Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

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.

Coastal Zone – The project area is not within the coastal zone.

Wild and Scenic Rivers – There are no rivers within or adjacent to the proposed project site.

Parks and Recreational Facilities – There are no parks or recreational facilities within the limits of the proposed project. The Prairie City State Vehicular Recreation Area is located approximately 0.75 miles east of the project site at 13300 White Rock Road. The project would not directly or indirectly affect this or any other park or recreational facility.

Farmland – The proposed project will not impact farmland. Although farmland is present adjacent to the project alignment (southeast of White Rock Road), no right-of-way acquisitions will be required from this property and no indirect effects to farmland are anticipated.

Timberlands – No timberlands are present within or adjacent to the proposed project site.

Community Character and Cohesion –Land uses from Sunrise Boulevard to Luyung Drive are predominantly industrial. The land from Luyung Drive to Grant Line Road is mostly undeveloped, with a few commercial buildings. Future land uses include the planned communities of Rio Del Oro and Westborough. The proposed project would not increase or decrease public access, would not divide an established community or neighborhood, would not separate a community from community facilities, would not substantially influence unplanned growth in the surrounding area, would not substantially change adjacent residents' quality of life, would not increase urbanization or isolation of the surrounding community, and would not affect a community with high levels of cohesion. As such, effects to community character and cohesion are not anticipated as a result of this project.

Environmental Justice – As discussed above, the proposed project area is largely undeveloped, with no distinct areas of residential population. No low-income or minority populations are present in the project area. No minority or low-income populations that would be adversely affected by the proposed project have been identified, as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

Hydrology and Floodplain – The project area floodplain is identified as Zone X. Zone X delineates the 500-year floodplain. Typically, such areas have a 1 percent annual chance of flooding in a 500-year period. There are no federal 100-year flood zones, state-regulated floodways, or local flood hazard areas in the project area.

Geology/Soils/Seismic/Topography – The topography at the project site is relatively flat. The elevation ranges from approximately 120 feet to 280 feet above mean sea level between Sunrise Boulevard and Grant Line Road. Slopes in Rancho Cordova generally range from 0 percent to 8 percent. Soils in the project site consist mostly of dredge tailings and include Xerorthents, dredge tailings; Red Bluff-Redding complex; Red Bluff-Xerorthents, dredge tailings; Redding gravelly loam; Xerarents-Urban land-San Joaquin complex; Natomas loam; and Natomas-Xerorthents, dredge tailings complex. Based on the characteristics of the soil types, depth to groundwater, and topography of the project area, and because the area in which the project site is located is not known to be susceptible to landslides, lateral spreading, subsidence, liquefaction, or collapse, effects related to geology, soils, seismic activity, and topography are not anticipated as a result of the proposed project.

Paleontology – The 2006 Rancho Cordova General Plan, which includes the proposed project area, states "A search of the University of California Museum of Paleontology (UCMP) collections database did not identify any evidence of significant paleontological resources in the Rancho Cordova Planning Area. The area does not appear sensitive for the presence of paleontological resources."

2.1 Human Environment

2.1.1 LAND USE

Land use topics such as coastal zones, wild and scenic rivers, and parks and recreational facilities are not described in the following section. As discussed previously, no impacts to these issue areas are expected to occur.

2.1.1.1 Existing and Future Land Use

White Rock Road extends from International Drive in Rancho Cordova to El Dorado County. The proposed project will widen White Rock Road from Sunrise Boulevard in Rancho Cordova to Grant Line Road in unincorporated Sacramento County. The majority of the area adjacent to the project site is vacant land owned by Aerojet, although intermittent industrial and agricultural uses occur. Land uses between Sunrise Boulevard and Luyung Drive are industrial. Existing land uses are illustrated in **Figure 2.1-1**.

Proposed land uses along or near White Rock Road include approved mixed-use land developments including Rio Del Oro, Westborough, Heritage Falls, and North Douglas II as shown in **Figure 2.1-2**. **Table 2.1-1** describes the land uses and status of each of these developments as well as other large development projects in the area that are shown in **Figure 1.1-3**.

Industrial

MERCANTILE DR

Industrial (Aerojet)

Vacant Land

SUNRISE BLVD

Industrial

Vacant Land

Industrial

WHITE ROCK RD

Grazing Land

Industrial

Mining Operation

Vacant Land

Mining Operation

GRANT LINE RD

Mining Operation

Rural Residential

Legend

Project Area

City Limits

N

0 1,000 2,000

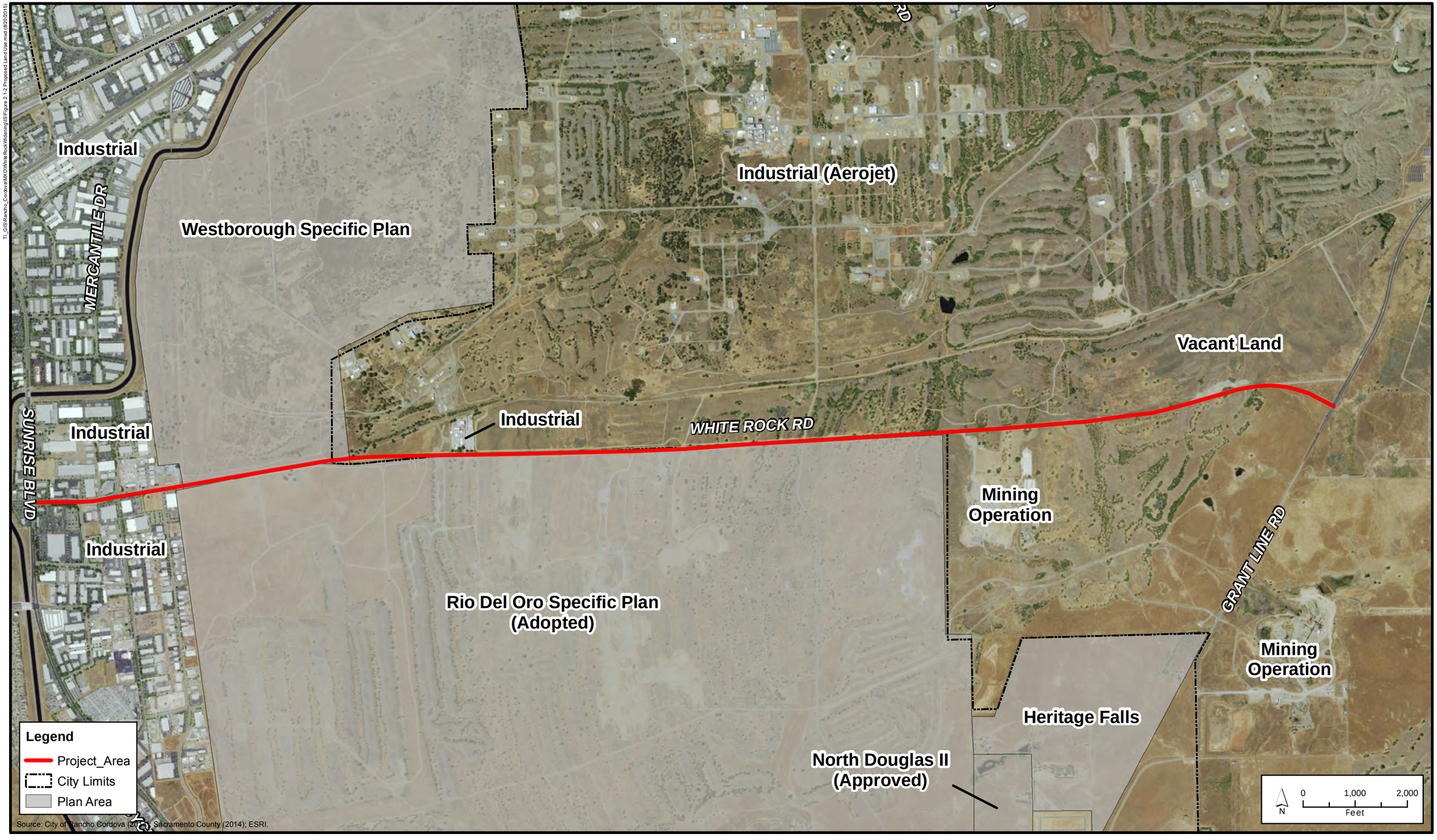
Feet

Source: City of Rancho Cordova (2014); Sacramento County (2014); ESRI.

City of Rancho Cordova
Planning Department

Figure 2.1-1

Existing Land Use



City of Rancho Cordova
Planning Department

Figure 2.1-2

Proposed Land Use

Table 2.1-1
Development in Project Area

Development	Dwelling Units	Commercial/Office	Location
Rio Del Oro	11,601	521 acres	Immediately south of White Rock Road
Easton Place at Easton	1,500	213 acres	North of White Rock Road, south of US 50
Westborough at Easton	5,100	None proposed	North of White Rock Road, south of US 50
Glenborough at Easton	3,390	None proposed	North of White Rock Road, south of US 50
North Douglas I	666	None proposed	South of White Rock Road, just north of Douglas Road
North Douglas II	153	None proposed	South of White Rock Road, immediately north of the North Douglas I project
Folsom South of US 50	10,212	487 acres	South of US 50, north of White Rock Road, generally east of Prairie City Road, west of the Sacramento/El Dorado County line
Heritage Falls	960	None proposed	South of White Rock Road, north of Douglas Road, and west of Grant Line Road
Total	33,582	1,221	

In addition, the City of Rancho Cordova General Plan states the following regarding the future development of lands north of White Rock Road:

> The Aerojet Planning Area is the site of the Aerojet operations. The historic and ongoing uses of the site necessitate the requirement for soil remediation and other toxic cleanup activities that will not be completed during the lifetime of this Plan. Portions of the area are ideal for continued industrial, research and development, and mining operations in the near term. Intense development (i.e., offices, research and development activities, light industrial uses) will probably be located near the center of the Planning Area along an extension of Hazel Avenue.
>
> If the Aerojet operations ever require less land area, then some portions of the Planning Area that border onto other Planning Areas where medium to high intensity development is proposed (i.e., Easton, Westborough, and Rio Del Oro) may be developed in a manner similar to those areas, but at decreased densities. The conceptual land use plan for the Aerojet Planning Area shows the area designated for light and heavy industrial uses.

2.1.1.2 Consistency with State, Regional, and Local Plans and Programs

Sacramento Area Council of Governments (SACOG) Preferred Blueprint Scenario

SACOG adopted its Preferred Blueprint Scenario (Blueprint) in December 2004 for the Sacramento Region that includes the counties of El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba. The Blueprint process is a regional vision to accommodate the projected growth and long-term needs of the region through the year 2050, during which time the region's population is projected to grow from its current population of approximately 2.0 million to over 3.8 million and the number of jobs is projected to double to nearly 1.9 million (see section 2.1.2 for further discussion on growth). The Blueprint proposes a concentrated, compact development pattern in the region with a balance of employment, residential, shopping, and recreational uses linked to transportation system improvements.

The Blueprint puts forth seven "Smart Growth" principles to guide the growth of the region through the year 2050: providing a variety of transportation choices; offering housing choices and opportunities; taking advantage of compact development; using existing assets; incorporating mixed land uses; preserving open space, farmland, and natural beauty through natural resources conservation; and encouraging distinctive, attractive communities with quality design.

The Blueprint process received broad support from most of its member agencies, including the City of Rancho Cordova, although the Blueprint itself is advisory and does not establish actual land use restrictions for the City. However, although it is only advisory, the Blueprint is the most authoritative policy guidance in the Sacramento region for long-term regional land use and transportation planning. A number of jurisdictions are either adopting the Blueprint concepts or are considering and encouraging projects consistent with the Blueprint. During the initial stage of development of the City's General Plan process, the Rancho Cordova City Council endorsed the SACOG Blueprint process and the preferred Blueprint Scenario. The City's current General Plan is consistent with the Blueprint.

The Blueprint is the top-tier planning document that helps drive more detailed transportation planning documents, such as the MTP and the Metropolitan Transportation Improvement Plan (MTIP).

SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy 2035 (MTP/SCS)

The MTP/SCS is a 28-year plan for transportation improvements in the six-county greater Sacramento region, based on projections for growth in population, housing, and jobs. SACOG is the metropolitan planning organization responsible for developing the MTP every four years, as state and federally required, in coordination with the 22 cities and 6 counties in the greater Sacramento region. Under memoranda of understanding, long-range transportation plans in El Dorado and Placer counties are also incorporated into the MTP. Regardless of city- or county-designated transportation projects, local improvements must be included in the regional MTP to receive state and federal funding. The MTP/SCS 2035 proposes using $41.7 billion in transportation funds to operate, maintain, and expand the region's transportation system. Expenditures include $14.3 billion for transit; $12.4 billion for road maintenance; $11.3 billion for road capital projects; $2.3 billion for programs, planning, and transportation enhancements; and $1.4 billion for bicycle and pedestrian projects.

SACOG Metropolitan Transportation Improvement Program (MTIP)

As the designated metropolitan planning organization for the region, SACOG prepares and maintains a federal MTIP. The program includes a list of all transportation-related projects requiring federal funding or other approval by the federal transportation agencies. The MTIP also lists nonfederal, regionally significant projects for information and air quality modeling purposes. Projects included in the MTIP are consistent with SACOG's MTP and are part of the area's overall strategy for providing mobility, congestion relief, and reduction of transportation-related air pollution in support of efforts to attain federal air quality standards for the region. The MTIP is intended to implement the goals and objectives of the MTP.

The 2015/2018 MTIP was approved by SACOG on September 18, 2014, and is the most recent and approved MTIP for the region. Federal approval of the 2015/2018 MTIP occurred on December 15, 2014.

Sacramento County General Plan

The Sacramento County General Plan serves as the overall guiding policy document for the County. The current County General Plan was adopted in November 2011. The central focus of the County General Plan is the Land Use Element, which sets the policies for the distribution and intensity of land uses. The General Plan addresses plans for growth in the next planning cycle (2005/2030) as well as addresses new emerging planning issues. The General Plan's Transportation Plan map identifies White Rock Road as an ultimate thoroughfare (six-lane) roadway from Zinfandel Drive to Grant Line Road[5].

The General Plan's Land Use Diagram shows the area north of the project site as Extensive Industrial, areas east of the project site as General Agriculture, and areas south of the project site as a variety of land uses including General Agriculture, Low Density Residential, Medium Density Residential, Commercial and Offices, and Recreation. The County's Circulation Element was updated in May 2014.

City of Rancho Cordova General Plan

The City of Rancho Cordova General Plan serves as the overall guiding policy document for the City. Upon incorporation in July 2003, the City adopted the existing Sacramento General Plan to serve as the City's interim General Plan and to guide development in the city until the formal adoption of its own General Plan. On June 25, 2006, the City adopted the first Rancho Cordova General Plan. The General Plan Land Use Element and associated General Plan Land Use Map combine geographical areas of the city with generalized and specific land use designations to guide the future development process. The City's General Plan Land Use Map shows the project site as surrounded by planning areas including the Aerojet Planning Area and Westborough Planning Area to the north, the East Planning Area to the east, the Grant Line West Planning Area and Rio Del Oro Planning Area to the south, and the Sunrise Boulevard South Planning Area to the west. Land uses within these planning areas include Residential Estate/Rural, Residential-Mixed Density, Office Mixed Use, Office Park, and Light Industrial. The Land Use Element of the City's General Plan was updated in January 2015 and the Circulation Element was updated in May 2015 to include the Capital Southeast Connector.

The City's General Plan Circulation Plan map identifies White Rock Road as an ultimate six-lane expressway and as a potential enhanced transit corridor with conceptual bus rapid transit.

South Sacramento Habitat Conservation Plan (SSHCP)

Sacramento County, City of Rancho Cordova, and City of Galt are preparing the South Sacramento Habitat Conservation Plan (SSHCP). The plan would present a process that would allow build-out of the County's Urban Services Boundary (USB), the sphere of influences of the cities, and some infrastructure projects outside of the USB. In turn, the plan would preserve large swaths of a variety of natural communities in the County. The SSHCP is in the process of being prepared. Once the plan is approved, it will allow incidental take of covered species with the requirement of mitigation for lost habitat. The draft SSHCP should be available for public circulation in 2016 and could be finalized in 2017.

[5] Beyond Grant Line Road, White Rock Road is shown in the County's General Plan as the Capital Southeast Connector.

Environmental Consequences

No Build Alternative

The no build alternative would conflict with the City of Rancho Cordova General Plan and the Sacramento County General Plan by not widening White Rock Road, which is ultimately planned as a six-lane roadway. The no build alternative would also conflict with the SACOG MTP/SCS 2035 and the 2015/2018 MTIP. **Table 2.1-2** compares the consistency of the no build and build alternatives with the applicable policies in the Sacramento County and City of Rancho Cordova General Plans.

Build Alternative

Land Use

In general, current industrial, mining, and grazing activities occurring adjacent to White Rock Road will be undisturbed by widening the roadway. . White Rock Road is an existing transportation land use and its widening would not result in a change to any land use designations in the applicable plans for the City and County.

Consistency with the SACOG Preferred Blueprint Scenario

SACOG's Blueprint, adopted in December 2004, envisions industrial, office, residential, and agricultural land uses surrounding White Rock Road. The proposed project would be consistent with SACOG's Preferred Blueprint Scenario.

Consistency with the SACOG Metropolitan Transportation Plan/SCS

The White Rock Road Widening Project is identified in the MTP/SCS 2035, with the project described as: "On existing 6-lane White Rock Rd., from Sunrise Boulevard to Luyung Dr.: construct improvements. On White Rock Rd. from Luyung Dr. to Grant Line Rd.: widen and reconstruct from 2 to 4 lanes."

The projected cost for the proposed project in the MTP/SCS is $15,212,000, and the project is identified for completion by the year 2020. The proposed project is consistent with SACOG's current Metropolitan Transportation Plan.

Consistency with the SACOG 2015/2018 Metropolitan Transportation Improvement Program

The White Rock Road Widening Project is identified in two listings in the 2015/2018 MTIP, with the project described as:

"On existing 6-lane White Rock Road, from Sunrise Boulevard to Luyung Drive: construct improvements including Class II bikeway. On White Rock Road from Luyung Drive to eastern City Limits: widen and reconstruct from two to four lanes and construct Class II bikeway."

"Widen White Rock Road, from Grant Line Road to Rancho Cordova easterly City limits, from 2 to 4 lanes."

The proposed project is consistent with the SACOG 2015/2018 MTIP.

Consistency with the Sacramento County General Plan and the City of Rancho Cordova General Plan

The County's General Plan Transportation Plan map and the City's General Plan Circulation Plan map (Figure C-1 Circulation Plan with Roadway System and Sizing Diagram) identify White Rock Road as a six-lane roadway between Sunrise Boulevard and Grant Line Road.

Under the build alternative, improvements will be constructed to White Rock Road from Sunrise Boulevard to Luyung Drive and White Rock Road will be widened from two to four lanes from Luyung Drive to Grant Line Road, which contributes to implementation of the six-lane roadway shown in the plans. While the City's General Plan envisions an ultimate 6-lane facility, current traffic analyses show that a four-lane facility will meet the need for the design life of the current 2035 MTP/SCS and, thus, a four-lane facility is shown in the current MTP/SCS and MTIP.

As shown in Table 2.1-16 and discussed further in text in Section 2.1.5 Traffic and Transportation/Pedestrian and Bicycle Facilities, the proposed project would result in acceptable levels of service (LOS) along the proposed project limits in the Year 2030 according to the City's LOS standards. Furthermore, as also discussed in Section 2.1.5, the SACOG region is expected to have lower total vehicle miles traveled in the future than was predicted in 2008, which means that the future LOS along White Rock Road with the currently proposed four-lane project may even be potentially better than what is shown in Table 2.1-16. Thus, there is no predicted need for a six-lane expressway within the 2035 timeframe.

