geologic features (such as scenic rock outcroppings) occur within the geologic study area.

The geologic study area is situated in the Coast Ranges geomorphic province of California. This province is characterized by northwest-trending mountain ranges and elongated valleys between the San Joaquin Valley and Pacific Ocean. The province is generally divided into three northwest-trending blocks that are underlain by metamorphic or igneous rocks and separated by major physical breaks. The geologic study area is within the Eastern Franciscan Block.

Surface and underlying geological formations within the geologic study area are mapped as the Cretaceous Great Valley Sequence, Pleistocene alluvial fan deposits (older alluvium), and Holocene alluvial fan deposits (younger alluvium). The bedrock in this unit of the Great Valley Sequence contains undivided sandstone and shale from the Cretaceous Period. It is also known to include carbonaceous-biotite wacke, white-mica-carbonaceous sandstone, greenish-gray mudstone and shale, laminated fine-grained sandstone and gray shale, carbonaceous siltstone, black shale, and fine-grained mica wacke. Near the ground surface, artificial fill that was placed during past construction activities is present along the existing Fairgrounds Drive alignment. Fill materials range from loose to very consolidated gravel, sand, silt, clay, rock fragments, organic matter, and debris in various combinations. **Figure 2-26** illustrates the general geology of the study area.

Alluvium within the geologic area consists of Holocene-aged fan and fluvial deposits from rivers or streams. The alluvial fan deposits are generally brown or tan, medium dense to



dense, gravelly sand or sandy gravel that generally grades upward to sandy or silty clay. Specifically, the area around Redwood Parkway is underlain by younger alluvial deposits, as well as sandstone and shale formations.

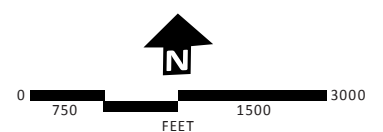
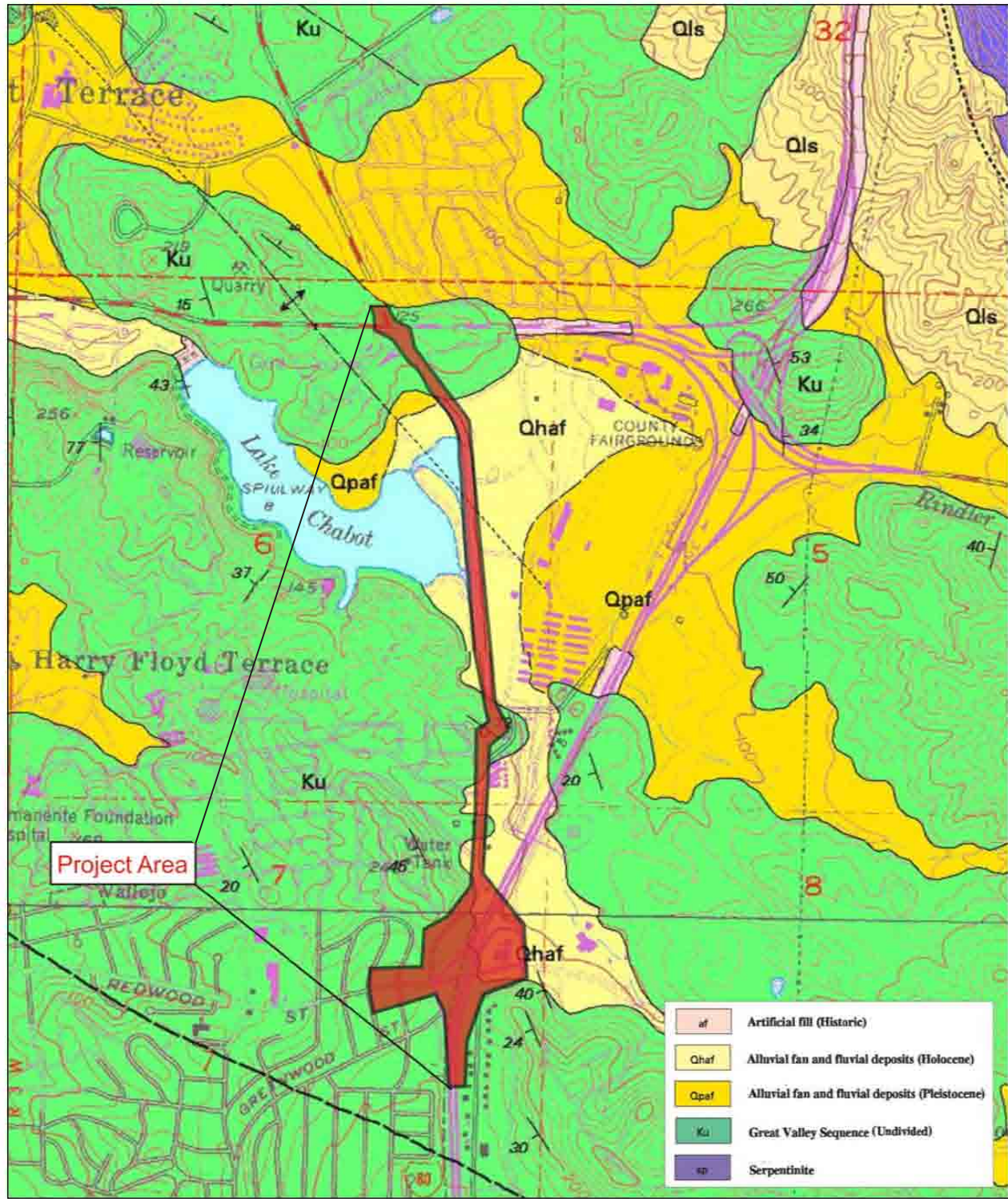
#### *Liquefactions Susceptibility*

Liquefaction is a result of ground shaking associated with earthquakes, and causes soil to lose strength and behave as a liquid. Liquefaction is known to occur in saturated or near-saturated, loose cohesionless soils at depths shallower than 50 feet. Susceptibility to liquefaction in portions of the geologic study area is very low to moderate. Areas near the Fairgrounds Drive/Redwood Parkway intersection face very low to low susceptibility to liquefaction, while portions of Fairgrounds Drive alignment near Lake Chabot face moderate susceptibility to liquefaction.

#### *Dynamic Settlement*

Dynamic settlement is caused by the strong vibratory motion associated with earthquakes, and compacts loose, granular soil, leading to surface settlements. Dynamic settlement is not limited to the near surface environment and may occur in both dry and saturated sand and silt. Seismically induced dynamic settlement may occur within the geologic study area following a significant seismic event, particularly in the areas where the liquefaction susceptibility is mapped as moderate. Within the geologic study area, dynamic settlement could occur along portions of Fairgrounds Drive near Lake Chabot where liquefaction susceptibility is moderate.

The support characteristics of the artificial fill materials within the geologic study area are variable and may induce differential settlement. In general, undocumented fill materials are unsuitable for the support of structures and embankments proposed as part of the Build Alternative.



Geologic Map

Figure

2-26

### *Lateral Spread*

Seismic ground shaking can also induce horizontal displacements as surface soil deposits spread laterally by floating atop liquefied subsurface layers. This is known as lateral spread, and can occur on gently sloping ground or on flat ground adjacent to an exposed face. Lateral spread is a concern over soil that is moderately susceptible to liquefaction. Within the geologic study area, lateral spreading could occur along portions of Fairgrounds Drive near Lake Chabot where liquefaction susceptibility is moderate.

### *Groundwater*

Based on information from available subsurface boring logs in the project area, groundwater is generally encountered within 5 to 30 feet below the ground surface within the geologic study area. Groundwater levels may fluctuate based on seasonal conditions, including rainfall amounts and water level changes in the active stream and rivers within the geologic study area, changes in nearby irrigation practices, and groundwater pumping.

### **Seismic Conditions**

The geologic study area is located in a seismically active area of California. Many faults in this area are capable of producing earthquakes that may cause ground shaking. **Table 2.2.3-1** presents seismic parameters from the 2007 Fault Database that contains a list of faults that are active or potentially active near the geologic study area. The parameters within this table also include the estimated most likely a size of earthquake that has not yet occurred within the geologic study area (Maximum Moment Magnitude). This information was determined in conformance with the Department's Geotechnical Services Design Manual and Seismic Design Criteria.

There are no active faults that pass through the geologic study area; therefore, the potential for fault rupture is considered low. However, the geologic study area could experience a relatively large degree of ground shaking due to seismic activity on a nearby fault.

Table 2.2.3–1 Maximum Credible Earthquake for Faults in the Vicinity of the Build Alternative

Fault	Fault Type	Maximum Moment Magnitude	Fault Distance to Geologic Study Area (kilometer)	Fault Rupture Plane Distance to Geologic Study Area (kilometer)	Projection of Rupture Plane Distance to Geologic Study Area (kilometer)	Peak Ground Acceleration PGA (g) <sup>1</sup>
West Napa (416)	Strike-Slip	7.1	~0.9	~3.0	~3.0	0.43
Green Valley (213)	Strike-Slip	6.9	~8.1	~8.5	~8.5	0.30
Hayward (353)	Strike-Slip	7.3	~18.3	~18.3	~18.32	0.21
Rodgers Creek (157)	Strike-Slip	7.1	~18.9	~18.9	~18.9	0.19
San Andreas North (308)	Strike-Slip	7.9	~47.1	~47.1	~47.13	0.14
Southampton (151)	Strike-Slip	6.3	~14.4	~14.4	~14.4	0.18

Notes: <sup>1</sup> Peak Ground Acceleration (PGA): how hard the earth shakes in a given geographic area (the *intensity*).

Source: Department, 2012i.

## Environmental Consequences

### Build Alternative

The Build Alternative is located in a seismically active region. Without proper seismic engineering, improvements located adjacent to or spanning Fairgrounds Drive could pose safety issues to people and structures as a result of strong ground shaking, liquefaction, dynamic settlement, and lateral spread.

#### *Temporary Construction Impacts*

Construction workers could be exposed to potential seismic hazards during installation of the proposed improvements since the Build Alternative is located in a seismically active region.

The Build Alternative would require extensive excavation and earth moving construction activities, which could result in substantial soil erosion or the loss of top soil. In addition, groundwater may be encountered during excavation work for the proposed improvements. As previously discussed in **Subsection 2.2.2**, the potential for chemical releases is present at most construction sites associated with refueling equipment, lubricants, and solvents. Once released, these substances could be transported directly into groundwater exposed during excavation work, potentially reducing the quality of the receiving waters.

### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways. Implementation of the currently planned and funded transportation projects outside the project limits but within the City of Vallejo would be subject to the same seismic and geologic hazards as the Build Alternative, since they would occur in the same seismically active region. These projects would be required to comply with the Department's standard design and construction guidelines and OSHA requirements regarding seismic and geologic hazards, which would be determined under separate environmental review.

### **Avoidance, Minimization, and/ or Mitigation Measures**

Under the Build Alternative, any new structures would be constructed in compliance with the Department's seismic design standards and construction guidelines. No avoidance, minimization, or mitigation measures would be required beyond the implementation of the Department's standard specifications. As part of the final design phase, the Department requires preparation of the geotechnical design reports that incorporate additional subsurface field work and laboratory testing. Site specific subsurface soil conditions, slope stabilities, and groundwater conditions within the Build Alternative area would be verified during the preparation of these geotechnical design reports. The identification of the site specific soil conditions within the project area would be used to determine the appropriate final design for the foundations and footings that would support the proposed Build Alternative improvements.

The Department's standard design and construction guidelines incorporate engineering standards that address seismic risks. Proposed structures including, retaining walls, soundwalls, and embankments constructed within the geologic study area would consider seismically-induced liquefaction and settlement during the final design phase. The final design phase would also include the evaluation of the Design Response Spectrum, which measures the ground motion or acceleration caused by the input of a vibration from an earthquake at a specific location and can help understand how structures would respond to earthquakes in a given place.

With respect to worker safety during construction, the Occupational Safety and Health Act (OSHA) requires employers to comply with hazard-specific safety and health standards. Pursuant to Section 5(a)(1) of the OSHA, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Potential seismic-related hazards to workers during construction are expected to be less than substantial with compliance with the OSHA and compliance with the Department's standard design and construction guidelines.

As described in **Subsection 2.2.2**, erosion control measures would be implemented during construction activities in accordance with the best management practices outlined in the SWPPP. Protective measures would reduce soil erosion and minimize impacts to water quality, including groundwater.

## 2.2.4 PALEONTOLOGY

### Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. (e.g., Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1960 [23 USC 305]), and the Omnibus Public Land Management Act of 2009 [16 USC 470aaa]). Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

### Affected Environment

This section is based on the Paleontological Evaluation Report completed in September 2011 (Department, 2011c).

The paleontological area is similar to the geologic study area, and includes those geologic features within which the Build Alternative improvements would be located, plus a 1-mile buffer on either side of the proposed improvements. As discussed in **Subsection 2.2.3**, surface and underlying geological formations within the paleontological study area are mapped as the Cretaceous Great Valley Sequence, Pleistocene alluvial fan deposits (older alluvium), and Holocene alluvial fan deposits (younger alluvium), and have been confirmed with a field survey.

#### **Cretaceous Great Valley Sequence**

The paleontological study area is generally underlain by undivided shale and sandstone of the Great Valley Sequence. The massive, hardened sandstones form the backbone of the ridges to the north and south of Lake Chabot and to the southeast along I-80.

No invertebrate macrofossils have been reported in the Great Valley Sequence exposed in the paleontological study area; however, microfossils have been reported. Fossil plant remains were observed along bedding planes within the Cretaceous Great Valley Sequence exposed within the paleontological study area. The presence of fossil plant material within the Great Valley Sequence indicates that depositional conditions observed in exposures in the paleontological study area are favorable for the preservation of fossils. Therefore, it is possible that additional paleontological resources will be found. However, because significant fossils have not previously been reported from the Great Valley Sequence within or near the paleontological study area, although potentially could, this unit is characterized as having a low paleontological sensitivity.

#### **Pleistocene Alluvial Deposits**

A small area north of Lake Chabot, within the paleontological study area, is underlain by older alluvial deposits dating from the Pleistocene Epoch. Units mapped as Pleistocene Alluvium in Solano County have previously produced abundant both vertebrate and invertebrate fossils representing many extinct taxonomic groups. Many of these fossil specimens represent the best-preserved examples of their taxonomic groups found to date. Since fossil vertebrates have been previously reported elsewhere from this unit and in



similar sediments, there is a potential that additional significant paleontological resources will be found in sediments of the Pleistocene Alluvium during excavations for the Build Alternative. Because significant fossils have previously been reported from this unit and from localities not far from the paleontological study area, this unit is characterized as having a high paleontological sensitivity.

### **Holocene Alluvial Deposits**

The portion of the paleontological study area around the Redwood Parkway overcrossing is underlain by younger alluvial deposits dating from the Holocene Epoch. This unit is exposed within the paleontological study area as a thin veneer over older sediments, and its depth varies widely. The Holocene alluvial deposits are too thin and too young for the preservation of fossils and, over much of the paleontological study area, are already disturbed. This unit is, therefore, characterized as having a low paleontological sensitivity.

## **Environmental Consequences**

### **Build Alternative**

The paleontological study area contains Pleistocene alluvial deposits, which are considered to have a high sensitivity for the presence of paleontological resources. Ground disturbance and earth moving associated with the construction of the Build Alternative, such as excavations, augering, and drainage diversion measures, could unearth previously unidentified paleontological resources within this sensitive unit. Resources affected could include fossil remains and sites, associated specimen data and corresponding geological and geographic site data, and the fossil-bearing strata.

### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways. Implementation of the currently planned and funded transportation projects outside the project limits but within the same geologic units in Solano County would be subject to the same paleontological sensitivities ratings as in the Build Alternative, since they would occur in the same region and in the same geologic units. These projects would be required to comply with the Department's standard design and construction guidelines regarding paleontological resources, which would be determined under separate environmental review.

## **Avoidance, Minimization, and/ or Mitigation Measures**

### **Mitigation Measure PAL-1: Monitoring and Mitigation Program**

A qualified paleontologist, with Caltrans approval, shall design a monitoring and mitigation program and implement the program during project-related excavation and earth disturbance activities prior to construction. The paleontological resource monitoring and mitigation program shall include preconstruction coordination, construction monitoring, emergency discovery procedures, and sampling and data recovery. Prior to the start of construction, the paleontologist shall conduct a field survey of exposures of sensitive stratigraphic units within the study area that would be disturbed. Finally, construction personnel would be informed that fossils could be

discovered during excavation, that these fossils are protected by laws, on the appearance of common fossils, and on proper notification procedures.

Both the Great Valley Sequence and Holocene alluvial deposits have a low sensitivity for paleontological resources. However, Holocene alluvial deposits typically occur as a thin layer overlying Pleistocene alluvial deposits, which have a high potential for paleontological resources. Excavation in areas covered by Holocene alluvial deposits would likely encounter Pleistocene alluvial deposits in the shallow subsurface. As such, construction activities within Pleistocene alluvial deposit areas covered by Holocene alluvial deposits would need to be monitored where excavations are expected to reach more than three feet below ground surface.

## 2.2.5 HAZARDOUS WASTE/MATERIALS

### Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

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

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

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

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

## Affected Environment

The analysis summarized in this section is based on an Initial Site Assessment conducted in 2007 for the I-80 High Occupancy Vehicle (HOV) Lanes and Turner Parkway Overcrossing project<sup>3</sup>, and the subsequent Preliminary Site Investigation and Aerially Deposited Lead Survey Report, prepared in January 2012 (Department, 2012j).

The initial site assessment (ISA) included an environmental regulatory database search, which identifies known hazardous waste sites that could negatively impact the project. A regulatory agency files review of selected sites of potential concern, a review of historical and current land use information, and a site reconnaissance were also conducted as part of the ISA. The ISA was performed in accordance with ASTM E1527 05 and the Department's project development procedures manual (PDPM) and standard environmental reference (SER).

### Sites of Potential Environmental Concern

The preliminary site investigation identified five sites of potential environmental concern associated with petroleum products release from leaking underground storage tanks within the hazardous materials study area. These sites are listed in **Table 2.2.5-1** and depicted in **Figure 2-27**. The potential release of petroleum products from these sites may have impacted the subsurface conditions within the area where improvements would be constructed.

### Aerially Deposited Lead (ADL)

Until their use was banned in the 1990s, additives in gasoline expelled lead-based compounds from engine exhaust. Consequently, lead was aerially deposited as a particulate, frequently concentrating onto the adjacent road shoulders and in medians. Lead can be hazardous to humans as exposure can adversely affect the nervous, circulatory, and reproductive systems and can severely damage the brain and kidneys.

Fairgrounds Drive and the surrounding roads and freeways were constructed prior to the 1990s, and therefore there is potential for lead to be present in the soils adjacent to the roadways. Due to this potential, an aerially deposited lead survey was conducted at 13 locations at varying depths within the hazardous materials study area, including the two properties where subsurface assessments were conducted. Soluble lead concentration in one soil sample was found to be above the State's regulatory threshold (i.e., soluble threshold limit concentration [STLC]) defining hazardous waste.

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<sup>3</sup> Several components of this larger project have since been withdrawn from consideration as part of the alternatives analysis (see Chapter 1); however, the improvements proposed under the Build Alternative would be located in areas that were previously evaluated for health risks related to hazardous materials. Information in the 2007 assessment is therefore applicable to the proposed Build Alternative.

Table 2.2.5-1 Potential Impacts from Hazardous Materials Release Sites

Site Name and Location		Summary of Potential Impacts to Build Alternative Improvements
1	Unocal 76 Gasoline Service Station (223 Fairgrounds Drive)	Potential petroleum constituents in soil and/or groundwater associated with former and current service station activities. This site is currently undergoing groundwater and soil remediation.  The Build Alternative would relocate the Fairgrounds Drive/Redwood Street intersection on to this property. As such, this site may pose a risk to people or structures.
2	Chevron Gasoline Service Station (200 Fairgrounds Drive)	Potential petroleum constituents in soil and/or groundwater associated with former service station activities. The regulatory oversight of the release from this property has since been closed as of 1997.  The Build Alternative would realign Fairgrounds Drive to the west of this release site. As such, this site is not likely to pose a risk to people or structures.
3	Stop N Save Gasoline Station and Liquor (501 Fairgrounds Drive)	Existing UST and fuel dispensing activities associated with former and current service station activities.  The Build Alternative would widen Fairground Drive onto this property. Sub-surface sampling could not be conducted at this site because access was not granted. This presents a data gap.
4	American Furniture Galleries (709 Admiral Callaghan Lane)	Potential petroleum constituents and Title 22 metals in soil and/or groundwater associated with active and inactive UST facilities. Soil samples taken from the American Furniture Galleries property were analyzed for these contaminants; the concentrations were below the laboratory reporting limits. As such, this site would not pose a risk to people or structures.
5	Tell Rentals (711 Admiral Callaghan Lane)	Potential petroleum constituents, volatile organic compounds, and Title 22 metals in soil and/or groundwater associated with former release from leaking underground storage tank facilities. The regulatory oversight of the release from this property has since been closed as of 1998. Soil samples taken in 2011 on the Tell Rentals property were analyzed for these compounds; one compound, 2-methylnaphthalene, was reported above the Commercial Environmental Screening Levels (ESL). This site may pose a risk to site occupants and construction workers.

Source: Department, 2011d.





Properties of Environmental Concern

Figure

Source: Department, 2012; Google Earth, 2011.

### Asbestos-Containing Material and Lead-Based Paint

The Build Alternative involves the demolition of residential and commercial building structures. There is potential that asbestos-containing material (ACM) and lead-based paint (LCP) may be present in these building structures. Asbestos, a known human carcinogen, was commonly used in construction and building materials until the 1980s, when it was phased out. Lead oxide and lead chromate were commonly used in paint until 1978, when regulations limited the allowable lead content in paint. Lead is a known teratogen (i.e., it has the potential to cause birth defects), and a reproductive toxin. Asbestos fibers and lead particles emitted to the air during demolition activities could potentially pose a risk to human health.<sup>4</sup>

## Environmental Consequences

### Build Alternative

Five sites with known or potential releases of hazardous materials were identified that could potentially contaminate soil and/or groundwater beneath areas of proposed construction from the Build Alternative (see **Table 2.2.5-1** and **Figure 2-27**). This could pose a potential risk to construction workers. Upon further investigation of these releases, and subsequent subsurface sampling, three of these sites were determined not likely to pose a risk to people. The remaining two sites, Stop N Save Gasoline Station and Liquor (501 Fairgrounds Drive) and Unocal 76 Gasoline Service Station (223 Fairgrounds Drive), are likely to pose some risk, as Unocal 76 Gasoline Service Station has been identified as a petroleum products release site and Stop N Save Gasoline Station and Liquor could potentially be a petroleum products release site upon future investigation. Within the existing project corridor, no other build alternatives were deemed viable because of the physical constraints associated with the topography of the area and developed land uses surrounding the roadways. Given these constraints, the current design of the Build Alternative would not be feasible without the acquisition of these hazardous material sites. As such, these hazardous material sites cannot be avoided.

Additionally, construction workers may be exposed to aerially deposited lead in the surface soils within the hazardous materials study area, which could result in harmful health hazards. Furthermore, the Build Alternative involves demolition of older existing freeway elements and structures that potentially contain asbestos and lead-based paint. Asbestos was commonly used in construction materials, such as insulation in buildings and piping until the 1980's, when its use was phased out. Similarly, lead-based paints were used up until 1978. The demolition of residential and commercial structures could generate waste containing asbestos and lead-based paint that could pose a threat to human health and the environment. It is possible that construction workers would be exposed to these harmful hazardous materials during demolition activities.

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<sup>4</sup> The California EPA Department of Toxic Substances Control (DTSC) Variance No. V09HQSCD006 (Caltrans Variance), states that "lead-contaminated soil(s) that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of ADL contamination associated with exhaust emissions..." can be managed within a project site under certain circumstances.



### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways. Therefore, the No-Build Alternative would avoid the hazardous waste and materials effects associated with the Build Alternative.

### **Avoidance, Minimization, and/ or Mitigation Measures**

Under the Build Alternative, demolition of building structures will be required. Prior to any demolition work, an asbestos and lead-based paint survey would be conducted to determine the presence or absence of asbestos-containing materials and lead-based paint in these building structures. Preceding any demolition activities, construction contractors will follow regulations requiring the abatement of asbestos-containing materials and lead-based paint to prevent exposure to construction workers and nearby residents.

Because of the potential for exposure to hazardous materials and aerially deposited lead, the following measures would be taken to avoid any potential adverse effects:

- If acquisition of the Stop N Save Gasoline Station and Liquor site (501 Fairgrounds Drive) is necessary, a limited subsurface sampling for potential soil and groundwater contamination would be conducted prior to purchase. Implementation of the limited surface sampling in this area is expected to cost approximately \$15,000.
- In the event that excavation occurs in the former UST pit on the Tell Rentals property, and petroleum impacts on the 223 Fairgrounds Drive property remain within soil and groundwater, a Soil Management Plan (SMP) would be developed to manage excavation of soil from these areas. The SMP would specifically address worker protection during excavation and removal activities. The SMP would also address the transport and disposal of petroleum-impacted soil to the appropriate Class II Landfill facility. Implementation of the SMP in this area is expected to cost approximately \$16,000.
- The Department's Variance would be used to manage soil excavated in the area of the ADL sample location with hazardous concentration levels. Excavated soil would be placed in other roadway right-of-way areas and covered with one foot of clean soil. The management of ADL-contaminated soils during the construction of the Build Alternative is expected to cost approximately \$26,000.

## **2.2.6 AIR QUALITY**

### **Regulatory Setting**

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been

established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – PM<sub>10</sub> and particles of 2.5 micrometers and smaller – PM<sub>2.5</sub>), lead (Pb), and sulfur dioxide (SO<sub>2</sub>). In addition, State standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride. The NAAQS and State standards are set at a level that protects public health with a margin of safety, and are subject to periodic review and revision. Both State and Federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics within their general definition.

Federal and State air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). In addition to this type of environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

FCAA Section 176(c) prohibits the U.S. Department of Transportation and other Federal agencies from funding, authorizing, or approving plans, programs or projects that are not first found to conform to State Implementation Plan (SIP) for achieving the goals of Clean Air Act requirements related to the NAAQS. “Transportation Conformity” takes place on two levels: the regional, or planning and programming, level, and the project level. The proposed project must conform at both levels to be approved. Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 CFR 93 govern the conformity process.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and in some areas sulfur dioxide (SO<sub>2</sub>). California has attainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO<sub>2</sub>, and also has a nonattainment area for lead (Pb). However, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all of the transportation projects planned for a region over a period of at least 20 years (for the RTP), and 4 years (for the FTIP). RTP and FTIP conformity is based on use of travel demand and air quality models to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), and the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and the FTIP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is “nonattainment” or “maintenance” for carbon monoxide (CO) and/or particulate matter (PM<sub>10</sub> or PM<sub>2.5</sub>). A region is “nonattainment” if one or more of the monitoring stations in the region measures violation of the relevant standard, and U.S. EPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by U.S. EPA, and are then called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include some specific procedural and documentation standards for projects that require a “hot spot” analysis. In general, projects must not cause the “hot spot”-related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

## Affected Environment

The following analysis is based on the *Air Quality Technical Report* completed in March 2012 (Department, 2012a). The Build Alternative is located within the San Francisco Bay Area Air Basin (SF Air Basin) and within the jurisdictional boundaries of the Bay Area Air Quality Management District (BAAQMD). These boundaries effectively make up the air quality study area for the Build Alternative.

The climate within the air quality study area is affected by its proximity to both the Pacific Ocean and the San Francisco Bay, which has a moderating influence. The Bay cools the air with which it comes in contact during warm weather and warms the air during cold weather. Typical summer maximum temperatures for the region are in the upper 70’s, while winter maximum temperatures are in the high 50’s or low 60’s. Minimum temperatures usually range from the high 50’s in the summer to the upper 30’s and low 40’s in the winter. Rainfall in the area occurs mostly in the months of November through March. Winds flow typically from the southwest.

### Regional Air Quality Conformity

The BAAQMD monitors pollutants of concern, known as criteria pollutants, and air quality conditions throughout the SF Air Basin. The current attainment status for the SF Air Basin according to national and State standards of criteria pollutants is included in **Table 2.2.6-1**.

As shown in **Table 2.2.6-1**, the SF Air Basin is not in attainment of State or Federal standards with respect to Ozone or PM<sub>2.5</sub>. In addition, the SF Air Basin is not in attainment of State standards for PM<sub>10</sub>.

Table 2.2.6-1 San Francisco Bay Area Basin Attainment Status

Pollutant	Federal Status	State Status
Ozone (O <sub>3</sub> ) – 1-Hour Standard	Not Applicable	Serious Nonattainment
Ozone (O <sub>3</sub> ) – 8-Hour Standard	Nonattainment	Not Applicable
Respirable Particulate Matter (PM <sub>10</sub> )	Unclassified	Nonattainment
Fine Particulate Matter (PM <sub>2.5</sub> )	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment (maintenance)	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment
Sulfates	No National Standards	Attainment
Lead	Not Applicable	Attainment
Hydrogen Sulfide	No National Standards	Unclassified
Visibility Reducing Particles	No National Standards	Unclassified

Source: Department, 2012a.

## Environmental Consequences

### Build Alternative

#### *Regional Conformity*

A portion of the Build Alternative is included in the Metropolitan Transportation Commission (MTC) current conforming regional transportation plan (i.e., Transportation 2035 Plan)<sup>5</sup> and the 2011 Transportation Improvement Program (or TIP) as Project SOL-090015 (RTP Project 230708). MTC approved the financially constrained TIP on October 27, 2010.<sup>6</sup> Following approval by the Department, the FHWA, and Federal Transit Administration (FTA) incorporated the TIP into the Federal Statewide Transportation Improvement Program (FSTIP) on December 14, 2010. The Build Alternative design scope and concept have not changed from the design scope and concept in the RTP and TIP listings. However, all applicable Transportation Control Measures are included in the Build Alternative. The Build Alternative is not considered to be a Project of Air Quality Concern with respect to PM<sub>2.5</sub>.

#### *Project Level Conformity*

##### Carbon Monoxide

The SF Bay Area Air Basin, including the air quality study area, is located in a maintenance area for the Federal 1-hour and 8-hour CO standards. Therefore, a CO hot spot analysis was conducted for the Build Alternative.

CO concentrations were modeled using traffic volumes, emissions, meteorology, and the roadway/receptor geometry. I-80 and SR 37 mainline segments, Redwood Street and Fairground Drive were modeled since this is where there would be a combination of the highest traffic volumes, greatest project traffic contribution, and highest level of congestion. High volume freeways, such as I-80/SR 37 and congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of CO. Project impacts from local traffic were evaluated by the quantitative method, which is modeling roadside CO concentrations associated with the Build Alternative and comparing them to the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). Predicted CO concentrations, which include background levels, are shown in **Table 2.2.6-2**.

The CO assessment was conducted for future No-Build and Build Alternative conditions in 2015 and 2035.<sup>7</sup> The results indicate that future CO levels with or without the project

<sup>5</sup> The RTP was amended and approved by MTC on July 18, 2013 which includes the Redwood Parkway – Fairgrounds Drive Improvement Project (230313). Accordingly, the update is listed as a technical correction to the projects/programs listed in Appendix B1 of the 2040 Plan Bay Area RTP.

<sup>6</sup> The TIP was amended and approved by MTC on December 17, 2014 to reflect that the Redwood Parkway – Fairgrounds Drive Improvements Project (# 230313) is modeled as a non-exempt construction project. Accordingly, the update is listed as a technical correction to the projects/programs listed in Appendix B1 of the 2015 TIP. The proposed project meets regional air quality conformance requirements.

<sup>7</sup> As a conservative approach to the air quality analysis, the 2015 conditions incorporate future traffic operations assuming the complete construction and operation of the Build Alternative, including those

would remain below the NAAQS and CAAQS. The predicted decrease in future levels is due to vehicle fleet turnover, with newer (less polluting) vehicles replacing older vehicles. As a result, the Build Alternative would not cause or contribute to any localized CO violations.

Table 2.2.6–2 Project Worst-Case 1-Hour and 8-Hour Carbon Monoxide Concentrations

Receiver ID	2015 No-Build		2015 Build		2035 No-Build		2035 Build		Exceed Thresholds
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour	
Redwood Street	3.8	2.7	3.8	2.7	3.5	2.5	3.5	2.5	No
Fairgrounds Drive	3.8	2.7	3.8	2.7	3.6	2.5	3.6	2.5	No
I-80	5.5	3.9	5.5	3.9	4.0	2.8	4.0	2.8	No
SR 37	4.9	3.4	4.9	3.4	4.0	2.8	4.0	2.8	No
NAAQS	35	9.0	35	9.0	35	9.0	35	9.0	No
CAAQS	20	9.0	20	9.0	20	9.0	20	9.0	No

Source: Department, 2012a.

The project-level air quality analysis indicates that the Build Alternative would not cause or contribute to any new localized CO violations; therefore, meeting the “hot-spot” conformity requirements of 40 CFR 93.116(a).

#### Particulate Matter

Because the SF Air Basin is located within nonattainment areas for the Federal and State PM<sub>2.5</sub> standards, and nonattainment for the State PM<sub>10</sub> standard, a qualitative PM hot-spot analysis is required under the EPA Transportation Conformity rule for projects of air quality concern (POAQC).

On March 10, 2006, the U.S. EPA published a final rule that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in PM<sub>2.5</sub> and PM<sub>10</sub> nonattainment and maintenance areas (71 FR 12468). The Federal PM<sub>10</sub> standards have been met in the SF Bay Area, and therefore the Build Alternative is not subject to hot spot analysis for PM<sub>10</sub> for purposes of transportation conformity. The Federal PM<sub>2.5</sub> standards are exceeded in the SF Bay Area and the Build Alternative would be subject to hot spot analysis for PM<sub>2.5</sub> for purposes of transportation conformity. MTC’s Air Quality Conformity Task Force met on September 22, 2011 as part of interagency consultation for the Build Alternative. On October 6, 2011, the task force took action to conclude that the Build Alternative was not a POAQC. As a result of that action, a project-level PM<sub>2.5</sub> Hot Spot Analysis is not required. FHWA concurred with this finding on May 21, 2015 and determined that the Build Alternative conforms with the SIP (see **Appendix G**).

improvements that are anticipated to be constructed concurrently with the construction of the I-80 HOV Lane Project (2035). See **Subsection 2.1.3** for a detailed description of the traffic forecasts assumptions.



The project area is nonattainment for the much more stringent PM<sub>10</sub> and PM<sub>2.5</sub> CAAQS. All urbanized portions of California do not attain these standards. The Build Alternative would result in no net change in emissions of these pollutants, since the vehicle miles traveled (VMT) would essentially be the same with or without implementation of the project. There would be less congestion during peak hours with the Build Alternative than without the Build Alternative. PM<sub>10</sub> and to some extent, PM<sub>2.5</sub> are almost directly related to VMT. With the Build Alternative, there would be a slight increase in peak traffic period speeds for some roadway segments. However, these changes would not affect localized concentrations of PM<sub>10</sub> and PM<sub>2.5</sub>.