Table 2.1-2 lists the County's and City's General Plan policies applicable to the proposed project as well as the project's consistency with those policies.

Table 2.1-2
Consistency with Local Plans and Programs

General Plan Policy	Build Alternative	No Build Alternative
Sacramento County General Plan		
Policy CI-9 – Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside of the Urban Service Boundary are considered rural.	**Consistent.** Under the build alternative, White Rock Road would operate under LOS D conditions between Sunrise Boulevard and Rancho Cordova Parkway, LOS B conditions between Rancho Cordova Parkway and the city limits, and LOS C conditions between the city limits and Grant Line Road. White Rock Road is an urban roadway, for which LOS E should be achieved, according to this policy. Refer to Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities."	**Not Consistent.** Under the no build alternative, White Rock Road would operate under LOS F conditions between Luyung Drive and Grant Line Road. White Rock Road is an urban roadway, for which LOS E should be achieved, according to this policy. Refer to Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities."

General Plan Policy	Build Alternative	No Build Alternative
Policy CI-34 – Construct and maintain bikeways and multi-use trails to minimize conflicts between bicyclists, pedestrians, and motorists.	**Consistent.** Under the build alternative, two 6-foot-wide bike lanes and two 3-foot-wide shoulders would be constructed on the north and south sides of White Rock Road. Therefore, this alternative would provide bikeways along an existing roadway and minimize conflicts between bicyclists, pedestrians, and motorists with the provision of designated bike lanes and shoulders.	**Not Consistent.** Under the no build alternative, no changes to White Rock Road would occur. This alternative would not construct or maintain bikeways in the city.
City of Rancho Cordova General Plan		
Policy C.1.1 – Implement the Circulation Plan with the Roadway System and Sizing Diagram shown as Figure C-1, as a modified grid network.	**Consistent.** Figure C-1 in the City's General Plan identifies White Rock Road as a six-lane expressway. Under the build alternative, White Rock Road will be widened from two to four lanes from Luyung Drive to Grant Line Road, which contributes to implementation of the Circulation Plan with Roadway System and Sizing Diagram shown as Figure C-1. While the City's General Plan envisions an ultimate six-lane facility, current traffic analyses show that a four-lane facility will meet the need for the design life of the current MTP/SCS 2035.	**Not Consistent.** The City's Circulation Plan shows White Rock Road as a six-lane expressway. Under the no build alternative, no changes to White Rock Road would occur and it would remain as a two-lane roadway. This alternative would not be consistent with the Circulation Plan with Roadway System and Sizing diagram shown as Figure C-1 in the Circulation Element of the City's General Plan.
Policy C.1.2 – Seek to maintain operations on all roadways and intersections at LOS D or better at all times, including peak travel times, unless maintaining this LOS would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of LOS D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or a City-initiated project.	**Consistent.** Under the build alternative, White Rock Road would operate under LOS D conditions between Sunrise Boulevard and Rancho Cordova Parkway, LOS B conditions between Rancho Cordova Parkway and the city limits, and LOS C conditions between the city limits and Grant Line Road. LOS D or better should be maintained on this roadway, according to this policy. Refer to Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities."	**Not Consistent.** Under the no build alternative, White Rock Road would operate under LOS F conditions between Luyung Drive and Grant Line Road. LOS D or better should be maintained on this roadway, according to this policy. Refer to Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities."
Policy C.2.1 – Create a system of on- and off-street trails and multi-use paths, as generally illustrated on Figure C-2, that are used for walking bicycling and that are attractive, natural, and safe transportation corridors.	**Consistent.** Under the build alternative, 6-foot-wide bike lanes would be constructed on the north and south sides of White Rock Road, consistent with the Bikeway and Trails Plan shown in Figure C-2 of the City's General Plan, which identifies a Class II bike lane on White Rock Road.	**Not Consistent.** Under the no build alternative, no changes to White Rock Road would occur. This alternative would not contribute to creating a system of on- and off-street trails and multi-use paths as shown on Figure C-2 in the City's General Plan.

General Plan Policy	Build Alternative	No Build Alternative
Policy C.2.5 – Provide safe and convenient bicycle access to all parts of the community.	**Consistent.** The build alternative includes two 6-foot-wide bike lanes and two 3-foot-wide shoulders on the north and south sides of White Rock Road, which would provide safe and convenient bicycle access to areas in the western region of Rancho Cordova.	**Not Consistent.** Under the no build alternative, no changes to White Rock Road would occur. This alternative would not provide safe and convenient bicycle access in this area of the city.
Policy C.2.6 – Provide on-street bike lanes along all connector roadways and on local and major roadways when necessary to provide for interconnected routes.	**Consistent.** The build alternative would construct two 6-foot-wide bike lanes along White Rock Road, which could contribute to interconnected routes in Rancho Cordova and Sacramento County.	**Not Consistent.** Under the no build alternative, no changes to White Rock Road would occur and on-street bike lanes would not be constructed. This alternative would not provide on-street bike lanes along a connector, local, or major roadway.

Consistency with the South Sacramento Habitat Conservation Plan

Project consistency with the SSHCP is not analyzed because the plan has not yet been adopted. If the SSHCP is finalized and approved prior to the commencement of mitigation pursuant to the mitigation and monitoring program developed for the project, the U.S. Army Corps of Engineers (USACE), the Central Valley Regional Water Quality Control Board (Central Valley RWQCB), US Fish and Wildlife Service, the City, and Caltrans may consider (if applicable) modifications to the mitigation and monitoring program to be consistent with the SSHCP.

Avoidance, Minimization, and/or Mitigation Measures

None required.

2.1.2 Growth

Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. The CEQA Guidelines (Section 15126.2[d]) require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

Affected Environment

In addition to the regulations discussed above, the City of Rancho Cordova has also enacted local growth ordinances; specifically:

Local Requirements: City of Rancho Cordova Ordinances

Policy LU.2.5 – Phase growth based on infrastructure capacity, infrastructure financing, and the timing of the design, approval/permitting, and construction of transportation facilities and other infrastructure.

Policy LU.3.3 – Participate in the Sacramento Area Council of Governments' regional planning programs (e.g., Blueprint, Regional Housing Needs Plan, Metropolitan Transportation Plan) and coordinate City plans and programs with those of the Council of Governments.

Within the project area, there are dense industrial developments along Luyung Drive, but Luyung Drive essentially marks the end of the dense urban area of Rancho Cordova. Beyond this point, the land on either side of White Rock Road is minimally developed. Property to the north and south of the roadway is largely owned by Aerojet and is mostly undeveloped land made hummocky by the presence of dredge tailings left from historic gold mining. There are some industrial buildings located in the area, but these are relatively small and few in number. The land to the north and south is also part of a federal Superfund site, which constrains its ability to be used. The Rancho Cordova General Plan identifies areas north of White Rock Road as within the Aerojet Planning Area and areas south of White Rock Road as within the Rio Del Oro Planning Area and the Grant Line West Planning Area. The Aerojet Planning Area is planned for continued industrial, research and development, mining operations, and intense development such as offices, research and development activities, and light industrial uses. In the Rio Del Oro and Grant Line West Planning Areas, residential and office park land uses are planned along White Rock Road.

The expansion of White Rock Road is identified on the transportation diagrams of the City of Rancho Cordova General Plan, the Sacramento County General Plan, and the MTP/SCS 2035. All of these plans identify White Rock Road as a planned six-lane facility. For both the City and County General Plans, traffic impact analyses were performed in response to the land use and growth assumptions of the General Plans. The transportation networks identified in the General Plans were developed in response to the needs identified in the traffic impact analyses. The current Sacramento County General Plan was adopted in November 2011 and the current City of Rancho Cordova General Plan was adopted in June 2006. Though the property north of White Rock Road is planned to continue in the same condition as it currently exists, properties to the south and east are planned for urbanization. Traffic generated by this urbanization would be distributed along White Rock Road. The physical impacts of the identified growth and roadway facilities were analyzed in the Sacramento County General Plan Environmental Impact Report (2007) and the City of Rancho Cordova General Plan Environmental Impact Report (2006). In addition, cumulative air quality and transportation impacts were considered in the MTP/SCS 2035 Environmental Impact Report (2011). It should also be noted that the City of Rancho Cordova General Plan designates lands immediately south of the project roadway as a future growth area for the city.

Environmental Consequences

No Build Alternative

Under the no build alternative, urban development in the project area would continue as planned by the City of Rancho Cordova and Sacramento County, while White Rock Road would remain in its current configuration of two lanes. The no build alternative would not result in any direct cumulative growth impacts. However, this alternative could result in inadequate level of service conditions along White Rock Road, which could constrain planned growth in Rancho Cordova, and result in the displacement of growth to other areas in the region that are not planned for growth. The displacement of growth to other areas that are not planned for growth could lead to potentially severe environmental effects to resources of concern, including water and sewer service, conversion of open space to urban uses, conversion of agricultural space to nonagricultural use, increased vehicle emissions resulting from residents driving greater distances to reach employment and commercial centers, impacts to biological resources, and impacts to visual resources. Refer to Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities," for projected traffic volumes and levels of service on White Rock Road under the no build alternative.

Build Alternative

The project will increase the capacity of White Rock Road from Luyung Drive to Grant Line Road by more than 20,000 average daily trips. This increase in average daily trips would be in response to growth that is already under way or is planned for the near future. As described under the Affected Environment subheading, much of the land north of the roadway will not be subject to urbanization. However, properties south of White Rock Road and along Grant Line Road are the subject of current master planning efforts that consists of planned residential, commercial and institutional development, including the approved Rio Del Oro Specific Plan, the Westborough Planning Area, the existing Sunridge Specific Plan, and the approved Suncreek Specific Plan (see **Figure 1.1-3**). The proposed project would expand the roadway from two lanes to four lanes in response to this already planned growth. The project will not be the generator of any additional growth. Ultimately, transportation plans for the roadway identify it as a six-lane facility, which is also in response to contemplated future growth. The project will not induce additional substantial growth beyond what is already contemplated, and thus impacts are not significant.

Changes in Accessibility

The proposed project would increase accessibility to the approved and future planned development north and south of White Rock Road. The rate of growth is not expected to substantially increase with the implementation of the proposed project beyond what has been anticipated by the City of Rancho Cordova and SACOG in response to approved and proposed developments.

Growth Pressures

The proposed project would improve traffic circulation between homes and jobs in Rancho Cordova and Sacramento County and would accommodate the planned rate of growth in the area. The proposed project would not result in a change in the location, rate, type, or amount of growth planned under regional and local plans, and would therefore not result in environmental impacts beyond those already considered in regional and local plans and their respective environmental documents.

Avoidance, Minimization, and/or Mitigation Measures

None required.

2.1.3 Community Impacts

2.1.3.1 Relocations and Real Property Acquisition

Regulatory Setting

Caltrans' 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 the 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 D for a summary of the RAP.

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 United States Code [USC] 2000d, et seq.). Please see Appendix C for a copy of Caltrans' Title VI Policy Statement.

Affected Environment

North and south of White Rock Road between Sunrise Boulevard and east of Luyung Drive, numerous industrial properties are located adjacent to the roadway. Between east of Luyung Drive and Grant Line Road north and south of White Rock Road, the landscape is relatively free of structures, aside from one industrial property owned by PSC Environmental Services located at 11855 White Rock Road on the north side of the roadway. Land uses north of White Rock Road in the project area include vacant land and industrial uses, and land uses south of White Rock Road in the project area include vacant land, industrial, grazing, and mining operation uses. **Table 2.1-3** lists brief descriptions of parcels that will be subject to right-of-way impacts.

Environmental Consequences

No Build Alternative

Under the no build alternative, no changes to White Rock Road would occur. No relocations, real property acquisitions, or easements would be necessary and no impacts related to relocations or real property acquisitions would occur.

Build Alternative

No relocations will occur as part of the proposed project. Right-of-way acquisition of approximately 9,900 square feet will be required on one vacant parcel (APN 072-0370-104), which is currently owned by Aerojet. The project will require slope and public utility easements on 24 parcels in the project area to construct the proposed improvements. A public utility easement grants an easement onto private land for a public use, whereas a slope easement, allows construction of a slope on private property. **Table 2.1-3** lists the parcels on which right-of-way acquisition or easements would be required for the proposed project. The proposed project would require easements on parcels along White Rock Road within the Rancho Cordova city limits and outside of the Rancho Cordova city limits in Sacramento County. The parcel on which right-of-way will be required in fee (APN 072-0370-104) is located within the city limits of Rancho Cordova. Given that this parcel is vacant and the amount of property to be acquired is minimal, no impacts related to relocations or real property acquisition will occur.

Table 2.1-3
Right-of-Way Acquisition and Easement Parcels

#	APN #	Owner	Public Utility Easement (SF)	Slope Easement (SF)	Fee Acquisition (SF)	Physical Changes to Property
1C	072-0340-079	Hunt Asset Management LLC				Temporarily remove sod during construction of adjacent curb ramp. Restore landscaping to existing condition by end of construction.
2C	072-0340-033	Benvenuti, Daniel, Jr. & Karen		2,430		Minor permanent fill slope into parcel at back of sidewalk
3C	072-0450-103	Benvenuti, Daniel				Temporarily remove sod during construction of curb ramp adjacent to parcel. Restore landscaping to existing condition by end of construction.
4C	072-0340-033	Viking LLC & Jerome M Johnson Mary Joice		8,649		Minor permanent fill slope into parcel at back of sidewalk
5C	072-1200-011	C R/R INC		639		Minor permanent fill slope into parcel at back of sidewalk
6C	072-1200-001	C R/R INC		168		Might temporarily remove sod during construction of adjacent curb ramp. Restore landscaping to existing condition by end of construction.
7C	072-0231-045	C R/R INC		3,359		Minor permanent fill slope into parcel
7P	072-0231-045	C R/R INC	10,444			Relocate SMUD and fiber optic overhead lines to new easement
8C	072-0450-072	McMillan, Gilman C		854		Temporarily remove sod during construction of adjacent curb ramp. Restore landscaping to existing condition by end of construction.
9C	072-0370-071	Elliott Whiterock LLC		121,943		Minor permanent cut and fill slopes into parcel. Relocate barbed wire fence and install new access gates. Pave driveway entrances.
10C	072-0231-133	Aerojet General Corp Easton Dev Co LLC		71,557		Minor permanent cut and fill slopes into parcel. Remove security fence. Pave driveway entrances.
10P	072-0231-133	Aerojet General Corp Easton Dev Co LLC	91,965			Relocate SMUD and fiber optic overhead lines to new easement. Install new Aerojet security fence to edge of easement and install new security gates.
11C	072-0231-135	Aerojet General Corp		30,656		Minor permanent cut and fill slopes into parcel. Remove security fence. Pave driveway entrances.
11P	072-0231-135	Aerojet General Corp	33,543			Relocate SMUD and fiber optic overhead lines to new easement. Install new Aerojet security fence to edge of easement and install new security gates.

#	APN #	Owner	Public Utility Easement (SF)	Slope Easement (SF)	Fee Acquisition (SF)	Physical Changes to Property
12C	072-0231-108	Aerojet General Corp		24,160		Significant permanent cut and fill slopes into parcel. Remove/relocate Aerojet security fence and install security gate. Pave driveway entrances.
12P	072-0231-108	Aerojet General Corp	22,482			Relocate SMUD overhead lines to new easement. Install new Aerojet security fence to edge of easement and install new security gates.
13C	072-0231-109	Aerojet General Corp		17,805		Significant permanent fill slopes into parcel. Remove security fence and install new Aerojet security fence.
14C	072-0231-110	Aerojet General Corp		14,053		Significant permanent fill slopes into parcel. Remove security fence and install new Aerojet security fence.
15C	072-0370-105	Aerojet General Corp		43,757		Significant permanent cut and fill slopes into parcel. Relocate barbed wire fence. Pave driveway entrances.
16C	072-0520-004	Aerojet General Corp		15,130		Minor permanent fill slopes into parcel. Remove security fence and install new Aerojet security fence and install new security gate. Pave driveway entrance.
17C	072-0530-007	General Environmental Management Rancho		7,072		Minor permanent fill slopes into parcel. Modify concrete driveway. Repair/replace landscaping.
17P	072-0530-007	General Environmental Management Rancho	6,509			Relocate AT&T overhead telephone line to new easement
18C	072-0530-008	BFI Medical Waste		3,916		Minor permanent fill slopes into parcel. Modify concrete driveway. Repair/replace landscaping.
18P	072-0530-008	BFI Medical Waste	4,680			Relocate AT&T overhead telephone line to new easement
19C	072-0370-104	Aerojet General Corp		572,900		Significant permanent cut and fill slopes into parcel. Relocate barbed wire fence. Pave driveway entrances. Install new access gates.
19P	072-0370-104	Aerojet General Corp	110,305			Relocate SMUD overhead power lines and AT&T overhead telephone lines to new easement
19R	072-0370-104	Aerojet General Corp			53,017	Construct roadway (pavement, median curb)
20C	072-0231-111	Aerojet General Corp		6,081		Minor permanent cut and fill slopes into parcel. Remove security fence.

#	APN #	Owner	Public Utility Easement (SF)	Slope Easement (SF)	Fee Acquisition (SF)	Physical Changes to Property
20P	072-0231-111	Aerojet General Corp	9,882			Relocate AT&T overhead telephone line to new easement. Install new Aerojet security fence.
21C	072-0231-122	Aerojet General Corp		7,218		Minor permanent cut and fill slopes into parcel. Remove security fence.
21P	072-0231-122	Aerojet General Corp	11,729			Relocate AT&T overhead telephone line to new easement. Install new Aerojet security fence.
22C	072-0231-113	Aerojet General Corp		7,545		Minor permanent cut and fill slopes into parcel. Remove security fence.
22P	072-0231-113	Aerojet General Corp	10,898			Relocate AT&T overhead telephone line to new easement. Install new Aerojet security fence.
23C	072-0231-111	Aerojet General Corp		7,741		Minor permanent cut and fill slopes into parcel. Remove security fence.
23P	072-0231-111	Aerojet General Corp	11,181			Relocate AT&T overhead telephone line to new easement. Install new Aerojet security fence.
24C	072-0231-112	Aerojet General Corp		15,814		Significant permanent cut and fill slopes into parcel. Remove security fence and install new Aerojet security fence.
24P	072-0231-112	Aerojet General Corp	11,417			Relocate AT&T overhead telephone line to new easement
25C	072-0231-116	Aerojet General Corp		306,455		Significant permanent cut and fill slopes into parcel. Remove security fence and install new Aerojet security fence and gates.
25P	072-0231-116	Aerojet General Corp	115,782			Relocate AT&T overhead telephone line to new easement
26C	072-0370-068	Tsakopoulos, John RT 2005		2,541		Significant permanent cut and fill slopes into parcel. Relocate barbed wire fence.
26P	072-0370-068	Tsakopoulos, John RT 2005	2,623			Relocate SMUD overhead power lines and AT&T overhead telephone lines to new easement
		Total (SF)	453,440	1,292,443	53,017	
		Total (Acres)	10.41	29.67	1.22	

Source: Wood Rodgers 2014

Avoidance, Minimization, and/or Mitigation Measures

None required.

2.1.4 UTILITIES/EMERGENCY SERVICES

Affected Environment

Utilities

Overhead power, telephone, and fiber optic lines, and underground gas, water, and fiber optic lines are located in the project area. The Sacramento Municipal Utility District (SMUD) supplies power in the project area. Two overhead power lines are located along White Rock Road in the project area. AT&T operates two overhead telephone lines in the project area, which are located along White Rock Road, one of which is on the same pole as the 12 kilovolt SMUD electrical line in the project area. Pacific Gas and Electric (PG&E) operates an underground gas pipeline in the project area, which is currently located under White Rock Road between Sunrise Boulevard and the business park located approximately 1.1 miles east of Luyung Drive. The Sacramento County Water Agency (SCWA) supplies water to the project area. A SCWA underground water pipeline is currently located under White Rock Road between Sunrise Boulevard and a fire hydrant located approximately 1.55 miles east of Luyung Drive. AT&T Legacy and XO Communications operate two fiber optic lines (one overhead and one underground) in the project area. The joint overhead fiber optic line is located along White Rock Road on the same pole as the 69 kilovolt SMUD electrical line in the project area, and the joint underground fiber optic line is located along the westbound shoulder of White Rock Road from approximately 3,100 feet east of Luyung Drive to Grant Line Road.

Emergency Services

The City of Rancho Cordova receives general safety and law enforcement services from the Rancho Cordova Police Department, contracted through the Sacramento County Sheriff's Department. Fire protection and emergency medical response services in the city are provided by the Sacramento Metropolitan Fire District. Although the City of Rancho Cordova General Plan includes actions to attract a full-service hospital to the city, there are currently no full-service hospitals within the city limits. The nearest full-service hospitals are located in Carmichael (Mercy San Juan), Sacramento (UC Davis, Kaiser, Shriners, Sutter General, and Mercy General), and Folsom (Mercy Hospital of Folsom).

Environmental Consequences

No Build Alternative

Utilities

Under the no build alternative, utilities in the project area would not be relocated. No demands for power, water, solid waste, or storm drainage facilities would result from the no build alternative.

Emergency Services

The no build alternative could ultimately result in negative impacts to emergency services within and surrounding the project area due to constrained traffic volumes projected on White Rock Road (refer to Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities"). With existing and planned growth in the City's Planning Area, it is estimated that by 2025 the population of Rancho Cordova will grow by more than 207 percent. The City's General Plan anticipates the addition of approximately 53,480 new housing units and approximately 55,199 new jobs within the current city limits by the year 2030. Increased population in the surrounding area will result in increased traffic and unacceptable levels of service for traffic, resulting in traffic congestion. The existing two-lane White Rock Road would constrain traffic volumes, resulting in poor circulation along the roadway, which could increase response times for emergency services and potentially obstruct or delay emergency vehicles traveling in and around the project area.

Build Alternative

Utilities

The proposed project requires relocation of utilities, including overhead electrical lines operated by SMUD, overhead telephone lines operated by AT&T, an underground gas pipeline operated by PG&E, an underground water pipeline owned by SCWA, and joint overhead and underground fiber optic lines owned by AT&T Legacy and XO Communications. Relocation plans will be prepared by the project engineer and will include:

- relocation of a 69 kilovolt (kv) overhead electrical line to the north along 3,500 feet of White Rock Road east of Luyung Drive;
- relocation of a 12 kv overhead electrical line to the south along 1.7 miles of White Rock Road between Nimbus Road and Grant Line Road;
- relocation of an overhead telephone line to the north or underground along 1.3 miles of White Rock Road west of Nimbus Road;
- relocation of an overhead telephone line, which is currently on the same poles as the 12 kv SMUD electrical line, to the south or underground along 1.7 miles of White Rock Road east of Nimbus Road;
- possible relocation of short segments of an underground gas pipeline and an underground water pipeline located under White Rock Road between Sunrise Boulevard and the business park located 1.1 miles east of Luyung Drive to accommodate the new roadway profile;
- relocation of a joint overhead fiber optic line, which is currently on the same poles as the 69 kv electrical line, either to the north or underground along 3,100 feet of White Rock Road east of Luyung Drive; and
- relocation of a joint underground fiber optic line currently located along the westbound shoulder of White Rock Road from 3,100 feet east of Luyung Drive to Grant Line Road to a location that has yet to be determined.

No disruption of service will occur during utility relocations.

Emergency Services

Operation of the proposed project would improve traffic operations and circulation along White Rock Road to approved and planned development in the project vicinity. Improving the traffic operations and circulation along the roadway would result in improved traffic levels of service and emergency services response times.

During construction of the proposed project, temporary delays to emergency vehicles may occur along White Rock Road and surrounding roadways because of roadway detours and additional congestion caused by construction equipment and activities. If emergency vehicles cannot pass through the construction area or if the construction activities result in a substantial delay in emergency vehicles passing through the construction area, residents and properties in the immediate and surrounding area could be substantially affected.

Avoidance, Minimization, and/or Mitigation Measures

Utilities

Since there will be no disruption of service during relocations, no avoidance, minimization, and/or mitigation measures are proposed.

Emergency Services

During construction, emergency access on public roadways shall be available at all times to maintain emergency vehicle access through the area. At no time during the construction period will the entire width of a public roadway be closed to emergency vehicle traffic.

Prior to the start of construction, a Traffic Management Plan shall be developed that would reduce delays and obstructions caused by construction detours to the greatest extent possible. The plan developers shall coordinate with emergency service providers (i.e., fire and police) during plan development to ensure that traffic control measures proposed in the plan would meet the needs of the service providers. These detours shall be provided to all emergency services entities that service the area prior to their implementation to avoid impacts to emergency response times.

2.1.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by 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 Code of Federal Regulations [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.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment

to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

This section was prepared using the Final Transportation Analysis for the White Rock Road Widening Project from Grant Line Road to El Dorado County Line prepared in September 2008 for Sacramento County and supplemental traffic analyses memoranda prepared in October 2013 and April 2014.

Traffic analyses were based on commonly used traffic methodologies, including analyses of volume to capacity (v/c) ratios and level of service (LOS). Volume to capacity (v/c) is a measure of traffic density at a given location or within a given segment. A v/c ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are not expected to experience substantial queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a v/c ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing is expected.

Determination of roadway operating conditions is based upon comparison of traffic volumes to roadway capacity. “Levels of service” describe roadway operating conditions. Level of service is a qualitative measure of the effect of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Levels of Service (LOS) "A" through "E" generally represent traffic volumes at less than roadway capacity, while LOS "F" represents over capacity and/or forced conditions. Tables 2.1-4, 2.1-5, and Table 2.1-10 provided at the beginning of the intersections and freeways subsections also contain graphic representations of the differing levels of service.

The City utilizes a LOS “D” standard for its roadways, unless maintaining this Level of Service would, in the City’s judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of Level of Service D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or a City-initiated project.

The Caltrans Transportation Concept Report and Corridor System Management Plan United States Route 50 (June 2014) specifies a concept LOS E for the segment of US 50 within the project area.

Roadway Network

The proposed project consists of widening White Rock Road from Sunrise Boulevard to Grant Line Road. In order to understand the traffic and transportation effects of the proposed project, however, a broader roadway network was analyzed and the term “project area” as used in this section refers to the broader roadway network. **Figure 2.1-3** illustrates the roadway network in the project area. Descriptions of existing roadways in the project area are provided on the following pages.

White Rock Road is an east–west facility that traverses the eastern portion of unincorporated Sacramento County. To the west, White Rock Road extends through the City of Rancho Cordova to International Drive. To the east, the roadway extends along the border of the City of Folsom sphere of influence and into the unincorporated El Dorado County community of El Dorado Hills where the road becomes Silva Valley Parkway on the north side of US 50. The segment of White Rock Road

that is proposed to be widened currently has one travel lane in each direction, no bike lanes, and no shoulders other than on a small portion of the roadway just east of Sunrise Boulevard.

Zinfandel Drive is a north–south facility located west of the project area. It is entirely in Rancho Cordova. To the north, it terminates in a residential area east of Sunrise Boulevard. To the south, it extends to Douglas Road. Zinfandel Drive is six lanes wide near White Rock Road and has a signalized intersection at White Rock Road.

Kilgore Road is a local north–south roadway located west of the project area in Rancho Cordova and serves office areas west of Sunrise Boulevard. Kilgore Road extends from Folsom Boulevard to the north to Baroque Drive to the south. This roadway has a signalized intersection at White Rock Road.

Sunrise Boulevard is a north–south facility located west of the project area. To the north, it extends into Placer County. To the south, it extends to Grant Line Road. Sunrise Boulevard is six lanes wide near White Rock Road and has a signalized intersection at White Rock Road.

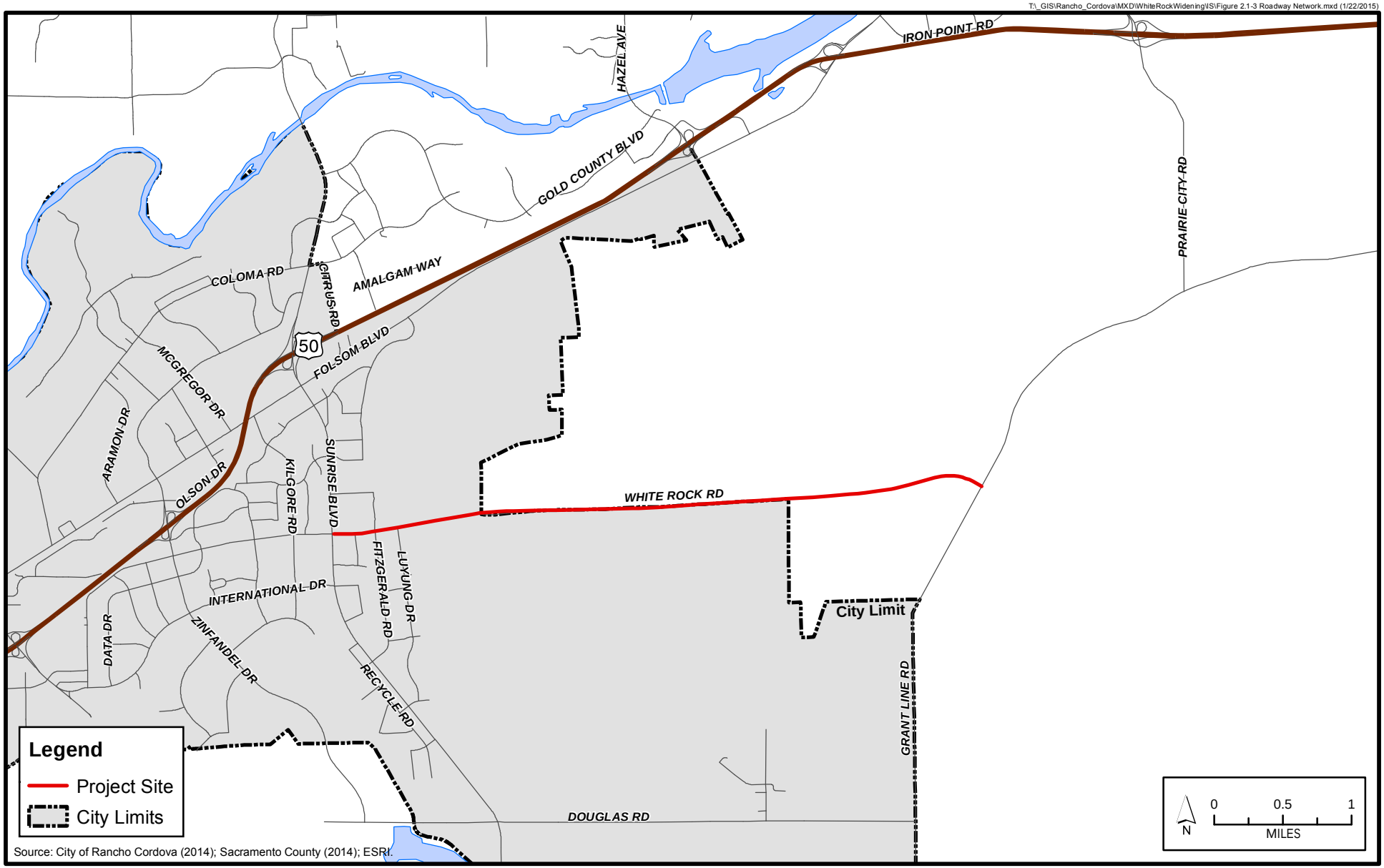
Fitzgerald Road-Sunrise Park Drive is a local north–south roadway located west of the project area and serves industrial areas east of Sunrise Boulevard. Sunrise Park Drive extends from White Rock Road to Sunrise Boulevard to the north. Fitzgerald Road extends from White Rock Road to Sunrise Boulevard to the south. This roadway has a four-way stop intersection at White Rock Road.

Grant Line Road terminates at White Rock Road near the eastern end of the project. To the southwest, the roadway continues to State Route 99 in Elk Grove. Grant Line Road is two lanes wide near White Rock Road. For purposes of the environmental baseline (existing conditions), the three-leg intersection of Grant Line Road and White Rock Road has a stop sign on the eastbound White Rock Road approach. The other approaches are not controlled.

No transit service is currently provided in the project area. No pedestrian or bicycle facilities exist in the project area.

Intersections

Table 2.1-4 and **Table 2.1-5** illustrate level of service definitions for unsignalized and signalized intersections.



City of Rancho Cordova
Planning Department

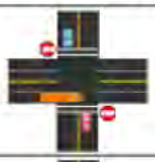
Figure 2.1-3

Project Area Roadway Network

Table 2.1-4
Levels of Service for Unsignalized Intersections

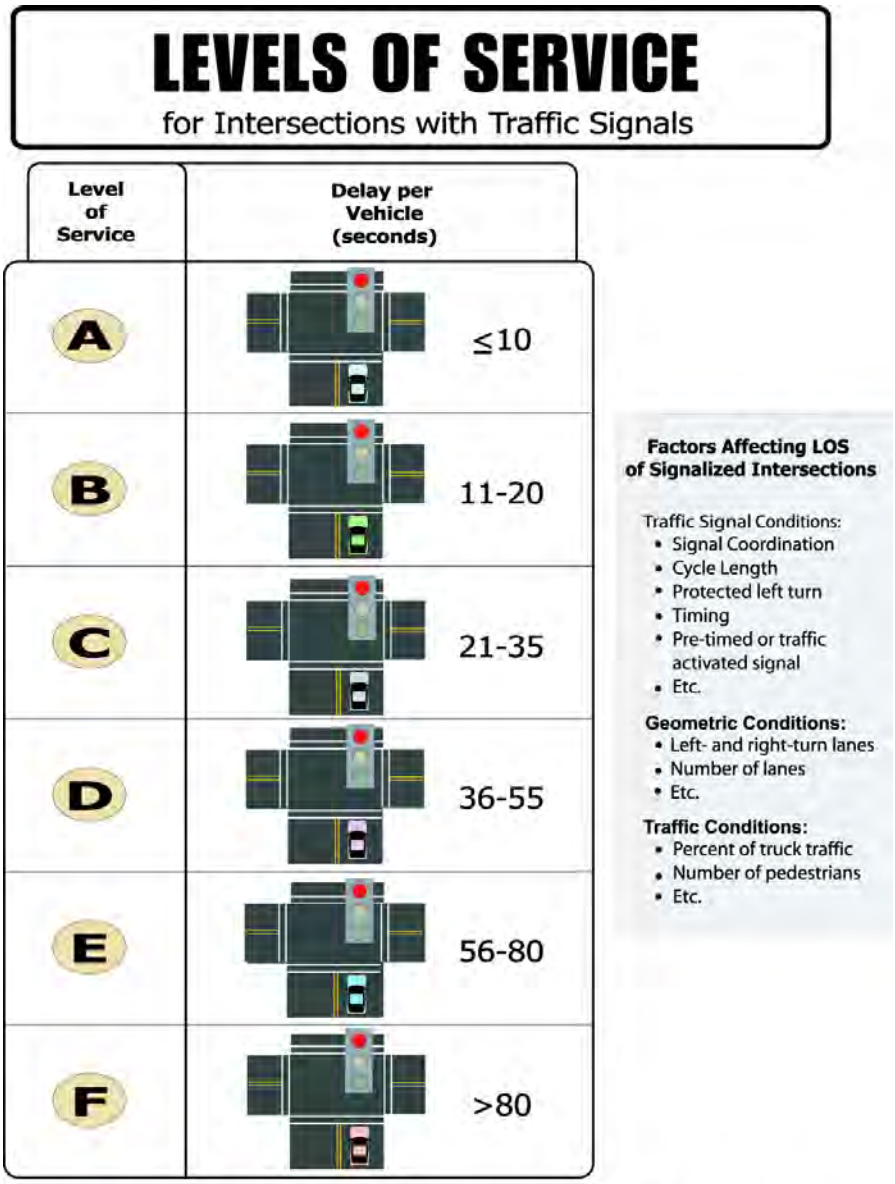
LEVELS OF SERVICE

for Unsignalized Intersections

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed. **Very short delay**
B		10-15	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability. **No delays**
C		15-25	Stable traffic flow, but less freedom to select speed, change lanes or pass. **Minimal delays**
D		25-35	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult. **Minimal delays**
E		35-50	Unstable traffic flow. Speeds change quickly and maneuverability is low. **Significant delays**
F		>50	Heavily congested traffic. Demand exceeds capacity and speeds vary greatly. **Considerable delays**

Source: 2000 HCM, Exhibit 20-2, LOS Criteria for Two-Lane Highways in Class 1

Table 2.1-5
Levels of Service for Intersections with Traffic Signals



Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Table 2.1-6 summarizes existing a.m. and p.m. peak-hour operating conditions at intersections in the project area. During both the a.m. and p.m. peak hours, all of the intersections meet or exceed the LOS D standard, with the exception of the intersection of Zinfandel Drive with White Rock Road. This intersection operates at LOS E during the p.m. peak hour.

Table 2.1-6
Existing Peak-Hour Intersection Operating Conditions[6]

Intersection	Control[1]	A.M. Peak Hour		P.M. Peak Hour	
		Criteria[2]	LOS	Criteria[2]	LOS
Zinfandel Dr/White Rock Rd	Signal	0.50	A	**0.90**	**E**
Kilgore Rd/White Rock Rd	Signal	0.47	A	0.58	A
Sunrise Blvd/White Rock Rd	Signal	0.65	B	0.71	C
Fitzgerald Rd-Sunrise Park Dr/White Rock Rd	AWSC	14.7	B	16.4	B
Grant Line Rd/Douglas Rd	OWSC	23.8	C	18.2	C

Notes:
1. AWSC = All-Way Stop Control, OWSC = One-Way Stop Control
2. Signalized intersection – Volume-to-Capacity Ratio (V/C)
   Unsignalized intersection – Delay per Vehicle (seconds) AWSC intersection, OWSC worst movement (most congested)
3. Bold depicts LOS that exceeds City's General Plan LOS goal

Roadway Segments

Level of service analyses were conducted for roadway segments in the project area based on daily traffic volumes, the number of traffic lanes between intersections, and roadway characteristics. These analyses were conducted utilizing the methodology employed in the analysis of the Sacramento County General Plan and the City of Rancho Cordova General Plan. In this methodology, the major roadway network was divided into five "capacity class" categories for level of service determination, as shown in **Table 2.1-7**.