#### Mobile Source Air Toxics (MSAT)

In addition to the criteria pollutants, mobile source air toxics (MSAT) are regulated by the EPA in order to meet air quality attainment goals. MSAT are a subset of the 188 hazardous air pollutants identified by the Clean Air Act as harmful to human health. MSATs are emitted into the air as fuel evaporates or by passing through engines unburned.

The purpose of this project is to relieve congestion and improve traffic flow on the local roadway network by constructing several roadway improvements along portions of Fairgrounds Drive and Redwood Parkway/Redwood Street. The Build Alternative would not result in any significant changes in traffic volumes, vehicle mix, the general location of the existing roadway facilities, or any other factor that would cause an increase in emissions impacts relative to the No-Build Alternative. FHWA has determined that the types of improvements proposed by the Build Alternative would generate minimal air quality impacts for Clean Air Act criteria pollutants (i.e., no meaningful potential for MSAT effects) and should not be linked with any special MSAT concerns.<sup>8</sup> Consequently, a qualitative analysis for MSATs is not required.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOBILE6.2 model forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050, while vehicle-miles of travel are projected to increase by 145 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from the Build Alternative.

#### *Temporary Construction Impacts*

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and various other activities related to construction. Emissions from construction equipment also are anticipated and would include CO, NO<sub>x</sub>, VOCs, PM<sub>10</sub>, PM<sub>2.5</sub>, and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO<sub>x</sub> and VOCs in the presence of sunlight and heat.

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<sup>8</sup> FHWA, September 30, 2009. "Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents", Available at: [http://www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/policy\\_and\\_guidance/100109guidmem.pdf](http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/100109guidmem.pdf); Last accessed June 25, 2012.

Site preparation and roadway construction typically involves clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM<sub>10</sub>, PM<sub>2.5</sub>, and small amounts of CO, SO<sub>2</sub>, NO<sub>x</sub>, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM<sub>10</sub> emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM<sub>10</sub> emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the U.S. EPA to add 1.09 tonne (1.2 tons) of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. Caltrans' Standard Specifications (Section 14-9.02) pertaining to dust minimization requirements requires use of water or dust palliative compounds and will reduce potential fugitive dust emissions during construction.

In addition to dust-related PM<sub>10</sub> emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO<sub>2</sub>, NO<sub>x</sub>, VOCs and some soot particulate (PM<sub>10</sub> and PM<sub>2.5</sub>) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO<sub>2</sub> is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting Federal standards can contain up to 5,000 parts per million (ppm) or more of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 ppm), so SO<sub>2</sub>-related issues due to diesel exhaust will be minimal. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site(s). Such odors would be quickly dispersed below detectable thresholds as distance from the site(s) increases.

Construction is expected to begin in fall 2014 and last 15 months. Construction-related emissions are generally short-term in duration but may still cause adverse air quality impacts. Average daily construction exhaust emissions were analyzed for the Build Alternative, as shown in **Table 2.2.6-3**.

Emissions associated with construction were found not to exceed any of the BAAQMD thresholds of significance for construction-related criteria air pollutants and precursors.

Table 2.2.6–3 Daily Construction Emissions

Project Construction Phase	Average Daily Emission Estimates (lbs/day)			
	ROG	NOx	Exhaust PM <sub>10</sub>	Exhaust PM <sub>2.5</sub>
Grubbing/Land Clearing	5.7	42.7	1.9	1.7
Grading/Excavation	5.2	35.2	1.8	1.6
Drainage/Utilities/Sub-Grade	4.1	26.9	1.5	1.3
Paving	3.2	16.3	1.4	1.2
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	No	No	No	No

Source: Department, 2012a.

### No-Build Alternative

The No-Build Alternative would make no physical improvements or alterations to Fairgrounds Drive and Redwood Parkway/Redwood Street or the connecting roadways. Therefore, the No-Build Alternative would avoid the localized air quality effects associated with the Build Alternative. Other planned and programmed projects that would occur under the No-Build Alternative within the SF Air Basin would have the same potential for adverse air quality effects related to construction activities and vehicle emissions. Any improvements under the No-Build Alternative would require project-specific environmental review to determine the environmental impacts related to such expansions and/or improvements. These improvements would be subject to the same conformity requirements, Federal and State air quality standards and regulations as the Build Alternative.

### Avoidance, Minimization, and/ or Mitigation Measures

Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in adverse or long-term conditions. Implementation of the following measures will reduce any air quality impacts resulting from construction activities:

- The construction contractor shall comply with Caltrans' Standard Specifications Section 14-9.01 and Section 10 of Caltrans' Standard Specifications (2010).
  - Section 7, "Legal Relations and Responsibility," addresses the contractor's responsibility on many items of concern, such as: air pollution; protection of lakes, streams, reservoirs, and other water bodies; use of pesticides; safety; sanitation; and convenience of the public; and damage or injury to any person or property as a result of any construction operation. Section 14-9.01 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
  - Section 10 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.

- Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions, at least two times per day.
- Spread soil binder on any unpaved roads used for construction purposes, and all project construction parking areas.
- Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions.
- Properly tune and maintain construction equipment and vehicles. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.
- Establish ESAs for sensitive air receivers within which construction activities involving extended idling of diesel equipment would be prohibited, to the extent that is feasible.
- Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.
- Cover all transported loads of soils, sand, loose material and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM<sub>10</sub> and deposition of particulate matter during transportation.
- Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- Route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.
- Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

## Climate Change

Climate change is analyzed in **Chapter 3.0, CEQA Evaluation**. Neither U.S. EPA nor FHWA has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA's climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this environmental document and may be used to inform the National Environmental Policy Act (NEPA) decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

### 2.2.7 NOISE

#### Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

*California Environmental Quality Act*

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section will focus on the NEPA-23 CFR 772 noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

*National Environmental Policy Act and 23 CFR 772*

For highway transportation projects with FHWA (and the Department, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). **Table 2.2.7-1** lists the noise abatement criteria for use in the NEPA-23 CFR 772 analysis.

**Figure 2-28** lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities.

In accordance with the Department's Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

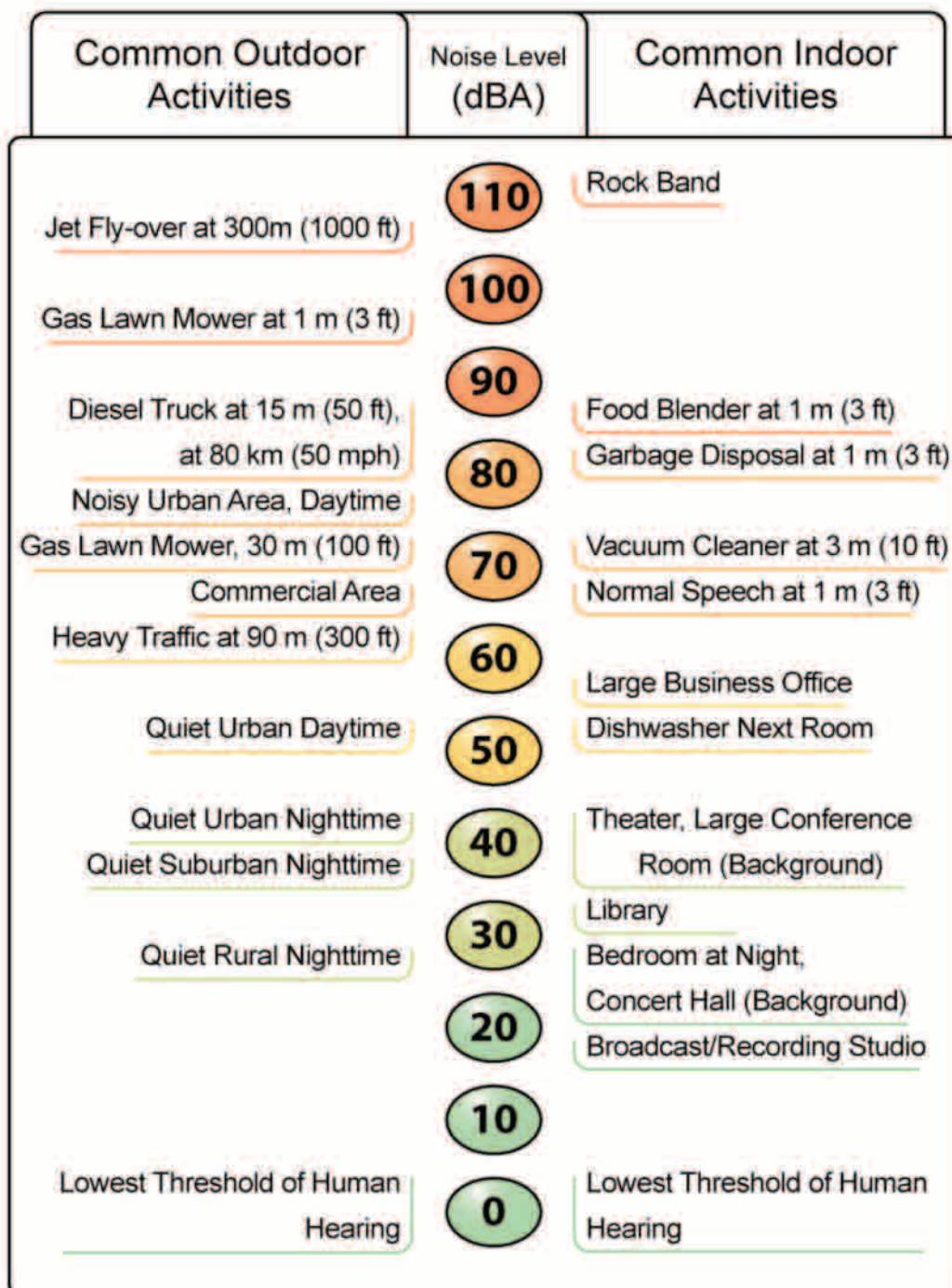
The Department's Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents acceptance and the cost per benefited residence.



Table 2.2.7-1 Noise Abatement Criteria

Activity Category	NAC, Hourly A- Weighted Noise Level, dBA L <sub>eq</sub> (h)	Description of Activities
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B <sup>1</sup>	67 (Exterior)	Residential.
C <sup>1</sup>	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Interior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC – reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC – reporting only	Undeveloped lands that are not permitted.

<sup>1</sup> Includes undeveloped lands permitted for this activity category.



Noise Levels of Common Activities

Figure

## Affected Environment

The following analysis is based on the Noise Study Report completed in November 2011 (Department, 2012h). The Noise Study Report follows FHWA and Caltrans policies to address traffic noise impacts and noise abatement. The report was prepared in accordance with the Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol or TNAP). The Protocol addresses both Federal and State environmental statutes with regard to noise.

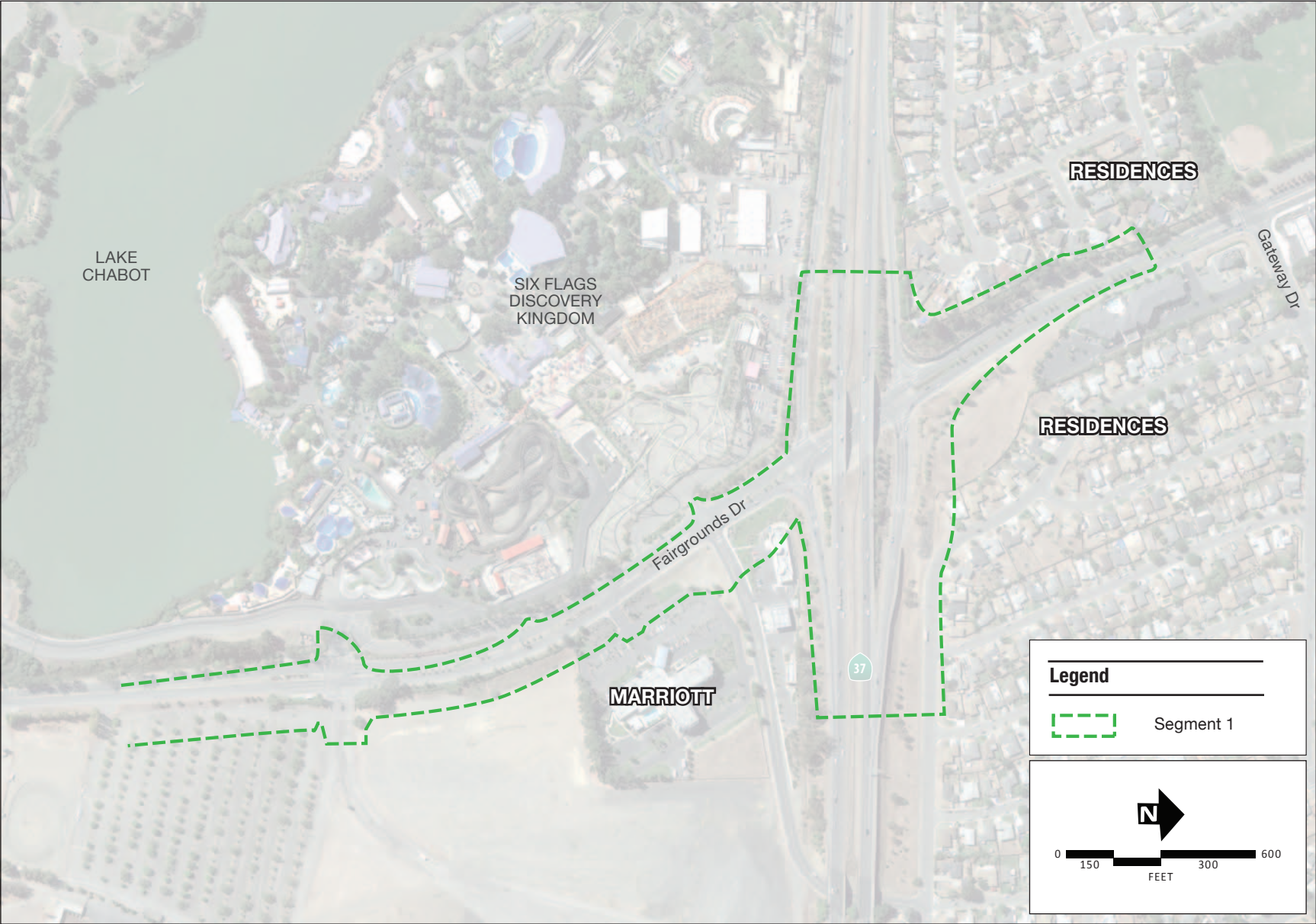
The existing noise environment throughout the Build Alternative's noise study area varies by location, depending on site characteristics such as proximity to Interstate I-80, SR 37, Fairgrounds Drive, Redwood Parkway, and other noise sources, the relative elevation of roadways and receivers, and any intervening structures or barriers. Land uses that could be subject to traffic and construction noise impacts from the proposed improvements along the noise study area include single- and multi-family residences (Category B land uses) and hotels/motels (Category E land use). No other noise-sensitive Category A, C, or D land uses were identified.

The noise study area was divided into three segments for noise modeling and noise abatement assessment purposes. **Figures 2-29, 2-30, and 2-31** show the sensitive receiver locations in each segment.

As shown in **Figure 2-29**, Category B land uses within Segment 1 are residences located north of SR 37, both west and east of Fairgrounds Drive. Ten-foot noise barriers currently shield these Category B land uses. The Marriott Courtyard Vallejo Napa Valley, a Category E land use, is also located within Segment 1 and has an outdoor pool. The location of the pool is to the east and south of the hotel building, thus is not affected by traffic noise from Fairgrounds Drive. This land use was not included as a sensitive receiver since the noise environment at the outdoor pool area results primarily from vehicle traffic along portions of I-80 and SR 37 outside of the Build Alternative limits.

Segment 2 contains Category B and E land uses, including single- and multi-family residences and a motel (see **Figure 2-30**). Traffic noise within Segment 2 primarily results from Fairgrounds Drive and I-80. As shown in the figure, an apartment complex is located to the west of buildings planned from removal. The motel in this segment also has an outdoor pool that is located east and south of the motel building, away from Fairgrounds Drive. Since the noise environment at the outdoor pool of the motel results primarily from traffic along portions of I-80 outside of the Build Alternative limits, the motel was not included as a sensitive receiver.

The majority of land uses within Segment 3 are residential. Other non-noise sensitive land uses include gas stations, restaurants, and other small businesses. One noise barrier in Segment 3 is located along the westbound shoulder of I-80, as shown in **Figure 2-31**. Several structures would be removed as part of the Build Alternative, and receivers represented by ST-9 would be most affected since the existing buildings served as noise barriers to shield excess traffic noise from Fairgrounds Drive.

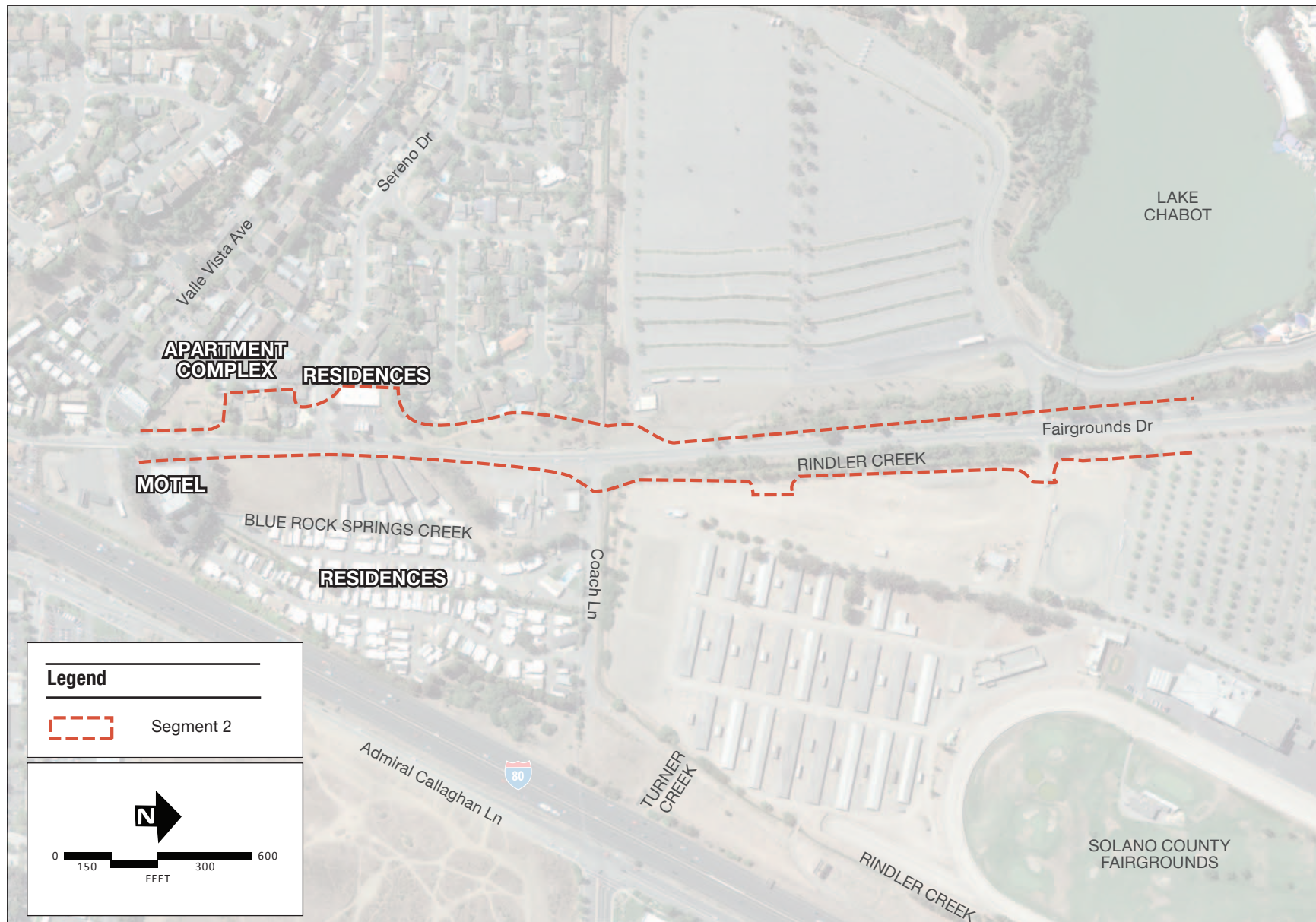


Segment 1: Noise-Affected Receivers

Figure

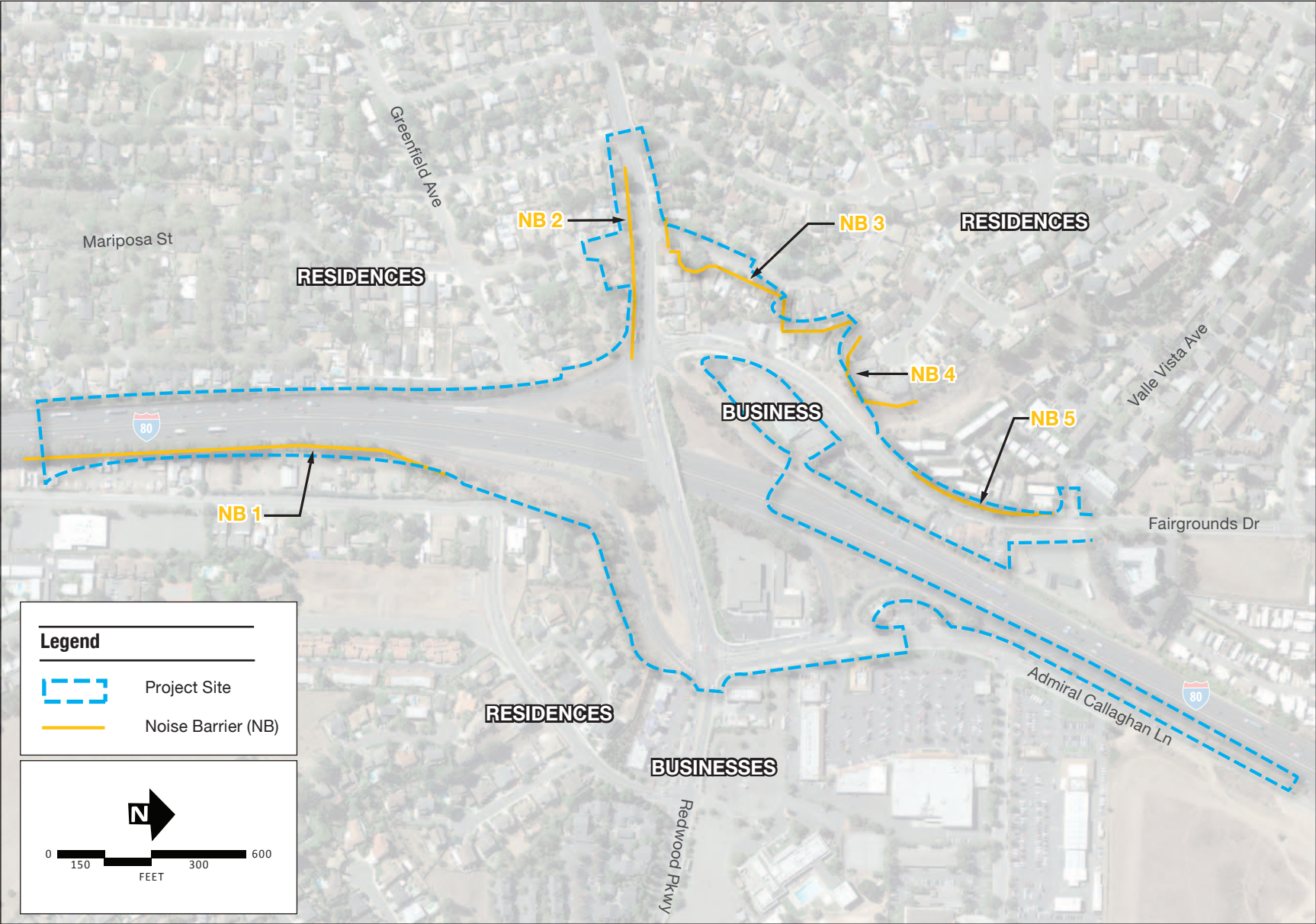
Source: Department, 2011c.





Segment 2: Noise-Affected Receivers

Figure



Segment 3: Noise-Affected Receivers

Figure

Source: Department, 2011c.



## Noise Modeling

Short- and long-term field measurements were taken to reflect the current noise environment within the noise study area (see **Figure 2-32**). The estimated worst-hour noise levels at short-term locations were based on daytime measurement data, peak-hour traffic data, and the trends in hourly noise levels measured at nearby representative long-term measurement sites. A direct comparison of the data collected simultaneously at the long-term and short-term noise measurement sites was made to calculate worst-hour noise levels at the short-term measurement locations. These data were then compared to the worst-hour noise levels predicted for existing conditions to confirm that the model accurately reflects the measured noise data. **Table 2.2.7-2** and **2.2.7-3** summarize the long- and short-term noise measurements.

Long-term (LT) reference noise measurements were made at four reference locations within the noise study area to quantify the daily trend in noise levels and to establish the peak traffic noise hour (see **Figure 2-32**). LT noise measurement locations were selected to generally represent human activity areas adjoining Fairgrounds Drive, Redwood Parkway, and the on- and off-ramps for I-80 and SR 37.

Twelve short-term (ST) noise measurements were made on March 30, 2011 concurrent with the data being collected at the long-term measurement sites. This facilitates a direct comparison between both the short-term and long-term reference noise measurements and allows for the identification of the worst-hour noise levels at Category B and E land uses in the vicinity of the Build Alternative.

At all locations, noise levels were measured 5-feet above the ground surface and at least 10 feet from structures or barriers. Noise measurement locations were used as noise modeling receivers for the prediction of existing and future worst-hour traffic noise levels.

Table 2.2.7-2 Summary of Long-Term Noise Measurements

Receiver ID	Location	Time	Worst Hour $L_{eq[h]}$
LT-1	Rear yard of 1861 Griffin Drive	5:00 PM	61
		4:00 PM	61
		7:00 AM	60
LT-2	Rear yard of 51 Emerald Circle	1:00 PM	62
		6:00 AM	62
		7:00 PM	63
LT-3	Rear yard of 456 Moorland Street	5:00 PM	53
		7:00 AM	57
		7:00 AM	56
LT-4	Across from 11 Greenfield Court	5:00 PM	60
		6:00 AM	62
		7:00 AM	62

Source: Department, 2012h.

Notes:  $L_{eq[h]}$  = Equivalent sound level over one hour.

Table 2.2.7-3 Summary of Short-Term Noise Measurements

Receiver ID	Location	Time	10-min $L_{eq}$ , dBA	Estimated Worst Hour $L_{eq[h]}$ , dBA
ST-1	Side yard of 563 Admiral Callaghan Lane	11:00 AM	66	68
		11:10 AM	65	
ST-2	Rear yard of 1382 Monteith Drive	11:40 AM	58	60
		11:50 AM	58	
ST-3	Setback of Ridge Townhomes adjacent to Fairgrounds Drive	12:30 PM	66	71
		12:40 PM	68	
ST-4	Rear yard of 170 Obsidian Court	1:30 PM	60	62
		1:40 PM	59	
ST-5	Rear deck of 1354 Del Mar Avenue	2:30 PM	65	68
		2:40 PM	65	
ST-6	Rear yard of 618 Kathy Ellen Drive	10:50 AM	60	62
		11:00 AM	60	
ST-7	Front yard of 326 Greenfield Avenue	11:40 AM	61	63
		11:50 AM	61	
ST-8	Motel 6 Pool Area	12:30 PM	64	67
		12:40 PM	65	
ST-9	Front yard of 409 Moorland Street	1:30 PM	61	67
		1:40 PM	60	
ST-10	Franciscan Apartments Picnic Area	2:10 PM	48	52
		2:20 PM	49	
ST-11	Front yard of 16 Howard Street	1:30 PM	60	67
ST-12	Outdoor Use Area of the Fairgrounds Drive Apartments	2:10 PM	53	58
		2:20 PM	55	

Source: Department, 2012h.





Legend	
	Segment 3
	Segment 2
	Segment 1

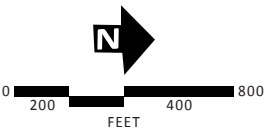
- LT/ST-#

●

Noise-Sensitive Receivers
- R-#

●
- Additional Traffic Noise Modeling Receivers

} (refer to Tables 2.2.7-2 through 6)



Source: Department, 2011c.



*Figure 2-32 Noise Measurements and Receiver Locations (back)*

## Environmental Consequences

The Code of Federal Regulations (23 CFR 772) “Procedures for Abatement of Highway Traffic Noise” provides procedures for preparing operational and construction noise studies and evaluating noise abatement options. Under 23 CFR 772, projects are categorized as Type I or Type II projects. Type I projects are defined as proposed Federal or Federal-aid highway improvements for the construction of a highway on new location; or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. The FHWA identifies Type I projects as improvements that would create a completely new noise source, increase the volume or speed of traffic, or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening of an existing ramp by a full lane for its entire length. As the Build Alternative involves the modification and realignment of interchanges and ramps, as well as widening of ramps and roadway, it is considered a Type I project. The FHWA noise regulations require noise analyses for all Type I projects.

Future (2015 and 2035) traffic noise conditions under the Build and No-Build Alternatives were modeled for the identified noise-sensitive receivers illustrated in **Figures 2-29, 2-30, and 2-31**.<sup>9</sup> As previously discussed, the noise-sensitive receivers in the noise study area are defined as Category B and E land uses, which have NAC thresholds of 67 dBA (exterior) and 72 dBA (interior), respectively. Noise levels predicted to approach (within 1 dBA) or exceed the NAC are considered unacceptable noise conditions for these land uses. Additional receivers were added to the traffic noise model to represent locations where noise measurements could not be made at the outdoor use area or in acoustically equivalent locations (see **Figure 2-32**).

### Build Alternative

#### *Segment 1 – Flint Court to Lake Chabot*

Category B land uses within this segment of the Build Alternative are residences located north of State Route 37, both west and east of Fairgrounds Drive (see **Figure 2-29**). Ten-foot noise barriers currently shield these Category B land uses. As shown in **Table 2.2.7-4**, worst-hour average noise levels under existing conditions range from 62 to 63 dBA  $L_{eq[h]}$ <sup>10</sup> at receivers represented by modeling sites LT-1 and ST-4. Future noise levels under the No-Build and Build Alternative scenarios are expected to remain at 62 dBA  $L_{eq[h]}$  at ST-4 and 63 dBA  $L_{eq[h]}$  at LT-1. The 2015 and 2035 Build conditions would increase existing noise levels by less than 1 decibel, and the noise level increase attributable to the Build

<sup>9</sup> As a conservative approach to the noise analysis, the 2015 conditions incorporate future traffic operations assuming the complete construction and operation of the Build Alternative, including those improvements that are anticipated to be constructed concurrently with the construction of the I-80 HOV Lane Project (2035). See **Subsection 2.1.3** for a detailed description of the traffic forecasts assumptions.

<sup>10</sup>  $L_{eq[h]}$  is the equivalent steady-state sound level over one hour.

Alternative is not considered substantial. First- and second-tier residences would not experience noise levels that approach or exceed the NAC of 67 dBA. Noise impacts were not identified at Category B land uses located north of SR 37 and noise abatement was not considered for feasibility or reasonableness.

Table 2.2.7-4 Segment 1, Modeled Noise Levels

Receiver ID	Number of Receivers Represented	Worst Hour Noise Levels, $L_{eq[h]}$ , dBA					Approaches/ Exceeds (A/E) NAC?
		2010	2015		2035		
		Existing	No-Build	Build	No-Build	Build	
LT-1	8	63	63	63	63	63	No
ST-4	5	62	62	62	62	62	No

Source: Department, 2012h.

#### *Segment 2 – Lake Chabot to Valle Vista Avenue*

**Table 2.2.7-5** summarizes the traffic noise modeling results for Category B land uses located between Coach Lane and Valle Vista Avenue. Traffic noise levels were modeled at Sites LT-2, ST-10, and ST-12. Two additional receivers, R1 and R2, were added to the traffic noise model. Worst-hour average noise levels under existing conditions range from 50 to 57 dBA  $L_{eq[h]}$  at Category B residential outdoor use areas shielded by existing buildings (see ST-10, ST-12, and R1), and are approximately 59 to 63 dBA  $L_{eq[h]}$  at single-family rear yards and multi-family patios adjacent to Fairgrounds Drive (see LT-2 and R2).

The 2015 and 2035 Build conditions would remove several existing buildings located northwest and southwest of the Fairgrounds Drive/Sereno Drive intersection resulting in an increase of approximately 3 to 4 dBA  $L_{eq[h]}$  above existing noise levels. Category B land uses that are not currently shielded by existing buildings would experience traffic noise increases of about 0 to 2 dBA  $L_{eq[h]}$  above existing noise levels with implementation of the Build Alternative. Noise levels at Category B land uses located between Coach Lane and Valle Vista Avenue would not approach or exceed the NAC of 67 dBA in private or common outdoor spaces. As a result, noise impacts were not identified and noise abatement was not considered for feasibility or reasonableness.

Table 2.2.7-5 Segment 2, Modeled Noise Levels

Receiver ID	Number of Receivers Represented	Worst Hour Noise Levels, L <sub>eq[h]</sub> , dBA					Approaches/ Exceeds (A/E) NAC?
		2010	2015		2035		
		Existing	No-Build	Build	No-Build	Build	
LT-2	6	63	63	64	64	65	No
ST-10	1	50	50	53	52	54	No



Receiver ID	Number of Receivers Represented	Worst Hour Noise Levels, $L_{eq[h]}$ , dBA					Approaches/ Exceeds (A/E) NAC?
		2010	2015		2035		
		Existing	No-Build	Build	No-Build	Build	
ST-12	1	56	57	57	58	58	No
R1	1	57	57	60	59	61	No
R2	4	59	60	59	62	60	No

Source: Department, 2012h.

*Segment 3 – Valle Vista Avenue to Minahan Way*

Traffic noise modeling results for Category B land uses located within this segment of the Build Alternative are summarized in **Table 2.2.7-6**. Traffic noise levels were modeled at the ten measurement sites and at five additional modeling receivers identified as receivers R3 – R7.

Table 2.2.7-6 Segment 3, Modeled Noise Levels

Receiver ID	Number of Receivers Represented	Worst Hour Noise Levels, $L_{eq[h]}$ , dBA					Approaches/ Exceeds (A/E) NAC?
		2010	2015		2035		
		Existing	No-Build	Build	No-Build	Build	
LT-3	2	57	57	58	58	59	No
LT-4	6	63	63	63	64	64	No
ST-1	4	69	69	69	70	70	Yes
ST-2	14	60	61	61	61	61	No
ST-3	16	71	72	71	73	73	Yes
ST-5	3	69	69	69	70	71	Yes
ST-6	6	63	64	63	64	64	No
ST-7	3	64	64	63	64	64	No
ST-9	3	65	65	66	66	67	Yes
ST-11	1	65	65	65	66	66	Yes
R3	12	78	78	78	79	79	Yes
R4	3	76	76	76	77	77	Yes
R5	4	58	58	63	59	64	No
R6	3	62	62	67	63	68	Yes
R7	3	65	65	65	66	66	Yes

Source: Department, 2012h.