Table 2.1-7
Roadway Capacity Classes

Capacity Class	General Criteria			
	Stops per Mile	Driveways	Speed Range	Lanes
Freeway – Full Access Control	0	None	55–65	4+
Expressway – High Access Control	1–2	None	45–55	4+
Arterial – Moderate Access Control	2–4	Limited	35–45	2+
Arterial – Low Access Control	4+	High	25–35	2+
Rural Highway	<0.5	Limited	45–55	2

The capacity class categories are based on the nature of traffic flow along the facility, including the number of interruptions due to intersection control and "side-friction" caused by driveways and local streets. For each capacity class shown in **Table 2.1-7**, relationships were developed between daily traffic volumes and roadway level of service. **Table 2.1-8** summarizes the maximum daily traffic volumes for each capacity class/LOS combination. The segment-based level of service represents peak-hour conditions, although it is calculated based on daily traffic volumes and capacity estimates.

[6] CEQA Guideline 15125(a) specifies that an EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time of the notice of preparation, or if no notice of preparation is published, at the time environmental analysis is commenced. NEPA does not have a definitive requirement for baseline except that it generally is a pre-project fixed point in time.

Table 2.1-8
Roadway Segment Evaluation Criteria for Level of Service

Capacity Class	Maximum Daily Traffic Volume per Lane				
	Level of Service				
	A	B	C	D	E
Freeway – Full Access Control	7,000	10,800	15,400	18,600	20,000
Expressway – High Access Control	6,000	7,000	8,000	9,000	10,000
Arterial – Moderate Access Control	5,400	6,300	7,200	8,100	9,000
Arterial – Low Access Control	4,500	5,250	6,000	6,750	7,500
Rural Highway	1,200	2,400	3,950	6,750	11,450

Table 2.1-9 summarizes the existing roadway levels of service in the project area. All of the roadway segments meet or exceed the LOS D standard with the following exceptions:

- Sunrise Boulevard between Folsom Boulevard and Trade Center Drive
- Sunrise Boulevard between Kiefer Boulevard and State Route 16

Both of these roadway segments currently operate at LOS F.

Table 2.1-9
Existing Segment Level of Service

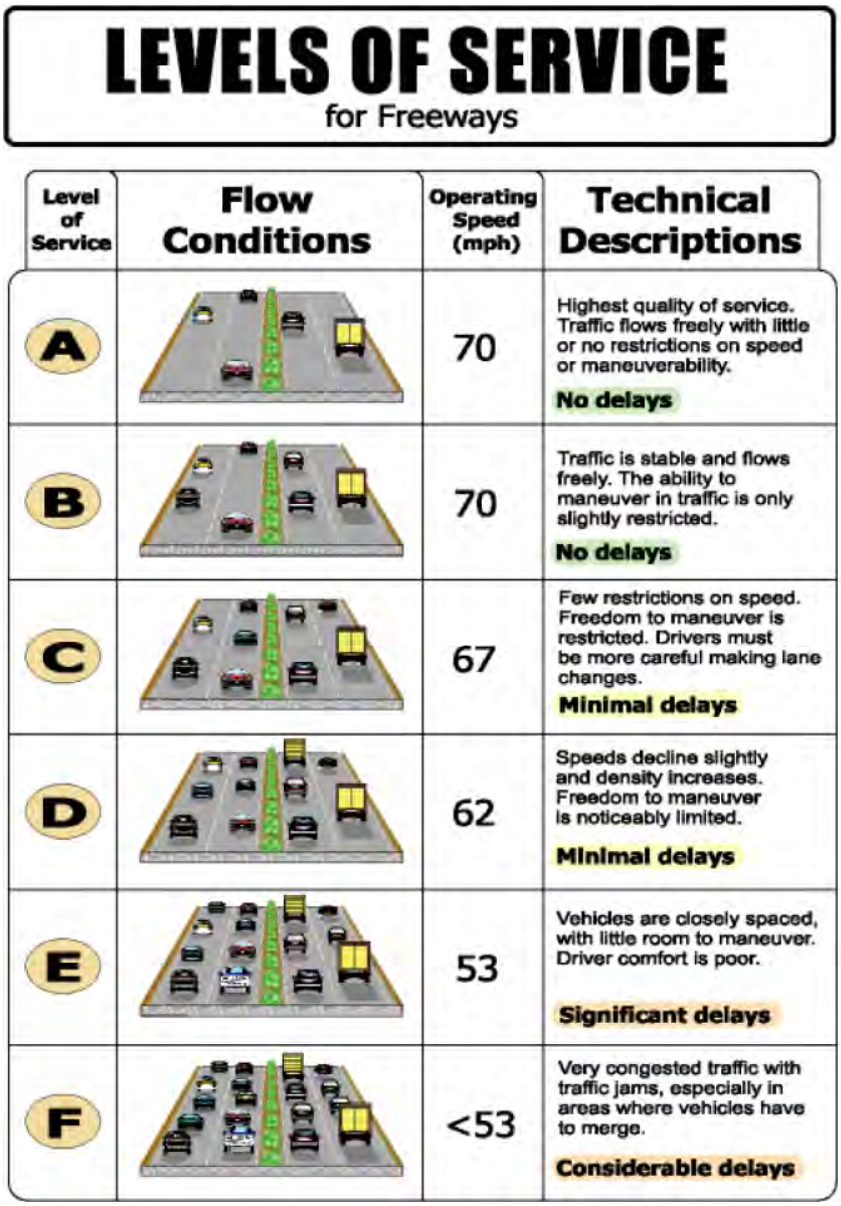
Segment			Lanes/ Type[1]	Average Daily Traffic Volume	V/C[2]	LOS
Roadway	From	To				
White Rock Road	Rancho Cordova City Limit	Grant Line Road	2/RNS	6,000	0.35	D
	Zinfandel Drive	Kilgore Road	6/AM	25,500	0.47	A
	Kilgore Road	Sunrise Blvd	6/AM	25,500	0.47	A
	Sunrise Blvd	Fitzgerald Road	2/AM	13,200	0.73	C
Zinfandel Drive	EB US 50	White Rock Road	6/AM	41,900	0.78	C
	White Rock Road	International Drive	4/AM	19,700	0.36	A
	International Drive	Baroque Drive	4/AM	7,100	0.20	A
Sunrise Blvd	Folsom Blvd	Trade Center	6/AM	**57,400**	**1.06**	**F**
	Trade Center	White Rock Road	6/AM	39,200	0.73	C
	White Rock Road	Fitzgerald Road	4/AM	25,500	0.71	C
	Fitzgerald Road	Douglas Road	6/AM	25,500	0.47	A
	Douglas Road	Kiefer Blvd	4/AM	20,000	0.56	A
	Kiefer Blvd	State Route 16	2/AM	**20,000**	**1.11**	**F**

Notes:
1. Type AM = Arterial Moderate Access Control, RNS = Rural No Shoulder
2. V/C = Volume-to-Capacity Ratio

Freeway

Table 2.1-10 illustrates level of service definitions for freeways.

Table 2.1-10
Levels of Service for Freeways



Level of service analyses were conducted for the study area freeway segments based on peak-hour traffic volumes and the number of both mixed-flow (lanes that any vehicle regardless of number of passengers can travel in) and full auxiliary lanes. These analyses were conducted utilizing the methodology employed in the analysis of numerous environmental impacts reports and accepted by Caltrans District 3. In this methodology, a regular mixed flow lane has the capacity of 2200 vehicles per hour and a full auxiliary lane between interchanges has a capacity of 1600 vehicles per hour. **Table 2.1-11** summarizes the existing freeway level of service in the project area. All of the Caltrans freeway segments meet or exceed the LOS E standard.

Table 2.1-11
Existing Freeway Segment Level of Service[3]

US 50 Segment			Lanes[1]	Volume[2]	V/C[3]	LOS
Direction	From	To				
AM Peak Hour						
Eastbound	Mather Field Dr	Zinfandel Dr	4-0	7,550	0.86	D
	Zinfandel Dr	Sunrise Blvd	3-1	5,930	0.72	C
	Sunrise Blvd	Hazel Ave	3-0	4,280	0.65	C
	Hazel Ave	Folsom Blvd	2-1	3,250	0.54	C
	Folsom Blvd	Prairie City Rd	2-0	2,290	0.52	B
	Prairie City Rd	Scott Rd	2-0	2,150	0.49	B
Westbound	Scott Rd	Prairie City Rd	2-0	3,350	0.76	D
	Prairie City Rd	Folsom Blvd	2-0	3,820	0.87	D
	Folsom Blvd	Hazel Ave	3-0	4,280	0.65	C
	Hazel Ave	Sunrise Blvd	3-0	5,570	0.84	D
	Sunrise Blvd	Zinfandel Dr	4-0	7,350	0.84	D
	Zinfandel Dr	Mather Field Dr	4-0	7,360	0.84	D
PM Peak Hour						
Eastbound	Mather Field Dr	Zinfandel Dr	4-0	7,380	0.84	D
	Zinfandel Dr	Sunrise Blvd	3-1	7,340	0.90	D
	Sunrise Blvd	Hazel Ave	3-0	5,400	0.82	D
	Hazel Ave	Folsom Blvd	2-1	4,360	0.73	C
	Folsom Blvd	Prairie City Rd	2-0	3,830	0.87	D
	Prairie City Rd	Scott Rd	2-0	3,410	0.78	D
Westbound	Scott Rd	Prairie City Rd	2-0	2,370	0.54	C
	Prairie City Rd	Folsom Blvd	2-0	3,210	0.73	C
	Folsom Blvd	Hazel Ave	3-0	3,700	0.56	C
	Hazel Ave	Sunrise Blvd	3-0	4,030	0.61	C
	Sunrise Blvd	Zinfandel Dr	4-0	5,420	0.62	C
	Zinfandel Dr	Mather Field Dr	4-0	7,400	0.84	D

Notes:
1. Mixed Flow Lanes – Auxiliary Lanes, with HOV lanes excluded.
2. Does not include HOV lane volume.
3. Capacity is 2,200 for mixed-flow lane and 1,600 for full auxiliary lane.

Environmental Consequences

The level of service goal from the City's Circulation Element is to seek to maintain operations on all roadways and intersections at LOS D or better at all times, including peak travel times, unless maintaining this level of service would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of LOS D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or a City-initiated project.

The Caltrans Transportation Concept Report and Corridor System Management Plan United States Route 50 (June 2014) specifies a concept LOS E for the segment of US 50 within the project area.

The potential effects of the no build alternative and the build alternative were analyzed using the existing conditions as baseline and comparing that to a future year 2030 analysis. The model used was the Sacramento County General Plan version of the SACOG Sacramento Regional Transportation Demand Model (SACMET). At the time the traffic analysis commenced in 2008, the year 2030 was chosen for the future year[7] scenario and the year 2030 projections were based on the SACOG model that was available at that time. In preparation for updating its traffic model for the 2035 MTP/SCS, SACOG prepared a Draft Regional Transportation Monitoring Report (Monitoring Report) in August 2013 that analyzed the demographic changes that occurred in the region since 2007 in order to better model its traffic forecasts. The report included the repercussions of the economic recession that had just begun in 2008. The report highlights the impact that the recession had on jobs and employment and the reductions that caused in work travel. With the reduction in household income, there were also reductions in non-work and discretionary travel.

According to the summary in the Monitoring Report, employment in the SACOG region was at an all-time peak in 2007 and then between 2007 and 2011 as many as 96,000 jobs were lost in the region. Median income during this same period declined by 13%. All of which resulted in a decline in VMT per capita of -9.0% over the same time period. In terms of congestion, there was a -27% decline in the annual hours of delay per auto commuter between 2000 and 2011.

Today projected future travel demand in the region is still below what was being predicted in the 2008. In 2008, future year 2035 total vehicle miles traveled in the region was predicted to be about 85 million miles; the current MTP/SCS predicts 75 million total vehicle miles travelled in the region in the year 2035, which represents about a 12% reduction.[8] Because the traffic data used for the year 2030 analysis for the proposed project was based on the traffic projections available in 2008, the results presented for the proposed project may slightly overestimate the future traffic conditions if the current MTP/SCS projections remain accurate for 2035, this potentially results in more conservative impact conclusions.

Year 2030 development forecasts were based on the following additional sources:

- The 2030 development forecasts for Rancho Cordova south of US 50 prepared by the City of Rancho Cordova's Planning Department and released in February 2007
- Proposed development in the City of Folsom's South of US 50 Annexation area

[7]" Future year scenario" and "Year 2030" are used interchangeably. The design year for the project is 2030 but as noted in Section 2.1.1.2 it is fully anticipated that the proposed project will meet traffic needs up to and beyond 2035.
[8] SACOG, 2035 MTP/SCS, pp. 85-87.

- Proposed development in the Easton/Glenborough Specific Plan in unincorporated Sacramento County
- Proposed development in the Grant Line East Visionary Plan in unincorporated Sacramento County
- All other areas in Sacramento County based on the County's current General Plan
- Outside Sacramento County, an interpolated year 2030 development forecast created based on SACOG's adopted MTP/SCS 2035
- In El Dorado Hills, the year 2030 development levels were extrapolated based on the 2005–2025 growth rate

Most roadway network assumptions were based on the existing Sacramento County General Plan. Some roadways were added or widened due to assumed development, as stated above, that were not assumed under the existing General Plan. Assumptions for the year 2030 roadway network are as follows:

- White Rock Road is four lanes wide from the Rancho Cordova city limit, near Villagio Parkway, to the El Dorado County line.
- White Rock Road is six lanes wide west of the Rancho Cordova city limit, near Villagio Parkway.
- White Rock Road is four lanes wide from the El Dorado County line to the new interchange with US 50 at Silva Valley Road.
- Grant Line Road is six lanes wide south of the White Rock Road intersection.
- No new north–south road, parallel to Grant Line Road, through the East of Grant Line development area. This road would have connected Grant Line Road.
- No new north-south road, parallel to Grant Line Road, through the East of Grant Line development area. This road would have connected Grant Line Road at Chrysanthy Boulevard to White Rock Road between Grant Line Road and Prairie City Road.
- Prairie City Road is widened to six lanes from US 50 to south of Easton Valley Parkway and is widened to four lanes south of Easton Valley Parkway to White Rock Road.
- Scott Road (North) is widened to six lanes from US 50 to south of Easton Valley Parkway and is widened to four lanes south of Easton Valley Parkway to White Rock Road.
- Easton Valley Parkway is a new east–west road between US 50 and White Rock Road. It is a six-lane road between Rancho Cordova Parkway and Prairie City Road, a four-lane road between Prairie City Road and east of the Rowberry Road extension, a six-lane road between east of the Rowberry Road extension and Placerville Road, and a two-lane road from Placerville Road to Empire Ranch Road.
- Oak Avenue Parkway is a new four-lane road between Prairie City Road and Scott Road that connects White Rock Road to a new US 50 interchange.
- Rowberry Road is extended across US 50, without an interchange, to Easton Valley Parkway as a four-lane road.
- Empire Ranch Road is a new road between Scott Road and the El Dorado County line that

connects White Rock Road to a new US 50 interchange. It is six lanes from US 50 to Easton Valley Parkway and four lanes from Easton Valley Parkway to White Rock Road.

- Hazel Avenue is extended south to Easton Valley Parkway as six lanes.
- Rancho Cordova Parkway is built from a new interchange at US 50 south to Grant Line Road with six lanes north of White Rock Road and four lanes south of Rio Del Oro Parkway.
- Empire Ranch Road is extended south from White Rock Road into the El Dorado Hills Business Park as a four-lane road.
- Auxiliary lanes are added to US 50 from Mather Field Road to Zinfandel Drive, from Sunrise Boulevard to Hazel Avenue, and from Prairie City Road to Empire Ranch Road.
- High-occupancy vehicle lanes are added to US 50 from Sunrise Boulevard to Watt Avenue and from El Dorado Hills Boulevard to Greenstone Road.

As shown above, the Final Transportation Analysis included widening portions of White Rock Road in its assumptions for year 2030 based on the understanding that White Rock Road would be widened as part of infrastructure requirements for future development projects even if it were not widened as part of a stand-alone transportation project. Therefore, in the Final Transportation Analysis, there are no substantive differences between the year 2030 no build alternative scenario and the year 2030 build alternative scenario.

To better understand the potential effects to roadway segments under a year 2030 no build scenario in which White Rock Road would remain in its current configuration in the area between Sunrise Boulevard and Grant Line Road, supplemental traffic analysis was done in October 2013 and April 2014. This is the no build scenario that was used for the air quality and noise future no build analyses.

Intersections Operations

Design Year 2030

The addition of new roadways by the year 2030 creates new intersections in Rancho Cordova. The new intersections are listed below.

- Rancho Cordova Parkway and White Rock Road
- International Drive and White Rock Road
- Rio Del Oro Parkway and White Rock Road
- Villagio Parkway and White Rock Road

Table 2.1-12
Year 2030 Peak-Hour Intersection Operating Conditions

Intersection	Control[1]	Without Project		With Project	
		Criteria[2]	LOS	Criteria[2]	LOS
A.M. Peak Hour					
Zinfandel Dr/White Rock Rd	Signal	0.75	C	0.75	C
Kilgore Rd/White Rock Rd	Signal	0.53	A	0.53	A
Sunrise Blvd/White Rock Rd	Signal	0.77	C	0.77	C
Fitzgerald Rd-Sunrise Park Dr/White Rock Rd	Signal	0.52	A	0.52	A
Rancho Cordova Parkway/White Rock Road	Signal	**0.95**	**E**	**0.95**	**E**
International Drive/White Rock Road	Signal	0.57	A	0.57	A
Rio Del Oro Parkway/White Rock Road	Signal	0.46	A	0.46	A
Villagio Parkway/White Rock Road	Signal	0.38	A	0.38	A
Grant Line Rd/Douglas Rd	Signal	0.82	D	0.82	D
P.M. Peak Hour					
Zinfandel Dr/White Rock Rd	Signal	**1.09**	**F**	**1.09**	**F**
Kilgore Rd/White Rock Rd	Signal	0.56	A	0.56	A
Sunrise Blvd/White Rock Rd	Signal	0.73	C	0.73	C
Fitzgerald Rd-Sunrise Park Dr/White Rock Rd	Signal	0.49	A	0.49	A
Rancho Cordova Parkway/White Rock Road	Signal	0.77	C	0.77	C
International Drive/White Rock Road	Signal	0.64	B	0.64	B
Rio Del Oro Parkway/White Rock Road	Signal	0.41	A	0.41	A
Villagio Parkway/White Rock Road	Signal	0.45	A	0.45	A
Grant Line Rd/Douglas Rd	Signal	0.76	C	0.76	C

Notes:
1. All intersections are signalized
2. Delay per vehicle in seconds

Table 2.1-12 summarizes year 2030 a.m. and p.m. peak-hour operating conditions at the study area intersections. During both the a.m. and p.m. peak hours, all of the intersections meet or exceed the LOS D standard under the year 2030 project scenario, with the following exceptions:

- Zinfandel Drive/White Rock Road p.m. peak hour (LOS F)
- Rancho Cordova Parkway/White Rock Road a.m. peak hour (LOS E)

The Rancho Cordova Parkway intersection operates at LOS E and the Zinfandel Drive intersection operates at LOS F under year 2030 conditions, with or without the project. The traffic volumes caused by future development will eventually exceed the capacity of these Rancho Cordova intersections in the study area. The widening of White Rock Road from Sunrise Boulevard to Grant Line Road would not create any intersection level of service impacts because the volume-to-capacity ratios are the same for the year 2030 build and no build conditions.

Roadway Segment Operations

Design Year 2030

Table 2.1-13 shows the projected year 2030 daily volumes and level of service using the assumptions from the Final Transportation Analysis, which included substantial widening of White Rock Road even under the no build alternative.