<sup>1</sup>Noise Increase Type: A/E = Approach or Exceed NAC, S=Substantial Increase (12 dBA or more).

Traffic noise levels at Receivers represented by measurement sites LT-3, LT-4, ST-2, ST-6, and ST-7 in **Figure 2-32** are calculated to remain below 64 dBA  $L_{eq[h]}$  and would not approach or exceed the NAC. Noise levels would not substantially increase as a result of the Build Alternative under future conditions in 2015 or 2035. Noise impacts were not identified for Category B land uses located west of the southbound on-ramp to I-80 from Redwood Parkway as these receivers are currently and would remain shielded by an existing noise barrier and topography. Category B land uses located in areas away from the Build Alternative (LT-3 and ST-6) would not be impacted by the Build Alternative. Noise abatement was not considered for receivers LT-3, LT-4, ST-2, ST-6, and ST-7.

Category B land uses represented by measurement/modeling sites ST-1, R3, and R4 are currently exposed to traffic noise levels in excess of the NAC, with hourly average noise levels during the worst-hour ranging from 69 to 78 dBA  $L_{eq[h]}$ . Worst-hour traffic noise levels at these receivers would be about 1 dBA  $L_{eq[h]}$  higher ranging from 70 to 79 dBA  $L_{eq[h]}$ .

Worst-hour average noise levels under existing conditions are approximately 69 to 71 dBA  $L_{eq[h]}$  at Category B residential outdoor use areas adjacent to Fairgrounds Drive at ST-3 and ST-5). A 2 dBA  $L_{eq[h]}$  increase in traffic noise levels is predicted at these receivers assuming 2035 Build conditions, resulting in worst-hour average noise levels of approximately 71 to 73 dBA  $L_{eq[h]}$ , exceeding the NAC by 4 to 6 dBA  $L_{eq[h]}$ . This is considered a noise impact that requires consideration of noise abatement. See discussion below.

The 2015 and 2035 Build conditions would remove several existing buildings located in the Moorland Street vicinity resulting in an increase of 2 to 6 dBA  $L_{eq[h]}$  above existing noise levels at ST-9, R5, and R6. The 2035 Build noise levels would also exceed the NAC at receivers ST-9 and R6, requiring consideration of noise abatement.

#### *Temporary Construction Impacts*

Noise generated by demolition related to the Build Alternative and construction activities would be a function of the noise levels generated by individual pieces of construction equipment, the type and amount of equipment operating at any given time, the timing and duration of construction activities, the proximity of nearby sensitive land uses, and the presence or lack of shielding at these sensitive land uses. Construction noise levels would vary on a day-to-day basis during each phase of construction depending on the specific task being completed.

Construction phases anticipated with the Build Alternative would include demolition, clearing and grubbing, earthwork, widening of Fairgrounds Drive, widening on- and off-ramps at the Fairgrounds Drive/SR 37 interchange, reconfiguration of ramps at the Redwood Parkway/I-80 interchange, relocation of Fairgrounds Drive/Redwood Parkway intersection, construction of cul-de-sacs at Moorland Street and Howard Avenue, construction of noise barriers, and paving. Each construction phase would require a different combination of construction equipment necessary to complete the task and differing usage factors for such equipment.

Build Alternative construction activities would be primarily concentrated at the Fairgrounds Drive/Redwood Parkway/I-80 interchange region and along Fairgrounds Drive. The reconfiguration of ramps and local roadways would at times bring construction activities within approximately 75 to 150 feet of adjacent Category B receivers.

**Table 2.2.7-7** presents the construction noise levels calculated for each major phase of construction, including the highest instantaneous sound level measure during a specific period ( $L_{max}$ ), and the average noise level during the measurement period ( $L_{eq[h]}$ ). In some instances, maximum instantaneous noise levels are calculated to be slightly lower than hourly average noise levels. This occurs because maximum instantaneous noise levels generated by multiple pieces of construction equipment are not likely to occur at the same time. Hourly average noise levels resulting from multiple pieces of construction equipment would be additive resulting in slightly higher calculated noise levels. Noise generated by construction equipment drops off at a rate of 6 dB per doubling of distance.

Table 2.2.7-7 Construction Equipment Noise Levels at 100 Feet

Construction Phase	Maximum Noise Level ( $L_{max}$ , dBA)	Hourly Average Noise Level ( $L_{eq[h]}$ , dBA)
Demolition	84	78
Earthwork	76	78
Paving	79	79
Structures (with Pile Driving)	95	89
Structures (without Pile Driving)	77	78

Source: Department, 2012h.

### No-Build Alternative

The existing and 2035 No-Build noise conditions are predicted to be almost equal in Segment 1. Although noise levels would increase for receivers in Segment 2 under the 2035 No-Build conditions, the noise levels would not approach or exceed the NAC. The 2035 Build and No-Build noise conditions are predicted to be almost equal in Segment 3. Many receivers in Segment 3 would experience noise levels approaching or exceeding the NAC under both the 2035 Build and No-Build conditions. The No-Build Alternative would make no physical or operational improvement to Fairgrounds Drive, nearby roadways, or interchanges, therefore, noise abatement for those areas already approaching or exceeding the NAC thresholds would not be considered for this alternative.

Implementation of the currently planned and funded land use projects within the noise study area would be subject to the same noise assessment as the Build Alternative. These projects would be required to comply with the local operation and construction guidelines regarding noise impacts, which would be determined under separate environmental review.

## Avoidance, Minimization, and/ or Mitigation Measures

None of the noise receivers within the Build Alternative area would be exposed to a substantial increase (greater than 12 dBA) in future predicted noise levels, 2015 and 2035, under the Build Alternative. Consequently, no adverse effects under NEPA were identified.

Receivers that exceed either State or Federal thresholds must be evaluated for potential abatement/mitigation measures. Noise abatement is considered only where frequent human use occurs and where a lowered noise level would be of benefit. Noise abatement must be predicted to provide at least a 5- dB minimum reduction at an impacted receiver to be considered feasible by Caltrans (i.e., the barrier would provide a noticeable noise reduction). Additionally, the Department's acoustical design goal for noise abatement is that noise abatement must be predicted to provide at least 7 dB of noise reduction at one or more benefited receivers. Noise abatement measures that provide noise reduction of more than 5 dB are encouraged as long as they meet the reasonableness guidelines.

Potential noise abatement measures identified in the Department protocol include:

- Avoiding the project impact by using design alternatives, such as altering the horizontal and vertical alignment of the project;
- Constructing noise barriers;
- Using traffic management measures to regulate types of vehicles and speeds;
- Acquiring property to serve as a buffer zone; and/or
- Acoustically insulating Activity Category D land uses.

The chosen abatement type for this Build Alternative would be the construction of noise barriers. A preliminary noise abatement analysis was conducted that identified the feasibility of constructing or replacing noise barriers to reduce traffic noise levels. According to the Department and FHWA policies, a noise barrier must provide a minimum 5 dBA reduction in traffic noise to be considered feasible. Furthermore, under the Department policies, noise barriers should interrupt the line of sight between a truck stack (assumed to be 11.5 feet high) and a receiver (assumed to be 5 feet above ground). If, during final design, conditions substantially change, noise barriers might not be provided.

The views and opinions of the residents living immediately adjacent to the project area and affected by the traffic noise would be considered in reaching a decision on noise abatement measures. The Department's policy is to not provide noise barriers if 50 percent or more of those affected residents do not want them. The opinions of these residents would be obtained through public and community meetings or other means, as appropriate. The final decision regarding noise abatement would be made upon completion of the project design and public involvement processes.

### Noise Abatement Decision Report

A Noise Abatement Decision Report (NADR) was prepared for the project using NEPA-23 CFR 772 and the Department's protocol, which requires that noise abatement be considered for projects that are predicted to result in traffic noise impacts. The NADR analysis was incorporated into the Draft Project Report (Department, 2012f).

The Department's protocol establishes a process for assessing the reasonableness and feasibility of noise abatement. Before publication of the draft environmental document, a preliminary noise abatement decision is made. The preliminary noise abatement decision is based on the feasibility of evaluated abatement and the preliminary reasonableness determination. If, during final design, conditions substantially change, noise barriers might not be provided. The final decision regarding noise barriers will be made upon completion of the project design and public involvement processes.

Noise abatement is considered only where frequent human use occurs and where a lowered noise level would be beneficial. Noise abatement would be acoustically feasible if it provides noise reduction of at least 5 dBA at receivers subject to noise impacts. Other non-acoustical factors relating to geometric standards (e.g., sight distances), safety, maintenance, and security also can affect feasibility. Additionally, the Department's acoustical design goal is to provide at least 7 dBA of noise reduction at one or more benefitted receivers.

To determine whether a proposed barrier is reasonable, the total reasonable allowance for that barrier must be greater or equal to the cost of the barrier. The reasonableness allowance is \$55,000 per benefitted receiver. A benefitted receiver is any receiver receiving a minimum of a 5-dBA reduction in noise levels from the proposed barrier.

Noise abatement was evaluated at impacted areas in Segment 3 and a total of five potential barriers were investigated, as illustrated in **Figure 2-31**. The primary focus of the investigation is on NAC Category B land uses where frequent human usage occurs and a lowered noise level would be of benefit. Noise barriers were evaluated at the following locations within Segment 3:

- Eastbound I-80 Edge of Shoulder (EOS)/Right of Way (ROW), (Noise Barrier 1)
- Eastbound Redwood Parkway ROW, (Noise Barrier 2)
- Southbound Fairgrounds Drive ROW, (Noise Barrier 3)
- Del Mar Avenue, (Noise Barrier 4)
- Southbound Fairgrounds Drive ROW, (Noise Barrier 5)

#### *Noise Barriers*

Based on preliminary design data, all noise barriers would reduce noise levels by at least 5 dBA at affected receivers. **Table 2.2.7-8** and the discussions below provide a summary of the acoustically feasibility and reasonableness of each noise barrier. Proposed noise barriers and associated affected receiver locations are depicted in **Figure 2-31**.

##### Noise Barrier 1: Eastbound I-80 Edge of Shoulder/Right-of-Way

By the year 2035, traffic noise levels at receivers ST-1, R3, and R4 are predicted to be between 70 and 79 dBA under the Build Alternative. This predicted noise level represents an increase of 1 dBA over existing conditions. Because the noise level is predicted to approach or exceed the NAC, noise abatement is considered in this area.

Noise barrier 1 is proposed along the eastbound I-80 edge of shoulder between Station 210+00 and Station 222+00. The noise barrier would transition from the eastbound I-80 edge of shoulder to the eastbound right-of-way and continue uphill to Station 225+00.

Table 2.2.7–8 Noise Abatement Summary

Noise Barrier	Barrier Height	Predicted Noise Reduction	Acoustically Feasible? (≥5 dBA reduction)	Number of Benefited Receivers	Total Reasonable Allowance	Estimated Construction Cost	Preliminary Recommendation for Incorporation?
Barrier 1	8 foot	3-6 dBA	Not for all receivers	15	\$825,000	\$1,338,000	No
	10 foot	5-9 dBA	Yes	19	\$1,045,000	\$1,491,000	No
	12 foot	6-11 dBA	Yes	19	\$1,045,000	\$1,619,000	No
	14 foot	7-12 dBA	Yes	19	\$1,045,000	Not estimated	--
	16 foot	7-13 dBA	Yes	19	\$1,045,000	Not estimated	--
Barrier 2	8 foot	4 dBA	No	--	--	--	--
	10 foot	6 dBA	Yes	3	\$165,000	\$179,000	Yes <sup>a</sup>
	12 foot	7 dBA	Yes	3	\$165,000	\$214,000	No
	14 foot	8 dBA	Yes	3	\$165,000	Not estimated	--
	16 foot	9 dBA	Yes	3	\$165,000	Not estimated	--
Barrier 3	8 foot	4-9 dBA	Not for all receivers	7	\$385,000	\$430,000	No
	10 foot	6-11 dBA	Yes	10	\$550,000	\$481,000	Yes
	12 foot	7-12 dBA	Yes	10	\$550,000	\$554,000	No
	14 foot	9-13 dBA	Yes	10	\$550,000	Not estimated	--
	16 foot	9-14 dBA	Yes	10	\$550,000	Not estimated	--
Barrier 4	6 foot	8 dBA	Yes	3	\$165,000	\$648,000	No
	8 foot	10 dBA	Yes	3	\$165,000	\$692,000	No
	10 foot	12 dBA	Yes	3	\$165,000	Not estimated	--
	12 foot	14 dBA	Yes	3	\$165,000	Not estimated	--
	14 foot	15 dBA	Yes	3	\$165,000	Not estimated	--
Barrier 5	8 foot	7 dBA	Yes	16	\$880,000	\$243,000	No <sup>b</sup>
	10 foot	9 dBA	Yes	16	\$880,000	\$292,000	No <sup>b</sup>
	12 foot	10 dBA	Yes	16	\$880,000	Not estimated	--
	14 foot	11 dBA	Yes	16	\$880,000	Not estimated	--
	16 foot	12 dBA	Yes	16	\$880,000	Not estimated	--

Source: Department, 2012f.

Notes: <sup>a</sup> Although the cost to construct Barrier 2 is more than the reasonable allowance, a 10-foot noise barrier is recommended for construction. Refer to discussion above.<sup>b</sup> Although the cost to construct Barrier 5 is less than the reasonable allowance, a noise barrier is not recommended for construction. Refer to discussion below.



The height of the modeled noise barrier varies in heights ranging from 8 feet to 16 feet tall. An 8-foot barrier would not provide a feasible noise reduction at ST-1, but would feasibly reduce noise levels at receivers R3 and R4. A 10-foot to 16-foot barrier would provide feasible noise reductions at the 19 Category B land uses represented by receivers ST-1, R3, and R4. A minimum 10-foot barrier would also provide at least 7 dB of noise reduction at one of more benefitted receiver and would break the line of sight from first-row receivers to truck stacks. Thus, noise barrier 1 would be acoustically feasible at a minimum height of 10 feet.

The reasonable allowance calculated for an 8-foot barrier, assuming 15 benefitted receivers, is \$825,000. The reasonable allowance calculated, assuming 19 benefitted receivers for the 10-foot and 12-foot barriers, is \$1,045,000. The estimated cost of construction for an 8-foot, 10-foot, and 12-foot barrier would be \$1,338,000, \$1,491,000, \$1,619,000, respectively. For all three estimated heights, the cost to construct would surpass the reasonable allowance amount. Because the cost of the barrier is more than the reasonable allowance, noise barrier 1 is not anticipated to be incorporated into the Build Alternative.

#### Noise Barrier 2: Eastbound Redwood Parkway ROW

By year 2035, traffic noise levels at receivers R7 is predicted to be 66 dBA under the Build Alternative. This predicted noise level represents an increase of 1 dBA over existing conditions. Because the noise level is predicted to approach or exceed the NAC, noise abatement is considered in this area.

Noise barrier 2 is proposed along the eastbound Redwood Parkway right-of-way between Station 221+00 and Station 227+00. A minimum 10-foot noise barrier would provide a feasible noise reduction (minimum 5 dB reduction). However, a 12-foot noise barrier would be necessary to provide at least 7dB of noise reduction at the three Category B land uses represented by R7. Thus, noise barrier 2 would be acoustically feasible at the 10-foot and 12-foot height.

The reasonable allowance calculated for all noise barrier heights, assuming three benefitted receivers, is \$165,000. The estimated construction cost of a 10-foot noise barrier is \$179,000, which is \$14,000 higher than the reasonable allowance. The estimated cost to construct a 12-foot barrier is \$214,000, which is \$49,000 higher than the reasonable allowance. During the initial public informational meeting held in January 2011, residents representing the receivers in this area indicated that noise was an issue and that noise barriers were desired. Thus, although the cost of the barrier is more than the reasonable allowance, a 10-foot noise barrier is recommended for construction.

#### Noise Barrier 3: Southbound Fairgrounds Drive ROW

By the year 2035, traffic noise levels at receivers ST-9, R5, and R6 are predicted to be between 64 and 68 dBA under the Build Alternative. This predicted noise level represents an increase of 2 to 6 dBA over existing conditions. Because the noise level is predicted to approach or exceed the NAC, noise abatement is considered in this area.

Noise barrier 3 is proposed along the property line of Moorland Street residential properties that would remain with the Build Alternative, along the northbound Moorland

Street right-of-way, and along a segment of westbound Redwood Parkway at the right-of-way. The noise barrier is proposed to replace the existing acoustical shielding that would be lost with the removal of homes on the east side of Moorland Street. The height of the modeled noise barrier varies in heights ranging from 8 feet to 16 feet tall. An 8-foot barrier would not provide a feasible noise reduction at ST-9, but would feasibly reduce noise levels at receivers R5 and R6. A 10-foot to 16-foot barrier would provide feasible noise reductions at the 10 Category B land uses represented by receivers ST-9, R5, and R6. Thus, to be considered acoustically feasible for all receiver locations, noise barrier 3 would need to be at least 10 feet in height.

The reasonable allowance calculated for an 8-foot barrier, assuming seven benefitted receivers, is \$385,000. The reasonable allowance calculated for the 10-foot and 12-foot heights, assuming ten benefitted receivers, is \$550,000. The estimated cost to construct an 8-foot, 10-foot, and 12-foot barrier would be \$430,000, \$481,000, and \$554,000, respectively. Of these, only the 10-foot barrier's cost to construct would be less than the reasonable allowance. Because the cost of the barrier is less than the reasonable allowance, this 10-foot barrier is likely to be incorporated into the Build Alternative.

#### Noise Barrier 4: Del Mar Avenue

By year 2035, traffic noise levels at receivers ST-5 is predicted to be 71 dBA under the Build Alternative. This predicted noise level represents an increase of 2 dBA over existing conditions. Because the noise level is predicted to approach or exceed the NAC, noise abatement is considered in this area.

Noise barrier 4 would be located at the terminus of Del Mar Avenue adjacent to Fairgrounds Drive. Noise barriers tested within the right-of-way were not feasible given that the receivers are situated approximately 30 feet above Fairgrounds Drive and overlooked I-80. Thus, noise barrier 4 was tested on private property at the top of the slope generally following the 220-foot elevation contour. At this location, a minimum 6-foot noise barrier would provide at least 8 dB of noise reduction at the 3 Category B land uses represented by receiver ST-5. Thus, noise barrier 4 would be acoustically feasible at the 6-foot height.

The reasonable allowance calculated for all noise barrier heights, assuming three benefitted receivers, is \$165,000. The estimated cost to construct a 6-foot and 8-foot barrier would be \$648,000 and \$692,000, respectively. Because the cost of the barrier is more than the reasonable allowance, noise barrier 4 is not anticipated to be incorporated into the Build Alternative.

#### Noise Barrier 5: Southbound Fairgrounds Drive ROW

By year 2035, traffic noise levels at receivers ST-3 is predicted to be 73 dBA under the Build Alternative. This predicted noise level represents an increase of 2 dBA over existing conditions. Because the noise level is predicted to approach or exceed the NAC, noise abatement is considered in this area.

Noise barrier 5 is proposed along the southbound Fairgrounds Drive right-of-way between Station 241+00 and Station 246+00. The proposed location of this noise barrier is on the inside of a tight radius curve at the back of a sidewalk flanked by driveways on either side

(see **Figure 2-31**). Receiver ST-3 represents approximately 16 Category B land uses in the apartment community southwest of the Fairgrounds Drive and Valle Vista Avenue intersection. A minimum 8-foot noise barrier would provide a feasible noise reduction (minimum 7 dB reduction). Thus, noise barrier 5 would be acoustically feasible at the 8-foot height.

The reasonable allowance calculated for all noise barrier heights, assuming 16 benefitted receivers, is \$880,000. The estimated cost to construct an 8-foot and 10-foot barrier would be \$243,000 and \$292,000, respectively. However, the construction of a noise barrier at this location would create a non-standard stopping sight distance for the Fairgrounds Drive southbound lanes and impair the corner-sight distances for vehicles exiting the apartment driveways. These factors render the barrier infeasible and construction of this noise barrier 5 is not recommended.

### **Minimizing Construction Noise**

To reduce potential noise effects resulting from construction, the following measures would be implemented during construction:

- Noise-generating construction activity shall be restricted to between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday. No construction activities should occur on weekends or holidays. If work is necessary outside of these hours, the Department shall require the contractor to implement a construction noise monitoring program and, if feasible, provide additional mitigation as necessary (in the form of noise control blankets or other temporary noise barriers, etc.) for affected receivers.
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment as far as possible from sensitive receivers when sensitive receivers adjoin or are near a construction project area.
- Utilize "quiet" air compressors and other "quiet" equipment where such technology exists.
- Prohibit unnecessary idling of internal combustion engines within 100 feet of residences.
- Avoid staging of construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems as far practical from noise sensitive receivers.
- Require all construction equipment to conform to Section 14-8.02, Noise Control, of the latest Standard Specifications. Section 14-8.02 states that construction noise shall not exceed an  $L_{max}$  of 86 dBA at 50 feet from job site activities between the hours of 9 PM to 6 AM.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities and distribute this plan to adjacent noise-sensitive receivers. The construction plan should also list the construction noise reduction measures identified in this study.

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## 2.3 BIOLOGICAL ENVIRONMENT

### 2.3.1 NATURAL COMMUNITIES

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

The City of Vallejo Tree Ordinance (290 N.C., as amended) requires that certain trees on City property must be identified and permitted prior to removal. Tree removal permits are issued by the City's director of Public Works. Protected trees must meet the following criteria to be protected under this ordinance: (1) be located within in the City roadway right-of-way or planting easement; (2) of a variety the City has on a past or current "Approved Street Tree List".

### Affected Environment

The following analysis is based on the Natural Environment Study (NES) prepared for the project 2012 (Department, 2012g).

The biological study area (BSA) for the project includes the physical footprint of the Build Alternative, including all areas where ground disturbance would occur under the Build Alternative (e.g., construction staging areas, demolition, earthmoving activities, etc.), areas of right-of-way to be obtained for the project, temporary access areas, and an area to the west of Fairgrounds Drive, between Coach Lane and Six Flags Discovery Kingdom Amusement Park. For the purposes of the California red-legged frog (CRLF) habitat assessment surveys, the survey area was extended beyond the BSA to meet the specific United States Fish and Wildlife Service (USFWS) or Department protocols (see **Subsection 2.3.2** and **Subsection 2.3.3** for further discussion of the affected environment for these specific resource areas). The BSA was defined to include the areas of direct and indirect potential effects that may occur when implementing the proposed Build Alternative.

Formal studies of biological resources within the BSA were conducted on the following listed survey dates:

- A habitat assessment for CRLF was conducted on December 10th, 2010.
- Eight protocol-level surveys for CRLF were conducted, including six breeding season surveys (four nighttime surveys/two daytime surveys) and two non-breeding season surveys (one nighttime survey/one daytime survey). Breeding season surveys were conducted on February 23, March 14, March 21 and March 31, 2011. Non-breeding season surveys were conducted on July 28, 2011.
- Field investigations were conducted on February 16-18th, 2011 to delineate water features, including wetlands and other Waters of the U.S.

- A reconnaissance survey to identify suitable habitat for special-status plants and to verify preliminary vegetation and land-cover classification was conducted on January 12, 2011. Two natural communities within the BSA provide suitable habitat for State-listed rare plants, and therefore a protocol-level survey was conducted on September 9, 2011, to determine the presence or absence of those State-listed species.
- A tree survey was conducted over a period of four site visits between September 28, 2011 and October 12, 2011.

An Essential Fish Habitat evaluation was not required for the Build Alternative because the dam that creates Lake Chabot prevents species of fish managed for commercial or recreational uses from accessing Rindler Creek.

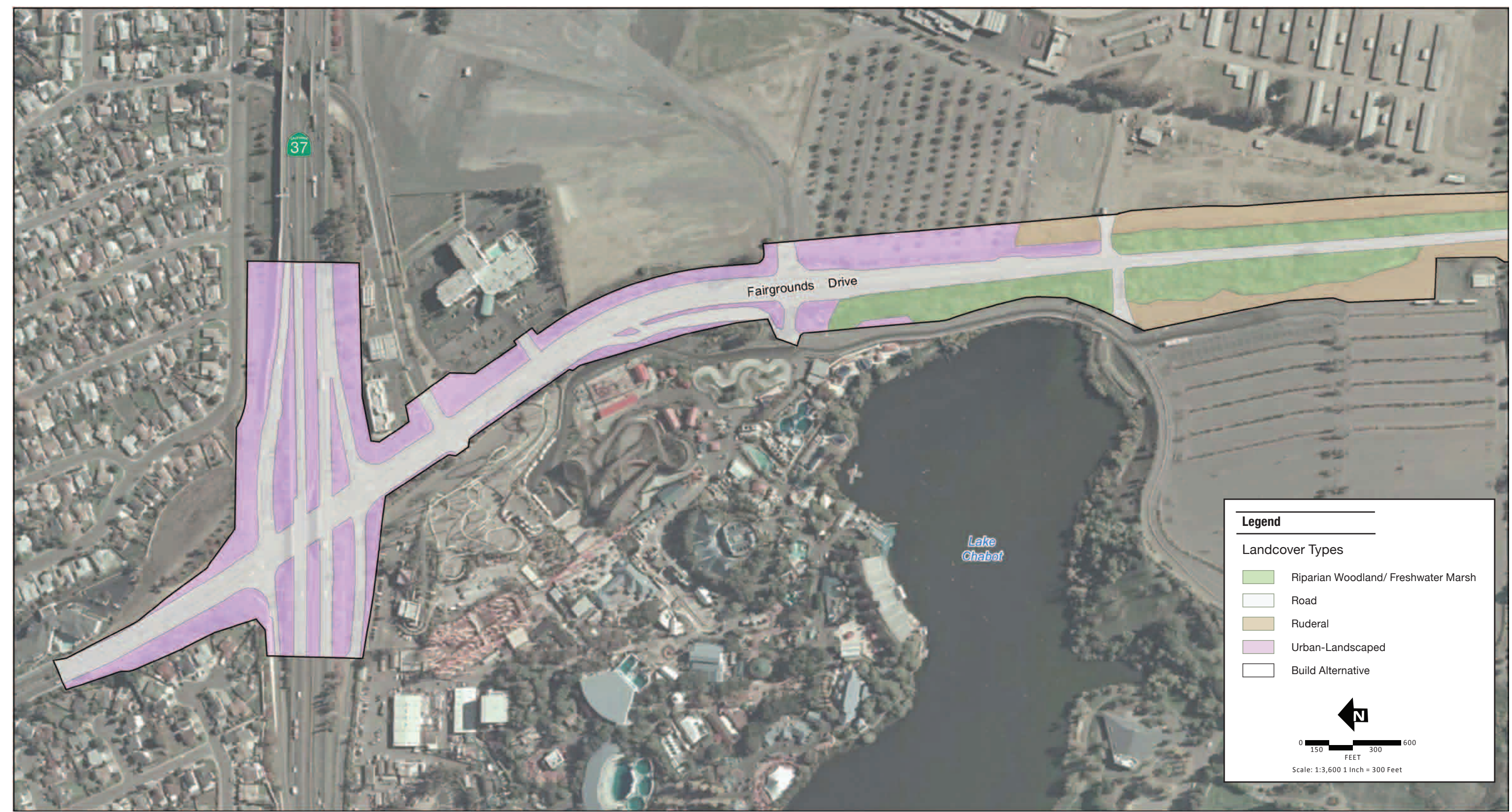
**Table 2.3.1-1** lists the natural communities present within the BSA (see **Figure 2-33a** and **2-33b**). Principal characteristics and general locations of these communities are described in this subsection. The vegetation types identified within the BSA support a variety of wildlife species, including mammals, birds, amphibians, reptiles, and fishes. Marsh habitats can provide habitat for fish nurseries, amphibians, aquatic reptiles, wading birds, waterfowl, and song birds. Riparian woodland can provide foraging, roosting, and nesting habitat for a variety of birds and provide cover and refuge sites for small mammals, amphibians, and reptiles. Detailed descriptions of each habitat and vegetation mapping are described in greater detail in the NES.

Table 2.3.1-1 Area of Vegetation and Land-Cover Classification Within the BSA and Estimated Areas of Impact

Land-Cover Type	Permanent Impact (Acres)	Temporary Impact (Acres)	Total	No Impact (Acres)	Total Within BSA
Freshwater Marsh	0.020	0.093	0.113	1.250	1.363
Perennial Stream	0.000	0.515	0.515	0.250	0.765
Riparian Woodland	0.000	1.423	1.423	2.599	4.022
Road	0.000	0.000	0.000	29.269	29.269
Ruderal	1.902	0.498	2.400	3.096	5.496
Seasonal Wetland	0.017	0.013	0.030	0.060	0.090
Urban Landscaped	9.805	11.062	20.867	12.678	33.545
Total Acreage	11.744	13.604	25.348	49.202	74.550

Source: Department, 2012g.





Landcover Types **Figure 2-33a**

Source: Department, 2012g.



*Figure 2-33a Landcover Types (back)*





Landcover Types **Figure** 2-33b

Source: Department, 2012g.



*Figure 2-33b Landcover Types (back)*

### **Riparian Woodland**

The 4.022 acres of riparian woodland community within the BSA includes the tree and shrub-dominated land cover found within the Rindler Creek corridor, which extends along the east and west sides of Fairgrounds Drive. The riparian woodland of the Rindler Creek corridor is composed of a dense growth of native and introduced evergreen and deciduous trees and shrubs, with an herbaceous understory. The dominant plants are large, deciduous willow shrubs that are native species, including Goodding's black willow (*Salix gooddingii*) and arroyo willow (*Salix lasiolepis*). Other native trees and shrubs are scattered throughout the area and include coast live oak (*Quercus agrifolia*), an evergreen tree; black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), a deciduous tree; and blue elderberry (*Sambucus mexicana*), a deciduous shrub. Introduced trees and shrubs present in lesser abundance include: Italian buckthorn (*Rhamnus alaternus*), cherry plum (*Prunus cerasifera*), silver wattle (*Acacia dealbata*), river red gum (*Eucalyptus sideroxylon*), glossy privet (*Ligustrum lucidum*), and pines (*Pinus* spp.). These non-native species appear to have migrated from nearby landscaping. Also present in the shrub layer are dense thickets of the non-native invasive Himalayan blackberry (*Rubus discolor*). The herbaceous understory includes native and non-native grasses and annual herbs, including: saltgrass (*Distichlis spicata*), wire rush (*Juncus patens*), teasel (*Dipsacus fullonum*), common groundsel (*Senecio vulgaris*), field marigold (*Calendula arvensis*), fiddle dock (*Rumex pulcher*) and poison hemlock (*Conium maculatum*).

Riparian woodland habitat can support a variety of wildlife species including mammals, birds, reptiles, and amphibians. Riparian habitats can also provide important migration corridors for wildlife. Common wildlife that is expected to occur within the riparian woodland habitat of the BSA includes Northern raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), American crow (*Corvus brachyrhynchos*), lesser goldfinch (*Carduelis psaltria*), western scrub jay (*Aphelocoma californica*), a variety of sparrows and towhees (*Emberizidae*), and Pacific tree frog (*Pseudacris regilla*). Cooper's hawk (*Accipiter cooperii*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), and western pond turtle (*Emys marmorata*) all have potential to occur within the Rindler Creek corridor. Non-native predatory species, such as fish and crayfish, were also found to inhabit Rindler Creek.

### **Freshwater Marsh**

Freshwater marsh is considered a natural community of special concern. Freshwater marsh habitat can provide habitat for fish, amphibians, aquatic reptiles, waterfowl, song birds, and wading birds. Common wildlife that could be expected to occur in the freshwater marsh habitat of the BSA includes passerine birds and Pacific chorus frog (*Pseudacris regilla*). California red-legged frog, foothill yellow-legged frog, and western pond turtle all have potential to occur in freshwater marsh habitat.

Nine freshwater marsh features, totaling 1.363 acres, were mapped within the BSA with the majority occurring in association with Rindler Creek and the backwater channels of Lake Chabot. Freshwater marsh vegetation within the BSA consists of open, mainly unshaded areas within the Rindler Creek corridor that have year-round standing water or

saturated soils. The freshwater marshes were largely vegetated with perennial emergent species, such as bulrush, water knotweed, and cattail. A few additional species, such as bull thistle, fringed willowherb, and Himalayan blackberry were also present.

### **Ruderal Vegetation**

Ruderal is the term used to describe roadside vegetation composed of primarily upland weedy, non-native grasses and forbs. It is distinguished from landscaped areas because it is highly disturbed and dominated by invasive weedy species. Ruderal vegetation is present along roadsides, within graded vacant lots, and within areas of open ground on the edges of the Six Flags Discovery amusement park property within the BSA. Non-native herbaceous species of these areas include: bristly ox-tongue (*Picris echioides*), burclover (*Medicago polymorpha*), cheeseweed (*Malva parviflora*), common groundsel, red-stemmed filaree (*Erodium cicutarium*), stinkweed (*Dittrichia graveolens*), teasel, smooth cat's-ear (*Hypochaeris glabra*), summer mustard (*Hirschfeldia incana*), wild radish (*Raphanus sativus*), and common mustard (*Brassica rapa*). Non-native grasses include: Harding grass (*Phalaris aquatica*), and annual bluegrass (*Poa annua*).

Ruderal habitats are capable of supporting a number of bird species associated with urban environments, and which are known to be tolerant of disturbance by human activities. Common wildlife that could be expected to occur in ruderal habitat include raccoon, Virginia opossum, striped skunk, American crow, and western fence lizard (*Sceloporus occidentalis*).

### **Urban/Landscaped**

The urban/landscaped areas within the BSA include areas with residential housing, small businesses, motels, gas stations, and other urban development. The dominant trees of the landscaped areas include mainly non-native species such as pines (*Pinus* spp.), eucalyptus (*Eucalyptus* spp.), fan palms (*Washingtonia* spp.), acacias and wattles (*Acacia* spp.), alders (*Alnus* spp.), maples (*Acer* spp.), ornamental pears (*Acer* spp.), liquidambar (*Liquidambar styraciflua*), ashes (*Fraxinus* spp.), and many others. A large number of species of non-native shrubs, perennial herbs, annual herbs, and grasses, also are common components of urban landscaping. Similar to the ruderal habitat described above, common wildlife that could be expected to occur in urban areas include raccoon, Virginia opossum, striped skunk, and American crow. Feral or free-roaming pets, such as dogs and cats, are also common.

### **Sensitive Natural Communities**

According to the California Natural Diversity Database (CNDDB) search of the United States Geological Survey (USGS) for 7.5-minute quadrangles Walnut Creek, Briones Valley, Richmond, Fairfield South, Cordelia, Benicia, Vine Hill, Cuttings Wharf, Mare Island, Mt. George, Fairfield North, and Napa. Two natural communities of special concern occur in the BSA: freshwater marsh and riparian woodland. The occurrence of these habitats is described above.



## Environmental Consequences

### **Build Alternative**

Two natural communities of special concern are identified within the BSA: freshwater marsh and riparian woodland. These communities consist of potentially jurisdictional Waters of the U.S., including wetlands (i.e., freshwater marsh), which are regulated by the United States Army Corp of Engineers (USACE), as well as waters of the State and riparian areas (i.e., Rindler Creek habitat) regulated by the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Game (CDFG)<sup>1</sup>. Adverse effects related to these two communities of special concern Waters of the U.S. are described in **Subsection 2.3.2** below, under wetlands and other Waters of the U.S.

### **Temporary Construction and Operational Impacts**

Impacts to riparian woodland community occur primarily in the area east of the current Fairgrounds Drive alignment, where Rindler Creek has an established riparian corridor. The riparian woodland along Rindler Creek includes approximately 151 trees that would be removed as part of the Build Alternative. This includes the removal of 32 native oak trees that are located within the landscaped areas along Fairgrounds Drive, and on private residential and commercial properties within the BSA.

### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway, or the connecting freeways within the BSA, and would therefore avoid the effects to natural communities associated with the Build Alternative.

## Avoidance, Minimization, and/or Mitigation Measures

The Build Alternative proposes to include on-site replacement of the wetlands (including freshwater marsh) and riparian woodlands associated with realignment of Rindler Creek see discussion in **Chapter 1.0, Proposed Project**. Replanting of native oaks within similar habitat areas of the BSA would be accomplished during the revegetation phase of the realignment process. The mitigation for oak tree removal will include appropriate replacement as part of revegetation of the realignment of Rindler Creek. The amount of replacement will be determined in consultation with the CDFG and documented in a streambed alteration agreement. Compliance with the CDFG agreements would mitigate any adverse effects to native oaks.

In accordance with the City of Vallejo Tree Ordinance, the project contractor(s) would identify any trees within City rights-of-way that would require local permitting prior to removal.

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<sup>1</sup> As of January 1, 2013, the California Department of Fish and Game (CDFG) changed its name to California Department of Fish and Wildlife (CDFW). Because the draft EIR/EA was published in September 2012, prior to the agency's name change, "CDFG" is referenced in relevant correspondence and discussion in order to maintain consistency with the project's administrative record.

### 2.3.2 WETLANDS AND OTHER WATERS

#### Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act [CWA (33 U.S.C. 1344)] is the primary law regulating wetlands and surface waters. The CWA regulates the discharge of dredged or fill material into waters of the United States (U.S.), including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

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

USACE issues two types of 404 permits: Standard and General permits. Nationwide permits, a type of General permit, are issued to authorize a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 CFR Part 230), and whether permit approval is in the public interest. The 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (Waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on Waters of the U.S., and not have any other significant adverse environmental consequences.

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

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development

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

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the **Subsection 2.2.2, Water Quality**, for additional details.

### Affected Environment

The following analysis is based on the NES approved in April 2012 (Department, 2012g). Wetland delineations were conducted within the BSA by consultant biologists on February 16-18, 2011. The delineations were conducted in accordance with USACE guidance. Where portions of wetlands fell within the BSA, the wetland delineation study area boundaries were extended to include the entire water feature.

A field review of the preliminary wetland delineation was conducted with the USACE on December 8, 2011. The USACE concluded that 2.268 acres of water features in the BSA are potential Waters of the U.S., including wetlands. A map of those jurisdictional aquatic features has been submitted to the USACE for verification. **Table 2.3.2-1** summarizes the potential jurisdictional waters within the BSA, by feature.

Table 2.3.2-1 Summary of Potential Jurisdictional Wetlands and Other Waters within the BSA

Type of Feature	Potential Jurisdictional Acreage
Wetlands	
Freshwater Marsh	1.363
Riparian forest mosaic	0.145
Seep	0.023
Ephemeral channel	0.002
Seasonal wetland	0.090
Perennial Stream	0.765
<i>TOTAL</i>	<i>2.268</i>

Source: Department, 2012g.

The water features listed in **Table 2.3.2-1** above are further described below. Detailed mapping of the potential jurisdictional areas is included in the *Preliminary Wetland Delineation Report*.

### **Freshwater Marsh**

Nine potentially jurisdictional freshwater marsh features, totaling 1.363 acres, were mapped within the BSA. Most of these features are associated with the shallow water areas of Rindler Creek, and appear to remain perennially wet. At the time of survey, these features contained up to 2 feet of standing water. These freshwater marsh features are likely considered jurisdictional waters because they are adjacent to and/or have connectivity with Rindler Creek. Also see description above under **Subsection 2.3.1** for more information on the freshwater marsh.

### **Riparian Forest Mosaic**

Two potentially jurisdictional riparian forest mosaic features (totaling 0.145-acre) occur within the BSA. The habitat is patchy “mosaic,” with some areas dominated by herbaceous species common to the “freshwater marsh” and/or “seasonal wetland” types, and other areas dominated by trees more common of “forest.” Both features are located in low-lying areas between Fairgrounds Drive and Six Flags Discovery Kingdom. These wetlands had saturated soils, and/or up to six inches of standing water at time of survey. These features are adjacent and/or connected to Rindler Creek. Therefore, these riparian forest mosaic wetlands likely qualify as jurisdictional Waters of the U.S.

### **Seasonal Wetlands**

Nine jurisdictional seasonal wetland features are present in the BSA (totaling 0.090-acre). Most of the seasonal wetland features within the BSA (6 of 9) appear to be man-made. Four seasonal wetlands are located in shallow depressions of the Solano County Fairgrounds “lawn”. Two seasonal wetlands occur in low-lying depressions in the landscaping on the east side of I-80. Three of the seasonal wetland features may be naturally created, and are adjacent and/or connected to Rindler Creek.

### **Seep**

One potentially jurisdictional seep feature occurs within the BSA (totaling 0.023-acre). This seep is located in an area of managed vegetation at the base of the Six Flags Discovery Kingdom property. The water in this area appeared to originate from a leaking irrigation valve; some rainwater was also present at the time of survey.

### **Perennial Stream**

Three jurisdictional perennial stream segments (totaling 0.765-acre) were mapped within the BSA. These segments are all portions of Rindler Creek. At the time of survey, Rindler Creek was approximately 20 feet wide in most segments, but wider in short segments (up to 45 feet wide). The creek was more than 5 feet deep in the center.

### **Ephemeral Channels**

One jurisdictional ephemeral channel feature is mapped within the BSA. This channel consists of a short (approximately 18 feet long and 4 feet wide, 0.002-acre) unvegetated erosion channel, where a seasonal wetland overflows into Rindler Creek. At the time of the survey, this feature contained approximately 1 inch of water. This channel is likely considered jurisdictional because of its connection to Rindler Creek.

## **Environmental Consequences**

### **Build Alternative**

#### *Temporary Construction Effects*

As described in **Chapter 1.0, Proposed Project**, a water diversion channel would be installed to maintain flow in the unaffected portions of Rindler Creek during construction. The freshwater marsh that is downstream of the proposed diversion channel is essentially at the same elevation as Lake Chabot, and thus the backflow from the lake provides a hydrologic connection that would remain unaffected by the construction activities. This would allow the freshwater marsh community to remain hydrated during the construction activities.

Water quality during construction would be protected by best management practices (BMPs) that would be developed and included in the Storm Water Pollution Prevention Plan (SWPPP) that would be prepared and approved prior to construction (see **Subsection 2.2.2, Water Quality**, for further details regarding this plan).

#### *Operational Effects*

In order to meet the purpose and need of the proposed project, Build Alternative impacts to Waters of the U.S., CDFG streambeds, and riparian habitat would primarily be related to the fill needed to create roadbed for the proposed widening of Fairgrounds Drive. In the area of Rindler Creek and Lake Chabot, the proposed widening of Fairgrounds Drive would occur to the east of the existing roadway, which would avoid direct effects to the freshwater marsh features/seasonal wetlands and other biological resources immediately adjacent to the west side of Fairgrounds Drive. Furthermore, previously identified archaeological resources were known to exist on the west side of Fairgrounds Drive near Lake Chabot and influenced the Build Alternative.

As part of the Build Alternative, the existing portion of Rindler Creek along the eastside of Fairgrounds Drive and north of Coach Lane would be realigned to be immediately east of the widened roadway. The location for the realigned Rindler Creek was selected because it would avoid impacts to biological and cultural resources located to the west of Fairgrounds Drive. The realigned Rindler Creek would be slightly larger than the existing creek and re-vegetated to maintain hydrological and biological function. The impacted jurisdictional water features to the east of Fairgrounds Drive (totaling approximately 0.621 acres) would be restored on-site at a 1:1 replacement ratio. Impacts to the jurisdictional water features and freshwater marsh communities associated with Rindler Creek would thereby be avoided through the complete on-site replacement of the affected creek segment. The procurement of on-site restoration for impacts to these areas would be permitted and verified by the appropriate regulatory oversight agencies prior to

construction. The on-site restoration of Rindler Creek is anticipated to provide satisfactory mitigation for impacts to riparian habitat, including the removal of 151 trees. Restoration on-site will also ensure that functions, such as water flow through the BSA, will continue unchanged.

**Table 2.3.2-2** summarizes the impacts to other potential jurisdictional waters within the BSA (not associated with impacts related to the realignment of Rindler Creek).

Table 2.3.2-2 Impacts to Potential Jurisdictional Wetlands outside of Proposed Rindler Creek Realignment

Type of Feature	Potential Jurisdictional Acreage
Wetlands	
Freshwater Marsh	0.020
Riparian forest mosaic	0
Seep	0
Ephemeral channel	0.002
Seasonal wetland	0.017
<i>TOTAL</i>	<i>0.039</i>

Source: Department, 2012g.

Impacts to potential jurisdictional water features outside of the Rindler Creek realignment area (0.039 acres) would not be restored on site as part of the Build Alternative, and are subject to the provisions of **Mitigation Measure BIO-1** below.

### No-Build Alternative

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway or the connecting freeways within the BSA. Implementation of the currently planned and funded transportation projects outside the BSA but within the project region would be subject to the same potential presence of jurisdictional waters as the Build Alternative, since they would occur in the same general region. These projects would be required to comply with the USACE, RWQCB, and CDFG requirements regarding protected Waters of the U.S., should those features be identified within areas that would be directly or indirectly affected. The potential presence of jurisdictional waters in areas outside of the BSA would be determined under separate environmental review.

### Only Practicable Finding

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



Because of the steep grades, developed land uses and water features on either side of Fairgrounds Drive, there are no alternatives that would avoid impacting wetland resources. Alternatives to widen Fairgrounds Drive to the west were initially considered during the development of the proposed project; however, because of the presence of previously identified archaeological resources on the west side of Fairgrounds Drive near Lake Chabot and the presence of higher quality freshwater marsh and riparian forests in this area (in comparison to the east side of Fairgrounds Drive), widening to the west was determined to not be feasible. While widening Fairgrounds Drive to the east would impact a portion of the man-made Rindler Creek, this is considered to be preferable to impacting the wetland to the west, because relocation of the creek would result in a smaller acreage impact to wetlands, the open water portion of the impact can be fully restored immediately adjacent to the existing channel, and on-site restoration of the riparian forest cover is more likely to be successful than on-site restoration of wetlands similar to those on the west. Furthermore, widening to the east would have the least amount of physical disturbance to wetlands and there are no known cultural resources.

As discussed in **Chapter 1, Proposed Project**, the Build Alternative includes on-site replacement of the wetlands (including freshwater marsh) and riparian woodlands associated with Rindler Creek by realigning the creek to just east of the widened roadway. The revegetation phase would also include replanting of native oaks. Furthermore, **Mitigation Measure BIO-1** (Compensatory Mitigation for Jurisdictional Water Features) states that any impacts to jurisdictional water features, including relocation of Rindler Creek, shall be subject to formalized mitigation requirements of the regulatory agencies, including the RWQCB. A conceptual restoration and mitigation plan shall be prepared prior to permit applications to regulatory agencies. The Department and STA will work with the RWQCB and USACE to ensure that the proposed mitigation requirements adequately capture all temporary and permanent impacts to Rindler Creek. The on-site restoration of Waters of the U.S. combined with the implementation of other components of the conceptual restoration and mitigation plan will ensure no net loss of functions and values of the creek occur.

As a result, the proposed Build Alternative encompasses the best possible design, based on the predicted 2035 traffic conditions and physical features of the area. Therefore, based on the above considerations, the Build Alternative is the least environmentally damaging practicable alternative (LEDPA) and includes measures to reduce harm to wetlands.

### Avoidance, Minimization, and/or Mitigation Measures

To avoid and minimize effects to the water quality of the surrounding wetlands and Waters of the U.S., the Build Alternative includes a number of general measures that are considered part of the project design (see **Chapter 1.0, Proposed Project**, of this EIR/EA). The following measures would be implemented prior to and during construction activities, and would be included as part of the special provisions of the construction bid package.

- Water quality would be protected by BMPs to be described in the Storm Water Pollution Prevention Plan (SWPPP) to be prepared prior to construction of the Build Alternative (see **Subsection 2.2.2, Water Quality**).

- All grindings and asphaltic-concrete waste would be stored within previously disturbed areas absent of habitat and at a minimum of 150 feet from any aquatic habitat, culvert, or drainage feature.
- All areas that are temporarily affected during construction or where removed roadway is restored would be revegetated with an assemblage of native grass, shrub, and tree species.

#### **Mitigation Measure BIO-1: Compensatory Mitigation for Jurisdictional Water Features**

Any impacts jurisdictional water features that cannot be recreated on-site as part of the relocation of Rindler Creek shall be subject to formalized mitigation requirements of the regulatory agencies. A conceptual restoration and mitigation plan shall be prepared prior to permit applications to regulatory agencies. The on-site restoration of Waters of the U.S. combined with the implementation of other components of the conceptual restoration and mitigation plan will ensure no net loss of functions and values of Waters of the U.S.

The off-site mitigation ratio proposed for Waters of the U.S., including wetlands, under jurisdiction of the USACE, is 3:1 acres of mitigation per acre of permanent impact. Temporary impacts are proposed for mitigation at 1:1 acres of mitigation to impact.

Compensatory mitigation requirements among agencies are not cumulative. Mitigation acreage can be used to satisfy the requirements of multiple agencies, just as a single acre of impact to an existing resource may result in multiple requirements by agencies with varying jurisdictions. In summary, a single acre of wetland mitigation may satisfy both State and Federal agency mitigation requirements, if the characteristics of the wetland meet the definitions of each agency.

An estimate of the mitigation requirement is presented in **Table 2.3.2-3**.

**Table 2.3.2-3 Proposed Wetland Mitigation for Estimated Impacts to USACE Jurisdictional Areas**

Impacts	Impact		Mitigation (acres)	
	Permanent Impact	Temporary Impact	3:1 ratio (Off Site)	1:1 ratio (On Site)
Rindler Creek Realignment	0	0.621	-	0.621
All Other Build Alternative Improvements	0.039	0	0.117	-
<b>TOTAL</b>	<b>0.039</b>	<b>0.621</b>	<b>0.117</b>	<b>0.621</b>

Source: Department, 2012g.

### 2.3.3 PLANT SPECIES

#### Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species, **Subsection 2.3.5, Threatened and Endangered Species**, in this document for detailed information regarding these species.

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

The regulatory requirements for FESA can be found at 16 USC Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

#### Affected Environment

The following analysis is based on the NES prepared for the project in 2012 (Department, 2012g).

The identification of special-status plant species with potential to occur in the region was based on a search of the USFWS Species List Database, the CNDDDB, and the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants for 7.5-minute quadrangles Walnut Creek, Briones Valley, Richmond, Fairfield South, Cordelia, Benicia, Vine Hill, Cuttings Wharf, Mare Island, Mt. George, Fairfield North, and Napa.

The database searches identified 11 special-status plant species that could potentially occur in the region; however, no Federally-listed plant species has the potential to occur within the BSA. As part of the NES, a botanical survey was conducted in 2011 to identify the presence of special-status plants within the BSA. No special-status plants were identified. **Table 2.3.3-1** provides a summary of the special-status plant species which were considered to have a potential to occur within the suitable habitat of the BSA, and which were the focal species of the plant surveys.

Table 2.3.3-1 Special-status Plants Considered to have Potential to Occur within Suitable Habitat of the BSA

Common Name	Scientific Name	Conservation Status (Fed/CA/California Rare Plant Rank)
Pappose tarplant	<i>Centromadia parryi</i> ssp. <i>parryi</i>	- / - / 1B.2
Bolander's water hemlock	<i>Cicuta maculata</i> var. <i>bolanderi</i>	- / - / 2.1
Diablo helianthella	<i>Helianthella castanea</i>	- / - / 1B.2
Hayfield tarplant	<i>Hemizonia congesta</i> ssp. <i>congesta</i>	- / - / 1B.2
Loma Prieta hoita	<i>Hoita strobilina</i>	- / - / 1B.1
Northern California black walnut	<i>Juglans hindsii</i>	- / - / 1B.1
Delta tule pea	<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	- / - / 1B.2
Mason's lilaeopsis	<i>Lilaeopsis masonii</i>	- / CR / 1B.1
Marin knotweed	<i>Polygonum marinense</i>	- / - / 3.1
Suisun Marsh aster	<i>Symphyotrichum lentum</i> (= <i>Aster lentus</i> )	- / - / 1B.1
Saline clover	<i>Trifolium hydrophilum</i>	- / - / 1B.2

Source: Department, 2012g.

Notes: For the California Rare Plant Rank—Rank 1B.1: Plants that are rare, threatened, or endangered in California and elsewhere; these plants are seriously threatened in California. Rank 1B.2: Plants that are rare, threatened, or endangered in California and elsewhere; these plants are fairly threatened in California. Rank 2.1: Plants that are rare, threatened, or endangered in California, but more common elsewhere; these plants are seriously threatened in California. Rank 3.1: Plants about which we need more information, but are seriously threatened in California.

## Environmental Consequences

### Build Alternative

Since there are no known special-status plant species occurrences within the BSA, there would be no adverse effects from the proposed Build Alternative.

### No-Build Alternative

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway or the connecting freeways within the BSA. Implementation of the currently planned and funded transportation projects outside the BSA but within the project region would be subject to the same potential presence of special-status plant species as the Build Alternative, since they would occur in the same general region. These projects would be required to comply with the USFWS and CDFG requirements regarding protected plant species, should those species be identified within areas that would be directly or indirectly affected. The potential presence of special status plant species in areas outside of the BSA would be determined under separate environmental review.

## Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are needed.

### 2.3.4 ANIMAL SPECIES

#### Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in **Subsection 2.3.5** below. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

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

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code
- Section 3503 of the Fish and Game Code

The BSA is not located within an area protected by a habitat conservation plan.

#### Affected Environment

The identification of special status animal species with potential to occur in the region was based on a search of the USFWS Species List Database and the CNDDDB for the thirteen USGS quadrangles surrounding the BSA, as well as field reconnaissance surveys, habitat assessments, and the wetland delineation survey completed for the project. The results of these efforts are further discussed in the appropriate sections below, and are documented in the NES.

The database searches identified 69 special-status wildlife species that could potentially occur in the vicinity of the BSA. Table 3 of the NES lists each of these species and describes whether or not the species could occur in the BSA. Of these 69 species, 4 are considered to have a moderate to high potential for occurring within the BSA, 1 species for

which a protocol-level survey was conducted with negative findings, and 1 species confirmed present during the field surveys. These include:

- **Monarch butterfly** (*Danaus plexippus*), a species tracked in the CNDDDB.
- **California red-legged frog** (*Rana draytonii*), a Federally threatened species and a California Species of Special Concern.
- **Western pond turtle** (*Emys marmorata*), a California Species of Special Concern.
- **Cooper's hawk** (*Accipiter cooperii*), a species tracked in the CNDDDB.
- **White-tailed kite** (*Elanus leucurus*), a California Fully Protected Species.
- **Saltmarsh common yellowthroat** (*Geothlypis trichas sinuosa*), a California Species of Special Concern.

California red-legged frog is listed as a Federally threatened species and is described in **Subsection 2.3.5**, Threatened and Endangered Species. The remaining four special-status species are described below.

### **Monarch Butterfly**

Monarch butterflies migrate long distances from summer to winter roosting grounds and produce four generations of butterflies along their route. During the spring and summer, this species can be found in open fields and meadows with milkweed, the larval host plant. During winter monarchs can be found on the coast of southern California and at high altitudes in central Mexico. Monarchs gather at their winter locations generally starting in November and roost in clusters in the trees. In spring, monarchs will reproduce and their offspring will make the return trip to the north. This species prefers dense, wind-protected tree groves, such as eucalyptus, Monterey pine and/or Monterey cypress found near the coast from northern Mendocino, California to Baja California, Mexico.

No active monarch butterfly roosts were observed during reconnaissance or protocol-level surveys for California red-legged frog, rare plants or during the tree survey.

No occurrences of milkweed were observed during the rare-plant survey, which indicates that there is no suitable larval food source on-site, and that reproduction of monarch butterflies would not occur in the BSA.

### **Western Pond Turtle**

Western pond turtles require still or slow-moving temporary and permanent waters such as ponds, freshwater marshes and pools in perennial streams. They favor habitats with large amounts of emergent logs or boulders, where they aggregate to bask in the sun. Individuals may remain active all year and sometimes move overland for distances of more than 300 feet to find a suitable nesting areas site. These turtles generally lay their eggs in open areas that are on dry slopes with soils rich in silt and clay, and the laying period is from April to July.

Western pond turtle observations were recorded at the mouth of Rindler Creek during the field surveys for California red-legged frog, and were reportedly present within the Rindler Creek channel, on the east side of Fairgrounds Drive, near the headwall for the culverts that direct water to flow beneath the roadway toward Lake Chabot. For the most part, the



freshwater ponds, streams, and irrigation ditches within and adjacent to several of the proposed Build Alternative improvements provide suitable habitat for this species, and are presumed occupied due to the observation in Rindler Creek.

### **Cooper's Hawk**

Cooper's hawk is a medium sized hawk of forests and meadows, but has adapted its lifestyle to become a common species in the San Francisco Bay Area's suburban, and urban zones. The species builds nests of sticks placed in mature landscaping trees, particularly sycamore, and hunts for house sparrows and other small passerines in residential yards and other small open spaces in the neighborhoods of the Bay Area. The East Bay has one of the highest recorded densities of this species.

There were no stick nests observed within the BSA during field surveys conducted for this project. However, the tree survey identified numerous trees that would be suitable for Cooper's hawk nesting habitat.

### **White-tailed Kite**

White-tailed kites inhabit open lowland valleys and low, rolling foothills. They forage in grasslands, marshes, riparian edges, and cultivated fields where prey species (mainly voles and other small mammals) are relatively abundant. White-tailed kites typically nest on the tops of trees in close proximity to good foraging locations. The CNDDB does not contain any nesting records less than 5 miles from the BSA, but this may be due to under-reporting for this fairly common species of raptor.

Natural and landscaped annual grasslands are located along the I-80 and SR-37 corridors, and may provide ideal foraging habitat for white-tailed kite. The BSA contains trees large enough to support a nest of the white-tailed kite, and the grasslands in the area would provide suitable foraging habitat for a pair of breeding kites.

No observations of white-tailed kites were recorded in the BSA during the field surveys conducted for the project.

### **Saltmarsh Common Yellowthroat**

The saltmarsh common yellowthroat occurs solely around the nine counties surrounding the San Francisco Bay. The species can inhabit a range of habitats from saltmarsh, wooded marsh, freshwater marsh and even into uplands, but is never far from water. The species can utilize small patches of habitat, including overgrown ditches and swales.

The freshwater marsh and riparian woodland land-cover types within the BSA are considered to be suitable habitat for this species.

There were no observations of saltmarsh common yellowthroat during the field surveys conducted for the project.

## **Environmental Consequences**

### **Build Alternative**

No impacts to monarch butterflies are expected, as they are unlikely to establish a roost in the BSA. In the unlikely event that a roost is discovered, the trees in which the roost occurs may be removed.

The realignment of Rindler Creek may result in impacts to individual western pond turtles that may be present within the creek during earthmoving operations to backfill the current channel. If earthmoving occurs during the reproductive period, eggs that have been laid along banks within the BSA could be damaged or destroyed.

Tree removal for the Build Alternative may reduce the number of potential nesting trees for Cooper's hawk, white-tailed kites, and saltmarsh common yellowthroat. A temporary reduction in available nesting habitat may occur during the realignment of the Rindler Creek channel. The alignment of the channel would experience a period of low vegetation cover until after the plant establishment period. After the vegetation of the riparian corridor and associated freshwater marsh has returned to similar densities, there is unlikely to be any remaining impact to the sensitive bird species likely to be present in the BSA.

### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway or the connecting freeways within the BSA. Implementation of the currently planned and funded transportation projects outside the BSA but within the project region would be subject to the same potential presence of special-status animal species as the Build Alternative, since they would occur in the same general region. These projects would be required to comply with the USFWS and CDFG requirements regarding protected animal species, should those species be identified within areas that would be directly or indirectly affected. The potential presence of special status animal species in areas outside of the BSA would be determined under separate environmental review.

### **Avoidance, Minimization, and/or Mitigation Measures**

To avoid and minimize effects to the special-status animal species and their associated habitats, the Build Alternative includes a number of general measures that are considered part of the project design (see **Chapter 1.0**). The following measures would be implemented prior to and during construction activities, and would be included as part of the special provisions of the construction bid package.

- The limits of the construction zones would be delineated with high visibility temporary fencing at least 4 feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment outside the construction footprint. The fencing would be removed only when all construction equipment is removed from the site. No project activities would occur outside the delineated Build Alternative construction area.
- Except when necessary for construction, driver or pedestrian safety, lighting of the construction areas by artificial lighting during night-time hours would be minimized to the maximum extent practicable.
- To eliminate an attraction to wildlife, all food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed daily from the construction areas.

- To avoid injury or death of wildlife, no firearms would be allowed in the construction areas except for those carried by authorized security personnel, or local, State, or Federal law enforcement officials.
- To prevent harassment, injury or mortality of wildlife, no pets will be permitted in the construction areas.
- Nesting bird surveys would be conducted prior to clearing and grubbing activities that occur during the bird nesting season, which shall be specified as February 1 to August 31. When active bird nests are recorded, a buffer area would be established in which no project-related activities that may result in disturbance will be allowed. A qualified biologist would be consulted in order to establish a suitable buffer that is considered adequate to protect the nest from disturbance of project-related activities.
- In conjunction with nesting bird surveys, which will be conducted prior to tree removal or clearing and grubbing activities that occur between February 1 to August 31, biologists will record observations of roosting monarch butterflies. It is highly unlikely that roosts would occur in the area, but in the event that a roost is located, qualified biologist would be consulted in order to establish a suitable buffer that is considered adequate to protect the nest from disturbance of project-related activities.
- A biological monitor would be present during dewatering and backfill of Rindler Creek to capture and relocate western pond turtles. Western pond turtles that are captured shall be released outside the BSA in the lower segment of Rindler Creek. The capture and relocation of turtles would reduce the potential mortality of individuals that may be present. Relocation within the same creek is unlikely to result in mortality, because the turtles are typically mobile within the channel, and are generally robust.

### 2.3.5 THREATENED AND ENDANGERED SPECIES

This section addresses species listed or eligible for listing as threatened or endangered. The USFWS list of federally-listed species for the study area is provided in **Appendix E**.

#### Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement.

Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Another Federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 19083, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

## Affected Environment

As previously discussed in **Subsection 2.3.4, Animal Species**, based on the USFWS and CNDDB database review, the CRLF was determined to have a moderate to high potential for occurring within the BSA. CRLF is listed as a Federally threatened species and designated as a California Species of Special Concern. The BSA is located within the historical and current potential range of this species; however, it is not within designated CRLF critical habitat. Historically, CRLF populations were found from Shasta County to Baja California, along both the Coast Range and the western slopes of the Sierra Nevada. The current range is greatly reduced, with a few highly localized populations in the Sierra Nevada, and most remaining populations occurring along the California coastline from Marin County to Ventura County.

CRLF primarily occurs in perennial or ephemeral ponds, pools, and streams where water remains long enough (14-28 weeks) for breeding and metamorphosis of young. Specific breeding sites include streams, creeks, ponds, marshes, sag ponds, deep pools, backwater areas, dune ponds, lagoons, and estuaries.

During wet seasons, frogs can move long distances between habitats, traversing upland areas or ephemeral drainages. Dispersal distances are typically less than 0.3 mile. Seeps and springs in open grasslands can function as foraging habitat or refugia for migrating frogs.

Following USFWS guidance, the site assessment included all potential CRLF habitats within the 1 mile radius of the proposed Build Alternative improvements. These areas were visited, photographed, and assessed for the potential presence of this species. Based upon the results of the site assessment, it was determined that there is potential for this species to occur within the BSA. To verify species presence, surveys were implemented.<sup>2</sup> This included six breeding season surveys (four nighttime surveys/two daytime surveys) and two non-breeding season surveys (one nighttime survey/one daytime survey). Breeding season surveys were conducted on February 23, March 14, March 21 and March 31, 2011. Non-breeding season surveys were conducted on July 28, 2011. California red-legged frogs were not observed during the surveys.

Based on the negative results of the CRLF surveys, this species is considered to be absent within the BSA.

## Environmental Consequences

### **Build Alternative**

The Build Alternative has no expected effects to California red-legged frogs because the field surveys found negative results, and the species is considered to be absent from within the BSA.

Impacts to wetlands, as identified in **Subsection 2.3.2, Wetlands and Other Waters**, could affect areas considered to be suitable habitat for the CRLF. The design of the Build Alternative would minimize potential impacts to suitable habitat for the CRLF by confining roadway expansion along Fairgrounds Drive to a single side of the existing alignment. Jurisdictional wetlands, which are also considered suitable habitat for the CRLF, will be recreated onsite to the degree feasible, and mitigation credits will be purchased offsite to mitigate for remaining acreage of wetlands.

### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway or the connecting freeways within the BSA. Implementation of the currently planned and funded transportation projects outside the BSA but within the project region would be subject to the same potential presence of special-status animal species as the Build Alternative, since they would occur in the same general region. These projects would be required to comply with the USFWS and CDFG requirements regarding protected animal species, should those species be identified within areas that would be directly or indirectly affected. The potential presence of special status animal species in areas outside of the BSA would be determined under separate environmental review.

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<sup>2</sup> The field methods and schedule of the surveys conformed to the revised guidance published by the USFWS (USFWS 2005) for surveys to confirm the presence or absence of the California red-legged frog.

## Avoidance, Minimization, and/or Mitigation Measures

Implementation of the mitigation measures identified in **Subsection 2.3.2, Wetlands and Other Waters**, regarding the replacement of jurisdictional wetlands, would avoid impacts to suitable habitat for the CRLF.

Due to the timing of the current surveys and the future construction dates, the Department expects to conduct a follow-up site assessment and request USFWS approval for subsequent surveys prior to implementation of the project.

### 2.3.6 INVASIVE SPECIES

#### Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999 directs the use of the state’s noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

#### Affected Environment

As described in **Subsection 2.3.1, Natural Communities**, the BSA is already colonized by numerous invasive species of plant and wildlife.

#### Environmental Consequences

##### **Build Alternative**

The Build Alternative is expected to have a minimal effect on the distribution of invasive species within the BSA. The area is already colonized by numerous invasive species of plant and wildlife, and the proposed improvements are not expected to result in the colonization of additional species. None of the species on the California list of noxious weeds is currently used by the Department for erosion control or landscaping.

In order to promote native species within the BSA, the riparian corridor of the proposed realignment of Rindler Creek would be revegetated with native plant species.

In order to reduce the occurrence of non-native wildlife, red-eared slider (a nonnative species of turtle) that may be captured incidental to proposed relocation of the native Western pond turtle, would not be released.

##### **No-Build Alternative**

The No-Build Alternative would make no physical or operational improvements to Fairgrounds Drive, Redwood Parkway or the connecting freeways within the BSA. Construction activities associated with the currently planned and funded transportation projects outside the BSA but within the project region would have the same potential to



introduce or spread noxious weeds (non-native, invasive plants) into currently uninfested areas within or adjacent to the BSA. However, the same avoidance measures prescribed by the Department and E.O. 13112 would be applicable to these projects; thereby reducing potential impacts related to invasive species.

### Avoidance, Minimization, and/or Mitigation Measures

In compliance with the Executive Order on Invasive Species, EO 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the Build Alternative will not use species listed as noxious weeds.

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## 2.4 CUMULATIVE IMPACTS

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

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

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

### 2.4.1 CUMULATIVE ANALYSIS

This cumulative analysis determines whether the Build Alternative in combination with other approved or foreseeable projects would result in a significant cumulative impact, and, if so, whether the Build Alternative's contribution to the cumulative impact would be considerable. Reasonably foreseeable future projects include land use developments and other transportation improvements that are planned and funded and would be located near the proposed Build Alternative improvements.

Planned land use developments would include:

- Redevelopment of the Solano Fairgrounds Property
- Winco Foods Store

Cumulative traffic volumes were prepared, based on the latest version of the Solano-Napa Phase II countywide transportation model. Modifications to the model were made to improve the representation of the roadway network within the traffic study area, and to ensure that the model accurately reflected planned and funded land-use development and transportation projects expected to be in place by 2015 and 2035.

### 2.4.2 ISSUES WITH NO ADVERSE EFFECT

If a project would not result in a direct or indirect impact on a resource, then it will not contribute to a cumulative impact on that resource. The environmental resource areas for which a project has been found to have no adverse effect include parks and recreational facilities, coastal zone, wild and scenic rivers, farmlands/timberlands, utilities, emergency services, and energy.

The impact used in the cumulative impact analysis is the net impact (i.e., Build Alternative impact minus proposed minimization and/or mitigation measures). For resource areas where the impact would be fully offset by the proposed minimization and/or mitigation measures, there is no contribution to cumulative impacts from the project. The environmental analysis conducted for the project has determined that the project would not result in a net impact on any resource, with the exception of noise. A discussion of potential impacts to jurisdictional wetlands and other water features is also included in this section to document how the proposed avoidance and mitigation measures in **Subsection 2.3.2** would completely offset adverse effects from the Build Alternative.

Without the Build Alternative, much of the local roadway network operations would deteriorate to unacceptable levels of service, given the estimated traffic volumes generated by the approved development and planned growth in the area. The Build Alternative would have a beneficial impact on cumulative traffic conditions, as the proposed improvements are expected to relieve congestion and improve traffic flow on the local roadway network (See **Subsection 2.1.3**).

#### Noise

The resource study area for noise is equivalent to the noise study area evaluated in **Subsection 2.2.7**, and encompasses all developed land uses surrounding the proposed Build Alternative improvements, with a focus on noise-sensitive receivers. The noise study conducted for the project (see **Subsection 2.2.7**) utilized traffic volumes based on the latest version of the Solano-Napa Phase II countywide transportation model (as modified to ensure that the model accurately reflected planned and funded land-use development and transportation projects expected to be in place by 2015 and 2035). As such, the noise study conducted for the project analyzed cumulative conditions within the study area.

For highway transportation projects with FHWA (and the Department, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. As such, this section focuses on the relevant noise thresholds established by the Department. Please see **Chapter 3** of this document for further information on noise impact analysis under CEQA.

In accordance with the Department's Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase), or when the future noise level with the project approaches or exceeds the NAC. Sensitive receivers in close proximity to the Build Alternative include residential and hotel uses. The noise study determined that future noise levels within the study area would increase between 0 and 6 dBA under cumulative conditions with the Build Alternative, which is not considered a substantial increase (greater than 12 dBA). However, because the noise levels within the study area would exceed the NAC threshold, noise abatement options were considered, and the preliminary noise abatement analysis and decision is presented in **Subsection 2.2.7**.