All of the roadway segments meet or exceed the LOS D standard, with the following exceptions:

- White Rock Road between Sunrise Boulevard and Rancho Cordova Parkway (LOS E)
- All studied Zinfandel Drive roadway segments between US 50 and Douglas Road (LOS F)

Operations on White Rock Road between Sunrise Boulevard and Rancho Cordova Parkway are marginally over the LOS D threshold. The City's General Plan Circulation Element indicates that if maintaining LOS D would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Level of service in excess of LOS D may be accepted provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or a City-initiated project. The proposed project would improve traffic flow compared to a future scenario in which no widening occurs within the proposed project limits (see **Table 2.1-14**) and the proposed project includes construction of new bike lanes. Zinfandel Drive though part of the roadway network analysis is not within the immediate project area and the Zinfandel Drive roadway segments between US 50 and Douglas Road would operate at LOS F in the year 2030 with or without the proposed project.

As discussed previously, in order to better understand a scenario under which White Rock Road would not be widened within the proposed project limits, additional roadway segment analysis was conducted for the portion of White Rock Road between Sunrise Boulevard and Grant Line Road. **Table 2.1-14** shows the projected Year 2030 daily traffic volumes and level of service for the White Rock Road roadway segments under this scenario.

With the proposed project, all roadway segments would operate at an acceptable level of service in the year 2030, with the exception of the segment from Sunrise Boulevard to Rancho Cordova Parkway, which would operate at LOS E. Without the proposed project, all of the White Rock Road segments in the proposed project area would operate at LOS F.

Table 2.1-13
Year 2030 Segment Daily Volumes and Level of Service

Segment				Without Project			With Project		
Roadway	**From**	**To**	**Lanes/ Type[1]**	**Daily Volume**	**V/C[2]**	**LOS**	**Daily Volume**	**V/C[2]**	**LOS**
White Rock Road	Zinfandel Dr	Sunrise Blvd	6/AM	20,100	0.37	A	20,100	0.37	A
	Sunrise Blvd	Rancho Cordova Parkway	6/AM	48,800	0.90	E	48,800	0.90	E
	Rancho Cordova Parkway	International Drive	6/AM	26,900	0.50	A	26,900	0.50	A
	International Drive	City Limit	6/AM	32,900	0.61	A	32,900	0.61	A
	City Limit	Grant Line Road	4/AM	28,300	0.79	C	28,300	0.79	C
Zinfandel Dr[4]	EB US 50	White Rock Rd	6/AM	82,600	1.53	**F**	82,600	1.53	**F**
	White Rock Rd	International Dr	4/AM	65,200	1.21	**F**	65,200	1.21	**F**
	International Dr	Douglas Road	4/AM	54,200	1.00	**F**	54,200	1.00	**F**

Notes:

1. Type AM = Arterial Moderate Access Control, RNS = Rural No Shoulders
2. V/C = Volume-to-Capacity Ratio
3. Bold indicates LOS does not meet adopted standard
4. Zinfandel Dr. is located outside the immediate project area but was included as part of the roadway network analysis.

Table 2.1-14
Future Traffic Volumes and Level of Service (2030)

			Without Project			With Project		
Roadway	**From**	**To**	**Volumes**	**Volume/ Capacity (V/C)**	**Level of Service (LOS)[1]**	**Volume**	**V/C**	**LOS**
White Rock Road	Sunrise Boulevard	Rancho Cordova Parkway	44,100	2.45	**F**	48,800	0.90	E[2]
	Rancho Cordova Parkway	International Drive	22,2008	1.31	**F**	26,900	0.50	A
	International Drive	Villagio Drive	25,100	1.48	**F**	32,900	0.61	B
	Villagio Drive	Grant Line Road	25,600	1.51	**F**	28,300	0.79	C

1. Bold indicates LOS does not meet adopted standard
2. This segment of White Rock Road does not meet the City's generally adopted LOS goal of LOS D; however, this segment does include provisions to improve traffic flow and/or promote non-vehicular transportation and as such can be deemed an acceptable LOS by the City.

Freeway Operations

Design Year 2030

Level of service analyses were conducted for the study area freeway segments based on peak-hour traffic volumes and the number of both mixed-flow and full auxiliary lanes under the cumulative scenario. **Table 2.1.15** summarizes the freeway levels of service. All of the US 50 freeway segments meet or exceed the LOS E standard, with the exception of eastbound US 50 between Zinfandel Drive and Sunrise Boulevard in both the a.m. and p.m. peak hours. This freeway segment would operate at LOS F under year 2030 conditions, with or without the project. The proposed project would not cause the exceedance; even under the no build condition, this freeway segment would operate at LOS F.

Bicycle and Pedestrian Facilities

With the exception of facilities at the far western limit of the proposed project, no pedestrian or bicycle facilities exist in the project limits. The proposed project will construct two 6-foot-wide bike lanes and two 3-foot-wide shoulders on White Rock Road from Sunrise Boulevard to Grant Line Road. Any pedestrian facilities constructed as part of the proposed project would conform to the then-applicable ADA standards. Therefore, the project will improve bicycle and pedestrian movement and safety in the project area and is consistent with the City's Bicycle Master Plan and Pedestrian Master Plan. Without the proposed project, there would continue to be no pedestrian or bicycle facilities in the majority of the proposed project limits.

Construction Impacts

During construction of the proposed project, traffic handling may require temporary lane closures or detours. Temporary delays may occur due to construction activities and movement of construction equipment through the project site. Emergency access through the project area will be maintained at all times. The City will require the contractor to coordinate ahead of time with the fire and police departments before lane closures and detours.

Avoidance, Minimization, and/or Mitigation Measures

As discussed above, the proposed project is not anticipated to cause any operational impacts to intersections, roadway segments or freeway segments. Therefore, no measures are proposed for those facilities.

Construction Measures

A Transportation Management Plan (TMP) would be prepared that would be in place throughout construction. The TMP would be made available to the public and to each jurisdiction within the study area. The TMP would be designed to minimize project-related traffic delay and accidents by adopting traditional traffic mitigation strategies through a combination of public and motorist information, demand management, incident management, system management, alternative route strategies, and construction strategies. The TMP would include detour signage, public transportation information, construction timing, and other useful construction information for residents and motorists.

Table 2.1-15
Year 2030 Freeway Segment Level of Service

Segment				Without Project			With Project		
Direction	**From**	**To**	**Lanes[1]**	**Volume[2]**	**V/C[3]**	**LOS**	**Volume[2]**	**V/C[3]**	**LOS**
A.M. Peak Hour									
Eastbound	Mather Field Dr	Zinfandel Dr	4-1	9,420	0.91	E	9,420	0.91	E
	Zinfandel Dr	Sunrise Blvd	3-1	8,330	1.02	**F**	8,330	1.02	**F**
	Sunrise Blvd	Rancho Cordova Pkwy	3-1	6,990	0.85	D	6,990	0.85	D
	Rancho Cordova Pkwy	Hazel Ave	3-1	7,610	0.93		7,610	0.93	
	Hazel Ave	Folsom Blvd	3-1	6,810	0.83	D	6,810	0.83	D
Westbound	Folsom Blvd	Hazel Ave	3-1	5,700	0.70	C	5,700	0.70	C
	Hazel Ave	Rancho Cordova Pkwy	3-1	7,190	0.88	D	7,190	0.88	D
	Rancho Cordova Pkwy	Sunrise Blvd	3-1	6,460	0.79	D	6,460	0.79	D
	Sunrise Blvd	Zinfandel Dr	4-0	7,580	0.86	D	7,580	0.86	D
	Zinfandel Dr	Mather Field Dr	4-1	8,040	0.77	D	8,040	0.77	D
P.M. Peak Hour									
Eastbound	Mather Field Dr	Zinfandel Dr	4-1	8,090	0.78	D	8,090	0.78	D
	Zinfandel Dr	Sunrise Blvd	3-1	8.220	1.00	**F**	8.220	1.00	**F**
	Sunrise Blvd	Rancho Cordova Pkwy	3-1	6,980	0.85	D	6,980	0.85	D
	Rancho Cordova Pkwy	Hazel Ave	3-1	7,480	0.91	E	7,480	0.91	E
	Hazel Ave	Folsom Blvd	3-1	6,630	0.81	D	6,630	0.81	D
Westbound	Folsom Blvd	Hazel Ave	3-1	6,420	0.78	D	6,420	0.78	D
	Hazel Ave	Rancho Cordova Pkwy	3-1	6,710	0.82	D	6,710	0.82	D
	Rancho Cordova Pkwy	Sunrise Blvd	3-1	6,660	0.81	D	6,660	0.81	D
	Sunrise Blvd	Zinfandel Dr	4-0	7,570	0.86	D	7,570	0.86	D
	Zinfandel Dr	Mather Field Dr	4-1	8,530	0.82	D	8,530	0.82	D

Notes:

1. Mixed-Flow Lanes – Auxiliary Lanes, with HOV lanes excluded.

2. Does not include HOV lane volume.

3. These analyses were conducted utilizing the methodology employed in the analysis of numerous environmental impacts reports and accepted by Caltrans District 3. In this methodology, a regular mixed flow lane has the capacity of 2200 vehicles per hour and a full auxiliary lane between interchanges has a capacity of 1600.

4. Bold indicates that LOS exceeds Caltrans LOS concept.

2.1.6 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) 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 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on 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.

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

Affected Environment

A Visual Impact Memorandum for the project was prepared by the City and approved by a Caltrans licensed landscape architect in February 2013.

White Rock Road extends from International Drive in Rancho Cordova to El Dorado County. From Sunrise Boulevard to Luyung Drive, White Rock Road is surrounded by industrial uses. From Luyung Drive to Grant Line Road, White Rock Road is bordered by a rural setting dominated by annual grasslands covering a gently rolling landscape almost entirely disturbed by Gold Rush dredge operations. The proposed project will widen White Rock Road from Sunrise Boulevard to Grant Line Road. The western portion of the project alignment (Sunrise Boulevard to Salisbury Road, as shown on **Figure 1.1-2,** Project Location) is characterized by industrial uses. Near Sunrise Boulevard, some commercial uses such as restaurants and retail establishments exist as well. The existing visual quality of this area is considered low because of its urbanized, industrial character. White Rock Road in this area is already paved to accommodate a 6-lane facility. Viewer groups in this area consist of employees/employers, patrons and motorists; all of which are considered to have low to moderately low sensitivity based on their limited exposure to the views along this portion of the roadway. Views are limited to buildings and parking lots with very little landscaping or aesthetic treatment.

The eastern portion of the project alignment (Salisbury Road to Grant Line Road) is relatively undisturbed, comprising idle native lands, historically dredged lands with remnant tailings mounds, fencing, power lines, and low-intensity agricultural lands (mainly nonirrigated grazing lands). The primary viewer group in this portion of the project area is motorists, who because of their limited exposure to the views along the roadway are considered to have low sensitivity. There is one resident along this portion of the roadway; generally residents have moderate to high viewer sensitivity.

Dredging operations altered the natural landscape adjacent to the roadway by creating massive piles of tailings. These piles resulted in basins between tailings. Because of their low-lying locations on the landscape and the mining-related manipulation of surface water and groundwater, the basins fill with water. The tailings are sparsely vegetated with ruderal plant species that are also associated with the annual grassland vegetation adjacent to the project site. The basins are characterized by a variety of riparian plant communities including coyote brush scrub, willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, oak woodland, and cottonwood-willow riparian forest.

Wetlands and drainages are adjacent to the existing roadway. The majority of the area adjacent to the project site is vacant land owned by Aerojet, although intermittent industrial uses occur. These uses include a hazardous materials disposal company, a construction company, and a mining company, and have no landscaping or aesthetic treatments that are visible from the roadway. North of White Rock Road, piping associated with groundwater monitoring wells, which extends approximately 3 feet above the ground surface, is visible at various locations.

The project site itself does not provide any aesthetic resources that would be considered scenic resources. The agricultural grazing lands, dredge tailings, and industrial development that make up the project site do not provide scenery of remarkable character. Because the project site has been extensively mined and portions have been used for rocket-testing facilities, the site does not provide views of the indigenous natural landscape. The piles of dredge tailings do not constitute a valuable scenic resource. Although the current land uses provide views of an agricultural landscape that is representative of the undeveloped areas of the project region, the project site does not contain resources that are exemplary of the agricultural history of the area. There are no state-designated scenic highway segments adjacent to the project site. The overall view quality is considered moderate.

Environmental Consequences

No Build Alternative

Under the no build alternative, no changes to White Rock Road would occur and the aesthetics of the project area would remain the same. This alternative would not result in impacts to the aesthetics of the project area.

Build Alternative

The build alternative includes widening and constructing improvements to White Rock Road between Sunrise Boulevard and Grant Line Road from two lanes to four lanes. Buildout of the project includes two 12-foot-wide lanes in each direction with a 14-foot-wide median, two 6-foot-wide bike lanes, and two 3-foot-wide shoulders. Existing utility poles will also be relocated.

Although there are no scenic resources in the project area, there would be some alterations to the visual setting of the proposed project during construction.

Along the eastern portion of the project in the vicinity of Sunrise Boulevard, the existing view quality is low, the roadway is already paved for 6-lanes and the viewer groups have low sensitivity. Therefore, there are no permanent visual impacts in this area.

Along the rest of the roadway, although the proposed project would add new pavement in the form of a new travel lane in each direction and shoulders, the proposed project does not include any large retaining walls or other notable new structures that would change the overall view quality. Widening of an existing roadway on an existing alignment in an area of unremarkable character will not be seen by roadway users, who are the only viewer group along the majority of the project area, as a considerable alteration of the area. The view quality would remain moderate with the proposed project.

Construction activities associated with the proposed project will result in temporary obstructions of the views along White Rock Road due to placement of construction equipment within the proposed slope and public utility easements and along the roadway.

Avoidance, Minimization, and/or Mitigation Measures

To minimize construction related impacts, all areas disturbed or used for staging of vehicles and equipment shall be hydroseeded and restored to their preconstruction condition upon completion of the project. This can best be accomplished by loosening and recontouring the area's soil before applying erosion control (hydroseed).

The removal of established vegetation, including trees, shall be minimized and shall be avoided where feasible. The areas where trees are present should be protected to reduce damage to the trees' root systems. Where it is possible to save and preserve existing trees (of significant size and maturity), care and caution should be implemented during the construction phase. Environmentally sensitive area fencing shall be installed to demarcate areas where vegetation is being preserved.

All disturbed areas during each construction season shall utilize best management practices (BMP), which will include temporary erosion control consisting of a native seed mix at the end of each construction season.

Contour grading and slope rounding shall be utilized on all cut and fill slopes in order to help restore the environment in a manner that will blend with the surrounding natural landscape.

2.1.7 Cultural Resources

Regulatory Setting

The term "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 for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation [36 Code of Federal Regulations (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 Caltrans went into effect for Caltrans 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 Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327). In January 2014, the First Amended Programmatic Agreement among FHWA, ACHP, SHPO and Caltrans, Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of Federal-Aid Highway Program in California (PA) was executed.

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties. See Appendix B for specific information about Section 4(f).

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as CA 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 the National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way.

Affected Environment

An Area of Potential Effects (APE) map was approved on December 17, 2013. An Archaeological Survey Report (ASR) and a Historical Resources Evaluation Report (HRER) were prepared in December 2014, and a Historic Property Survey Report (HPSR), which summarizes the results of evaluations of all cultural resources within the APE, was completed in March 2015. A Finding of Effect (FOE) was prepared in June 2015.The HPSR was submitted to SHPO and the SHPO's concurrence letter on the HPSR was received on April 16, 2015 (included in Appendix B). The FOE was submitted to the SHPO in June 2015; SHPO concurred with the FOE (No Adverse Effect) July 28, 2015 (see Appendix B for concurrence letter).

The APE is shown as **Figure 2.1-4**. The APE encompasses all areas subject to construction-related impacts, including staging areas, grading limits, and proposed right-of-way acquisitions. The horizontal APE was established as ranging from 200 to 300 feet on either side of White Rock Road's centerline from Sunrise Boulevard to Grant Line Road. The vertical APE varies from only a few feet to a maximum depth of 20 feet. Most of the cut and fill work would be done outside the existing roadway footprint at a depth of only a few feet; however, a maximum excavation of 20 feet may be necessary at the ultimate edge of the shoulder at some locations along the roadway where the terrain is significantly higher or lower than the existing road. The Area of Direct Impacts (ADI) is much more constrained than the APE and is essentially limited to the proposed right-of-way.

Archaeological investigations (i.e., prehistoric and historic research) for the proposed project were conducted between 2010 and 2014. These investigations included record searches conducted at the North Central Information Center in 2010, September 2012, and July 2013, and at the California Room of the California State Library, the Center for Sacramento History, and the Folsom History Museum in 2014; a sacred lands search conducted by the Native American Heritage Commission (NAHC) in February 2008 and again in March 2012 and August 2013 in response to changes in the APE; and an intensive pedestrian survey of the project area conducted on July 31, 2014, which included both sides of the roadway and extended from

Nimbus Road to Grant Line Road. The records searches for the proposed project included the following sources:

- National Register of Historic Places listed properties (National Park Service [NPS] 1996) and updates
- California Inventory of Historic Resources (State of California, 1976 and updates)
- California Points of Historical Interest (State of California, 1992 and updates)
- Caltrans Bridge Inventory (1989, 2000, 2004)
- Historic maps
- California Historical Landmarks (State of California, 1996 and updates)

- Directory of Properties in the Historic Resources Inventory (State of California, 2006)
- Gold Districts of California (Clark 1970)
- California Gold Camps (Gudde 1975)
- California Place Names (Gudde 1969)
- Historic Spots in California (Hoover et al. 1966 and 1990)

Previous documentation pertaining to the project area was also reviewed.

A sacred land search was requested from the NAHC on January 29, 2008. A response from the NAHC was received on February 15, 2008, indicating that no known cultural resources or architectural were present in the project APE. A second letter was submitted to the NAHC on March 12, 2012, because of changes to the APE, requesting a search of the NAHC Sacred Lands File and a list of the appropriate Native American representatives that might have an interest in or concerns with the project. The NAHC replied on March 22, 2012, stating that no known cultural resources were located in or near the APE. A third letter was submitted to the NAHC in August 2013 because of additional changes in the APE. No subsequent NAHC correspondence was initiated for the proposed project. Letters were sent to the list of Native American representatives obtained from the NAHC in 2008 and again in 2013. Responses were received from two individuals and a meeting was held with one individual in March 2008 to discuss concerns; a letter with additional information was sent to the other. No further concerns or issues were raised by the representatives.

On September 9, 2014, letters of inquiry describing the proposed project and requesting any information about potential cultural resources in the APE were sent to the Rancho Cordova Historical Society, the Sacramento County Historical Society, the Folsom History Museum, and the Center for Sacramento History. The Rancho Cordova Historical Society responded to the letter on October 28, 2014, asking for clarification regarding proposed project activities in relation to a Pony Express monument located in the project vicinity; however, this monument is located outside of the project area. A reply was sent to the Rancho Cordova Historical Society clarifying that the monument is outside of the APE. No other comments have been received regarding the project from these groups.

Archaeological and historical investigations conducted for the proposed project identified the following National Register of Historic Places eligible historic resources within the APE:

- Douglas Missile Test Facility District (P-34-4137)
- American River Placer Mining District (P-34-0335)
    - Rebel Hill Ditch (contributing feature of the Mining District)

Pedestrian surface surveys did not identify any prehistoric archaeological or architectural resources within the project APE.

Douglas Missile Test Facility District (P-34-4137)

The Douglas Missile Test Facility District was recorded and evaluated in 2009 as a historic district. As part of the evaluation, six areas that compose the facility with the connecting roadways were identified as contributors to the district; the result is that all of the property in the boundaries of the district that are within the APE have been identified as contributing to the district. Tailings associated with the six areas, which were used as berms, were considered

contributing landscape features of the district. Those tailings are located farther south within the district's boundary near the test facilities and their associated buildings and structures. The Douglas Missile Test Facility District is considered historically important under NRHP Criteria A and C for its role in the development and testing of propellant and missile launchers during the Cold War era. All of these areas relate to the facility's use from 1956 to 1969. In 2011, the SHPO concurred that the district is eligible for inclusion in the National Register of Historic Places.

The Douglas Missile Test Facility District is considered historically important for its role in the development and testing of propellant and missile launchers during the Cold War era. The period of significance is 1956-1969.

The HPSR prepared for the current project indicates this resource has been previously evaluated and determined eligible for inclusion in the NRHP. The HPSR prepared for the project confirmed that the earlier evaluation remains valid, that the resource is a historical resource for the purposes of CEQA and appears eligible for inclusion in the CRHR. The HPSR was submitted to SHPO and the SHPO's concurrence letter on the HPSR was received on April 16, 2015 (included in Appendix B). The Douglas Missile Test Facility District is a resource protected by the provisions of Section 4(f) of the US Department of Transportation Act; please see Appendix B for de minimis determination and supporting details.

California Register of Historical Resources

The Douglas Missile Test Facility District is considered historically important for its role in the development and testing of propellant and missile launchers during the Cold War era. The period of significance is 1956-1969.

American River Placer Mining District (P-34-0335)

Site P-34-0335 is identified as the American River Gold Mining District by the North Central Information Center. Portions of the American River Gold Mining District site are located in the project APE. The site includes several mining features representing activity from the mid-nineteenth century to the mid-twentieth century. Contributors to the district represent placer mining–related activities and include dredge tailings, mining camps, and water conveyance systems that supplied water for mining. Some of the tailings have been leveled while other piles are undisturbed and are still visible.

T:_GIS\Rancho_Cordova\MXD\WhiteRockWidening\SI2.1-4 APE.mxd (2/25/2016)

Source: Wood Rogers (2014); City of Rancho Cordova (2014); Google Imagery (2014)

City of Rancho Cordova
Planning Department

Figure 2.1-4

Area of Potential Effects (APE)

Previous studies of the district indicate that it meets NRHP Criteria A, B, and D[9] with a period of significance of 1848–1962. The district is significant as it represents various types of mining activity and methods from the mid-19th century to the mid-20th century in a defined geographic area. Contributors to the district represent placer mining–related activities between 1848 and 1962 and include dredge tailings, mining camps, and water conveyance systems that supplied the water for mining. At the time of the current study, the NRHP status of the district and its contributing elements was unclear. During a meeting held September 2, 2014, SHPO staff directed Caltrans to assume their concurrence with the previous determinations of eligibility. The HPSR prepared for the White Rock Road Widening project also indicates this resource is considered a historical resource for the purposes of CEQA and appears eligible for inclusion in the California Register of Historic Resources. Because it has been determined eligible for listing in the NRHP, the American River Placer Mining District and its contributing elements require Section 4(f) consideration; please see Appendix B for a discussion of Section 4(f).

Additionally, as a result of the 2014 effort, cultural resources staff identified one additional resource within the APE for the project that is a contributing element to the American River Placer Mining District: the Rebel Hill Ditch. The HPSR was submitted to SHPO and the SHPO concurred with the determination of eligibility in a letter dated April 16, 2015 (included in Appendix B). The HPSR prepared for the project also indicates this resource is considered a historical resource for the purposes of CEQA and appears eligible for inclusion in the California Register of Historical Resources (CRHR).

Rebel Hill Ditch

The Natoma Water and Mining Company's Natoma Ditch diverted water from the American River to placer mines at Morman Island, Richmond Hiss, Red Bank, and Brown's Hill as well as stocking Willow Hill Reservoir. From there, branch canals carried water to the Bunker Hill, Alder Creek, Rhodes, and Rebel Hill diggings, among others. The Natoma Ditch was 15 miles long, measuring 8 feet wide at the top, 6 feet wide at the bottom, and almost 5 feet deep. Branching ditches from the Natoma Ditch were smaller (approximately 2 feet wide and 1.5 feet deep).

One significant "diggings" area was the Rhodes Diggings, located at the head of Alder Creek. John Rhodes established mining at Rhodes Diggings in 1849, which opened the area to hundreds of miners. Work at Rhodes Diggings was on a sufficiently large scale that in 1856 a steam-driven five stamp mill and two arrastras were in use. Water was conveyed there from the Natoma Ditch via the Rhodes Branch Ditch. The Rhodes Ditch also supplied the Rebel Hill diggings, Rebel Hill Reservoir, and Tappan Reservoir. Activities at Rebel Hill focused on surface mining, as well as nearby drift mines. In the next phase of operation, Natomas No. 9 dredged at Rebel Hill from 1911 to 1921, for which water was supplied by the Rebel Hill Ditch constructed in 1905 and originating from the Willow Hill Reservoir north of Alder Creek. The ditch was extended southward sometime between 1944 and 1955, where a portion of it parallels Old White Rock Road for approximately 2,000 feet (where it is currently truncated by modern development at each end), although another small fragment may be present toward the east end of the project APE as well.

[9] NRHP Criteria for Evaluation: The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded, or may be likely to yield, information important in prehistory or history.

Environmental Consequences

No Build Alternative

Under the no build alternative, no cultural resources would be disturbed because the project would not be implemented.

Build Alternative

Douglas Missile Test Facility District (P-34-4137)

The proposed project has the potential to affect the Douglas Missile Test Facility District (P-34-4137). The FOE prepared for the project included an assessment of project effects for the district. The FOE was submitted to the SHPO in June 2015; SHPO concurred with the FOE (No Adverse Effect) in a letter dated July 28, 2015.

The proposed widening of White Rock Road would not diminish the property's overall integrity of location, setting, feeling, and association and would only modestly affect the property's integrity of materials and workmanship. The property, overall, would continue to retain the physical characteristics that convey the period of significance. Implementing the proposed project would also not result in the removal of the property from its historic location or cause neglect of the property. The property would continue to be used as it has been and would not be transferred, leased, or sold.

Widening a road along the boundary of a district would also not change the historic character of the historic district. Roads were often graded across the tops of tailings runs during operation of these industrial facilities, and the general alignment of White Rock Road has existed through the area since circa 1856. Construction activities would alter the appearance in the immediate area of the road widening, but existing district materials and landscape features would remain visible. In addition, the new road would not present an unsympathetic visual change because it would be minimal relative to the overall viewshed of the districts, which would remain unaltered.

The limited nature of the proposed project footprint relative to the vast region of the historic district, when considered in its entirety, would leave intact the site's integrity of location, materials, and design. The planned construction of the roadway in the context of an expansive and somewhat rugged landscape that helps define the resource (and define its significance) would not be out of character with the interspersed agricultural and domestic development that is currently in the site's viewshed. For this reason, the historic district would also continue to retain its integrity of setting, feeling, and association representative of rocket testing. The district would continue to convey the massive scale of the district with unobstructed views.

American River Placer Mining District (P-34-0335)

The proposed project has the potential to affect the American River Placer Mining District (P-34-0335), and will have minor direct impact on a contributing element of the district: the Rebel Hill Ditch (discussed below). The other contributing elements to the district are located closer to the American River and will not be directly or indirectly affected by the proposed project. The FOE prepared for the project, which included an assessment of project effects to the district as a whole, was submitted to the SHPO in June 2015. SHPO concurred with the Finding of No Adverse Effect in a letter dated July 28, 2015.

The proposed widening of White Rock Road would not diminish the property's overall integrity of location, setting, feeling, and association and would only modestly affect the property's integrity of materials and workmanship. The property, overall, would continue to retain the physical characteristics that convey the period of significance. Implementing the proposed project would also not result in the removal of the property from its historic location or cause neglect of the property. The property would continue to be used as it has been and would not be transferred, leased, or sold.

Widening a road along the boundary of a district would also not necessarily change the historic character of the historic district. Roads were often graded across the tops of tailings runs during operation of these industrial facilities, and the general alignment of White Rock Road has existed through the area historically. Construction activities would alter the appearance in the immediate area of the road widening, but existing district materials and landscape features would remain visible. In addition, the new road would not present an unsympathetic visual change because it would be minimal relative to the overall viewshed of the districts, which would remain unaltered.

The limited nature of the proposed project footprint relative to the vast region of the historic district, when considered in its entirety, would leave intact the site's integrity of location, materials and design. The planned construction of the roadway in the context of an expansive and somewhat rugged landscape that helps define the resource (and define its significance) would not be out of character with the interspersed agricultural and domestic development that is currently in the site's viewshed. For this reason, the historic district would also continue to retain its integrity of setting, feeling, and association representative of dredge mining in the Sacramento Valley. The district would continue to convey the massive scale of the district with unobstructed views.

Rebel Hill Ditch

The Rebel Hill Ditch is a contributing feature of the American River Placer Mining District (P-34-0335). The Rebel Hill Ditch is a contributing feature of the American River Placer Mining District (P-34-0335); therefore, impacts to the ditch were considered when making a finding of effect for the district as a whole.

Under the current project description, a small portion of the Rebel Hill Ditch (approximately 550 feet) would be altered by construction activities. The ditch segment in the APE (approximately 1,000 feet) is part of a much longer ditch system, the Rhodes Branch Ditch system, which contributes to the larger American River Placer Mining District and extends for several miles. The segment that would be modified is of newer construction than the early 1900s ditch system, having been completed between 1944 and 1955. The remaining portion of the ditch, which dates to the early part of the twentieth century, extends for several miles and is outside the APE (located north of the project area). The newer segment in the APE has already been impacted by nearby more recent development, including Aerojet, and was also likely partially damaged by construction of the modern-day White Rock Road. The older section of the Rebel Hill Ditch that is more closely tied to the Rhodes Branch Ditch would remain intact and undisturbed and would continue to display its character and historic significance. As discussed above, due to the size and composition of the district as a whole, minor modifications to this contributing element would not adversely affect the qualities that make the district eligible.

Avoidance, Minimization, and/or Mitigation Measures

The project would not adversely affect any known cultural resources; therefore, no measures are included for known cultural resources.

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

If human remains are discovered, California 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 shall be 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, which will then notify the most likely descendant. At this time, the person who discovered the remains will contact the City's Environmental Monitoring staff so that they and the City's cultural resources staff may work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of PRC Section 5097.98 are to be followed as applicable.

2.2 Physical Environment

2.2.1 Water Quality and Storm Water Runoff

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[10] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act 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. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that 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. This is 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) administer 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 United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

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

The USACE issues two types of 404 permits: General and Standard 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 allow 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 the USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations [CFR] 40 Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a

[10] A point source is any discrete conveyance such as a pipe or a man-made ditch.

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. According to the 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[11] 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 about water quality standards in a project area are included in the applicable RWQCB basin plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters 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 or non-point source controls (NPDES permits or WDRs), 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, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving basin plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

[11] The USEPA defines effluent as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

- **National Pollutant Discharge Elimination System (NPDES) Program**

  Municipal Separate Storm Sewer Systems (MS4)

  Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined 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 is designed or used for collecting or conveying storm water." The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans' MS4 permit covers all Caltrans 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.

  Caltrans' MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

  1. Caltrans must comply with the requirements of the Construction General Permit (see below);

  2. Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges; and

  3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) best management practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

  To comply with the permit, Caltrans 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 Caltrans 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 Caltrans 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 best management practices (BMPs). The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

  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 that 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 result 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 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 Caltrans' Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Local Agency Construction Activity Permitting

For local agency transportation projects off the State Highway System (SHS), the local agency (as owner of the land where the construction activity is occurring) is responsible for obtaining the NPDES permit if required and for signing certification statements (when necessary). Local agencies contact the appropriate RWQCB to determine what permits are required for their construction activity. The local agency is also responsible for ensuring that all permit conditions are included in the construction contract and fully implemented in the field.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the 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 (Porter-Cologne Act) 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.

Because the City is the primary owner/operator of the affected transportation facilities, it is responsible for obtaining all necessary permits, fully complying with the conditions of the permits, achieving all performance standards, and preparing all required reports. Caltrans's NPDES permits will not be used for the project.

In addition to the regulations and laws discussed above, the City has established a Stormwater Management and Discharge Control Ordinance (Rancho Cordova Municipal Code Chapter 15.12). Pursuant to Section 15.12.025, Sacramento County is authorized to administer and enforce the provisions of the ordinance. The ordinance prohibits the discharge of unauthorized non-storm water to the County's storm water conveyance system and local creeks. It applies to all private and public projects in the County, regardless of size or land use type. In addition,

Rancho Cordova Municipal Code Chapter 16.44, Land Grading and Erosion Control, requires private construction sites disturbing 1 or more acres, or moving 350 cubic yards or more of earthen material, to obtain a grading permit. To obtain a grading permit, project proponents must prepare and submit for approval an Erosion and Sediment Control Plan describing erosion and sediment control BMPs that will be implemented during construction to prevent sediment from leaving the site and entering the County's storm drain system or local receiving waters. Construction projects not subject to Chapter 16.44 are subject to the stormwater ordinance (Chapter 15.12) described above.

Affected Environment

A Water Quality Report was prepared for the project in September 2012.

White Rock Road extends across several watersheds, including the Lower American River, the Upper American River, the Lake Greenhaven-Sacramento River, and the Upper Morrison Creek Watersheds. Watersheds in the project area are illustrated in **Figure 2.2-1.**

The Morrison Creek Stream Group (Morrison, Laguna, Elder, Gerber, Unionhouse, Florin, Buffalo, and Frye Creek, as well as Rebel Hill Ditch) generally flows in a southwesterly direction. The Upper Morrison Creek Watershed is 192 square miles in size and is a tributary to the Sacramento River Basin.

Morrison Creek and its tributaries have been extensively relocated and channelized as a result of urban development. The modification ranges from their downstream end to as far east as Mather Field. These streams were first impacted by farming, starting in the late nineteenth century when the native grasslands and sparse riparian vegetation were displaced by crops, pasture, and invasive non-native grasses and weeds. The first major relocation of Morrison Creek occurred with the construction of the Sacramento Army Depot in 1945.

The SWRCB has identified the Morrison Creek watershed as a High Risk Receiving Watershed, and Morrison Creek has been identified as an impaired waterway under Section 303d of the Clean Water Act for diazinon. Diazinon is an organophosphorus pesticide used for urban and agricultural pest control. Morrison Creek has been included in the TMDL Report for Diazinon and Chlorpyrifos Impaired Urban Creeks in Sacramento County (September 2004). The Sacramento River water quality issues with diazinon have been addressed in a TMDL report for the Sacramento and Feather Rivers.

The project is located in an area known to have groundwater contamination. Groundwater quality has been degraded as a result of Aerojet's historical operations on their property (refer to Section 2.2.2, "Hazardous Waste/Materials"). These activities include liquid rocket engine and component testing, closed-loop testing, solvent storage, engine cleaning, solid waste disposal, water filtration, and other activities that involved handling of chemicals. Types of chemicals that were handled include solvents, fuels, oxidizers, metals, acids, oils, and other miscellaneous compounds. These chemicals have infiltrated the groundwater aquifer in some areas and have been recorded in groundwater wells downgradient. Aerojet is in the process of treating the groundwater and removing harmful contaminants to improve groundwater quality for downgradient water users.

The Sacramento County Department of Water Resources provided the following information:

> Soil and groundwater beneath the proposed project and adjacent areas are contaminated with perchlorate, Nitrosodimethylamine (NDMA), and volatile organic compounds such as Trichloroethylene (TCE). Therefore, groundwater beneath the site is not usable at this time. Aerojet is the responsible party for the contamination and has installed four groundwater extraction and treatment (GET) facilities on the Aerojet property for the pump and treatment of the contaminated groundwater since 1980. Aerojet estimated that the four GET facilities (GET A, GET B, GET E/F, and ARGET) may treat up to 12,000 gpm upon reaching their full-scale treatment capacities and that the remediation is expected to last for 240 years. Treated groundwater is referred to as "remediated water." To date, a small portion of the remediated water (approx. 1600 gpm) is discharged back to land for groundwater recharge purpose, and approximately 5,800 gpm is discharged to Buffalo Creek for flow to the American River.

Environmental Consequences

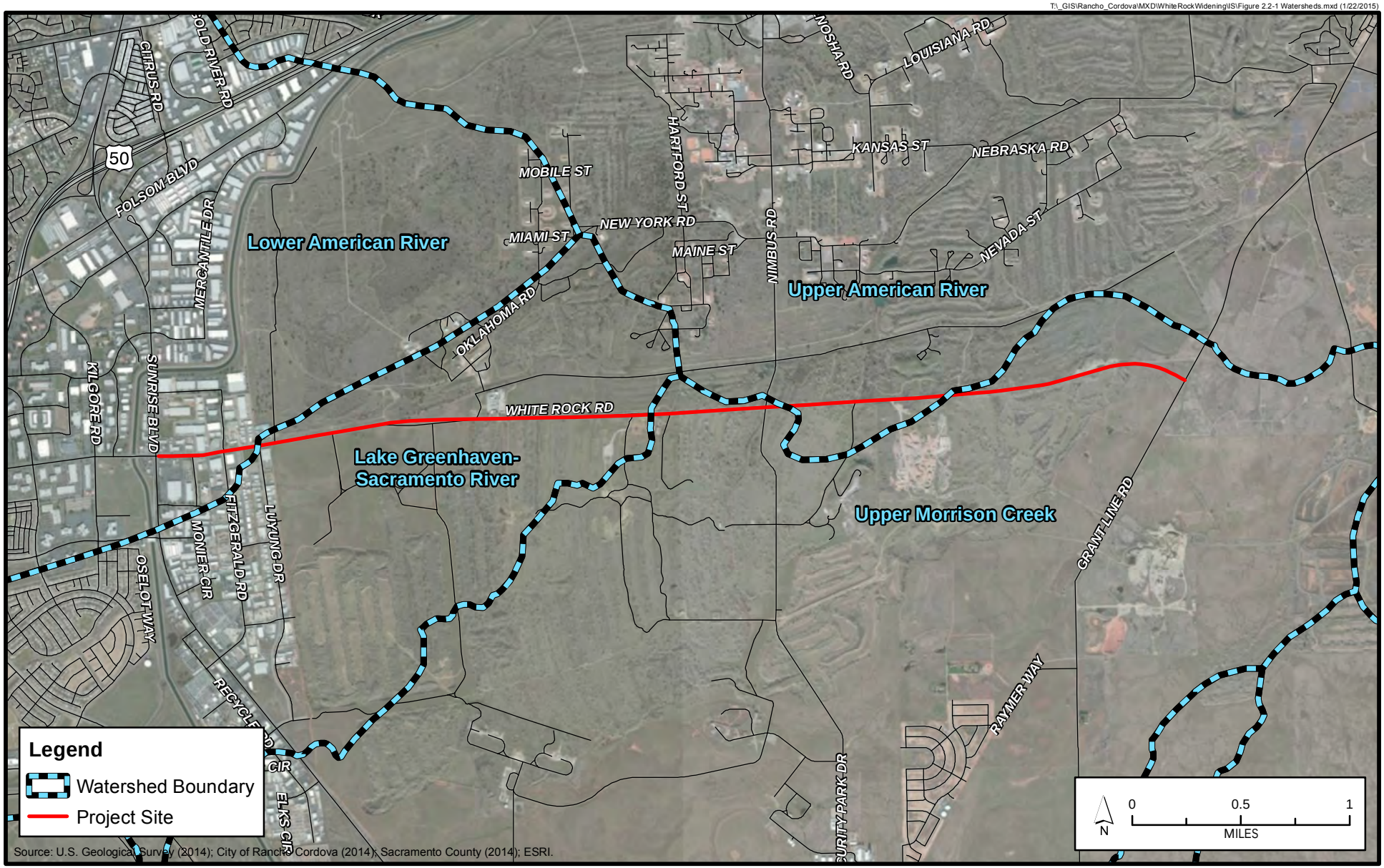
No Build Alternative

Under the no build alternative, no changes to White Rock Road would occur and the water quality in the project area would remain the same. This alternative would not result in impacts to water quality.