The implementation of the noise abatement options determined to be feasible would effectively reduce noise levels below the NAC thresholds to a level that would completely offset the Build Alternative's contribution to cumulative noise levels. The chosen abatement type would be the construction of noise barriers. If, during final design, conditions substantially change, noise barriers might not be provided. The views and opinions of the residents living immediately adjacent to the project area and affected by the traffic noise would be considered in reaching a decision on noise abatement measures. The Department's policy is to not provide noise barriers if 50 percent or more of those affected residents do not want them. The opinions of these residents would be obtained through public and community meetings or other means, as appropriate. The final decision regarding noise abatement would be made upon completion of the project design and public involvement processes.

As discussed in **Subsection 2.2.7**, there are several locations where the cost of the noise abatement options (i.e., construction of a sound wall) would exceed the reasonable allowance for the sensitive receivers that would benefit from the noise reduction. In these locations, the noise abatement and decision analysis does not recommend the implementation of potentially feasible (but not reasonable) noise abatement options. It is also possible that design restrictions (i.e., inadequate sight distance for motorists) or negative public response to the construction of sound walls along Fairgrounds Drive would prevent the implementation of the noise abatement options that are considered both feasible and reasonable. However, if recommended noise abatement is not implemented, cumulative noise levels would increase between 0 and 6 dBA within the study area. In accordance with the Department's Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, an increase in noise levels of this magnitude is not considered a substantial increase (defined as 12 dBA).

### **Jurisdictional Wetlands and Other Waters**

The resource study area for wetlands and other waters is equivalent to the biological study area (BSA) evaluated in **Section 2.3, biological Environment**, and encompasses the physical footprint of the Build Alternative, including all areas where ground disturbance would occur under the Build Alternative (e.g., construction staging areas, demolition, earthmoving activities, etc.), areas of right-of-way to be obtained for the project, temporary access areas, and an area to the west of Fairgrounds Drive, between Coach Lane and Six Flags Discovery Kingdom Amusement Park. Wetland delineations were conducted within the BSA by consultant biologists on February 16-18, 2011, in accordance with United States Army Corp of Engineers (USACE) guidance. Where portions of wetlands fell within the BSA, the wetland delineation study area boundaries were extended to include the entire water feature.

A field review of the preliminary wetland delineation was conducted with the USACE on December 8, 2011. The USACE concluded that 2.268 acres of water features in the BSA are potential Waters of the U.S., including wetlands. These water features include freshwater marsh, riparian forest mosaic, seeps, ephemeral channels, seasonal wetlands, and perennial streams. The wetlands and other water features identified within the BSA support a variety of wildlife species, including mammals, birds, amphibians, reptiles, and fishes. Marsh habitats can provide habitat for fish nurseries, amphibians, aquatic reptiles, wading birds, waterfowl, and song birds. Riparian woodland can provide foraging, roosting, and nesting habitat for a variety of birds and provide cover and refuge sites for small mammals, amphibians, and reptiles.

Build Alternative impacts to Waters of the U.S., CDFG streambeds, and riparian habitat would primarily be related to the fill needed to create roadbed for the proposed widening of Fairgrounds Drive. As part of the Build Alternative, the existing portion of Rindler Creek north of Coach Lane would be realigned to be immediately east of the widened roadway. The realigned Rindler Creek would be slightly larger than the existing creek and re-vegetated to maintain hydrological and biological function. The impacted jurisdictional water features to the east of Fairgrounds Drive (totaling approximately 0.621 acres) would be restored on-site at a 1:1 replacement ratio. Impacts to the jurisdictional water features and freshwater marsh communities associated with Rindler Creek would thereby be avoided through the complete on-site replacement of the affected creek segment. The procurement of on-site restoration for impacts to these areas would be permitted and verified by the appropriate regulatory oversight agencies prior to construction. The on-site restoration of Rindler Creek is anticipated to provide satisfactory mitigation for impacts to riparian habitat, including the removal of 151 trees. Restoration on-site will also ensure that functions, such as water flow through the BSA, will continue unchanged.



**Table 2.4-1** summarizes the impacts to other potential jurisdictional waters within the BSA (not associated with impacts related to the realignment of Rindler Creek).

Table 2.4-1 Impacts to Potential Jurisdictional Wetlands outside of Proposed Rindler Creek Realignment

Type of Feature	Potential Jurisdictional Acreage
Freshwater Marsh	0.020
Riparian forest mosaic	0
Seep	0
Ephemeral channel	0.002
Seasonal wetland	0.017
<b>TOTAL</b>	<b>0.039</b>

Source: Department, 2012g.

Impacts to potential jurisdictional water features outside of the Rindler Creek realignment area (0.039 acres) would not be restored on site as part of the Build Alternative, and are subject to the provisions of **Mitigation Measure BIO-1** (see **Subsection 2.3.2**). Any impacts to jurisdictional water features that cannot be recreated on-site as part of the relocation of Rindler Creek shall be subject to formalized mitigation requirements of the regulatory agencies. A conceptual restoration and mitigation plan shall be prepared prior to permit applications to regulatory agencies. The on-site restoration of jurisdictional wetlands and other water features affected by the Build Alternative, combined with the implementation of other components of the conceptual restoration and mitigation plan will ensure no net loss of functions and values of these biological resources. As such, the implementation of the avoidance, minimization, and **Mitigation Measure BIO-1** identified in **Subsection 2.3.2** is anticipated to completely offset the Build Alternative's impacts to jurisdictional wetlands and other waters. The Build Alternative would therefore not contribute to a cumulative impact on these biological resources.

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## 3.0 California Environmental Quality Act (CEQA) Evaluation

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### 3.1 DETERMINING SIGNIFICANCE UNDER CEQA

The proposed project is a joint project between the Solano Transportation Authority (STA), Solano County, and the City of Vallejo, in cooperation with the California Department of Transportation (Department) and the Federal Highway Administration (FHWA), and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable Federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 USC 327. The Department is the lead agency under NEPA. Solano Transportation Authority (STA) is the lead agency under CEQA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS), or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (Build Alternative) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the Build Alternative and ways to mitigate each significant effect. If the Build Alternative may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of the proposed Build Alternative being evaluated in this EIR/EA and CEQA significance that apply to this process.

## 3.2 DISCUSSION OF SIGNIFICANCE OF IMPACTS

The CEQA Environmental Significance Checklist (**Appendix A**) identifies the physical, environmental effects that might be affected by implementation of the proposed Build Alternative. The findings for the CEQA checklist were determined in consultation with the technical studies prepared for this project, as listed in **Chapter 7.0, References**. The CEQA impact levels include: potentially significant impact, less-than-significant impact with mitigation, less-than-significant-impact, and no impact. In many cases, background studies performed in connection with the Build Alternative indicate no significant impact.

### 3.2.1 ISSUES WITH NO IMPACT

As part of the scoping and environmental analysis conducted for the Build Alternative, the following environmental issues were considered but no adverse impacts were identified: growth, coastal zone, wild and scenic rivers, farmlands/timberlands, utilities, emergency services, and energy. Refer to **Table 2-1**, for a more detailed description of these resource areas determined to be unaffected by the Build Alternative.

### Less-than-Significant Effects of the Build Alternative

The CEQA Checklist identified the following items as “Less than Significant”. These items include resource areas where the Build Alternative would have a less-than-significant effect with the implementation of the avoidance and minimization measures identified in the relevant sections of **Chapter 2.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures**.

#### Land Use

The Build Alternative is within an existing urban context that is highly developed, and would not alter the use of land in the area. The Build Alternative does not conflict with any applicable habitat conservation plan or natural community conservation plan. See **Subsection 2.1.1, Land Use**, for further analysis.

#### Community Impacts

The Build Alternative consists of improvements to an existing roadway, and would not divide an established community. Existing housing and businesses would be displaced as a result of the project; however, the Department’s Relocation Assistance Program would be utilized to help displaced individuals. See **Subsection 2.1.2, Community Impacts**, for a more detailed analysis.

#### Traffic

The Build Alternative intends to relieve existing congestion and improve traffic flow on the local roadway network for approved redevelopment and planned growth in the area. This would be accomplished by improving the existing interchanges and intersection operations; and improving the safety of the local roadway network by reducing congestion.

Replacement of the existing non-standard design features in some areas would also improve emergency access. The Build Alternative would not conflict with any applicable transportation plans, policies, or programs. See **Subsection 2.1.3, Traffic and Transportation/Pedestrian and Bicycle Facilities**, for a more detailed analysis.

### **Visual**

The Build Alternative would not have a substantial adverse effect on a scenic vista, damage scenic resources, degrade existing visual character of the area, or create a new source of substantial light or glare. The area of the Build Alternative is already heavily developed, and no scenic resources are known in the area. See **Subsection 2.1.4, Visual/Aesthetics**, for a more detailed analysis.

### **Cultural Resources**

There are no archaeological or historical resources within the Build Alternative's area of potential effect (APE). The Build Alternative would not result in a significant impact to cultural resources or cause a substantial adverse change in the significance of a historical or archaeological resource. See **Subsection 2.1.5, Cultural Resources**, for a more detailed analysis.

The Build Alternative could potentially have an effect on human remains if uncovered during construction prior to implementation of mitigation. Please see **Mitigation Measure PAL-1** below.

### **Hydrology and Floodplain**

The Build Alternative would not result in a significant impact to hydrology or floodplains, as only a small portion is within the base floodplain. The proposed improvements would not place any housing within a 100-year floodplain. Proposed structures would not impede or redirect flood flows. Additionally, the proposed improvements would not expose people or structures to a significant risk, and there is no potential for inundation. See **Subsection 2.2.1, Hydrology and Floodplain**, for a more detailed analysis.

### **Water Quality and Storm Water Runoff**

The Build Alternative would not result in significant impacts to water quality or storm water runoff. Construction activities and roadway operations would be regulated, and include protective measures. The project would not violate any water quality standards, deplete groundwater supplies, alter drainage patterns, or create capacity exceeding runoff. See **Subsection 2.2.2, Water Quality**, for a more detailed analysis.

### **Geology**

The Build Alternative would not result in a significant impact to the geology of the site. All structures constructed as part of the Build Alternative would comply with the Department's seismic design standards. People and structures would not be exposed to substantial adverse effects involving fault rupture or other seismic-related issues. The proposed improvements would not result in the substantial soil erosion or the loss of topsoil and is not located on unstable soil, an unstable geologic unit, or expansive soil. See **Subsection 2.2.3, Geology/Soils/Seismic/Topography**, for a more detailed analysis.

## Hazards

The Build Alternative would not create any significant hazards to the public or environment. Measures would be taken to avoid exposure to hazardous materials and aerially deposited lead. No hazardous materials would be emitted as a result of the project, and no people or structures would be exposed to a significant risk of loss. Additionally, the proposed improvements would not impair implementation or interfere with any emergency plans. See **Subsection 2.2.5, Hazardous Waste/Materials**, for a more detailed analysis.

## Air Quality

The Build Alternative would not cause a significant change to air quality in the project area, conflict with the implementation of an applicable air quality plan, violate any air quality standards, or contribute to any air quality violation. In addition, the Build Alternative would not result in a net increase of any criteria pollutants, expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors. See **Subsection 2.2.6, Air Quality**, for a more detailed analysis.

CEQA conclusions for potential impacts related to Greenhouse Gas Emissions are discussed in detail further below (see “Climate Change, CEQA Conclusions”).

## Noise

Implementation of the Build Alternative would result in an increase in noise levels between 0 and 6 dBA. The CEQA Checklist defines a significant noise impact as an increase in noise levels “in excess of the standards established in the local general plan or noise ordinance...” In accordance with Policy 2c of the City of Vallejo General Plan Noise Element, the Build Alternative would be required to limit project-related noise increases to no more than 5dBA in residential areas where the with-project noise level is less than the maximum “normally acceptable” level of 75dBA (see Table 2 of the Noise Element, Residential Land Use Category). For those areas that would be above the “normally acceptable” level of 75dBA, project related noise increases must be limited to no more than 3dBA.

**Subsection 2.2.7, Noise**, provides a detailed analysis of the projected noise increases for both year 2015 and cumulative 2035 conditions (with and without the Build Alternative). Under both the year 2015 and cumulative 2035 conditions, the Build Alternative would not result in a noise increase in areas that would experience noise levels above the “normally acceptable” threshold of 75dBA (see **Table 2.2.7-6**, receivers R3 and R4). For those areas below the “normally acceptable” threshold, the residences in the vicinity of Moorland Street would be the only noise-sensitive areas that would experience a noise increase of 5dBA or more (see **Table 2.2.7-6**, receivers ST-9, R5, and R6). This increase in noise levels would be considered a significant under Policy 2c of the City of Vallejo General Plan, and is considered a significant impact under CEQA.

However, noise abatement options were evaluated for the residences in the vicinity of Moorland Street as “noise barrier 3” (see **Figure 2-31**). Noise barrier 3 is proposed along the property line of Moorland Street residential properties that would remain with the Build Alternative, along the northbound Moorland Street right-of-way, and along a segment of westbound Redwood Parkway at the right-of-way. The noise barrier is



proposed to replace the existing acoustical shielding that would be lost with the removal of homes on the east side of Moorland Street. Construction of noise barrier 3 (proposed as a 10-foot-high wall) would feasibly reduce noise levels in this area by 6 and 11 dBA. Because the cost of the barrier is less than the reasonable allowance (see **Table 2.2.7-8**), this barrier is likely to be incorporated into the Build Alternative. Construction of the barrier as part of the Build Alternative would reduce potential project-level and cumulative noise impacts under CEQA to a less-than-significant level.

Construction noise would be minimized through noise abatement measures. People would not be exposed to noise levels or groundborne vibration exceeding local standards. There would be no significant permanent increase in noise levels, and temporary noise level increase would be reduced through restricted construction times, equipment mufflers, and staging of construction away from sensitive receptors.

In addition, the project is not within an airport land use plan or within the vicinity of a private airstrip.

### **Biology**

The Build Alternative would adversely affect Waters of the U.S., California Department of Fish and Game (CDFG) streambeds, and riparian habitat.<sup>1</sup> However, as part of the Build Alternative, much of the impacted jurisdictional water features to the east of Fairgrounds Drive (totaling approximately 0.623 acres) would be restored on-site at a 1:1 replacement ratio. Impacts to the jurisdictional water features and freshwater marsh communities associated with Rindler Creek would thereby be offset through the complete on-site replacement of the affected creek segment. The procurement of on-site restoration for impacts to these areas would be permitted and verified by the appropriate regulatory oversight agencies prior to project construction. The on-site restoration of Rindler Creek is anticipated to provide satisfactory mitigation for impacts to riparian habitat, including the removal of 151 trees. Restoration on-site will also ensure that functions, such as water flow through the BSA, will continue unchanged.

Additional effects to wetlands and Waters of the U.S. that would not be restored on site as part of the Build Alternative is considered a significant impact (see **Impact BIO-1** below).

The Build Alternative would not have an adverse effect on any special status plant or animal species, or interfere with the movement of any native resident or migratory fish or wildlife species. The Build Alternative would not conflict with the provisions of a habitat conservation plan, nor would it conflict with the provisions of the City of Vallejo's tree preservation ordinance. See **Section 2.3, Biological Environment**, for a more detailed analysis.

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<sup>1</sup> As of January 1, 2013, the California Department of Fish and Game (CDFG) changed its name to California Department of Fish and Wildlife (CDFW). Because the draft EIR/EA was published in September 2012, prior to the agency's name change, "CDFG" is referenced in relevant correspondence and discussion in order to maintain consistency with the project's administrative record.

## Significant Environmental Effects of the Build Alternative

### Paleontology

*Impact PAL-1: Implementation of the Build Alternative could have an adverse effect on previously undiscovered paleontological resources.*

Implementation of **Mitigation Measure PAL-1** described below under subheading Mitigation Measures would reduce this impact to a less-than-significant level.

### Biology

*Impact BIO-1: Implementation of the Build Alternative could have an adverse effect on federally protected wetlands and other Waters of the U.S.*

Implementation of **Mitigation Measure BIO-1** described below under subheading Mitigation Measures would reduce this impact to a less-than-significant level.

## Unavoidable Significant Environmental Effects

The Build Alternative would not have any environmental impacts that would remain significant after mitigation measures are incorporated.

## Growth-Inducing Impacts

The Build Alternative could potentially induce economic growth by introducing additional short-term employment opportunities from construction within the project area.

Construction workers could be drawn from the construction employment labor force already residing in the City of Vallejo and the surrounding communities. It is not likely that construction workers would relocate their place of residency as a consequence of working on the proposed Build Alternative, which would have a relatively short construction period. Employment opportunities provided by construction would not constitute a substantial growth in employment. The Build Alternative is a transportation improvement project and would not result in the direct or indirect hire of permanent employees in the City.

Growth in an area may result from the removal of a physical impediments or restriction to development. In this context, growth impediments may include nonexistent or inadequate access to an area or lack of essential public services (i.e., electricity, sanitary sewers, water service, natural gas, and police and fire protection). The Build Alternative is located within an urbanized and developed area of the City of Vallejo. While the project would widen existing roadways and improve circulation and access to local roadways, the overall volume of traffic would not increase over the forecasted/growth prediction for the City and County, as identified in adopted land use planning documents (i.e., general plan, Solano 360 Vision, etc.). Additionally, the project would not create any new connections to other roadways or areas. There are no pending or recently-approved projects whose construction is conditioned upon the implementation of the Build Alternative.

The project would not result in any direct growth-inducing impacts, because no development is tied to the construction of the widening, ramp improvements, and intersection improvements. The Build Alternative would not expand an essential public service and would not require public services once operational. The Build Alternative is not considered growth inducing with respect to removal of an impediment to growth and economic growth.

## Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs related to human activity that include carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (1, 1, 1, 2 -tetrafluoroethane), and HFC-152a (difluoroethane).

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

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of GHG emissions in the United States is electricity generation followed by transportation. The dominant GHG emitted is CO<sub>2</sub>, mostly from fossil fuel combustion.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled (VMT), 3) transition to lower GHG fuels, and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

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<sup>2</sup> [http://climatechange.transportation.org/ghg\\_mitigation/](http://climatechange.transportation.org/ghg_mitigation/)

## Regulatory Setting

### State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the United States Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be working with Federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger cars model years 2017-2025.

Executive Order S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) the goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020, and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. The Amendments became effective on March 18, 2010.

### *Federal*

Although climate change and GHG reduction is a concern at the federal level; currently there are , no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate

in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009.<sup>3</sup> On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.<sup>4</sup>

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<sup>3</sup> <http://www.epa.gov/climatechange/endangerment.html>

<sup>4</sup> <http://epa.gov/otaq/climate/regulations.htm>

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On January 24, 2011, the U.S. EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011), signals continued collaboration that could lead to an extension of the current National Clean Car Program.

### **Project Analysis**

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG.<sup>5</sup> In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(h)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG. As part of its supporting documentation for the Draft Scoping Plan, CARB released the GHG inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. See **Figure 3-1**. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation.

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<sup>5</sup> This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).



The Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at the Department (December 2006)).<sup>6</sup>

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. As shown in **Figure 3-2**, the highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour, mph) and speeds over 55 mph; the most severe emissions occur from 0-25 mph. To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors GHG emissions, particularly CO<sub>2</sub>, may be reduced.

The modifications along portions of Redwood Parkway, Fairgrounds Drive, and intersections to I-80 and SR 37 will help relieve congestion in the traffic peak hour period during the day. With construction of the project, the vehicle miles traveled (VMT) will remain the same as the No-Build Alternative. During the peak hours, the speeds between 10-30 mph would generally very slightly increase and the speed during the off peak hours would remain the same. The combination of this would have an overall neutral effect on the GHG emissions generated in the project area when compared with the No-Build Alternative. **Table 3-1** below shows GHG emissions as expressed in tons per day of CO<sub>2</sub>. The net difference between the Build Alternative and No-Build Alternative is so small that they are not reflected in the calculations when show in terms or tons per day.

Table 3-1 No-Build Alternative Versus Build Alternative CO<sub>2</sub> Emissions

	CO <sub>2</sub> Emissions by Year (in tons/day)		
	2010	2015	2035
Existing	29	--	--
No-Build Alternative	--	35	40
Build Alternative	--	35	40

Department, 2012a.

Due to the small changes in the traffic, the daily CO<sub>2</sub> emissions are not expected to change as a result of the project. The CO<sub>2</sub> emission numbers are only useful for a comparison between alternatives; the numbers are not necessarily an accurate reflection of what the true CO<sub>2</sub> emissions will be because CO<sub>2</sub> emissions are dependent on other factors that are not part of the model, such as fuel mix<sup>7</sup>, rate of acceleration, and the aerodynamics and efficiency of the vehicles.

<sup>6</sup> Caltrans Climate Action Program is located at the following web address:

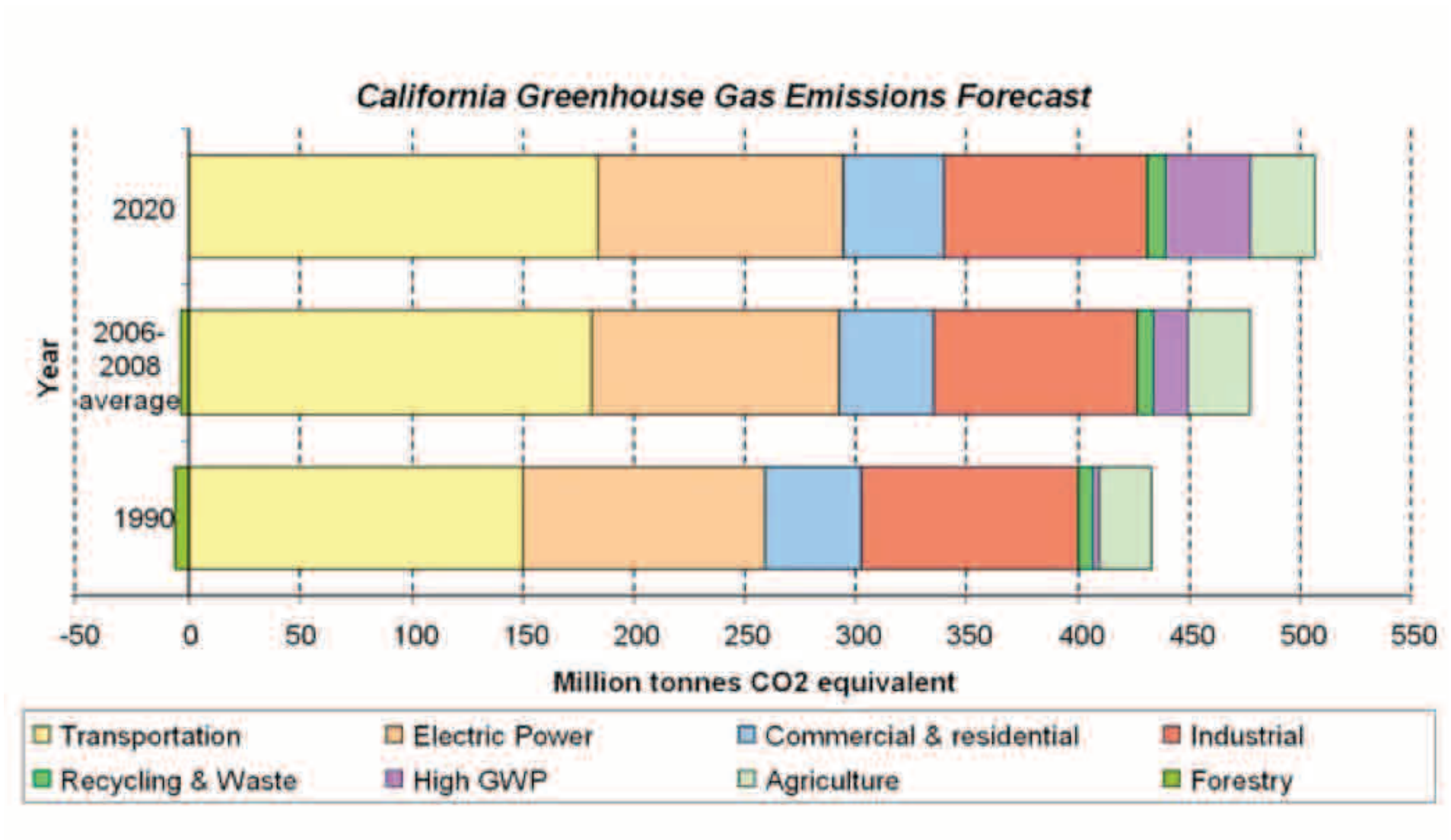
[http://www.dot.ca.gov/hq/tpp/offices/ogm/key\\_reports\\_files/State\\_Wide\\_Strategy/Caltrans\\_Climate\\_Action\\_Program.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf)

<sup>7</sup> The EMFAC model emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components.

**Construction Emissions**

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction.

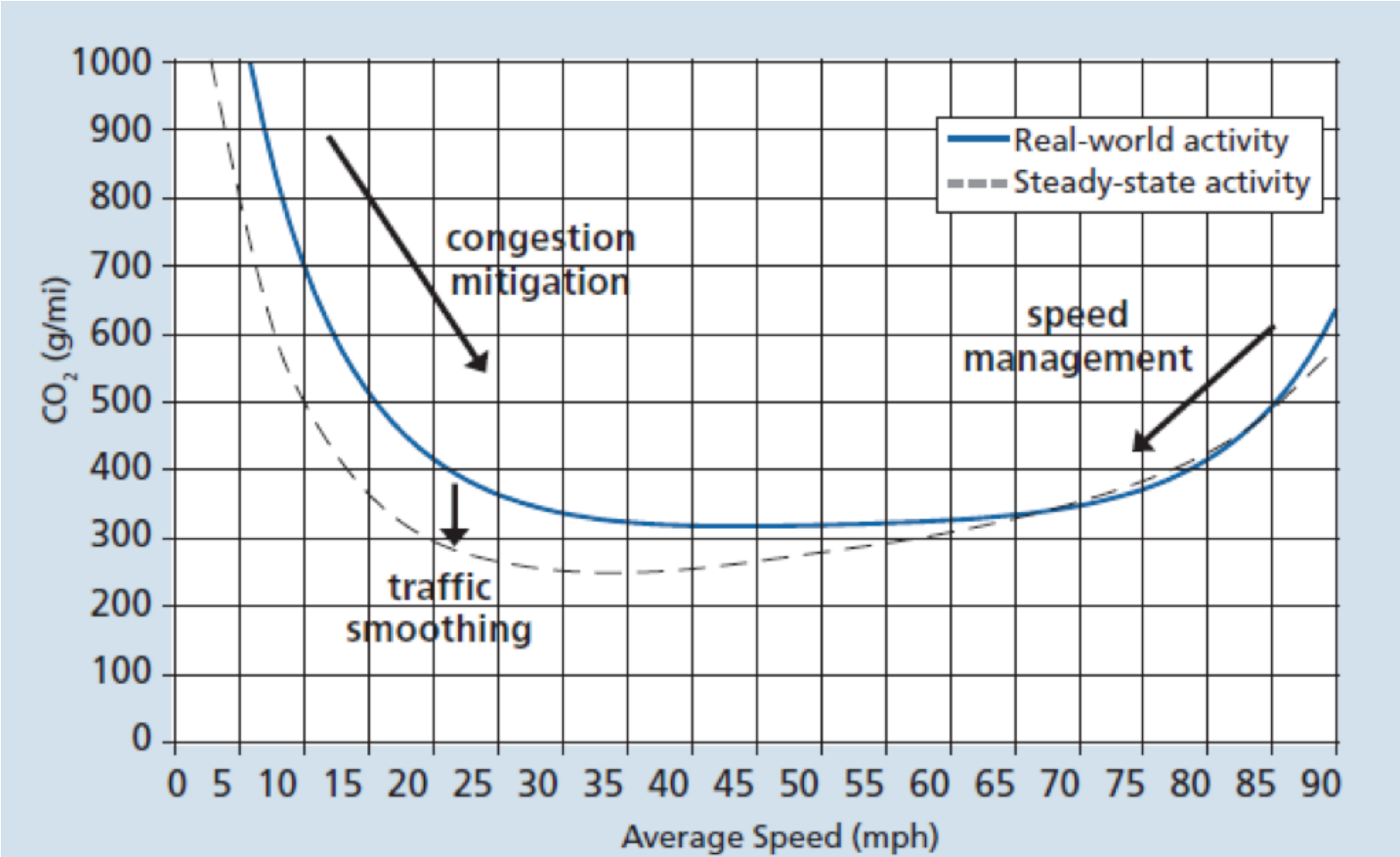
These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Currently, neither the Department nor the Bay Area Air Quality Management District (BAAQMD) have adopted significance thresholds that apply to construction projects.



California Greenhouse Gas Forecast

Figure

Source: California Air Resources Board, 2010.



Possible Effects of Traffic Operation Strategies  
in reducing On-road CO<sub>2</sub> Emissions

Figure

Source: Matthew Barth and Kanok Boriboonsomsin, Traffic Congestion and Greenhouse Gases, TR News 268 May-June 2010.

## **CEQA Conclusion**

### *Greenhouse Gas Reduction Strategies*

#### AB 32 Compliance

The Department continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO<sub>2</sub> reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in **Figure 3-3**.

The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

**Table 3-2** summarizes the Department and statewide efforts that the Department is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at the Department (December 2006).

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures discussed on the pages following will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project.



Mobility Pyramid

Figure

3-3



### **Adaptation Strategies**

"Adaptation strategies" refer to how the Department and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the Federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency report October 14, 2010 outlining recommendations to President Obama for how Federal Agency policies and programs can better prepare the United States to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the Federal Government implement actions to expand and strengthen the Nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This Executive Order set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop. The California Climate Adaptation Strategy (Dec 2009)<sup>8</sup>, which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

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<sup>8</sup> <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

Table 3-2 Climate Change/CO<sub>2</sub> Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO <sub>2</sub> Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	The Department	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	The Department	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	The Department	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	The Department	Regions	State ITS; Congestion Management Plan	0.007	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.67

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010<sup>9</sup> to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- the range of uncertainty in selected sea level rise projections;
- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems; and
- a discussion of future research needs regarding sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

Until the final report from the National Academy of Sciences is released, interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as the Department as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation (NOP), and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects as of the date of Executive Order S 13 08 may, but are not required to, consider these planning guidelines. The NOP for the project was filed in January 2011.

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<sup>9</sup> The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington State as well as California.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment which is due to be released in 2012.

Given that the project is not located in an area vulnerable to future sea level rise and that the NOP for the project was filed in January 2011, it is not necessary for the proposed project to consider a range of sea level rise scenarios.

## Mitigation Measures for Significant Impacts Under CEQA

### **Mitigation Measure PAL-1: Monitoring and Mitigation Program**

A qualified paleontologist shall design a monitoring and mitigation program and implement the program during project-related excavation and earth disturbance activities prior to construction. The paleontological resource monitoring and mitigation program shall include preconstruction coordination, construction monitoring, emergency discovery procedures, and sampling and data recovery. Prior to the start of construction, the paleontologist shall conduct a field survey of exposures of sensitive stratigraphic units within the study area that would be disturbed. Finally, construction personnel would be informed that fossils could be discovered during excavation, that these fossils are protected by laws, on the appearance of common fossils, and on proper notification procedures.

Both the Great Valley Sequence and Holocene Alluvium have low sensitivity for paleontological resources. However, Holocene Alluvium typically occurs as thin layer overlying Pleistocene Alluvium, which has a high potential for paleontological resources. Excavation in areas covered by Holocene Alluvium would likely encounter sediments of the Pleistocene Alluvium in the shallow subsurface. As such, construction activities within Pleistocene Alluvium areas covered by the Holocene

- where Rindler Creek is being shifted 1,333 feet to the east
- where augering and excavations for lighting, roadside sign poles, closed circuit television poles, and signal foundations occur,
- where excavations for retaining walls and sound walls occur,
- where Fairgrounds Drive will be widened

### **Mitigation Measure BIO-1: Compensatory Mitigation for Jurisdictional Water Features**

Any impacts jurisdictional water features that cannot be procured on-site as part of the relocation of Rindler Creek shall be subject to formalized mitigation requirements of the regulatory agencies. A conceptual restoration and mitigation plan shall be prepared prior to permit applications to regulatory agencies. The on-site restoration of Waters of the U.S. combined with the implementation of other components of the conceptual restoration and mitigation plan will ensure no net loss of functions and values of Waters of the U.S.

The off-site mitigation ratio proposed for Waters of the U.S., including wetlands, under jurisdiction of the USACE, is 3:1 acres of mitigation per acre of permanent impact. Temporary impacts are proposed for mitigation at 1:1 acres of mitigation to impact.

Compensatory mitigation requirements among agencies are not cumulative. Mitigation acreage can be used to satisfy the requirements of multiple agencies, just as a single acre of impact to an existing resource may result in multiple requirements by agencies with varying jurisdictions. In summary, a single acre of wetland mitigation may satisfy both State and Federal agency mitigation requirements, if the characteristics of the wetland meet the definitions of each agency.

An estimate of the mitigation requirement is presented in **Table 3-3**.

**Table 3-3 Proposed Wetland Mitigation for Estimated Impacts to USACE Jurisdictional Areas**

Impacts	Impact		Mitigation (acres)	
	Permanent Impact	Temporary Impact	3:1 ratio (Off Site)	1:1 ratio (On Site)
Rindler Creek Realignment	0	0.621	-	0.621
All Other Build Alternative Improvements	0.039	0	0.117	-
<i>TOTAL</i>	<i>0.039</i>	<i>0.621</i>	<i>0.117</i>	<i>0.621</i>

Source: Department, 2011g.

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## 4.0 Comments and Coordination

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Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps the Department determine the necessary scope of environmental documentation, the level of analysis required, and to identify potential impacts, mitigation measures and related environmental requirements. Agency consultation and public participation for the Build Alternative have been accomplished through a variety of formal and informal methods, including: project development team meetings, interagency coordination meetings, and public meetings. This chapter summarizes the results of the Department's efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

### 4.1 DOCUMENT COORDINATION

#### 4.1.1 PUBLIC AND AGENCY SCOPING PROCESS

English and Spanish newspaper ads notifying the general public of a scoping meeting for the project were placed in the Vallejo Times Herald and the Crónicas on January 11, 2011 and January 15, 2011, respectively. The public scoping meeting was held for the project on January 26, 2011 at Cooper Elementary School in Vallejo between 6:30 pm and 8:30 pm. Approximately 37 people attended the meeting. The scoping meeting was organized as an open house, with informational stations displaying exhibit boards staffed by representatives from the Solano Transportation Authority (STA), the Department, the County of Solano, and the City of Vallejo. The exhibit boards portrayed the following subjects: project improvements and location; project purpose and need; current transportation issues; environmental issues and constraints; overview of the environmental review process; and anticipated project schedule.

There were eight written comments submitted at the January 26 scoping meeting. Two comment sheets were mailed to the STA and six e-mails were received via [fairgroundsdriveproject@gmail.com](mailto:fairgroundsdriveproject@gmail.com). The following agencies provided comment letters: the California Department of Fish and Game, the Governor's Office of Planning and Research, and the California Transportation Commission. Common issues raised were about environmental concerns, the scope of the project, property acquisition, community participation, and the availability of environmental documents.

#### 4.1.2 PROJECT DEVELOPMENT TEAM AND AGENCY CONSULTATION MEETINGS

A Project Development Team (PDT) was established consisting of personnel from the Department, STA, City of Vallejo and Solano County. PDT meetings have occurred regularly over the past twenty-four months and will continue to occur as needed throughout the remainder of the environmental and project approval process. The PDT represents various fields of expertise including design, environmental review, traffic operations, and project management and convenes to review the project status, address issues as they arise and provide overall direction throughout the project development process.

In addition to the PDT there are several other public agencies involved in environmental clearance and permitting of the Build Alternative. These agencies include the U.S Army Corps of Engineers, U.S Fish and Wildlife Service, and Regional Water Quality Control Board. Extensive coordination with the Native American Heritage Commission (NAHC) and interested Native American groups and individuals in the project area and region has also been conducted, and is discussed in **Subsection 4.1.4** below.

A field review of the preliminary wetland delineation was conducted with the USACE on December 8, 2011. A map of those jurisdictional aquatic features has been submitted to the USACE for verification. The results of biological review for the project, which are presented in **Section 2.3, Biological Environment**, of this EIR/EA, support a no effect determination for federally-listed species of wildlife and flora. Therefore, no coordination with the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS) regarding potential effect to wildlife species is required at this time. During the final design phase of the project, the USFWS will be asked to issue a formal concurrence with the “no effect” determination approved by the Department’s biologists. Coordination with the Regional Water Quality Control Board and the CDFG regarding the streambed alteration agreement (Section 1602) and Section 401 Certification would also be conducted during the detailed design phase prior to submitting a permit application.

#### 4.1.3 PUBLIC PARTICIPATION

##### Notice of Availability of the Draft Environmental Document

A Notice of Availability was circulated to the project mailing list and to the various parties listed in the Distribution List (see **Chapter 6.0, Distribution List**). The notice provided information on the project, where the environmental document can be reviewed, the address to which comments should be sent, and the close of the comment period.

Newspaper display advertisements for the Notice of Availability were also placed in local papers. An English-language advertisement was published in the Vallejo Times Herald on September 21, 2012 and a Spanish-language advertisement was published in Crónicas on October 1, 2012. The newspaper display advertisements also included information on the public meeting that was held on October 11, 2012 (see discussion below).

## Public Meetings

A public meeting was held on January 18, 2012 to provide information and answer questions about the Build Alternative. Invitation letters were sent to property owners whose residence or business may potentially be directly impact by the project. Thirteen property owners and residents signed in at the meeting and one written comment was received.

The public review period of the draft EIR/EA started September 21, 2012 and ended November 5, 2012. A public meeting was also held on October 11, 2012 during the 45-day review period of the draft EIR/EA. The meeting was held from 7:00 to 8:00 p.m. at Cooper Elementary School, located at 612 Del Mar Avenue in Vallejo, California. The primary purpose of the meeting was to provide information, answer questions, and receive comments on the draft EIR/EA for the project. The secondary purpose of the meeting was to present the findings of the noise abatement options evaluated at potential noise affected areas along the project corridor, and receive public comments regarding the potential barrier locations.

Twenty-nine attendees signed in at the meeting. The meeting format was an open house, where attendees could view exhibit boards illustrating the proposed Build Alternative improvements and submit verbal and written comments. Members of the project team were present to answer questions and provide project information. A Spanish translator was present to assist with Spanish translation.

A total of 16 written comment forms were received at the meeting. No verbal comments were submitted. The majority of the concerns raised by the attendees were regarding right-of-way acquisition of private property. Other issues raised included general support or dislike for the project, the placement of noise barriers, and traffic safety. Copies of the written comments received during the meeting are included in **Section 4.2.2, Responses to Comments**.

### 4.1.4 NATIVE AMERICAN CONSULTATION

In February 2011, a Sacred Lands File search was conducted by the Native American Heritage Commission (NAHC) to determine if there were known cultural sites within or near the Build Alternative's area of potential affect (APE). Following the records search, the NAHC stated that the file search showed no recorded resources within the APE.

The NAHC also provided list of interested Native American groups and individuals in the project area and region. Letters requesting input from interested parties were sent to the Native American groups and individuals in April 2011.

Mr. Reno Keoni Franklin, Director of Cultural Resources and Tribal Historic Preservation Officer for the Yocha Dehe Wintun Nation, requested more specific information about the project, including a more detailed project description, which was provided. Mr. Marshall McKay, Yocha Dehe Wintun Tribal Chairman, stated that the Yocha Dehe have a cultural resource in the project area and stated their intention to initiate consultation with the Department and STA. Mr. McKay requested a project timeline and the latest cultural study. The Department provided Mr. McKay with the draft cultural resources report.

In response to the request for formal consultation, the project was discussed at the quarterly meeting of the Department's Office of Cultural Resource Studies and the Yocha Dehe Wintun Nation on June 23, 2011. Discussion of the project focused on the cultural resource report prepared to date, a previously identified archaeological site located at the southeast end of Lake Chabot (outside of the Build Alternative APE), and the potential for archaeological testing for buried resources in the project area.

Mr. Kesner Flores of the Cortina Band of Indians responded to the April 2011 letter, stating that they would like to monitor construction activities at the location of sensitive resources, noting that there is a potential that more material could be encountered. Mr. Flores also requested that Patwin Wintun Cultural Management Response Plan be followed if unexpected cultural resources are encountered, and if cultural resources are discovered during project activities that he be notified. The Department responded with a letter that discussed their procedures for monitoring, and how they ensure the dignified treatment and disposition of Native American Human remains and associated grave artifacts.

Mr. Dave Jones of the Wintun Environmental Protection Agency also responded to the letter, stating that the project area is on the south edge of their ancestral territory, and that they have little information of that area. He asked that if cultural materials are encountered during the project, that they be notified.

Subsequent to receiving these responses and initiating consultation with Native American representatives, an Extended Phase I Geoarchaeological Investigation was conducted at two areas of high archeological sensitivity within the Build Alternative APE. Eleven trenches were excavated, in addition to one hand auger. Jeffrey Flores and Michelle Flores, representatives from the Yocha Dehe Wintun Nation, were present during the Extended Phase I Geoarchaeological Investigation to observe and monitor the materials removed from the exploratory trenches. No archaeological materials were discovered during this investigation. The lack of discovery from the excavations determined that the likelihood of encountering significant archaeological material in these areas and other parts of the APE during construction is considered low.

In addition, an Archaeological Monitoring and Discovery Plan has been prepared that specifies the appropriate construction monitoring locations and protocols recommended for an area near the known redeposit of archaeological materials outside of the APE. During the construction of the Build Alternative, a professional archaeologist will be assigned to monitor construction work in the vicinity of the known archaeological site for the purpose of identifying and evaluating any newly discovered materials.

Implementation of the provisions outlined in the Archaeological Monitoring and Discovery Plan would ensure that no adverse effects to the nearby archaeological materials occur as a result of the Build Alternative. Refer to **Section 2.1.5, Cultural Resources** for a complete discussion of the Build Alternative's potential effects on archeological resources, including Native American human remains and artifacts.

## 4.2 COMMENTS AND RESPONDING TO COMMENTS

This section provides responses to comments received during the public review period for the draft EIR/EA. Included are copies of all comment letters received up to the end of the public review period, as well as a complete transcript of comments received during the public meeting that was held on October 11, 2012.

### 4.2.1 INDEX TO COMMENTS

Comments are organized in the following order: state, regional, and local agencies; and members of the public (individuals). The alphabetical identifiers for each comment letter reflect this organization (i.e., S = state agency, R = regional agency, L = local agency and I = individual). Each individual comment within a comment letter is identified in the margins by an alpha-numeric code, which also corresponds to the responses prepared to address each comment. For example, Letter S-1, comment S1-1 is addressed in Response S1-1. All agencies, organizations, and individuals who commented on the draft EIR are listed in the **Table 4-1, Index to Comments**.

Table 4-1 Index to Comments

ID	Date of Comment	Commenter
<i>State Agencies</i>		
S1	December 10, 2012	California Transportation Commission
S2	January 1, 2013	United States Fish & Wildlife Services (USFWS)
<i>Regional Agencies</i>		
R1	November 5, 2012	San Francisco Bay Regional Water Quality Control Board (RWQCB)
<i>Local Agencies</i>		
L1	October 19, 2012	Vallejo Sanitation & Flood Control District (VSFCD)
<i>Individual</i>		
I1	October 5, 2012	Al Desrosiers
I2	January 30, 2013	Dana Higgins
I3	October 11, 2012	Celsa/Jose/Angel
I4	October 11, 2012	Mariadel Carmen Velazquez
I5	October 11, 2012	Brian McMillin
I6	October 11, 2012	Pam McMillin
I7	October 11, 2012	Pamela McMillin
I8	October 11, 2012	Angel/Maria Jose Garcia
I9	October 11, 2012	Raquel Ceron
I10	October 11, 2012	Robert McConnell
I11	October 11, 2012	Emma Santos
I12	October 11, 2012	Raul/Alicia Reyes

ID	Date of Comment	Commenter
I13	October 11, 2012	McGowan
I14	October 11, 2012	Jose/Liliana Benitez
I15	October 11, 2012	Betty Mosher
I16	October 11, 2012	Ana Mouge
I17	October 11, 2012	Maria G Serrano
I18	October 11, 2012	Evelyn Arminola Ceron-Monge

#### 4.2.2 RESPONSES TO COMMENTS

The EIR/EA text has been modified to reflect all substantive comments and responses to comments. Substantive comments are those comments that are related to the facts of the project, environmental document, or studies. Comments that are just expressing support or opposition to the project without any factual substantiation are acknowledged as part of the public record, but do not generally include a detailed response.

Any changes to the EIR/EA as a result of comments received are referenced in **Chapter 4.0, Comments and Coordination**. Newly added text is shown in this chapter with single underline format, and deleted text is shown in ~~strikeout format~~; minor editorial revisions are not identified. Throughout the remainder of the document, changes to the text are denoted with a vertical line in the right margin.

#### Responses to Comments

This subsection addresses each discrete comment. A copy of the comment letter is provided followed by responses to individual comments. If the comment is addressed in in another individual response, the response number is cross-referenced.

Copies of the comments received during the public meeting (October 11, 2012) are included in this section. In order to facilitate readers of this final EIR/EA, the hand-written comments have been transcribed and translated, as appropriate.

JOSEPH TAVAGLIONE, Chair  
JAMES C. GHIEMMETTI, Vice Chair  
BOB ALVARADO  
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STATE OF CALIFORNIA

EDMUND G. BROWN Jr., Governor



Letter S1

SENATOR MARK DESAULNIER, Ex Officio  
ASSEMBLY MEMBER BONNIE LOWENTHAL, Ex Officio

BIMLA G. RHINEHART, Executive Director

## CALIFORNIA TRANSPORTATION COMMISSION

1120 N STREET, MS-52  
SACRAMENTO, CA 95814  
P. O. BOX 942873  
SACRAMENTO, CA 94273-0001  
FAX (916) 653-2134  
(916) 654-4245  
<http://www.catc.ca.gov>

December 10, 2012

Mr. Howell Chan  
Branch Chief, Department of Transportation  
Attn: Ngoc Bui, Office of Environmental Analysis, MS-8B  
PO Box 23660  
Oakland, CA 94623

RE: Draft Environmental Impact Report (DEIR) – Redwood Parkway-Fairgrounds Drive Improvement Project

Dear Mr. Chan,

The California Transportation Commission, as a Responsible Agency, received the DEIR for the Redwood Parkway-Fairgrounds Drive Improvement Project. The project would modify the existing Interstate 80 (I-80)/Redwood Parkway interchange, realign the Fairgrounds Drive/Redwood Street intersection, widen Fairgrounds Drive between Redwood Street and State Route (SR) 37, widen the westbound exit ramp from SR 37 to Fairgrounds Drive, and improve several local intersections.

The Commission has no comments to the DEIR or the alternatives to be considered in the DEIR. However, the Commission recommends that the Department and the Solano Transportation Authority (STA) identify and secure the necessary funding to complete the project.

The Commission should be notified as soon as the environmental process is complete as the Commission cannot allocate funds to a project for design, right of way or construction until the final environmental document is complete and the Commission has considered the environmental impacts of the project and approved the environmentally cleared project for future consideration of funding.

Upon completion of the CEQA process, prior to the Commission's action to approve the project for future consideration of funding, the Commission expects the lead and/or implementing agency to provide written assurance whether the selected alternative identified in the final environmental document is or is not consistent with the project programmed by the Commission and included in the Regional Transportation Plan. In the absence of such assurance of consistency, it may be assumed that the project is not consistent and Commission staff will base its recommendations to the Commission on that fact. The Commission may deny funding to a project which is no longer eligible for funding due to scope modifications or other reasons.

S1-1



If you have any questions, please contact Laura Pennebaker, Associate Transportation Planner at (916) 653-7121.

Sincerely,



BIMLA G. RHINEHART  
Executive Director

c: Jay Norvell, Chief, Caltrans Division of Environmental Analysis  
Janet Adams, Deputy Executive Director, Solano Transportation Authority

**Responses to Comment Letter S1**

Response S1-1    Thank you for the information. When the Final EIR is signed, the Department will submit it to the California Transportation Commission along with the Notice of Determination, Findings , and Project Report to request future consideration of funding.



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846



Letter S2

In Reply Refer To:  
08ESMF00-2013-TA-0070-1

JAN 10 2013

Mr. Ngoc Bui  
California Department Transportation  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, California 94623

Subject: Review of the Draft Environmental Impact Report for the Redwood Parkway–  
Fairgrounds Drive Improvement Project, Solano County, California (Caltrans EA  
4A4410)

Mr. Bui:

This is in response to the draft Environmental Impact Report (DEIR) for the Redwood Parkway–Fairgrounds Drive Improvement Project in Solano County, California (EA 4A4410). At issue are the potential adverse effects of the proposed project on threatened California red-legged frog (*Rana aurora draytonii*). The U.S. Fish and Wildlife Service (Service) is issuing this letter under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act) and the Service's Mitigation Policy of 1956. Our comments and recommendations are provided to assist you with your environmental review of the project and are not intended to preclude future comments from the Service.

The comments and recommendations in this letter are based on our rudimentary review of the September 2012 DEIR for the Redwood Parkway–Fairgrounds Drive Improvement Project and other information available to the Service. Although the Service was included in the DEIR distribution list, the document did not reach the intended reviewers. We were unaware of the proposed project and associated DEIR until we were included on the distribution of the San Francisco Bay Regional Water Quality Control Board's November 5, 2012, comments on the document. In the future, we recommend that Caltrans District 4, National Environmental Policy Act documents be addressed to the Coast Bay/Forest Foothills Division Chief to facilitate efficient review.

S2-1

The proposed project includes significant modification of approximately 1,300 feet of Rindler Creek and its associated riparian corridor and surrounding uplands. The project is within the current range of the California red-legged frog and has connectivity with recorded red-legged frog observations. Based on the habitat assessment referenced in the DEIR, Caltrans determined



that habitat for the listed frog was present within the project footprint. The confirmed presence of western pond turtles in the project footprint is further indication of the habitat's potential to be occupied by the red-legged frog. As a result of species-specific surveys, Caltrans concluded the California red-legged frog was absent from the project footprint and that the project would have no effect on the listed species.

Surveys protocol or otherwise, have inherent limitations with species such as the California red-legged frog. The red-legged frog is especially cryptic in appearance and behavior. They occupy habitat that is difficult to fully investigate and are most active under the cover of darkness. Surveys utilizing the methodology of the Service's protocol are considered a tool to be considered with the other components of an assessment. The Service rarely advises applicants to expend the resources to conduct surveys to support a presence or absence determination in areas where the Service believes the species is likely to occur. Use of the survey protocol is most useful for multi-year monitoring of frog populations or investigation of a geographical area that is within the historical range but may not be within the currently recognized distribution of the species. Therefore it is recommended that applicants initiate technical assistance with the Service to determine how appropriate protocol surveys would be for a given project and how the Service would consider negative results given the site specific location. The Service has not been asked for and has not provided previous technical assistance for the Redwood Parkway–Fairgrounds Drive Improvement Project.

S2-2

Based on our review of the DEIR, the location of the project within the current distribution of the California red-legged frog, recorded observations of the listed frog within the general vicinity, and the presence of associated California red-legged frog habitat within the project footprint, we recommend that Caltrans initiate technical assistance with the Service to determine if informal or formal consultation is warranted and what conservation measures would be appropriate for the project.

S2-3

Through the technical assistance process we will be able to determine if it is appropriate for Caltrans to obtain authorization for incidental take of listed species via sections 7 or 10(a)(1)(B) of the Act prior to certification of the final environmental documents. If the Service authorizes incidental take for the listed frog, we recommend Caltrans incorporate the *Conservation Measures* and *Reasonable and Prudent Measures* from the biological opinion or section 10 permit into appropriate permits.

S2-4


We are interested in working with Caltrans and the Solano Transportation Authority in the resolution of the issues regarding endangered species. Please contact John Cleckler ([John\\_Cleckler@fws.gov](mailto:John_Cleckler@fws.gov)) or Ryan Olah, Coast Bay/Forest Foothill Division Chief, ([Ryan\\_Olah@fws.gov](mailto:Ryan_Olah@fws.gov)) at the letterhead address or at (916) 414-6600 if you have any questions regarding this response to the DEIR for the Redwood Parkway – Fairgrounds Drive Improvement Project.

Mr. Ngoc Bui

3

Sincerely,



 Eric Tattersall  
Deputy Assistant Field Supervisor

cc:

Brendan Thompson, San Francisco Bay Regional Water Quality Control Board, Oakland,  
California

Paula Gill, U.S. Army Corps of Engineers, San Francisco,  
California

Christopher States, Caltrans, Oakland,  
California

Melissa Escaron, California Department of Fish and Game, Yountville,  
California

**Responses to Comment Letter S2**

Response S2-1 The USFWS address listed in **Chapter 6, Distribution List** of the EIR/EA (page 6-1) has been updated to reflect the suggested contact information, as shown below.

U.S. Fish and Wildlife Service  
Coast Bay/Forest Foothills Division Chief  
2800 Cottage Way W-2605  
Sacramento, CA 95825

The Notice of Availability for this final EIR/EA will be distributed to those agencies and individuals that commented on the draft EIR/EA or requested a copy, including the USFWS.

Response S2-2 Caltrans is fulfilling its NEPA assignment of federal responsibilities from the Federal Highway Administration (FHWA), outlined in the Project Delivery Program MOU between FHWA, USDOT, and Caltrans, effective October 1, 2012 and pursuant to 23 USC 327. This delegation of authority provides for the Department's District 4 staff to perform certain aspects of consultation, in accordance with Section 7 of the Endangered Species Act (ESA). Under this delegation of authority, District 4 staff may make a "No Effect" determination on threatened or endangered species or their critical habitat. The Department may request technical assistance from the USFWS when the Department's Biologist determines that additional information (relevant to the project's effect on known listed species or habitat within the project area) is needed.

The "No Effect" determination for the project was based on assessment and findings presented in the following to reach a biological technical report prepared by Garcia and Associates' (GANDA):

- Site Habitat Assessment for California Red-Legged Frog (*Rana draytonii*) (July 2011)
- Results of protocol-level survey for California Red-Legged Frog (*Rana draytonii*) (October 2011)

These technical reports are available for public review, and can be requested directly from the following persons:

Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
Oakland, CA 94623  
(510) 286-4736

Solano Transportation Authority  
Attn: Janet Adams  
One Harbor Center, Suite 130  
Suisun City, CA 94585  
(707) 424-6075

The field methods and schedule of the surveys conformed to the revised guidance published by the USFWS (USFWS 2005) for surveys to confirm the presence or absence of the California red-legged frog. Application of the protocol methodology was reviewed by the Department's District 4 biologists, who regularly coordinate with the USFWS to ensure that the Department's biological studies are of a quality and nature to support the transportation decisions.

The revised guidance includes specifications for survey periods and methodology of day and night surveys, including the following: The Guidance recommends a total of up to eight surveys to determine the presence of California red-legged frog at or near a project site. Two day surveys and four night surveys are recommended during the breeding season; one day and one night survey is recommended during the non-breeding season. Surveys must take place at least seven days apart. At least one survey must be conducted prior to August 15th. The survey period must be over a minimum period of six weeks (i.e., the time between the first and last survey must be at least six weeks). The eight surveys which were conducted met these requirements.

Weather conditions during the period of the survey protocol (2010-2011) were generally good for the CRLF, with precipitation during the period (estimated as 27 inches) being slightly above average, which indicates that the negative results were not influenced by any short-term weather patterns that may have negatively impacted the California red-legged frog.

The revised guidance (USFWS 2005) was developed specifically for cryptic species and implementation of the guidance is standard practice in determining the presence/absence of CRLF. The protocol serves to standardize the survey effort at a level that has been deemed adequate to serve the purpose of determining absence for a given duration. The revised guidance states that the results of a protocol survey can be considered valid for two years from the end of the survey period.



Due to the timing of the current surveys and the future construction dates, the Department expects to conduct a follow-up site assessment and request USFWS approval for subsequent surveys prior to implementation of the project.

The “No Effect” determination prepared for this project is well-supported by the facts documented in the survey results. The following conditions support the finding:

- the limited habitat connectivity (via 3,600 feet of culvert and concrete-lined channel) between areas where CRLF are known to occur and the project’s protocol survey locations;
- the presence of extensive populations of invasive predators (fish, crayfish, bullfrog) in the aquatic habitat west of I-80; and
- the lack of any CRLF observations during the protocol survey.

The technical documents clearly state that, while there are known occurrences of CRLF to the east of I-80, there is no evidence supporting a conclusion that any life-stage of the CRLF is present west of that barrier. Dispersal of the adult frogs to the west side of I-80, while not impossible, is of such a minimal likelihood as to be an unreasonable assumption under typical conditions because of the complete overland barrier presented by I-80, and the minimal passage opportunity provided by 3,600 feet of culverted and channelized waters of Rindler Creek.

Observations during the surveys showed no evidence of breeding activity west of I-80, and the presence of invasive non-native predatory species appears to preclude establishment of a breeding population west of that barrier.

At the time of the No Effect determination, Caltrans opted not to request technical assistance, as the conditions for California red-legged frog were considered to be clear. When the 2 year window for validity of the survey results expires, Caltrans intends to implement a follow-up site assessment, submit the results to the USFWS should conditions on the ground warrant USFWS technical assistance.

Based on the data currently available, the Department considers the “No Effect” conclusion to be appropriate and technical assistance to be unnecessary at this time.

Although the field surveys for CRLF followed the appropriate guidance, the term “protocol surveys” is used only after actual coordination and/or consultation with the USFWS. As such, the term “protocol survey” was removed from the Affected Environment discussion of Section 2.3.5, Threatened and Endangered Species. Consistent with the above information provided in this response to the USFWS letter, text has been added to pages 2.3-25 and 2.3-26 for clarity.

The following footnote has been added to page 2.3-25:

Following USFWS guidance, the site assessment included all potential CRLF habitats within the 1-mile radius of the proposed Build Alternative improvements. These areas were visited, photographed, and assessed for the potential presence of this species. Based upon the results of the site assessment, it was determined that there is potential for this species to occur within the BSA. To verify species presence, surveys were implemented.<sup>2</sup> ...

[footnote 2]

The field methods and schedule of the surveys conformed to the revised guidance published by the USFWS (USFWS 2005) for surveys to confirm the presence or absence of the California red-legged frog.

The following text has been added to the *Avoidance, Minimization, and/or Mitigation Measures* discussion on page 2.3-26:

Due to the timing of the current surveys and the future construction dates, the Department expects to conduct a follow-up site assessment and request USFWS approval for subsequent surveys prior to implementation of the project.

Response S2-3    See Response S2-2. The Department has concluded that the project will have No Effect on CRLF and therefore is not requesting technical assistance from USFWS at this time. However, after 2 years have elapsed since the site assessment and protocol surveys, the Department will conduct a follow up site assessment and provide the results to the USFWS should conditions on the ground warrant USFWS technical assistance.

**Response S2-4** See Response S2-2, which describes the methodology and negative results of the protocol-level survey for California red-legged frog and the existing barriers and poor habitat conditions for that species at the project site. Under its delegation of authority pursuant to 23 USC 327, per MAP21, the Department has concluded that the project will have “No Effect” on threatened or endangered species or their critical habitat. The Department does not anticipate any “take” of CRLF, and therefore is not requesting Sec. 7 or Sec. 10 consultation to obtain an incidental take statement.



EDMUND G. BROWN JR.  
GOVERNOR

STATE OF CALIFORNIA  
GOVERNOR'S OFFICE of PLANNING AND RESEARCH  
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX  
DIRECTOR

November 7, 2012

Janet Adams  
Solano Transportation Authority  
One Harbor Center, Ste. 130  
Suisun City, CA 94585



Subject: Redwood Parkway-Fairgrounds Drive Improvements  
SCH#: 2011012032

Dear Janet Adams:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on November 5, 2012, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan  
Director, State Clearinghouse

Enclosures  
cc: Resources Agency

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2011012032  
**Project Title** Redwood Parkway-Fairgrounds Drive Improvements  
**Lead Agency** Solano Transportation Authority

---

**Type** EIR    Draft EIR  
**Description** Solano Transportation Authority (STA) proposes several roadway improvements along portions of Fairgrounds Drive and Redwood Parkway/Redwood Road within the City of Vallejo. Improvements would include the widening of Fairgrounds Drive, modifications to two existing interchanges, and the signalization of several intersections.

---

**Lead Agency Contact**

**Name** Janet Adams  
**Agency** Solano Transportation Authority  
**Phone** 707-424-6075 **Fax**  
**email**  
**Address** One Harbor Center, Ste. 130  
**City** Suisun City **State** CA **Zip** 94585

---

**Project Location**

**County** Solano  
**City** Vallejo  
**Region**  
**Lat / Long** 38° 07' 23" N / 122° 13' 52" W  
**Cross Streets** Redwood Parkway and Fairgrounds Drive

**Parcel No.**

<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>Base</b>
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**Proximity to:**

**Highways** I-80, SR 37  
**Airports** No  
**Railways** UPRR  
**Waterways** Rindler Creek  
**Schools** Vallejo City Unified  
**Land Use**

---

**Project Issues** Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Cumulative Effects

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**Reviewing Agencies** Resources Agency; Department of Fish and Game, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Air Resources Board, Transportation Projects; State Water Resources Control Board, Division of Water Quality; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission; Delta Stewardship Council

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**Date Received** 09/21/2012    **Start of Review** 09/21/2012    **End of Review** 11/05/2012

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clear  
11/5/12  
e



Letter R1

EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**San Francisco Bay Regional Water Quality Control Board**

November 5, 2012  
CIWQS Place No.: 787850

*Sent via electronic mail—a hard copy will not follow*

**RECEIVED**

NOV 05 2012

STATE CLEARING HOUSE

California Department of Transportation  
Attn: Ngoc Bui  
[fairgroundsdiveproject@gmail.com](mailto:fairgroundsdiveproject@gmail.com)  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623

Subject: Comments on the Redwood Parkway—Fairgrounds Drive Improvement Project,  
City of Vallejo, Draft Environmental Impact Report (SCH No. 2011012032)

Department EA No.: 04-4A4410

Dear Mr. Bui:

San Francisco Regional Water Quality Control Board (Water Board) staff have reviewed the California Department of Transportation/Solano Transportation Authority (Department/Authority) Draft Environmental Impact Report (DEIR) for the Redwood Parkway—Fairgrounds Drive Improvement Project (Project) and offer the following comments.

The DEIR notes that roadway widening would result in the relocation of approximately 1,300 linear feet of Rindler Creek. Riparian trees would be removed from both creek banks, the existing channel would be filled, and the re-aligned creek channel would be planted with new riparian trees. We consider this a significant impact and will not issue Project 401 certification until the Department/Authority has demonstrated that all avoidance opportunities have been exhausted and that the current build alternative is mandatory to meet the Project need.

R1-1

If the Department/Authority is able to demonstrate that impacts to Rindler Creek are unavoidable, then we may consider compensatory mitigation for permanent impacts to the creek. The DEIR claims that impacts to Rindler Creek are temporary and has proposed only a 1:1 mitigation proposal; however, we consider temporary impacts as impacts that exist for one year or less before the impacted feature is restored to its pre-project conditions. Relocation of the channel and complete removal of the mature riparian vegetation would constitute permanent impacts. The Department/Authority would be

R1-2

JOHN MULLER, CHAIR | BRUCE H. WOLFE, EXECUTIVE OFFICER

required to provide a Rindler Creek Mitigation and Monitoring Plan prior to 401 certification issuance that includes a ten to twenty-year monitoring plan to ensure successful creek vegetation establishment. Additional mitigation would also be required to account for the temporal loss associated with the lost functions and values that would occur between the time of impact and the time that mitigation is deemed successful. A conservation easement and endowment may be required to ensure the land is protected in perpetuity and that financial resources are available for monitoring and the perpetual management and maintenance of the mitigation.

R1-2

Page 2.2-2 of the DEIR notes that approximately 3.7 acres of impervious surface would be added as a result of Project implementation. The DEIR does not specify how many acres of impervious surface would be re-worked. The Water Board requires that this Project provide treatment of post-construction stormwater from an area equivalent to all added and reworked impervious areas. The Department/Authority must treat post-construction stormwater using Low Impact Development (LID), landscape-based flow-through treatment devices. These devices use both vegetation and an engineered soil layer to filtrate pollutants.

R1-3

Page 2.2-10 notes that "permanent pollution prevention BMPs would be determined during the final design phase of the Build Alternative." Please note that permanent stormwater treatment BMPs are mandatory design elements that require the appropriation of right-of-way. As such, these BMPs must be incorporated at the earliest stages of Project design to avoid possible last-minute changes to Project design and associated permitting delays.

R1-4

Please contact me at (510)-622-2506, or via e-mail, at [BThompson@waterboards.ca.gov](mailto:BThompson@waterboards.ca.gov), if you have any questions.

Sincerely,



Brendan Thompson  
Environmental Specialist

cc: State Clearinghouse  
Army Corps of Engineers  
California Department of Fish and Game  
US EPA



**Responses to Comment Letter R1**

Response R1-1 **Chapter 1, Proposed Project**, includes a summary of the *Alternatives Considered but Eliminated from Further Discussion* (see page 1-20). Along Fairgrounds Drive right-of-way, no other alignment alternatives were possible because of the steep grades and developed land uses and/or water features on either side of the roadway. Alternatives to widen Fairgrounds Drive to the west were initially considered during the development of the proposed project; however, because of the presence of previously identified archaeological resources known to exist on the west side of Fairgrounds Drive near Lake Chabot and the presence of higher quality freshwater marsh and riparian forests in this area (in comparison to the east side of Fairgrounds Drive), widening to the west was determined to not be feasible. While widening Fairgrounds Drive to the east would impact a portion of the man-made Rindler Creek, this is considered to be preferable to impacting the wetland to the west, because relocation of the creek would result in a smaller acreage impact to wetlands, the open water portion of the impact can be fully restored immediately adjacent to the existing channel, and on-site restoration of the riparian forest cover is more likely to be successful than on-site restoration of wetlands similar to those on the west. Furthermore, widening to the east would have the least amount of physical disturbance to wetlands and there are and no known cultural resources. As a result, the proposed Build Alternative encompasses the best possible design, based on the predicted 2035 traffic conditions and physical features of the area.

As shown in **Table 1-3, Permits and Approvals**, the Department and STA are aware that consultation with the San Francisco Bay Regional Water Quality Control Board (RWQCB) will be required during the final design phase of the project with regards to issuance of a Section 401 Certification [most likely in tandem with the Section 404 permit request from the US Army Corps of Engineers (USACE)].

Response R1-2 As discussed in **Chapter 1, Proposed Project**, the Build Alternative includes on-site replacement of the wetlands (including freshwater marsh) and riparian woodlands associated with Rindler Creek by realigning the creek to just east of the widened roadway. The revegetation phase would also include replanting of native oaks. Secondly, **Mitigation Measure BIO-1** (Compensatory Mitigation for Jurisdictional Water Features) states that any impacts jurisdictional water features, including relocation of Rindler Creek, shall be subject to formalized mitigation requirements of the regulatory agencies, including the RWQCB. A conceptual restoration and mitigation plan shall be prepared prior to permit applications to regulatory agencies. The Department and STA will work with the RWQCB and USACE to ensure that the proposed mitigation requirements adequately capture all temporary and permanent impacts to Rindler Creek. The on-site

restoration of Waters of the U.S. combined with the implementation of other components of the conceptual restoration and mitigation plan will ensure no net loss of functions and values of the creek occur.

Response R1-3 The Department and STA are aware that the issuance of a Section 401 certification from the RWQCB requires the inclusion of reworked areas, defined as paved areas that have been removed and replaced down to base rock, in the total area of treatment obligation. The 3.7 acres of impervious surface referenced in **Section 2.2.1, Hydrology and Floodplain**, of the environmental document is relevant to the calculation of increased stormwater runoff and discussion of potential hydrological and flooding effects of the Build Alternative. The inclusion of reworked areas is not part of the stormwater runoff calculations.

For informational purposes, the identification of the Build Alternative's stormwater treatment obligation has been added to **Section 2.2.2, Water Quality**, where a discussion of Section 401 Certification requirements is most appropriate (see page 2.2-11). The new discussion includes the total calculations for increased impervious surfaces and reworked areas (reported as 2.3 acres in the Storm Water Data Report prepared for the Build Alternative) <sup>1</sup>

Section 401 permit certification would be obtained from the San Francisco Bay RWQCB. The stormwater treatment obligation for post-construction conditions would be calculated based on the 3.7 acres of impervious surfaces created by the Build Alternative, and an additional 2.3 acres of reworked areas.<sup>2</sup>

[footnote 2]

Issuance of a Section 401 permit certification from the RWQCB requires the inclusion of reworked areas, defined as paved areas that have been removed and replaced down to base rock, in the total area of treatment obligation.

As stated in **Section 2.2.2, Water Quality**, regulation of storm water discharge from activities on Fairgrounds Drive would fall under the Department's applicable National Pollutant Discharge Elimination System (NPDES) permits and Statewide Storm Water Management Plan (SWMP). More specifically, the Build Alternative would be required to comply with the Municipal Regional Stormwater NPDES Permit, Order R2-2009- 0074 (NPDES Permit No CAS612008). This permit contains specific requirements for water quality treatment and hydromodification improvements that differ from, and override, similar requirements in the SWMP. If appropriate, the incorporation of low impact

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<sup>1</sup> HQE Inc. March 2012. Long Form - Storm Water Data Report.

development, landscaped-based flow-through treatment devices will be considered during the final design phase of the project.