Build Alternative

Temporary Construction Impacts

Construction activities have the potential to release pollutants such as sediment, paints, herbicides, pesticides, landscaping, soil stabilization residues, detergents, wood preservatives, equipment fuels, lubricants, coolants, hydraulic fluids, cleaning solvents, trash, and metals. Any type of soil disturbance would expose soil to erosion from wind and water. Erosion can result in sedimentation that could ultimately flow into surface waters.



City of Rancho Cordova
Planning Department

Figure 2.2-1

Watersheds

Post-Construction Operational Impacts

The proposed project will add 19.95 acres of impervious surface to the project area. Increases in impervious surfaces will increase pollutant loads, volume, and discharge velocity of runoff over the previous conditions. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainage systems. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. These impacts must be mitigated by requiring appropriate runoff reduction and pollution prevention controls to minimize runoff and keep runoff clean for the life of the project.

Source control BMPs can be used to keep pollutants from contacting site runoff. Examples include “No Dumping-Drains to Creek/River” stencils/stamps on storm drain inlets to educate the public, and providing roofs over areas likely to contain pollutants so that rainfall does not contact the pollutants. Treatment control measures are intended to remove pollutants that have already been mobilized in runoff. Examples include vegetated swales and water quality detention basins. These facilities slow water down and allow sediments and pollutants to settle out prior to discharge to receiving waters. Additionally, vegetated facilities provide filtration and pollutant uptake/adsorption. The City will also consider the use of low impact development techniques to reduce the amount of imperviousness on the site, since this will reduce the volume of runoff and therefore will reduce the size/cost of storm water quality treatment required. Examples of low impact development techniques include pervious pavement and bioretention facilities.

The final selection and design of post-construction storm water quality control measures are subject to the approval of the City of Rancho Cordova, and potentially, the RWQCB.

Avoidance, Minimization, and/or Mitigation Measures

Construction Measures

Discharges should not cause or contribute to violations of water quality standards that would cause or create a condition of nuisance, pollution, or water quality impairment in receiving waters. The RWQCB requires that compliance with water quality standards be addressed through the effective implementation of best management practices (BMPs) to reduce pollutants in storm water and to protect the beneficial uses of receiving waters that may be impacted as the result of construction operations.

Erosion controls should always be the first line of defense to keep soil from being mobilized in wind and water during construction. Examples include stabilized construction entrances, mulch, three-step hydroseeding, spray-on soil stabilizers, and anchored blankets. Sediment controls are the second line of defense; they help to filter sediment out of runoff before it reaches the storm drains and local waterways. Examples include rock bags to protect storm drain inlets, staked or weighted straw wattles/fiber rolls, and silt fences.

In addition to erosion and sediment controls, the project must have BMPs in place to keep other construction-related wastes and pollutants out of the storm drains. Such practices include but are not limited to filtering water from dewatering operations, providing proper washout areas for concrete trucks and stucco/paint contractors, containing wastes, managing portable toilets properly, and dry sweeping instead of washing down dirty pavement.

It is the City's responsibility to verify that the proposed BMPs for the project are appropriate for the unique site conditions, including topography, soil type, and anticipated volumes of water entering and leaving the site during the construction phase. In particular, the City should check for the presence of colloidal clay soils on the site. Experience has shown that these soils do not settle out with conventional sedimentation and filtration BMPs. The project applicant may wish to conduct settling column tests in addition to other soils testing on the site to ascertain whether conventional BMPs will work for the project.

If sediment-laden or otherwise polluted runoff discharges from the construction site are found to impact the County's storm drain system and/or waters of the state, the property owner will be subject to enforcement action and possible fines by the RWQCB.

The City is required to develop and implement an effective SWPPP.

Operational Measures

The City is required to develop, implement, and maintain effective BMPs, including source control BMPs and treatment control measures, at which time the project is concluded, in order to reduce pollutants in storm water.

2.2.2 Hazardous Waste/Materials

Regulatory Setting

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

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

- Community Environmental Response Facilitation Act (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 (EO) 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

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

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

Affected Environment

A Phase I Initial Site Assessment (ISA) was conducted in May 2015, to investigate and evaluate the environmental conditions at the project site and the surrounding properties in order to identify the presence or likely presence of hazardous substances or petroleum products on the site that could adversely affect property use, give rise to potential liability to a government agency, or cause exposure to contaminants to workers during construction, and an Addendum to the ISA and Sampling and Analysis Plan (SAP) was prepared in June 2015.

The western portion of the project (between Sunrise Boulevard and Luyung Drive) is developed with industrial uses. The area from Luyung Drive to Grant Line Road is mostly undeveloped, with existing commercial facilities along White Rock Road, and nearby Aerojet facilities are present. The approximate elevation of the site is between 120 to 280 feet above mean sea level. The area's topography was altered by dredging for gold, which resulted in ridges of dredge tailings, although some of the properties alongside White Rock Road have been leveled.

Pacific Gas and Electric Company (PG&E) supplies natural gas and the Sacramento Municipal Utility District (SMUD) supplies electricity in the project area. Existing SMUD electrical lines in the project vicinity are aboveground lines. Overhead electrical power lines are parallel to the subject property.

Properties in the vicinity of the project are historically gold-dredged lands with remnant tailings mounds. Undredged, low-intensity agricultural lands, mostly used for cattle grazing, are found on the south side of White Rock Road at the west end of the project area. As is typical of local dredge tailings, the subsurface is composed mainly of coarse-grained sands and silty clay with cobbles, extending to groundwater. Vegetation adjacent to the project includes annual grasslands, trees, and shrubs including oak trees and elderberry shrubs. Vernal pools and wetlands are located adjacent to the northern and southern sides of the roadway.

The geological setting is near the boundary of the Great Valley and Sierra Nevada Geologic Provinces. The Great Valley Sequence is 1,500 feet thick and overlays Jurassic metamorphic basement rocks of the Sierra Nevada Province. There is no evidence of active faults nearby. The site slopes gently to the west. The site hydrogeology is considered to be part of an extensive alluvial aquifer system. Groundwater at the site is at varying levels between 80 to 120 feet below ground surface (bgs). Flow in shallow and deep aquifers is to the west. In some areas along the site, a perched water zone has been encountered at an approximate depth of 20–25 feet.

A records search of local, state, and federal hazardous sites databases was conducted for the project site and surrounding areas. These databases include the Environmental Data Resources, Inc. (EDR), Geotracker (www.geotracker.waterboards.ca.gov), Regional Water Quality Control Board files, and the Department of Toxic Substances and Control database. The records search returned results of several properties and facilities listed in the searched databases which are located directly adjacent to the project site or not directly adjacent to the project site but within the project area. Some of the properties and facilities found during the records search have not been remediated and are current concerns, while some of the listed properties and facilities have been remediated and closed[12] and are no longer of concern. A hazardous materials site investigation may be considered when it has been demonstrated to the lead regulatory agency that hazardous materials no longer remain at a site or that the remaining hazardous materials no longer pose a threat to human health or the environment based on one or more of the following:

- Concentrations of hazardous materials remaining at the site have been reduced below acceptable levels through active remediation or by natural processes
- Based on results of modeling, concentrations of hazardous materials remaining at the site are demonstrated to no longer pose a threat to human health and the environment
- Engineering controls and/or land use restrictions at the site will minimize or eliminate threats to human health and the environment

Transport of Hazardous Materials

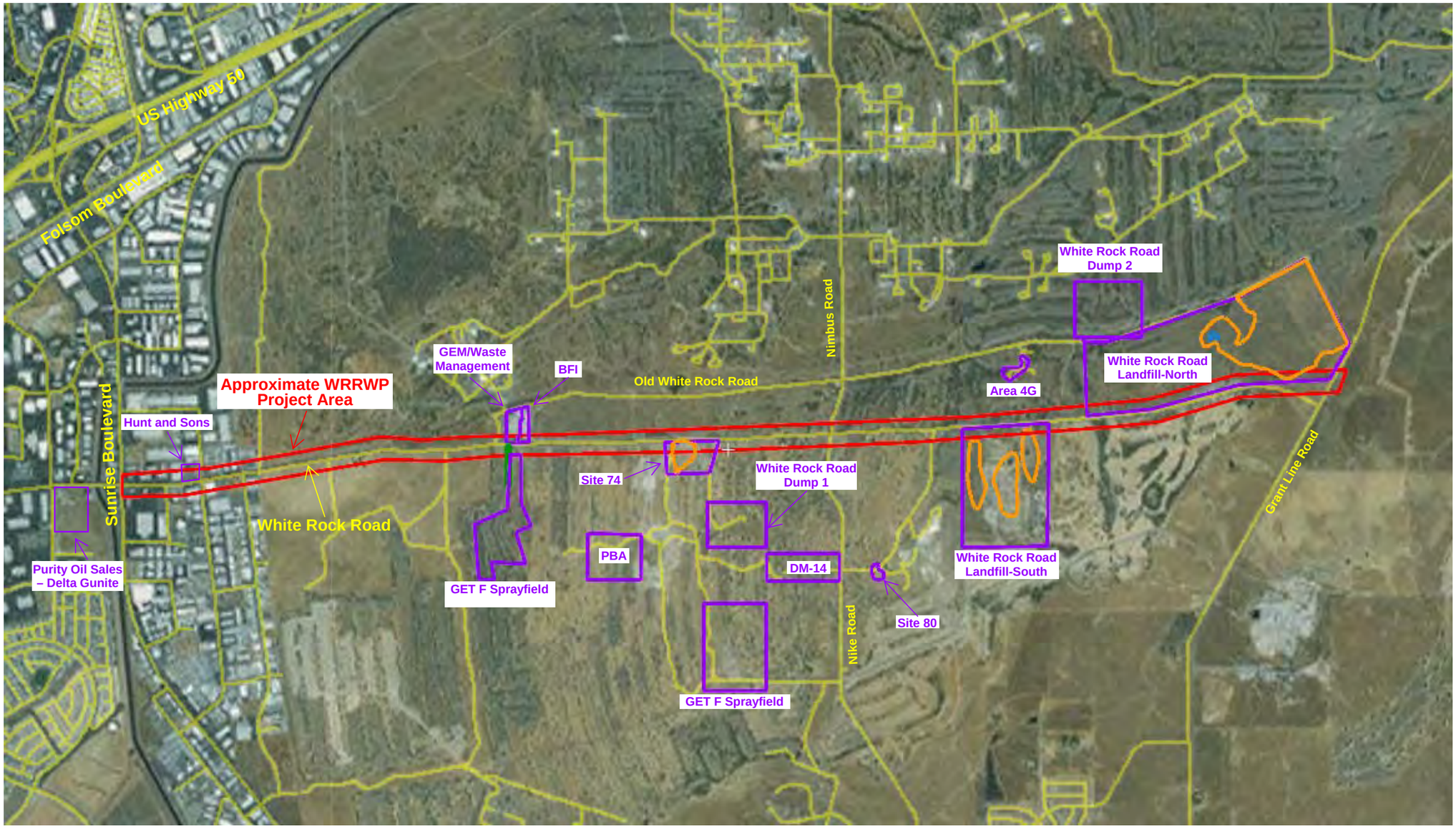
Most minor and major hazardous materials spills and incidents are related to the transport of chemicals over roadways or through industrial accidents. PCS Environmental Services, formerly known as General Environmental Management of Rancho Cordova, is located at 11855 White Rock Road north of the project site and is currently used as a hazardous waste transfer and storage facility. Therefore, trucks navigating to and from the PCS facilities commonly travel White Rock Road to transport hazardous materials.

Hazardous Materials Sites

The project area is located in an area known as the American River Gold Mining District, in which dredge mining for gold was conducted between the 1800s and 1950s. Dredging became the preferred method of gold mining in California in the early 1900s, and it dramatically altered the landscape. Historical aerial photographs dating back to 1952 show Old White Rock Road and Grant Line Road in their present-day location and indicate that the project area originally consisted of dredge tailings. Aerial photographs from 1966 show White Rock Road west of Grant Line Road had been built and the Aerojet facilities had been constructed. Several hazardous materials or waste sites are located in the project vicinity, as shown in **Figure 2.2-2** and described on the following pages.

[12]Closed means that a closure letter or other formal closure decision document has been issued for the site. By the agency with regulatory jurisdiction over the site.

T:_CSWork\Rancho Cordova, City of\Capital Improvements\Figures



LEGEND

0 3,000

Approximate Scale (feet)

North

Source: Red Rock, Inc.

City of Rancho Cordova
Planning Department

Figure 2.2-2
Hazardous Waste and Materials Sites

Recognized Environmental Conditions

A Recognized Environmental Condition (REC), as defined in ASTM E 1527-13, is the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. Based on the data obtained during the site visit, the database and historical documents review, and interviews with property owners and regulatory agency representatives, this assessment revealed evidence of RECs in connection with the list below.

Aerojet

Aerojet is a leading developer of rocket propulsion systems. Aerojet's operating facility consists of 8,500 acres, 5,900 of which are included in the Superfund program. The Superfund program was established to cleanup abandoned hazardous waste sites and was established by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980. Since 1979, Aerojet has investigated the site to determine the nature and extent of the chemicals present and to identify and implement mitigation measures. Although numerous chemicals were used on the Aerojet site, TCE (found in soil and groundwater), perchlorate (found in soil and groundwater), and N-nitrosodimenthylamine (NDMA) (found in groundwater) are the most prevalent. Since 1979, approximately 350 potential source areas have been identified. Only a handful of these cases have been closed. In 1989, Aerojet entered into a Partial Consent Decree that contained a plan for completing a sitewide Remedial Investigation/Feasibility Study (RI/FS). Hundreds of groundwater monitoring and vapor extraction wells are currently in place on Aerojet property in order to monitor and/or remediate volatile organic compound (VOC) contamination. **Figure 2.2-3** shows the Aerojet property boundaries and well locations. According to Alex MacDonald of the RWQCB, the focus has been remediating the groundwater. Most of the approximately 350 cases remain open.

White Rock Road Landfill – North

This landfill is located at White Rock Road and Grant Line Road. The landfill is no longer operational and wastes have not been disposed of at the site since the late 1960's. This case was opened on June 2, 2010. Potential contaminants of concern to soils and groundwater were arsenic, chromium, copper, diesel, lead mercury, nickel, nitrate, polynuclear aromatic hydrocarbons (PAHs), silver, TCE, vinyl chloride, and waste oil/motor/hydraulic/lubricating. Groundwater remediation is ongoing, the case remains open, and this site qualifies as a REC.

White Rock Road Landfill – South

This landfill is located on the south side of White Rock Road and was closed in 1965. A Solid Waste Assessment Test was performed during the early 1990s. The site has not undergone an official landfill closure. Crete Crush LLC utilizes the land adjacent to the landfill, recycles asphalt and concrete on the site, and reuses the materials for construction materials. This remains an open case and qualifies as a REC.

Inactive Rancho Cordova Test Site – GET F Sprayfield

This site is located 300 feet south of White Rock Road and was utilized during the late 1980s for the discharge of treated groundwater. The treatment used air-stripping towers to remove TCE and other volatile organic chemicals but did not address the perchlorate that was in the groundwater. A remedial investigation and feasibility study were completed during 2008. Perchlorate concentrations in soil (less than 2 parts per million [ppm]) were found to be less than the California Human Health Screen Level of 28,000 ppm but have impacted groundwater. Six extraction wells were installed during 2014 and will be connected to the pipeline beneath White Rock Road for treatment at the GET EF treatment facility farther north of the road. This case remains open and qualifies as a REC.

General Environmental Management (GEM) of Rancho Cordova (formerly Waste Management)

This site operated as a hazardous waste transfer facility on the north side of White Rock Road. Storm water runoff and wash-down waters were discharged via a culvert under the road into a dredge valley on Aerojet property (Inactive Rancho Cordova Test Site (IRCTS)). These waters conveyed polychlorinated biphenyl (PCB) impacted materials into the near-surface soils. Waste Management removed 3,400 tons of surficial fine-grained soil (slickens) from the dredge valley during 2000. Waste Management completed the removal at the request of the real estate department at Aerojet. (Additionally an Underground Storage Tank (UST) was removed from this site. Total petroleum hydrocarbons as diesel (TPHd) were detected in one soil sample collected from beneath the tank in 1994. Several additional soil and groundwater samples were collected in the vicinity of the tank after the tank was removed. The tank was located approximately 500 feet north of White Rock Road and the investigation into the diesel tank release was closed on September 27, 1997. The UST tank removal does not qualify as a REC and is not of concern.)

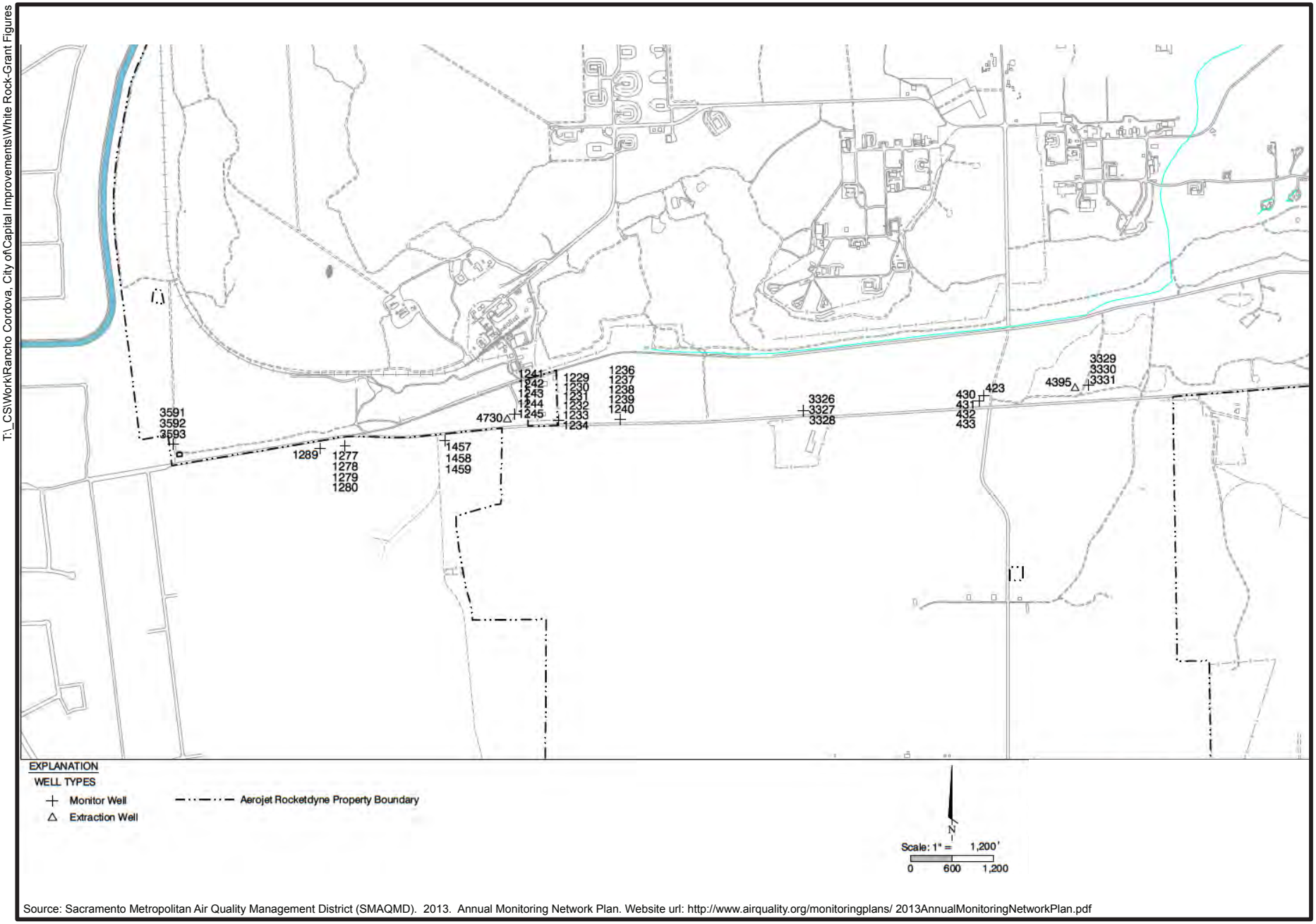
Browning Ferris Industries, Inc.