**Response R1-4** The environmental document is based on a preliminary engineering analysis of the proposed Build Alternative. The preliminary engineering activities in this phase include, among other things, surveys and mapping, hydraulic studies, right-of-way and utilities need/impact assessments, and materials and geotechnical information studies. In order to adequately capture the potential impacts of the project, the preliminary engineering surveys and assessments identify potential areas of disturbance beyond the actual footprint of the proposed improvements. This expanded area of analysis is intended to capture the areas where design improvements, such as permanent stormwater treatment elements, would be located. The inclusion of specific and detailed stormwater treatment elements is not required at this stage of project development, as it is well beyond the level of detail contained in the preliminary engineering activities.

In the final design phase of project development, project information would be reviewed and updated; the scope of the selected alternative refined; design surveys obtained; and detailed design reports including hydrology and hydraulic, geotechnical design, pavement design, and materials and soundwall design reports would be completed. Final right-of-way appropriation requirements would be reviewed to ensure there is sufficient right-of-way to implement the desired treatment element. <sup>†</sup> If the detailed design uncovers issues that were not properly addressed in the environmental document, additional review and revalidation of the report's conclusions may be required.



VALLEJO SANITATION &  
FLOOD CONTROL DISTRICT

*Protecting public health  
and the San Francisco Bay  
since 1952.*

450 Ryder Street  
Vallejo, California 94590  
phone 707-644-8949  
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DISTRICT MANAGER

Ronald J. Matheson

October 19, 2012

Howell Chan, Branch Chief  
Department of Transportation  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623

Attention: Ngoc Bui

**Re: EIR/EA Redwood Parkway –Fairgrounds Drive Improvement Project**

The Vallejo Sanitation and Flood Control District (VSFCD) has comments on Section 2.2 Physical Environment of the EIR/EA for the Redwood Parkway – Fairgrounds Drive Improvement Project (EIR).

On Page 2.2-2, the EIR states on top of the page that "Although some portions of Fairgrounds Drive are identified as being within the 100-year floodplain (Zone AE), based on the 2009 FEMA Flood Insurance Study for Solano County, there is no history of flooding on Fairgrounds Drive during the 100-year storm event." FEMA has just revised the Flood Insurance Rate Maps (FIRM) for this area and the results are being reviewed by the City of Vallejo, Department of Public Works. Also, the fact that there has not been a 100-year storm since the construction of Fairgrounds Drive does not negate the existence of the flood threat.

L1-1

In the same paragraph, the EIR refers to "the City of Vallejo's Storm Drain Master Plan". This is actually VSFCD's Master Plan.

L1-2

The proposed relocation of the reach of Rindler Creek located along Fairgrounds Drive is described as having no impact because the project will not increase water surface elevations. This ignores the fact that the reach of Rindler Creek located around the southern portion of the Fairgrounds is the only reach in the Rindler Creek System that does not have 100-year capacity and consequently the southern tip of the Fairgrounds is subject to flooding and has in fact flooded many times in the past. Development efforts for the Fairgrounds have recognized this and have incorporated widening of the creek into their plans. These plans should be incorporated into the plans for this project as it does not make sense to relocate a creek and subsequently widen it.


L1-3

The EIR does not mention any discharge requirements that VSFCD may have. VSFCD is concerned about an increase in stormwater pollution due to the increase in road surface and capacity of Fairgrounds Drive. It should be mentioned that Rindler Creek is on the 303(d) list and is considered an impaired waterway. There is also no mention of trash control requirements and the pilot project VSFCD has to capture trash at the I-80 culvert.

L1-4

L1-5

**VALLEJO SANITATION AND FLOOD CONTROL DISTRICT**

  
**RUDOLF OHLEMUTZ**  
District Engineer

**Responses to Comment Letter L1**

Response L1-1 On September 18, 2012, the Federal Emergency Management Agency (FEMA) issued a notice that the Flood Insurance Rate Map (FIRM) for the City of Vallejo was revised to remove a “Zone A” floodplain determination for an area of Rindler Creek that is outside of the hydrological study area for the proposed Build Alternative.<sup>2</sup> No revisions to the FEMA Flood Insurance Study report were issued. The removal of this 100-year flood zone does not affect the analysis included in the draft environmental document.

The revisions to the FEMA FIRM were made effective on February 1, 2013. The floodplain designations relevant to the hydrological study for the Build Alternative have not changed. As such, the following paragraph has been removed from the “Affected Environment” discussion in **Section 2.2.1, Hydrology and Floodplain** (see page 2.2-2):

~~FEMA is currently updating the FIRM for the hydrologic study area. As there is no historic evidence of flooding along Fairgrounds Drive, there is a potential that the new FIRM will be changed so that none of the Fairgrounds Drive roadway alignment falls within the 100-year floodplain.~~

The environmental document does not assert that the lack of historical flooding along Fairgrounds Drive negates the existence of a flood threat. Information related to past flood events is included for informational purposes only. The “Environmental Consequences” discussion of **Section 2.2.1, Hydrology and Floodplain**, includes a complete analysis of the Build Alternative’s potential effects on the floodplain within the hydrological study area based on calculated increases in stormwater flow. No adverse effects on the hydrology and drainage pattern within the floodplain are anticipated as a result of the Build Alternative.

Response L1-2 The following paragraph in **Section 2.2.1, Hydrology and Floodplain**, has been revised to reflect the correct reference to the Vallejo Sanitation & Flood Control District Storm Drain Master Plan (see page 2.2-2):

Although some portions of Fairgrounds Drive are identified as being within the 100-year floodplain (Zone AE), based on the 2009 FEMA Flood Insurance Study for Solano County, there is no history of flooding on Fairgrounds Drive during the 100-year storm event.

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<sup>2</sup> FEMA, *Letter of Map Revision Determination Document (FIRM Map No. 06095C044OE)*; Issue Date: September 18, 2012; Effective Date: February 1, 2013; Case No.: 12-09-2640P. Available online at: <http://www.r9map.org/Docs/12-09-2640P-060374-102DA.pdf>; Last accessed: February 19, 2013.

The flood profile for Rindler Creek in the Flood Insurance Study indicated that the 1-percent annual chance flood elevations are either at or below Fairground Drive's original elevation. In addition, the Vallejo Sanitation & Flood Control District Storm Drain Master Plan ~~City of Vallejo's Storm Drain Master Plan~~ shows no evidence of flooding on Fairgrounds Drive (see **Figure 2-25**).

Response L1-3 As discussed in **Section 2.2.1, Hydrology and Floodplain**, with the proposed relocation of Rindler Creek as a slightly larger channel than what currently exists, neither the addition of impervious area nor the added embankment within the floodplain will significantly affect the discharge rates or water surface elevation of the floodplain within the project limits. As such, the proposed improvements under the Build Alternative are not considered environmental risks nor result in a significant impact under CEQA in terms of flooding.

The creek widening and relocation that is proposed as part of the Solano County Fairgrounds redevelopment project (also known as the Solano 360 Specific Plan) is intended to offset flooding risks caused by the increased impervious surfaces that would result from the construction of new hotel, retail, and entertainment land uses on this adjacent property. While the Redwood-Parkway – Fairgrounds Drive Improvement Project is aware of the proposed fairgrounds development it is not appropriate or required under CEQA or NEPA for the Redwood-Parkway – Fairgrounds Drive Improvement Project to mitigate potential impacts associated with this separate and independent project.

For the purposes of the environmental analysis of the Build Alternative, the redevelopment of the fairgrounds property was assumed to be in place by 2030. It should be noted that the proposed Solano 360 Specific Plan is currently under environmental review, and actual project approval and funding for the proposed development has not been secured. It is likely that the permitting processes and construction of the Fairgrounds Drive improvements under the Build Alternative would occur well before to the initial phases of construction for the Solano 360 Plan. However, the Department and STA will work with Solano County and City of Vallejo to see if it is possible to combine the Rindler Creek relocation efforts at the time construction planning begins.

Response L1-4 See Response R1-3. As stated in **Section 2.2.2, Water Quality**, regulation of storm water discharge from activities on Fairgrounds Drive would fall under the Department's applicable National Pollutant Discharge Elimination System (NPDES) permits and Statewide Storm Water Management Plan (SWMP). This permit contains specific requirements for water quality treatment and hydromodification improvements that would take precedence over the Vallejo Sanitation and Flood Control District discharge requirements.

Response L1-5 As discussed in **Section 2.2.2, Water Quality**, California identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with Section 303(d) of the Clean Water Act. The following “Affected Environment” discussion in the Water Quality section has been updated with information from the 2010 Section 303(d) list of impaired waterways (see page 2.2-9). These updates include the addition of Rindler Creek to the 2010 Section 303(d) list for elevated levels of trash.

The hydrologic study area consists of the watershed that contains Rindler Creek, North and South Fork Rindler Creek, Blue Rock Spring Creek, and Lake Chabot. The watershed drains westerly to San Pablo Bay through Chabot Creek. Surface runoff from the hydrologic study area flows through a series of dikes, open channels, and subsurface drainage systems into Rindler Creek and Blue Rock Springs Creek. Both creeks flow into Lake Chabot located approximately 1,800 feet north of I-80 and 400 feet west of SR 37, then continues to the northwest and ultimately discharges into the Napa River located approximately 2.5 miles from the study area. Lake Chabot serves as a flood control retention basin for the watershed. The Napa River is on the ~~2006~~ 2010 Section 303(d) list for impairment of mercury, nutrients, pathogens and sediments. Lake Chabot is not on the ~~2006~~ 2010 Section 303(d) list. Rindler Creek is on the 2010 Section 303(d) list for elevated levels of trash.

The terms for coverage under the Department’s NPDES permit requires that long-term pollution prevention and control measures be incorporated into the Build Alternative design. Typical permanent treatment best management practices (BMPs) may include vegetated basins and/or swales along the roadways that collect stormwater runoff. Gross solids removal devices are also one of the approved treatment BMPs that can be employed on a transportation project, as appropriate. Specific permanent pollution prevention BMPs would be determined during the final design phase of the Build Alternative. Incorporation of these BMPs would ensure that the operation of the Build Alternative would not adversely affect water quality in local waterways.

In addition to specific treatment BMPs that filter trash and debris, the Department has developed maintenance and inspection procedures that consider factors such as performance indicators, field measurements, frequency of field measurements, and specific maintenance activities for the treatment BMPs approved for deployment. These procedures include the regular removal of trash and debris from treatment BMPs.



The applicable guidelines related to the operation and maintenance of treatment BMPs for this project would take precedence over the trash control requirements of the Vallejo Sanitation and Flood Control District. However, it is likely that these guidelines and local requirements overlap, and are equally effective in preventing trash and debris from entering the nearby waterways.

**From:** [Heidi Ouren](#)  
**To:** [Jennifer Gallerani](#)  
**Cc:** [Audrey Darnell](#)  
**Subject:** Fw: Redwood Parkway-Fairgrounds Drive Improvement Project  
**Date:** Thursday, January 31, 2013 12:38:24 PM

---

[REDACTED]

[REDACTED]

[REDACTED]

----- Forwarded Message -----

**From:** Heidi Ouren <ouren@hqeinc.net>  
**To:** "since56pad@att.net" <since56pad@att.net>  
**Cc:** Janet Adams <jadams@sta-snci.com>; Audrey Darnell <a.darnell@circlepoint.com>  
**Sent:** Friday, October 5, 2012 11:04 AM  
**Subject:** Redwood Parkway-Fairgrounds Drive Improvement Project

Mr. Desrosiers:

Thank you for your comment on the subject project. Following is my understanding of our discussion yesterday. This will become part of the public record documented in the Environmental Impact Report/Environmental Assessment. Please confirm that I have captured your comment correctly.

"The west end of the Redwood Parkway structure is in need of repair due to the difference in settlement between the roadway and the structure. It has been repaired twice in the past six years by placing asphalt ramping up to the structure, creating a mini speed bump and causing a momentary loss of control. The new Winco development at the existing Elks Lodge property will add more traffic, possibly making the situation worse. I have tried to call Caltrans about this issue, but have received no response."

l1-1

[REDACTED]

Feel free to call me at the number below if you have any further input between now and the close of the public comment period (Nov. 5, 2012).

Please visit our website at <http://hqeinc.net/>

Heidi Ouren, P.E.  
HQE Incorporated  
1814 Franklin Street, Suite 700  
Oakland, CA 94612

**Responses to Comment Letter I1**

Response I1-1 Detailed descriptions of the existing facilities within the project study limits, and associated deficiencies, are discussed in **Section 1.1, Purpose and Need**.

**Section 1.1, Purpose and Need**, also includes a summary of the future traffic congestion that would occur from development in the project area, including the Winco Foods project. It was determined that the existing capacity of the roadways in this area will not accommodate projected future traffic volumes anticipated in the project vicinity. Reconstructing the I-80/Redwood Parkway interchange as proposed under the Build Alternative would relieve existing congestion and improve traffic flow on the local roadway network in order to accommodate redevelopment and planned land uses in the area. Improvements within the Build Alternative layout of the I-80/Redwood Parkway interchange include resurfacing and restriping where widening, realignment, and new ramps are constructed, as shown in Figure 1-2a of the final EIR/EA.

**From:** [Heidi Ouren](#)  
**To:** [jadams@sta-snci.com](mailto:jadams@sta-snci.com)  
**Cc:** [Audrey Darnell](#); [Jennifer Gallerani](#)  
**Subject:** Re: Please call Dana Higgins Re Fairground Drive Project  
**Date:** Wednesday, January 30, 2013 12:19:41 PM  
**Attachments:** [image001.jpg](#)

---

Janet:

I called Dana back and walked her through the Caltrans website for right of way publications. [REDACTED] She is the property owner of [REDACTED] and said we could put a comment in the ED stating that she is in full support of the project improvements.

] 12-1

Please visit our website at <http://hqeinc.net/>

Heidi Ouren, P.E.  
HQE Incorporated  
1814 Franklin Street, Suite 700  
Oakland, CA 94612  
510-763-4895 x114 (Phone)  
510-763-6215 (Fax)  
925-367-3363 (Cell)

---

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



**Responses to Comment Letter I2**

Response I2-1    Thank you for your comment. This comment is part of the administrative record that will be considered by the lead agencies when making a decision about the project.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

Please submit written comments today, by mail or by e-mail to:

Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Celsa/Jose/Angel

Phone: \_\_\_\_\_

Address: \_\_\_\_\_

E-mail: \_\_\_\_\_

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

*I have 9 years in property a whole life with my kids. I don't agree with the project, but if you pay me the Balance of the loan & everything. I have towards the house plus all fix ups & inconvenience & get me into another house. Kids don't want to move, their whole life is here.*

Please use the reverse side or attach any additional pages

I3-1

**Responses to Comment Letter I3**

*Transcription: I have 9 years in property, a whole life with my kids. I don't agree with the project, but if you pay me the balance of the loan and everything I have towards the house plus all fix ups and inconvenience and get me into another house. Kids don't want to move, their whole life is here.*

Response I3-1     Because we understand that it would be difficult to move your family from your home of nine years, if your home is acquired for the project, the Department's Relocation Assistance Program would help you and your family move with as little inconvenience as possible. Please see **Appendix B** for a summary of relocation benefits and payments you may be entitled to. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, will be strictly adhered to.

In order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative would require the acquisition of private property. The proposed improvements of the Build Alternative would affect 20 existing single or multi-family residents and 17 commercial parcels. A detailed description of the properties affected by the project (including tables and figures) is discussed in **Section 2.1.2, Community Impacts**, under the subsection, "Relocation and Real Property Acquisition."

It is Department policy that persons displaced as a result of Department transportation projects will receive fair and equitable treatment and will not suffer unnecessarily as a result of projects designed for the benefit of the public. You will not be required to relocate until comparable replacement housing has been made available to you.

It is possible that some homeowners of the affected properties would have negative equity on their mortgages. Negative equity occurs when the value of a property used to secure a loan is less than the outstanding balance on the loan. For mortgages, this is also referred to as being "underwater" or "upside down." In recognition of this issue, the Department will work closely with homeowners and the banks during the property acquisition phase of the project.

The Department's right-of-way brochure is included as **Appendix F** in this final EIR/EA. The brochure was prepared for individuals who may be potentially affected by a proposed transportation project, and provides answers to some of the frequently asked questions from property owners involved in the property acquisition process. It should be noted that, if required, acquisition of your home would not begin until funding for project construction is secured, which we expect to occur in 2015.



# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

Please submit written comments today, by mail or by e-mail to:

Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Mariadel Carmen Velásquez Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED] com.mx

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

I am really concern about my house. I bought it about 3 years ago. I have spent a lot in remodeling and repairs. Are you going to buy it? Where Am i going to move? House prices

Please use the reverse side or attach any additional pages →

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



OCTOBER 11, 2012 PUBLIC MEETING  
COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.

## COMMENT FORM

are getting higher, and I doubt what  
you pay us will afford to ~~buy~~ another  
house in the same neighborhood.

I am really concern.

14-1,  
Cont.

Thank you for your comment

**Responses to Comment Letter I4**

*Transcription: I am really concern about my house. I bought it about 3 years ago. I have spent a lot in remodeling and repairs. Are you going to buy it? Where am I going to move? House prices are getting higher and I doubt what you pay us will afford to another house in the same neighborhood. I am really concerned.*

Response I4-1 Thank you for taking the time to comment. If your home is acquired for this project, a relocation advisor will work closely with you to ensure that you receive all payments and benefits you are entitled to, and that all regulations are observed. Please see **Appendix B** for a summary of relocation benefits. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. It is the Department's responsibility to ensure that you receive fair market value as if you sold your property privately in the open market. The remodeling you have done will be taken into consideration when an appraisal is done of your home. The Department also offers to provide you with assistance in finding a new place in which to live.

The Department's right-of-way brochure is included as **Appendix F** in this final EIR/EA and includes more details. The brochure was prepared for individuals who may be potentially affected by a proposed transportation project, and provides answers to some of the frequently asked questions from property owners involved in the property acquisition process. It should be noted that, if required, acquisition of your home would not begin until funding for project construction is secured, which we expect to occur in 2015.

The Department's Relocation Assistance Program would help you and your family move with as little inconvenience as possible. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, would be strictly adhered to.

It is Department policy that persons displaced as a result of Department transportation projects will receive fair and equitable treatment and will not suffer unnecessarily as a result of projects designed for the benefit of the public. You will not be required to relocate until comparable replacement housing has been made available to you.

It is possible that some homeowners of the affected properties would have negative equity on their mortgages. Negative equity occurs when the value of a property used to secure a loan is less than the outstanding balance on the loan. For mortgages, this is also referred to as being "underwater" or "upside down." In recognition of this issue, the Department will work closely with homeowners and the banks during the property acquisition phase of the project.

In order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative would require the acquisition of private property. The proposed improvements of the Build Alternative would affect 20 existing single or multi-family residents and 17 commercial parcels. A detailed description of the properties affected by the project (including tables and figures) is discussed in **Section 2.1.2, Community Impacts**, under the subsection, "Relocation and Real Property Acquisition." The Department understands that some residents and businesses will be affected and has established programs to ensure that parties are assisted and treated fairly.

The final EIR/EA considers adverse effects to the immediate and nearby residences and businesses from traffic, noise, and pollution. Accordingly, the final EIR/EA includes avoidance, minimization, and mitigation measures to alleviate those effects of the Build Alternative. The proposed project will reduce existing and future traffic congestion, mitigate noise levels to acceptable levels, and comply with air quality standards and specifications. Avoidance, minimization, and mitigation measures for traffic, noise, and air quality are summarized on pages 2.1-53, 2.2-52, and 2.2-33, respectively.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

Please submit written comments today, by mail or by e-mail to:

Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: BRIAN McMILLIN  
Address: [REDACTED]

Phone: [REDACTED]  
E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

THE PROPOSED PLAN SEEMS LIKE A GOOD SOLUTION TO  
THE FREEWAY RAMP PROBLEMS,  
I WOULD LIKE TO SEE VALLEJO & J'S GONE, BAD  
ELEMENT.

I5-1

Please use the reverse side or attach any additional pages

**Responses to Comment Letter I5**

*Transcription: The proposed plan seems like a good solution to the freeway ramp problems. I would like to see Vallero and JJ's GONE, bad elements.*

Response I5-1      Thank you for your comment. This comment is part of the administrative record that will be considered by the lead agencies when making a decision about the project.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

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Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Pam McMullen Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

My concern has to do with J.J.'s Fish + Chips  
and liquor store (Valero's Gas Station)  
I am all for taking these business' out! It would

Please use the reverse side or attach any additional pages



# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

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OCTOBER 11, 2012 PUBLIC MEETING  
COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.

## COMMENT FORM

be good to move them somewhere else.

The presence of these business in this area  
bring the neighborhood home value and personal  
safety down.

To see improvements for our city, to bring in  
good businesses are great, as well as solve the  
traffic issues

Sound may be an issue but if researched and  
found acceptable = good. Better than loud music,  
screaming patrons and car tires!

I6-1,  
Cont.

Thank you for your comment

### **Responses to Comment Letter I6**

*Transcription: My concern has to do with JJ's Fish & Chips and liquor store (Valero Gas Station). I am all for taking these businesses out! It would be good to move them somewhere else. The presence of these businesses in this area brings the neighborhood home value and personal safety down.*

*To see improvements for our city, to bring in good businesses are great, as well as solve the traffic issues.*

*Sound may be an issue but if researched and found acceptable = good. Better than loud music, screaming patrons and car tires!*

Response I6-1     Thank you for your comment. This comment is part of the administrative record that will be considered by the lead agencies when making a decision about the project.

Response I6-2     A complete assessment of the Build Alternative's potential adverse effects related to noise is included in **Section 2.2.7, Noise**.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

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Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

(2nd card)

Additional  
Comment

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Pamela McMullin  
Address: [REDACTED]

Phone: [REDACTED]  
E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

I would like to be kept apprised of any changes in regards to the property on the corner of Fairgrounds + Sereno Drive - Valero Gas Station and

17-1

Please use the reverse side or attach any additional pages

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

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OCTOBER 11, 2012 PUBLIC MEETING  
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COMMENT FORM

JJ's. These businesses are a concern to me  
and I would like to be kept in the loop  
in regards to the decisions made.

Thank you - Pam McMellin



I7-1,  
Cont.

*Thank you for your comment*

**Responses to Comment Letter I7**

*Transcription: I would like to be kept apprised of any changes in regards to the property on the corner of Fairgrounds & Sereno Drive – Valero Gas Station and JJ's. These businesses are a concern to me and I would like to be kept in the loop in regards to the decisions made.*

Response I7-1      Notifications and decisions related to specific property acquisitions within the project limits will be conducted with the appropriate land owners and tenants of those properties affected by the Build Alternative. The commenter is included in the project mailing list, and will continue to receive notifications regarding the project during the final design phase and construction of the Build Alternative.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

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Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Angel Jose Garcia  
Address: [REDACTED]

Phone: [REDACTED]  
E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

Terrible information & attitude given  
by [REDACTED] She told us her favorite line  
"WALK AWAY" you're going to loose anyway  
How inconsiderate of her. I hope she's never

Please use the reverse side or attach any additional pages

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

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OCTOBER 11, 2012 PUBLIC MEETING  
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COMMENT FORM

In the same position.  
Very inconsiderate lady

18-1,  
Cont.

*Thank you for your comment*



**Responses to Comment Letter I8**

*Transcription: Terrible information and attitude given by [project representative]. She told us her favorite line “WALK AWAY” You’re going to lose anyway. How inconsiderate of her. I hope she is never in the same position. Very inconsiderate lady.*

Response I8-1     We take everyone’s concerns seriously and are sorry that you did not have a good experience at the public meeting. Please contact Ngoc Bui at (510) 286-4736 or [ngoc\\_bui@dot.ca.gov](mailto:ngoc_bui@dot.ca.gov) with any questions you have.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

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Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Raquel Ceron Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

We would not like this project to be Done Because I'm been living in my house for 15 year and my family Lives there and we had put A lot of money to our Home. We love our house ~~no~~ NO Body should do this to my house or to any house around my house. Please think about what I wrote Down I'm not the only person feel this way Plus ~~am~~ you guy wouldn't Pay enough money For my house! Plus I'm Feeling stree out Because this is my house that I Don't ~~would~~ like this project. This what what

Please use the reverse side or attach any additional pages

4-51

19-1

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



OCTOBER 11, 2012 PUBLIC MEETING

COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.

## COMMENT FORM

my Family has We love our House.  
I have put A lot of money to my house  
that would not like this have to me or  
my Family And Repeat I feed stree out Because  
this is my house. NoBody is happy of  
this project we Dont Need this in Vallejo  
I really really hope that Someone or the  
person that is reading this hear and understand  
what I'm feeling I'm person that is hardwork  
that fight what right And this not right  
because I'm living in my house for 15 years  
and that I love my house. I'm not happy.  
Is project is not improvement to me or my  
neighbor are not happy at all. "I dont like this"  
at all I'm not happy.

Thank you for your comment

**Responses to Comment Letter I9**

*Transcription: We would not like this project to be done because I've been living in my house for 15 years and my family lives there and we have put a lot of money into our home. We love our house and nobody should do this to my house or to any house around my house. Please think about what I wrote down. I'm not the only person that feels this way plus you guy wouldn't pay enough money for my house! Plus I'm feeling stressed out because this is my house and I don't like this project. This is what my family has - we love our house. I have put a lot of money into my house and I would not like this to happen to me or my family. I feel stressed out because this is my house. Nobody is happy about this project. We don't need this in Vallejo. I really really hope that someone or the person that is reading this hears and understands what I'm feeling. I'm a person that is hardworking, that fights for what is right and this not right because I've been living in my house for 15 years and I love my house. I'm not happy. This project is not an improvement for me or my neighbors, we are not happy at all. "I don't like this" at all. I'm not happy.*

Response I9-1 Thank you for taking the time to share your concerns about your home of 15 years. If your house is acquired, the Department's Relocation Assistance Program would help you and your family move with as little inconvenience as possible. Please see **Appendix B** for a summary of relocation benefits.

Please be assured that an appraiser will analyze your property and examine all of the features that contribute to its market value.

Information about improvements you have made and any other special features that you believe may affect the market value of your property should be given to the appraiser to ensure he/she has all the information you feel is relevant. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, will be strictly adhered to.

It is Department policy that persons displaced as a result of Department transportation projects will receive fair and equitable treatment and will not suffer unnecessarily as a result of projects designed for the benefit of the public. You will not be required to relocate until comparable replacement housing has been made available to you.

It is possible that some homeowners of the affected properties would have negative equity on their mortgages. Negative equity occurs when the value of a property used to secure a loan is less than the outstanding balance on the loan. For mortgages, this is also referred to as being "underwater" or "upside down." In recognition of this issue, the Department will work closely with homeowners and the banks during the property acquisition phase of the project.

The Department's right-of-way brochure is included as **Appendix F** in this final EIR/EA. The brochure was prepared for individuals who may be potentially affected by a proposed transportation project, and

provides answers to some of the frequently asked questions from property owners involved in the property acquisition process. It should be noted that, if required, acquisition of your home would not begin until funding for project construction is secured, which we expect to occur in 2015.

In order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative would require the acquisition of private property. The proposed improvements of the Build Alternative would affect 20 existing single or multi-family residents and 17 commercial parcels. A detailed description of the properties affected by the project (including tables and figures) is discussed in **Section 2.1.2, Community Impacts**, under the subsection, "Relocation and Real Property Acquisition."

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

Please submit written comments today, by mail or by e-mail to:

Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Robert M. Howell Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

*Sound walls reuse noise and snow it  
forbes into the neighborhood rather than placing it  
into the immediate area. What if you could not  
spoke to or see a person the development*

I10-1

Please use the reverse side or attach any additional pages

**Responses to Comment Letter I10**

*Transcription: Sound walls reuse noise and move it further into the neighborhood rather than placing it into the immediate area. What provisions will you take to avoid or prevent this development?*

Response I10-1 The preliminary noise abatement analysis and noise barrier options considered within the project limits are presented in **Section 2.2.7, Noise**. The Department will follow standard guidelines and protocol with regard to noise levels as a result of the Build Alternative. Please note that a noise barrier must reduce noise levels by at least 5 dBA at affected homes or it is not considered feasible. Other factors relating to geometrics (i.e. sight distance), safety, maintenance, and security can also affect feasibility. In addition, the views and opinions of residents living immediately adjacent to the project area and affected by traffic noise would be considered in reaching a final decision on whether or not to build a soundwall. Your comment is an important part of this process. The final decision regarding noise abatement will be made upon completion of the project design and public involvement processes.



# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



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Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Emma Santos  
Address: [REDACTED]

Phone: [REDACTED]  
E-mail: [REDACTED] f

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

How do you compensate for income property  
Parcel No. 16 - APN - 0053-232-0350?  
How far out do project compensation?

I11-1

Please use the reverse side or attach any additional pages

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



OCTOBER 11, 2012 PUBLIC MEETING  
COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.  
COMMENT FORM

What happens after funding is met?

111-1,  
Cont.

*Thank you for your comment*

**Responses to Comment Letter I11**

*Transcription: How do you compensate for income property parcel no. 16. APN-0053-232-350? How far out do project compensation? What happens after funding is met?*

Response I11-1 During the final design phase of the project, which follows approval of this document, a Right of Way professional will work with you on an individual basis. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, will be strictly adhered to. The right of way phase of the project may take 12 to 18 months, although acquisition of individual properties may not take that long once an agreement is reached between the property owner and the Department. However, acquisition of your property, if necessary, would not begin until funding for project construction is secured, which we expect to occur in 2015.

The Department's right-of-way brochure is included as **Appendix F** in this final EIR/EA. The brochure was prepared for individuals who may be potentially affected by a proposed transportation project, and provides answers to some of the frequently asked questions from property owners involved in the property acquisition process. You may also be entitled to relocation assistance, which is described in **Appendix B**.

Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations with the property owners, and also are given a detailed explanation of the Caltrans Relocation Assistance Program. Please see **Appendix B** for a summary of relocation benefits.

In order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative would require the acquisition of private property. The proposed improvements of the Build Alternative would affect 20 existing single or multi-family residents and 17 commercial parcels. A detailed description of the properties affected by the project (including tables and figures) is discussed in **Section 2.1.2, Community Impacts**, under the subsection, "Relocation and Real Property Acquisition."

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

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Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Raul/Alicia Reyes

Phone: [REDACTED]

Address: [REDACTED]

E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

*I would like to have a barrier built on the hill and also to plant tall Redwood Trees to absorb the pollution & help for the noise.*

I12-1

Please use the reverse side or attach any additional pages

## **Responses to Comment Letter I12**

*Transcription: I would like to have a barrier built on the hill and also to plant tall redwood trees to absorb the pollution and help reduce the noise.*

Response I12-1 The preliminary noise abatement analysis and noise barrier options considered within the project limits are presented in **Section 2.2.7, Noise**. Noise Barrier 4, located at the terminus of Del Mar Avenue adjacent to and west of Fairgrounds Drive, was evaluated for feasibility and reasonableness. Please see Figure 2-31 and page 2.2-56. The estimated cost of the barrier is more than the reasonable allowance and is therefore not anticipated to be included in the proposed project. However, the final decision regarding noise abatement will be made upon completion of the project design and public involvement processes. Your comment will be considered in making this decision.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

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Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: M. Groun Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED] net

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

SOUND WALL ON MARLAND SEEMS VERY NECESSARY -  
SOUND WALL EXTENDING INTO REDWOOD ST SEEMS VERY  
CLAUSTROPHOBIC!

ALSO - WHY NOT FIND FLANS HELPING TO FINANCE THIS? DON'T

Please use the reverse side or attach any additional pages

THEY REAP A  
SIGNIFICANT  
BENEFIT?

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



OCTOBER 11, 2012 PUBLIC MEETING  
COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.  
COMMENT FORM

WHAT IS THE PLANNED COMPENSATION FOR RESIDENTS  
ON THE WEST SIDE OF MOUNTAIN ST FOR LIVING  
IN A CONSTRUCTION ZONE?

113-3

RE: SANDWICH - WHAT ARE THE PLANS TO SOFTEN IN  
VISUALLY? TREES, SIGNAGE, etc?

113-4

Thank you for your comment



**Responses to Comment Letter I13**

*Transcription: Sound wall on Moorland seem very necessary. Sound wall extension on to Redwood Street seems very claustrophobic.*

*Also, why isn't Six Flags helping to finance this? Don't they reap a significant benefit?*

*What is the planned compensation for residents on the west side of Moorland Street for living in a construction zone?*

*RE: Sound Wall – what are the plans to soften in visually? Trees, shrubs, etc?*

- Response I13-1 See Response I12-1 and I10-1. The preliminary noise abatement analysis and noise barrier options considered within the project limits are presented in **Section 2.2.7, Noise**. The Department will follow standard guidelines and protocol with regard to noise levels as a result of the Build Alternative. The comment will be considered in reaching a decision on noise abatement measures. The final decision regarding noise abatement will be made upon completion of the project design and public involvement processes.
- Response I13-2 Six Flags may contribute towards the signalization of Fairgrounds Drive/Sage Street per a previous agreement with the City of Vallejo. All other improvements proposed under the Build Alternative would be implemented by STA and the local jurisdictions.
- Response I13-3 The EIR/EA considers adverse effects to the immediate and nearby residences and businesses from construction activities. Accordingly, the EIR/EA includes avoidance, minimization, and mitigation measures to alleviate temporary effects of the Build Alternative. Temporary construction noise mitigation measures include, but are not limited to, restricting hours of construction, use of equipment mufflers and “quiet” air compressors, and restricting unnecessary idling. Please see page 2-2.57. The Department will also implement a public outreach program during construction to inform residents and the general public about construction activities and timelines. The program will also include contact information for the public outreach officer so that individual concerns can be addressed as required.
- Response I13-4 See response I12-1. The final decision regarding noise abatement, visual and type of barriers will be made upon completion of the project design and public involvement processes. In addition, landscape plans shall be developed and approved by the Department during the final design phases. Landscape plans for areas outside of the state right-of-way shall also adhere to the City of Vallejo Standard Specifications, which identify design standards for the type and size of roadside landscaping that would ensure visual consistency in the project area.

**REDWOOD PARKWAY-FAIRGROUNDS DRIVE  
IMPROVEMENT PROJECT**

EA# 4A4410



**OCTOBER 11, 2012 PUBLIC MEETING  
COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.  
COMMENT FORM**

Please submit written comments today, by mail or by e-mail to:

Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdiveproject@gmail.com

**The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.**

Name: JOSE & LILIANA BEVITEZ Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED]@com

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

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*Please use the reverse side or attach any additional pages*

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



OCTOBER 11, 2012 PUBLIC MEETING

COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.

## COMMENT FORM

H. there we are the new owners of 20 Howard, we are very happy in our new home but sad to hear that our property is potentially affected by this project it's not something that we agreed on we are for the first time full fill the American dream of home ownership so we oppose the way this project is been design may be there could be another way of desing it where not alot of home owner would be affected, my wife and I are also very concern that all the noise and pollution this project will bring to the area not to mention the traffiet that will be bring on this area, it is already very busy we don't need more traffic.

114-1

Thank you for your comment

**Responses to Comment Letter I14**

*Transcription: Hi there we are the new owners of [address removed], we are very happy in our new home but sad to hear that our property is potentially affected by this project. It's not something that we agreed on. We are for the first time fulfill the American dream of homeownership so we oppose the way this project is been design maybe there could be another way of addressing it where not a lot of homeowners would be affected. My wife and I are also very concerned about all the noise and pollution this project will bring to the area not to mention the traffic that it will be bring into this area. It's already very busy. We don't need more traffic.*

Response I14-1 Thank you for taking the time to comment. If your home is acquired for this project, a relocation advisor will work closely with you to ensure that you receive all payments and benefits you are entitled to, and that all regulations are observed. Please see **Appendix B** for a summary of relocation benefits. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. It is the Department's responsibility to ensure that you receive fair market value as if you sold your property privately in the open market. The Department also offers to provide you with assistance in finding a new place in which to live.

The Department's right-of-way brochure is included as **Appendix F** in this final EIR/EA and includes more details. The brochure was prepared for individuals who may be potentially affected by a proposed transportation project, and provides answers to some of the frequently asked questions from property owners involved in the property acquisition process. It should be noted that, if required, acquisition of your home would not begin until funding for project construction is secured, which we expect to occur in 2015.

The Department's Relocation Assistance Program would help you and your family move with as little inconvenience as possible. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, would be strictly adhered to.

It is Department policy that persons displaced as a result of Department transportation projects will receive fair and equitable treatment and will not suffer unnecessarily as a result of projects designed for the benefit of the public. You will not be required to relocate until comparable replacement housing has been made available to you.

It is possible that some homeowners of the affected properties would have negative equity on their mortgages. Negative equity occurs when the value of a property used to secure a loan is less than the outstanding balance on the loan. For mortgages, this is also referred to as being "underwater" or "upside down." In recognition of this issue, the

Department will work closely with homeowners and the banks during the property acquisition phase of the project.

In order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative would require the acquisition of private property. The proposed improvements of the Build Alternative would affect 20 existing single or multi-family residents and 17 commercial parcels. A detailed description of the properties affected by the project (including tables and figures) is discussed in **Section 2.1.2, Community Impacts**, under the subsection, "Relocation and Real Property Acquisition." The Department understands that some residents and businesses will be affected and has established programs to ensure that parties are assisted and treated fairly.

The final EIR/EA considers adverse effects to the immediate and nearby residences and businesses from traffic, noise, and pollution.

Accordingly, the final EIR/EA includes avoidance, minimization, and mitigation measures to alleviate those effects of the Build Alternative.

The proposed project will reduce existing and future traffic congestion, mitigate noise levels to acceptable levels, and comply with air quality standards and specifications. Avoidance, minimization, and mitigation measures for traffic, noise, and air quality are summarized on pages 2.1-53, 2.2-52, and 2.2-33, respectively.

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

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Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: BETTY MOSHER Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

I FEEL IT IS EXTREMELY IMPORTANT TO  
HAVE A SIDEWALK ON OAKLAND

I15-1

Please use the reverse side or attach any additional pages

**Responses to Comment Letter I15**

Transcription: *I feel it is extremely important to have a soundwall on Moorland.*

Response I15-1 The preliminary noise abatement analysis and noise barrier options considered within the project limits are presented in **Section 2.2.7, Noise**. Noise Barrier 3 is proposed along the property line of Moorland Street residential properties that would remain with the Build Alternative, along the northbound Moorland Street right of way and along a segment of westbound Redwood Parkway at the right of way line. Please see Figure 2-31 and pages 2.2-55 and 2.2-56. A 10-foot barrier was found to be reasonable and feasible in this area and will likely be incorporated into the Build Alternative. However, the final decision regarding noise abatement will be made upon completion of the project design and public involvement processes. Your comment will be considered in making this decision.



# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



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Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Ana Mungue  
Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

no me gusta lo que tienen planiado  
yo tengo 15 años de vivir en la casa  
y es lo que tengo para mis hijas  
otra cosa las casas au bajado de pre-

I16-1

Please use the reverse side or attach any additional pages

Sí o estoy pagando precio alto  
tengo mas de un mes que estoy enferma  
junto con mis hijas no quiero que esto  
pase yo soy una mujer que trabajo  
mucho para pagar mi casa no quiero que pase  
esto

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



OCTOBER 11, 2012 PUBLIC MEETING

COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.

## COMMENT FORM

Yo le he metido mucho dinero a  
La Casa le cambie alfombra le  
puse Madera Se hizo estorage atras  
El baño se Reparó cocina la entrada  
Puertas Cuarto para la baidoras  
Se cambio El techo Reparacion de  
Paredes Se echo Semento a los  
Lados Se compro lamina para los  
Pacios al finas Ventanas  
Yo lo que quiero es que ablenclaro  
con este proyecto porque yo no  
estoy de acuerdo con el proyecto  
Yo estado mucho en la Casa  
quiero mucho la Casa  
No es justo lo que estan haciendo  
me puede dar asta un estro de  
nervios porque nosotros somos  
los afectados di game cuando  
comensaron este proyecto yo escribido  
una carta No "De acuerdo"

116-1,  
Cont.

Thank you for your comment

**Responses to Comment Letter I16**

*Transcription: No me gusta lo que tienen planeado yo tengo 15 anos de vivir en la casa y es lo que tengo para mis hijas otra cosa las casas son bajado de precio y estoy pagando precio alto tengo más de un mes que estoy enferma junto con mis hijas no quiero que esto pase yo soy una mujer que lucho mucho para pagar mi casa no quiero que paso esto. Yo le e metido mucho dinero a la casa, le cambie alfombra le puse madera se hizo estorage atras el bano se reparo cocina la entrada puertas cuarto para lavadoras se cambio el techo reparación de paredes se hecho cemento a los lados se compra lamina para los pacios algunas ventanas yo lo que quiera es que hablen claro con este proyecto porque yo no estoy de acuerdo con el proyecto yo he gastado mucho en la casa quiero mucho la casa no es justo lo que están haciendo me puede dar hasta un estroke de nervios porque nosotros somos los afectados digame cuando comenzaron este proyecto yo he recibido una carta no “di acuerdo”*

*Translation: I don't like what they have planned. I've been living in my house for 15 years and it is all I have for my daughters. Another thing is that the house prices have dropped, and I am paying a high price. I have been sick for more than a month with my daughters. I don't want this to happen; I am a woman that fights a lot to pay for my house and I don't want this to happen. I have put a lot of money into this house.*

*The carpet was taken out and wood was put down. Storage was put behind the bathroom, the kitchen was repaired, the doors to the wash room were changed, the roof was changed, the walls were repaired, cement was laid on the sides of the walls, laminate was bought for some of the windows. What I would like is for you to speak clearly about this project because I do not agree with the project. I have spent a lot on the house, and I love the house a lot. It is not fair what you are doing.*

**Response I16-1** Thank you for taking the time to comment. If your house is acquired, the Department's Relocation Assistance Program would help you and your family move with as little inconvenience as possible. Please see **Appendix B** for a summary of relocation benefits.

Please be assured that an appraiser will analyze your property and examine all of the features that contribute to its market value. Information about improvements you have made and any other special features that you believe may affect the market value of your property should be given to the appraiser to ensure he/she has all the information you feel is relevant. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, will be strictly adhered to.

It is Department policy that persons displaced as a result of Department transportation projects will receive fair and equitable treatment and will not suffer unnecessarily as a result of projects designed for the benefit of the public. You will not be required to relocate until comparable replacement housing has been made available to you.

It is possible that some homeowners of the affected properties would have negative equity on their mortgages. Negative equity occurs when the value of a property used to secure a loan is less than the outstanding balance on the loan. For mortgages, this is also referred to as being “underwater” or “upside down.” In recognition of this issue, the Department will work closely with homeowners and the banks during the property acquisition phase of the project.

The Department’s right-of-way brochure is included as **Appendix F** in this final EIR/EA. The brochure was prepared for individuals who may be potentially affected by a proposed transportation project, and provides answers to some of the frequently asked questions from property owners involved in the property acquisition process. It should be noted that, if required, acquisition of your home would not begin until funding for project construction is secured, which we expect to occur in 2015.

In order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative would require the acquisition of private property. The proposed improvements of the Build Alternative would affect 20 existing single or multi-family residents and 17 commercial parcels. A detailed description of the properties affected by the project (including tables and figures) is discussed in **Section 2.1.2, Community Impacts**, under the subsection, “Relocation and Real Property Acquisition.”

Translation: Gracias por tomarse el tiempo de hacer un comentario. En el evento que su casa está adquiriendo, el Programa para Asistencia de Reubicación del Departamento les ayudará a usted y su familia para mudarse con el mínimo inconveniente posible. Favor de consultar el Apéndice B para un resumen de los beneficios incluido en el programa de ubicación.

Por favor, tenga por seguro que un tasador analizará su propiedad y investigará todas las características que contribuirían al precio de mercado. Para asegurarse que el tasador tiene toda la información pertinente, ustedes deben darse toda la información acerca de los aumentos que usted ha hecho a la casa y otras características especiales que creen pudieran afectar el precio de mercado de la propiedad. Todos los derechos y servicios que son provistos por el Derecho Público 91-646, las Actas y Pólizas de Asistencia de Reubicación Uniforme y Adquisición de Propiedades de 1970, como hayan sido enmendadas, estarán observado.

Es la póliza del Departamento que personas desplazadas como resultado de proyectos de transporte del Departamento reciben tratamiento justo y no sufrieron innecesariamente como resultado de los proyectos

que están diseñado en beneficio del público. Usted no será exigido mudarse hasta que un alojamiento comparable ha estado hecho disponible a usted y a su familia.

Es posible que algunos propietarios de los propiedades afectados hubieren tenido *acciones negativas* en sus hipotecas. Acciones negativas ocurren cuando el valor de la propiedad que fue usado garantizar el préstamo (en este caso, la casa) vale menos que el resto del préstamo. En reconocimiento de este asunto, el Departamento trabajará en estrecha colaboración con propietarios y los bancos durante el periodo de adquisición de propiedades.

El folleto del derecho de paso del Departamento está incluido en Apéndice F en este EIR/EA final. El folleto estuvo preparado para apoyar individuos quien pudieren ser afectados por un proyecto de transporte propuesto, y contiene respuestas a las preguntas frecuentes de propietarios involucrados en el proceso de adquisición de propiedades. Cabe señalar que, si exigido, adquisición de su casa no empezaría hasta que financiamiento para construcción está asegurado, lo cual anticipamos en 2015.

Para ensanchar Fairgrounds Drive entre Redwood Street y SR 37 y para reubicar la intersección de Fairgrounds Drive/Redwood Street actual aproximadamente 200 pies al oeste de la ubicación actual, el 'Alternativo de Construcción' exigiera la adquisición de propiedad privada. El proyecto propuesto en el Alternativo de Construcción afectarán 20 residencias unifamiliares y multifamiliares y 17 parcelas comerciales. Una descripción detallada de los propiedades afectados por el proyecto (incluyendo tablas y figuras) está en Section 2.1.2, Community Impacts, bajo el subsección, "Relocation and Real Property Acquisition."

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

Please submit written comments today, by mail or by e-mail to:

Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: MARIA G SERRANO  
Address: [REDACTED]

Phone: [REDACTED]  
E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

Nosotros la familia Serrano tenemos  
un comentario que no es precisamente del  
proyecto pero que miramos que si es nece  
sario por la seguridad nosotros los vecinos

I17-1

*Please use the reverse side or attach any additional pages*

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



OCTOBER 11, 2012 PUBLIC MEETING

COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.

## COMMENT FORM

nosotros nos encontramos en la parte final  
de la [redacted] con [redacted]  
[redacted] y nos hemos percatado en el tiempo que  
nosotros llevamos viviendo ahí que algunos  
vehículos en movimiento han rozado, chocado  
en la protección que tiene el freeway, nosotros  
hemos mirado que está muy pequeña o bajita  
la protección que pensamos que estaría mas  
protegidas las viviendas con una barda mas  
alta y mas reforzada. Ojalá estudiaran nuestra  
propuesta por la atención prestada a este  
mensaje muchas gracias.

I17-1,  
Cont.

Thank you for your comment



**Responses to Comment Letter I17**

Transcription: *Nosotros la familia Serrano tenemos un comentario que no es precisamente del proyecto pero miramos que sí es necesario por la seguridad nosotros los vecinos nosotros nos encontramos en la parte final de la [address removed] y nos hemos percatado en el tiempo que nosotros llevamos viviendo ahí que algunos vehículos en movimiento han rozado, chocado en la protección que tiene el freeway, nosotros hemos mirado que está muy pequeña o bajita la protección que pensamos que estaría más protegidas las viviendas con una barda más alta y más reforzada. Ojalá estudiaran nuestra propuesta por la atención prestada a este mensaje muchas gracias.*

Translation: *We, the Serrano family, have a comment that isn't exactly about the project, but we think it is necessary for security reasons. We, the project neighbors, live at the intersection of [address removed] and we have noticed in the time that we have been living there that some moving vehicles have crashed or grazed the freeway railing. We have seen that the railing is very small or short, and we think that the houses would be more protected with a higher wall that is more reinforced. Hopefully you will study our proposal. Thank you for your attention in reading this message.*

Response I17-1 Thank you for your comment. The Department reviewed traffic and accident data during the traffic study. Generally, when an area meets specific criteria for needed improvements, it is included in the project. **Figure 1-2a** illustrates how the existing I-80/Redwood Street interchange would be reconfigured to address current traffic safety issues.

The Build Alternative would eliminate the five-way non-standard intersection of westbound I-80/Redwood Street Interchange on- and off-ramps, and would improve the angle at which the freeway on- and off-ramps intersect with Redwood Street. Eliminating the unconventional five legged intersection would reduce the potential for conflicts due to driver error. Improving the angle of the ramps would aid in improving drivers' ability to avoid crashes in the area. Please also note that the existing southbound I-80 on-ramp closest to your home would be moved further east.

Translation: Gracias por hacer un comentario sobre el proyecto propuesto. El Departamento repasó los datos del tráfico y accidentes durante el estudio de tráfico. En general, cuando una área cumple los requisitos para mejoras necesarias, esté incluido en el proyecto. Figure 1-2a demuestra la reconfiguración propuesta de la intersección de I-80/Redwood Street. Estos cambios abordarían los problemas actuales de seguridad vial.

El Alternativo de Construcción eliminaría la intersección no estándar y de cinco vías de la entrada y salida de I-80/Redwood Street hacia el oeste. El Alternativo mejoraría el ángulo de la intersección de la salida y entrada con el Redwood Street. La eliminación de la intersección no estándar y de cinco vías reduciría la potencial para accidentes debido al

error del conductor. El ángulo mejorado de la salida y entrada se ayudaría a los conductores para evitar choques en la área. Por favor, tenga en cuenta que la entrada al I-80 hacía el sur actual que está más cerca a su casa se habrá mudado

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



## OCTOBER 11, 2012 PUBLIC MEETING COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M. COMMENT FORM

Please submit written comments today, by mail or by e-mail to:

Howell Chan, Branch Chief  
Department of Transportation  
Attn: Ngoc Bui  
Office of Environmental Analysis, MS-8B  
P.O. Box 23660  
Oakland, CA 94623  
Email: fairgroundsdriveproject@gmail.com

The deadline to submit comments is 5:00p.m. on Monday, November 5, 2012.

Name: Evelyn Arminda Ceron<sup>Monge</sup> Phone: [REDACTED]  
Address: [REDACTED] E-mail: [REDACTED]

Please provide written comments regarding any questions or concerns you may have about the Redwood Parkway-Fairgrounds Drive Improvement Project.

My Name is Evelyn A. Ceron-Monge, daughter of Ana A. Monge who own's a home that you want to make the freeway plan on. at [REDACTED]. The reason for this letter is to let you know that please please!

Please use the reverse side or attach any additional pages

I18-1

# REDWOOD PARKWAY-FAIRGROUNDS DRIVE IMPROVEMENT PROJECT

EA# 4A4410



**OCTOBER 11, 2012 PUBLIC MEETING  
COOPER ELEMENTARY SCHOOL, 7:00 – 8:00 P.M.  
COMMENT FORM**

don't take our home, this home means so much not just to me but to my family I have lived in my home for more than 15 years I grew up in this home, this home is our life. Ever since we got the notice of this plan my mom's health has worsen She now suffers from depression, High blood pressure She is currently on disability and she struggles on a day to day basis. I would really appreciate if you really take in consideration all of our letters because we love our homes

I18-1,  
Cont.

*Thank you for your comment*

**Responses to Comment Letter I18**

*Transcription: My name is Evelyn A Ceron-Monge, daughter of Ana A Monge who owns a home that you want to make the freeway plan at [address removed]. The reason for this letter is to let you know that please please! don't take our home, this home means so much not just to me but to my family. I have lived in my home for more than 15 years. I grew up in this home, this home is our life. Ever since we got the notice of this plan my mom's health has worsen. She now suffers from depression, high blood pressure. She is currently on disability and she struggles on a day to day bases. I would really appreciate if you really take in consideration all of our letters because we love our homes.*

Response I18-1 Thank you for taking the time to comment. If your home is acquired for this project, a relocation advisor will work closely with you to ensure that you receive all payments and benefits you are entitled to, and that all regulations are observed. Please see **Appendix B** for a summary of relocation benefits. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. It is the Department's responsibility to ensure that you receive fair market value as if you sold your property privately in the open market. The Department also offers to provide you with assistance in finding a new place in which to live.

The Department's right-of-way brochure is included as **Appendix F** in this final EIR/EA and includes more details. The brochure was prepared for individuals who may be potentially affected by a proposed transportation project, and provides answers to some of the frequently asked questions from property owners involved in the property acquisition process. It should be noted that, if required, acquisition of your home would not begin until funding for project construction is secured, which we expect to occur in 2015.

The Department's Relocation Assistance Program would help you and your family move with as little inconvenience as possible. All rights and services provided under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, would be strictly adhered to.

It is Department policy that persons displaced as a result of Department transportation projects will receive fair and equitable treatment and will not suffer unnecessarily as a result of projects designed for the benefit of the public. You will not be required to relocate until comparable replacement housing has been made available to you.

It is possible that some homeowners of the affected properties would have negative equity on their mortgages. Negative equity occurs when the value of a property used to secure a loan is less than the outstanding balance on the loan. For mortgages, this is also referred to as being

“underwater” or “upside down.” In recognition of this issue, the Department will work closely with homeowners and the banks during the property acquisition phase of the project.

In order to widen Fairgrounds Drive between Redwood Street and SR 37 and to relocate the existing Fairgrounds Drive/Redwood Street intersection approximately 200 feet west of its current location, the Build Alternative would require the acquisition of private property. The proposed improvements of the Build Alternative would affect 20 existing single or multi-family residents and 17 commercial parcels. A detailed description of the properties affected by the project (including tables and figures) is discussed in **Section 2.1.2, Community Impacts**, under the subsection, “Relocation and Real Property Acquisition.” The Department understands that some residents and businesses will be affected and has established programs to ensure that parties are assisted and treated fairly.

## 4.3 ADDITIONAL CHANGES TO THE DRAFT EIR/EA

### Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21)

Signed into law in 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) was a funding and authorization bill that governed United States federal surface transportation spending. Under Section 6005 of the SAFETEA-LU, the Department assumed all of FHWA's responsibilities under NEPA for projects on California's State Highway System and for federal-aid local streets and roads projects under FHWA's Surface Transportation Project Delivery Pilot Program (Pilot Program). The Pilot Program (as amended) expired in August 2012, and was effectively replaced under a new transportation bill, Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), which was signed into law by President Barack Obama on July 6, 2012. MAP-21 establishes a revised and permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a memorandum of understanding (NEPA Assignment MOU) with FHWA that incorporates by reference the terms and conditions of the Pilot Program.

In summary, the Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. The passing of MAP-21 is considered a global revision to the regulatory setting of this environmental document, and is reflected as revised text throughout the final EIR/EA, where appropriate. Incorporation of the MAP-21 regulatory language does not affect the environmental analyses or conclusions of the EIR/EA.

### Solano 360 Specific Plan Improvements

The draft EIR for the Solano 360 Specific Plan was released for public comment on November 9, 2012. Based on a review of the traffic impact analysis included in the Solano 360 Specific Plan draft EIR, the anticipated traffic generated by the proposed development on the fairgrounds property would deteriorate several of the intersections along Fairgrounds Drive. The analysis concludes that the currently planned and designed improvements proposed under the Redwood Parkway – Fairgrounds Drive Improvement Project would adequately reduce these potential impacts to a less-than-significant level, with one modification: the addition of a second northbound right-turn lane at the Fairgrounds Drive/SR-37 EB ramps intersection [refer to **Section 2.1.3, Traffic and Transportation** (Intersection #4); and **Figure 1-2c, Build Alternative Layout** (SR 37 Interchange Improvements) in this final EIR/EA].

The incorporation of the recommended additional right-turn lane at the Fairgrounds Drive/SR-37 EB ramps intersection is intended to offset weekend peak period traffic impacts caused by the operation of new hotel, retail, and entertainment land uses on the fairgrounds property. While the Redwood-Parkway – Fairgrounds Drive Improvement Project is aware of the proposed fairgrounds development, the evaluation of project-related impacts under CEQA and NEPA does not require the incorporation of mitigation measures for other independent projects in the area.



The Build Alternative will therefore not be revising the configuration of the Fairgrounds Drive/SR-37 EB ramps intersection to accommodate those impacts caused by the Solano 360 Specific Plan.

For the purposes of the environmental analysis of the Build Alternative, the redevelopment of the fairgrounds property was assumed to be in place by 2030. It is likely that the permitting processes and construction of the Fairgrounds Drive improvements under the Build Alternative would occur before the initial phases of construction for the Solano 360 Specific Plan. The Department and STA will work with Solano County and City of Vallejo to see if it is possible to combine the two proposed configurations for the Fairgrounds Drive/SR-37 EB ramps intersection at the time construction planning begins. However, an independent review of the environmental effects of the additional right-turn lane, and any relevant mitigation measures required to offset the physical impacts from this improvement, would need to be addressed by the Solano 360 Specific Plan project sponsor(s).

The following footnote has been added to the intersection analysis in the final EIR/EA (see page 2.1-34) in acknowledgement of this recommended intersection configuration proposed by the Solano 360 Specific Plan.

In several cases, there was more than one acceptable design for each intersection. The final design of these intersections was selected in consultation with traffic engineers so that the improvements could accommodate other requirements, such as sight distance, deceleration requirements, and right-of-way availability. The proposed Build Alternative encompasses the best possible intersection designs, based on the predicted 2035 traffic conditions.<sup>9</sup>

*[footnote 9]*

The traffic impact analysis included in the Solano 360 Specific Plan draft EIR (November 2012) proposes an additional northbound right-turn lane at the Fairgrounds Drive/SR-37 EB ramps intersection beyond what is included under the Build Alternative (see Figure 1-2c, Build Alternative Layout). No other modifications to the intersection configurations proposed under the Build Alternative were included in the Solano 360 Specific Plan draft EIR.

For the purposes of the environmental analysis of the Build Alternative, the redevelopment of the fairgrounds property was assumed to be in place by 2030. It is likely that the permitting processes and construction of the Fairgrounds Drive improvements under the Build Alternative would occur before the initial phases of construction for the Solano 360 Specific Plan. The Department and STA will work with Solano County and City of Vallejo to see if it is possible to combine the two proposed configurations for the Fairgrounds Drive/SR-37 EB ramps intersection at the time construction planning begins. However, an independent review of the environmental effects of the additional right-turn lane, and any relevant mitigation measures required to offset the physical impacts from this improvement, would need to be addressed by the Solano 360 Specific Plan project sponsor(s).

The Build Alternative will not be revising the configuration of the Fairgrounds Drive/SR-37 EB ramps intersection to accommodate those impacts caused by the Solano 360 Specific Plan.

## Final EIR/EA Standard Environmental Reference (SER)

In accordance with the Departments Standard Environmental Reference (SER) guidelines, the draft EIR/EA was globally updated to reflect the changes for the final EIR/EA.

## Table S-1 Project Impacts

The following table has been updated in the final EIR/EA (see page S-5) to include Air Quality.

Environmental Topic	No Build Alternative	Build Alternative	Avoidance, Minimization, and/or Mitigation Measures
<u>Air Quality</u>			
<u>Emissions from construction equipment</u>	<u>None expected</u>	<u>Temporary due to construction</u>	<u>Construction related mitigation</u>

## Rindler Creek Alignment

A discrepancy regarding proposed relocation of Rindler Creek in the draft EIR/EA was corrected in the final EIR/EA. The draft EIR/EA was updated globally to clarify that the relocation of Rindler Creek would be a slightly larger channel than what currently exists.

The following text has been updated in the final EIR/EA (see page 1-16).

The Build Alternative would shift approximately 1,300 linear feet of the Rindler Creek watercourse and its associated riparian vegetation east from its current man-made alignment to accommodate the widening of Fairgrounds Drive. This would occur between Coach Lane and the southern entrance to the Solano County Fairgrounds property. Realignment of the creek involves clearing, grubbing, dewatering, and backfilling the current man-made channel. The realigned Rindler Creek would be slightly larger than the existing creek and re-vegetated to maintain hydrological and biological function. The new channel would be excavated and re-vegetated to create a riparian habitat in equal size and comparable function to the existing watercourse. Staging of the realignment is expected to require a temporary creek diversion during the low-flow period, between April 15 and August 15.

The following text has been updated in the final EIR/EA (see page 2.3-13).

As part of the Build Alternative, the existing portion of Rindler Creek along the east side of Fairgrounds Drive and north of Coach Lane would be realigned to be immediately east of the widened roadway. The location for the realigned Rindler Creek was selected because it would avoid impacts to biological and cultural resources located west of Fairgrounds Drive.

~~The realigned Rindler Creek would be slightly larger than the existing creek and re-vegetated to maintain hydrological and biological function. The realigned Rindler Creek would be of the same size as the existing creek and revegetated to maintain by hydrological and biological function.~~ The impacted jurisdictional water features to the east of Fairgrounds Drive (totaling approximately 0.621 acres) would be restored on-site at 1:1 replacement ratio. Impacts to the jurisdictional water features and freshwater marsh communities associated with Rindler Creek would thereby be avoided through the complete on-site replacement of the affected creek segment. The procurement of on-site restoration for impacts to these areas would be permitted and verified by the appropriate regulatory oversight agencies prior to construction. The on-site restoration of Rindler Creek is anticipated to provide satisfactory mitigation for impacts to riparian habitat, including the removal of 151 trees. Restoration on-site will also ensure that functions, such as water flow through the BSA, will continue unchanged.

The following text has been updated in the final EIR/EA (see page 2.4-4).

Build Alternative impacts to Waters of the U.S., CDFG streambeds, and riparian habitat would primarily be related to the fill needed to create roadbed for the proposed widening of Fairgrounds Drive. As part of the Build Alternative, the existing portion of Rindler Creek north of Coach Lane would be realigned to be immediately east of the widened roadway. The realigned Rindler Creek would be slightly larger than the existing creek and re-vegetated to maintain hydrological and biological function. ~~The realigned Rindler Creek would be of the same size as the existing creek and revegetated to maintain by hydrological and biological function.~~ The impacted jurisdictional water features to the east of Fairgrounds Drive (totaling approximately 0.621 acres) would be restored on-site at a 1:1 replacement ratio. Impacts to the jurisdictional water features and freshwater marsh communities associated with Rindler Creek would thereby be avoided through the complete on-site replacement of the affected creek segment. The procurement of on-site restoration for impacts to these areas would be permitted and verified by the appropriate regulatory oversight agencies prior to construction. The on-site restoration of Rindler Creek is anticipated to provide satisfactory mitigation for impacts to riparian habitat, including the removal of 151 trees. Restoration on-site will also ensure that functions, such as water flow through the BSA, will continue unchanged.

## Hydromodification Clarification

The following text was added to page 2.2-8 in the final EIR/EA to provide additional information regarding the Department's Hydromodification strategy.

The Department has also identified the need to develop consistent guidance, tools and examples of documentation to meet the Hydromodification Requirement from the upcoming Caltrans NPDES Permit. The Department's Division of Design Business Plan, Fiscal Year 2012-2013, identified Activity No. 7 as negotiating and implementing a statewide Hydromodification Strategy for all projects. Later phases of this project will address these strategies as required.

In response to Caltrans' staff initiated comments, the following text was added to page 2.2-9 and 2.2-11 to provide additional information regarding the City of Vallejo's Hydromodification Plan.

**City of Vallejo's Hydromodification Management Plan**

The City of Vallejo, the local MS4 Permittee, transmitted a Final Hydromodification Management Plan (HMP) in April 2013 for approval by the RWQCB. The HMP was prepared to comply with the Municipal Regional Stormwater NPDES Permit, Provisions C.3.g.v.

The HMP outlines three implementation methods to comply with the Hydromodification (HM) Performance Standard:

- On-Site HM Control that is designed to provide flow duration control to the pre-project condition at the point(s) where stormwater runoff discharges from the project site, meet the erosion potential performance standard, and comply with the HMP.
- Regional HM Control, where the point of compliance is at the point where the regional HM control discharges instead of at the project outlet.
- In-Stream HM Control. This is an option in lieu of or in combination with on-site and regional controls where an approved plan is in place that accounts for the stream changes expected to result from changes in the project's runoff conditions. In-stream HM control measures are an option only where the stream channel which receives runoff from the project is already impacted to erosive flows and altered land use (i.e. shows evidence of excessive sediment, erosion, deposition, or is a hardened channel).

Incorporation of these BMPs and any measures outlined in the SWPPP, full compliance with the NPDES permit, and compliance with the City of Vallejo's Hydromodification Management Plan, would ensure that the Build Alternative would not adversely affect water quality in local waterways or groundwater quality.

## Additional Appendices

Three additional appendices were added to the final EIR/EA:

**Appendix F, Department Right-Of-Way Brochure**, (provided in English and Spanish) was prepared for individuals who may be potentially affected by a proposed transportation project, and provides answers to some of the frequently asked questions from property owners involved in the property acquisition process.

**Appendix G, Air Quality Conformity**, contains the outcome of the Fund Management System (FMS) process and the Transportation Improvement Plan (TIP) as it relates to the current project.

**Appendix H, Environmental Commitment Record**, is included per the Department's requirements to track and document the proposed project's environmental commitments.

## 5.0 List of Preparers

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### **California Department of Transportation**

Elizabeth Krase Green, Branch Chief, Built Resources/Architectural History

Elizabeth McKee, Office Chief, Office of Cultural Resources Studies.

Dianne Joy Hughey, Biologist

Christopher States, District Branch Chief

Jeffrey G. Jensen, District Office Chief

Mary K. Smith, Architectural Historian

Jason Mac, Project Manager

Ramon Morales, Designated Maintenance Representative

David W. Yam, Designated Landscape Architect Representative

Norman Gonsalves, District/Regional Design

Nicholas Endrawos, Project Manager

Marcus Chan, Oversight Project Manager

Stewart Lee, Design

Phillip Cox, Forecasting

Evelyn Gestuvo, Highway Operations

Howell Chan, Environmental

Ngoc Bui, Environmental

Mike Thomas, Design Coordinator

Gordon Brown, Design Reviewer

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Beth Perrill, Senior Right of Way Agent

Thang Nguyen, Right of Way Agent

David Guevara, Highway Operations

Benjamin Harris, Archaeologist

**Solano Transportation Authority**

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**DKS Associates**

Kevin Fehon, Principal

Terry Kim, Principal

**HQE Incorporated**

Heidi Ouren, Project Manager

Garret Low, Project Engineer

**GANDA**

John McCarthy, Associate Principal

Samantha Hillaire, Botanist

Jason Minton, Wildlife Biologist

**Far Western**

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Dr. Brian F. Byrd, Principal Investigator

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**PaleoResource Consultants**

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Michelle Knudson, Associate Planner

Jessie Shen, Associate Planner

Rebecca Bustos, Assistant Planner

Andy Wong, Graphic Designer



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## 6.0 Distribution List

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The following agencies, organizations, and individuals received printed or electronic copies of this document. Agencies, organizations, and individuals on the project mailing list were notified of the availability of this document and public meetings as described in **Chapter 4.0, Comments and Coordination**. Agency names marked with an asterisk (\*) received copies through the State Clearinghouse.

Certain private individuals may not be included in the project's Distribution List due to privacy concerns; these individuals received either an electronic or a written notice of the document's availability.

### FEDERAL AGENCIES

Environmental Protection Agency, Region IX  
Federal Activities Office, CMD-2  
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San Francisco, CA 94105-3901

Natural Resources Conservation Service  
Area I  
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Red Bluff, CA 96080

National Marine Fisheries Services  
Joe Heublein  
777 Sonoma Avenue Rm 325  
Santa Rosa, CA 95404

US Army Corps of Engineers, Sacramento District  
ATTN: Regulatory Branch  
1325 J Street, Room 1480  
Sacramento, CA 95814

U.S. Fish and Wildlife Service  
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Sacramento, CA 95825

### STATE AGENCIES

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P.O. Box 3044  
Sacramento, CA 95812-3044

Bay Area Air Quality Management District  
Jack Broadbent  
Chief Executive Officer  
939 Ellis Street  
San Francisco, CA 94109

California Air Resources Board\*  
Executive Officer James Goldstene  
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Sacramento, CA 95812

California Department of Conservation\*  
Director Mark Nechodom  
801 K Street, MS 24-01  
Sacramento, CA 95814

California Department of Fish & Game  
District 3\*  
Regional Manager Scott Wilson  
7329 Silverado Trail  
Napa, CA 94558

California Department of Parks and Recreation\*  
Janelle Beland, Acting Director  
1416 9th Street  
Sacramento, CA 95814

California Department of Water Resources\*  
Director Mark Cowin  
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Sacramento, CA 94236

California Highway Patrol,  
Special Projects Section  
P.O. Box 942898  
Sacramento, CA 92298

California Natural Resources Agency\*  
Secretary John Laird  
1416 9th Street  
Sacramento, CA 95814

California Office of Historic Preservation  
1416 Ninth Street, Room 1442  
Sacramento, CA 95814

California Public Utilities Commission\*  
Executive Director Paul Clanon  
505 Van Ness Avenue  
San Francisco, CA 94102

California Transportation Commission  
1120 N Street, Room 2221  
Sacramento, CA 95814

Department of Toxic Substances Control  
1001 I Street  
Sacramento, CA 95814-2828  
P.O. Box 806  
Sacramento, CA 95812

Native American Heritage Commission\*  
Executive Secretary  
915 Capitol Mall, Room 364  
Sacramento, CA 95814

Regional Water Quality Control Board  
District 2\*  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

State Water Quality Control Board\*  
Executive Director Tom Howard  
1001 I Street  
Sacramento, CA 95814

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Oakland, CA 94604-2050

Metropolitan Transportation Commission  
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Planning Director  
101 Eighth Street – Metrocenter  
Oakland, CA 94607

San Francisco Bay Trail Project  
Maureen Gaffney  
101 Eighth Street  
Oakland, CA 94607

## COUNTY AND CITY AGENCIES

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Patty Crittenden, Clerk of the Board  
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Fairfield, CA 94533

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Fairfield, Ca 94533  
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## LOCAL AGENCY

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Vallejo, CA 94590

Hermie R. Sunga, Councilmember  
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Robert H. McConnell, Councilmember  
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Dennis R. Klimisch, Planning  
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Marvin Kinney, Planning Commissioner  
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Richard Eschenburg, Planning  
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Roberto Cortez, Planning Commissioner  
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Anthony R. Adams, Planning  
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