This site is located on the north side of White Rock Road adjacent to the GEM site. The entire site is approximately 7.5 acres in area and is subdivided between two owners, GEM (4.5 acres) and Browning Ferris Industries Inc. (BFI) (3.0 acres). The eastern portion of the site that BFI purchased had a medical waste incinerator which was reportedly operated until 1997. Some heavy metals and chloride in shallow soils were reported at elevated concentrations, but it was determined that the concentrations did not pose a risk to human health and no remedial action was conducted. The case was granted no further action status in 1996. Because of its proximity to the project site, the GEM site, and previously found contaminants, this site qualifies as a REC.

Inactive Rancho Cordova Test Site – Site 74 (formerly By-Dry Feed Product Company site)

This site was located on the south side of White Rock Road. Contaminants of concern included dioxins/furans and metals. Contaminants were found in the near-surface soil and exceeded their screening levels. Remedial action included excavation and removal of approximately 31,300 tons of contaminated soil. Results of confirmation sampling showed that the contamination was adequately removed and Site 74 was released for unlimited use. Because of its proximity to the project site and previous contamination, this site qualifies as a REC.

T:_CS\Work\Rancho Cordova, City of\Capital Improvements\White Rock-Grant Figures



Source: Sacramento Metropolitan Air Quality Management District (SMAQMD). 2013. Annual Monitoring Network Plan. Website url: http://www.airquality.org/monitoringplans/ 2013AnnualMonitoringNetworkPlan.pdf

City of Rancho Cordova
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Figure 2.2-3
Aerojet Rocketdyne Well Locations

Controlled Recognized Environmental Conditions

A Controlled REC, as defined in ASTM E 1527-13, is a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

Based on the data obtained during the environmental database and historical documents review, and interviews with property owners and regulatory agency representatives, this assessment revealed evidence of controlled recognized environmental conditions in connection with the site as listed below.

Aerojet

Aerojet property qualifies as both a REC and a Controlled REC due to the institutional and engineering controls that have been put in place at some of the source sites.

Purity Oil Sales – Delta Gunite

This site is located at Kilgore Road and White Rock Road. The facilities were formerly used as a sulfuric acid and filtration clay type oil recycling operation and for septic and Class 3 waste disposal. The site is generally flat and consists of approximately 14 acres split into three adjacent properties. No structures are currently at the site. Soils and an aquifer used for drinking water supply were affected by acetone, metals, perchlorate, petroleum, polychlorinated biphenyls (PCBs), PAHs, pyrene, and volatile organic compounds (VOCs). This case has been active since 1980 and was expected to have a Remedial Action Completion Report by February 28, 2014. The RWQCB Geotracker has no indication that the completion report has been filed as of yet. This case qualifies as a Controlled REC due to the land use restrictions placed on the site for future uses.

Completed Area Name: PROJECTWIDE
Comments: Activity Completed by AG's Office.
Completed Date: 06/14/2010
Completed Document Type: Land Use Restriction
Completed Sub Area Name: Not reported

Completed Area Name: PROJECTWIDE
Comments: LUC recorded with the County to limit land use to commercial and industrial
Completed Date: 06/22/2010
Completed Document Type: Land Use Restriction
Completed Sub Area Name: Not reported

Historical Recognized Environmental Conditions

A Historical REC, as defined in ASTM E 1057-13, is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required

controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Based on the data obtained during the environmental database and historical documents review, and interviews with property owners and regulatory agency representatives, this assessment revealed evidence of historical RECs in connection with the site as listed below.

Hunt and Sons

This site is located at 11341 White Rock Road in Rancho Cordova. A leaking underground storage tank (LUST) was reported on November 25, 2003. The contamination of concern to soils and groundwater was diesel gasoline. The site was remediated and closed on March 4, 2010.

White Rock Dumps (WRD) 1 and 2

These sites are located on Aerojet Property. WRD 1 is located approximately 1,500 feet south of White Rock Road on the IRCTS, and WRD 2 is located over 1,700 feet north of White Rock Road within the Aerojet site. WRD 1 operations were terminated in 1957 and WRD 2 operations ended in 1958. A remedial investigation was completed in 2004, followed by a feasibility study in 2006. Cindy Chain-Britton of the California Department of Toxic Substances Control (DTSC) said that metals were found in soils, and VOCs and perchlorate from upgradient sources were found in the groundwater. A Remedial Action Plan was completed in 2011 and a Remedial Design Plan was completed in 2012. The remediation work was implemented in October 2013 and completed in February 2014. Both cases are considered closed by the DTSC as of June 12, 2015.

De Minimis or Other Potential Issues

A de minimis condition, as defined by ASTM E 1057-13, is defined as issues which are not considered a REC and generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. The following de minimis or potential issue was identified for the site:

The properties surrounding the site could potentially have been utilized for agricultural operations in the past, although no specific information regarding agricultural chemical use was obtained. Given the nature of past and current land use, the potential presence of residual agricultural chemicals in soil or groundwater at the site represents a de minimis condition.

Significant Sites Not of Concern

Inactive Rancho Cordova Test Site – Site 80

This site was located over one mile south of White Rock Road and 3,000 feet south of WRD 1. Contaminants of concern included dioxins/furans and metals. Contaminants were found in the near surface soil and exceeded their screening levels. Remedial action included excavation and removal of approximately 1,000 tons of contaminated soil. Results of confirmation sampling showed that the contamination was adequately removed and Site 80 was released for unlimited use.

Inactive Rancho Cordova Test Site – Propellant Burn Area

The Propellant Burn Area (PBA) is located approximately 2,000 feet south of White Rock Road. Contaminants of concern include dioxins/furans in near-subsurface soils and chlorinated hydrocarbons, primarily TCE, and perchlorate in deeper soils. The dioxin/furan-impacted soils were removed during 2005 and 2006 according to a 2002 Remedial Action Plan. A groundwater remediation system was constructed during 2010 and 2011 to extract and treat groundwater for perchlorate and TCE, and treated water is discharged to the ground. Two additional extraction wells have been constructed to provide further control of the plume. These three extraction wells will be connected to a pipeline that crosses under White Rock Road and conveys contaminated groundwater to a treatment facility farther north of White Rock Road. This case remains open. Because of its distance from the project site, it does not qualify as a REC.

Inactive Rancho Cordova Test Site – Sigma Complex Groundwater

This site is located 4,900 feet south of White Rock Road. An in-situ groundwater remedial system was installed to remediate the high concentrations of perchlorate at the source area. This case remains open. Because of its distance from the project site, it does not qualify as a REC.

Inactive Rancho Cordova Test Site – DM-14 Study Area

This site is located over 2,500 feet south of White Rock Road and is a former solid rocket assembly site. Subsurface investigation conducted between 1982 and 2002 indicates elevated concentrations of Freon, a chlorofluorocarbon, in soil and groundwater. The potential source of Freon is a former paint sump located adjacent to the assembly building. Other potential contaminants of concern include perchlorate, tetrachloroethylene, and trichloroethylene. This case remains open. Because of its distance from the project site, it does not qualify as a REC.

Central Operable Unit – Area 4G

This site is located approximately 800 feet north of White Rock Road and is approximately 1 acre in size. The site was used as a waste disposal area from April 1966 to September 1966. Burn residues, burnt metals, drum scraps, several drums of ammonium perchlorate, and whole rocket motors were reportedly disposed of in Area 4G. This case remains open. Because of its distance from the project site, this area does not qualify as a REC.

Environmental Consequences

No Build Alternative

Under the no build alternative, conditions at the previously discussed hazardous materials sites would remain the same. White Rock Road would remain in its current configuration and construction along White Rock Road would not occur. The no build alternative would not result in potential exposure of the public to hazardous materials, aside from the existing risks associated with groundwater contamination beneath the Aerojet property and adjacent land areas.

Build Alternative

Recognized Environmental Conditions

In accordance with the ISA and ISA Addendum/SAP, a Phase 2 Site Assessment will be prepared for the project prior to construction in order to identify the full scope of potential contaminants that may be encountered during construction and to prepare any needed remediation or health and safety plans. Due to concerns related to vernal pools and associated threatened and endangered species, the Phase 2 Site Assessment is not being prepared until after NEPA approval.

Aerojet

The project is adjacent to the southern portion of the Aerojet Superfund site and therefore the Superfund site represents a REC for the project because of the extent and nature of hazardous substances present in soil and groundwater. However, the Aerojet Superfund site consists of many different environmental cleanup efforts spread across the 5,900 acres included in the site. Much of the land included in the Aerojet Superfund site was used as buffer land around testing sites and no contamination is reasonably expected in these areas. Additionally, remedial efforts at several source areas in the Superfund site have successfully treated the contamination present in the area. Remedial efforts have focused on groundwater contamination with limited remediation of soils in select areas. Potential impacts from each Aerojet site are identified and discussed individually.

White Rock Road Landfill – North

Because the case remains open and is adjacent to the project site, there is a potential that contamination from this case may impact the project. Therefore, soil sampling should be conducted in the portion of the project adjacent to the White Rock Road Landfill – North.

White Rock Road Landfill – South

Because the White Rock Road Landfill – South project remains open and is adjacent to the project, there is a potential that contamination from this case may impact the project. It is recommended that soil samples are collected in the vicinity of the project to confirm that no contamination is present in the project.

Inactive Rancho Cordova Test Site – GET F Sprayfield

Due to the close proximity of the project to the pipeline that transports water contaminated with perchlorate under White Rock Road, there is a potential that contamination from this case may impact the project. Soil sampling is recommended in the area of the project in the vicinity of the pipeline.

General Environmental Management (GEM) of Rancho Cordova (formerly Waste Management)

Based on the available data, the extent of PCBs and TPHd in soil was well defined by previous studies. Confirmation samples indicate that the excavation activities performed in 2000 successfully removed all PCB-contaminated soils. Additionally, the release from the diesel UST received closure in 1997. While the extent of PCB contamination is believed to have been adequately removed, it is recommended that soil samples be collected in the area of the PCB excavation to confirm that no contaminants are present outside the boundaries of the excavation. No further action is recommended for the diesel UST because of the distance from the project.

Browning Ferris Industries, Inc.

While the results of previous sampling indicate that the contamination remaining in soil at the site does not pose a threat to human health, it is recommended that soil samples are collected in the vicinity of the BFI site to confirm these results.

Inactive Rancho Cordova Test Site – Site 74 (formerly By-Dry Feed Product Company site)

While the contamination is believed to have been adequately removed, it is recommended that soil samples be collected in the area to confirm that no contaminants are present outside the boundaries of the excavation.

Controlled Recognized Environmental Conditions

Purity Oil Sales – Delta Gunite

The Purity Oil Sales site is located approximately 900 feet west of Sunrise Boulevard and outside the project. Because of the significant distance from the project, no further investigation is necessary in association with the project.

Historical Recognized Environmental Conditions

Hunt and Sons

The site was remediated and closed on March 4, 2010. No further investigation is necessary.

White Rock Dumps (WRD) 1 and 2

The WRD sites are considered closed by the DTSC. The WRD 1 and WRD 2 projects are located a significant distance from the project site. Therefore, it is unlikely that conditions at these sites will impact the project. No further investigation is necessary for the project in association with WRD 1 and WRD 2.

De Minimis or Other Potential Issues

The expected impact of previous and present use of agricultural products in the vicinity of the project is minimal. No further action is required.

Significant Sites Not of Concern

Inactive Rancho Cordova Test Site – Site 80

Because of the significant distance from the project, conditions at this site will not impact the project. No further investigation is necessary for the project in association with Site 80.

Inactive Rancho Cordova Test Site – Propellant Burn Area

Because the PBA is located a significant distance from the project site, conditions will not impact the project. No further investigation is necessary for the project in association with the area.

Inactive Rancho Cordova Test Site – Sigma Complex Groundwater

Due to the significant distance from the project, conditions at this site will not impact the project. No further investigation is necessary for the project in association with the Sigma Complex.

Inactive Rancho Cordova Test Site – DM-14 Study Area

Because of the significant distance from the project, conditions at this site will not impact the project. No further investigation is necessary for the project in association with the DM-14 Study Area.

Central Operable Unit – Area 4G

Due to the significant distance from the project, conditions at this site will not impact the project. No further investigation is necessary for the project in association with Area 4G.

Avoidance, Minimization, and/or Mitigation Measures

Due to the presence of potentially contaminated materials on both sides of the roadway, it is not possible to avoid all hazardous waste and materials.

A Phase 2 Assessment for hazardous wastes and materials will be conducted before the project is constructed. As part of the Phase 2 Assessment, it is recommended that soil samples be collected in the vicinity of the sites listed below. All other sites identified in the section above either are too far from the project or no environmental concerns are present at the sites.

- GEM of Rancho Cordova (formerly Waste Management) **(Figure 2.2-4a)**
- Browning Ferris Industries, Inc. **(Figure 2.2-4a)**
- Inactive Rancho Cordova Test Site – GET F Sprayfield (**Figure 2.2-4a**)
- Inactive Rancho Cordova Test Site – Site 74 (**Figure 2.2-4b**)
- White Rock Road Landfill – South **(Figure 2.2-4c)**
- White Rock Road Landfill – North **(Figure 2.2-4d)**

Because of the shallow nature of the expected excavation activities proposed for the project, it is recommend that soil samples are collected in shallow soil only. It is also recommended that soil samples are collected from shallow soil borings at each location. Soil samples from each boring should be collected at approximately 2 and 5 feet below grade. Additional deeper soil samples may be warranted based on site conditions.

The Sampling and Analysis Plan (SAP) for the Phase 2 Assessment was developed to evaluate the specific environmental hazards known to exist in soil in the surrounding vicinity adjacent to identified RECs. However, environmental hazards associated with particular RECs vary greatly over the span of the project. Therefore, to characterize environmental hazards present at proposed soil boring locations, each soil boring has been assigned an analytical suite based on its proximity to each REC (**Figures 2.2-4a to 2.2-4d**). **Table 2.2-1** below summarizes the SAP.

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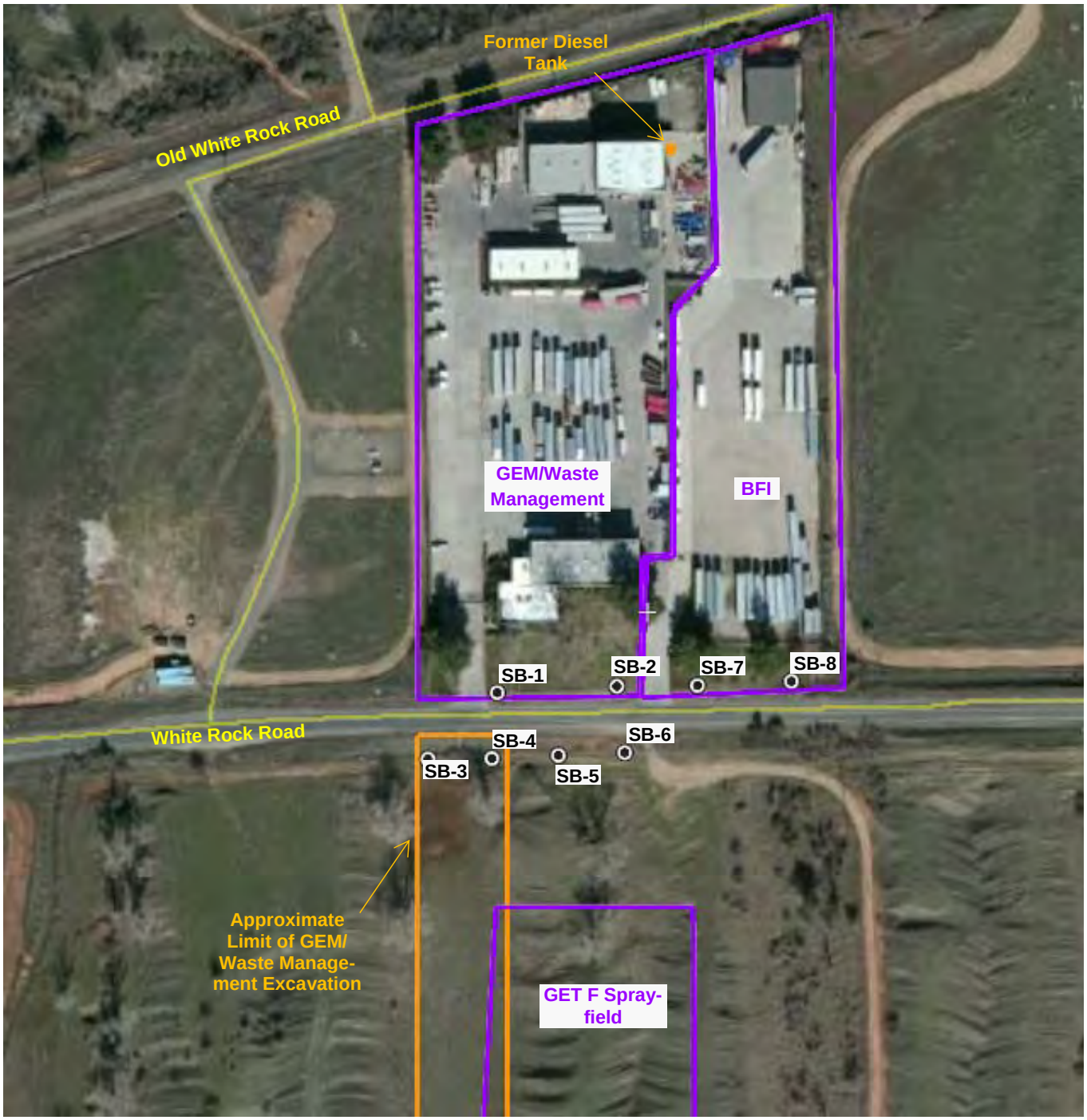

LEGEND

0 200

Approximate Scale (feet)

Proposed soil boring location

North

Source: Apex Envirotech, Inc.

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Figure 2.2-4a
Proposed Soil Boring Location Map:
GEM, BFI, and GET F Sprayfield

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LEGEND

0 200

Approximate Scale (feet)

Proposed soil boring location

North

Source: Apex Envirotech, Inc.

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Figure 2.2-4b
Proposed Soil Boring Location Map: Site 74

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LEGEND

0 300

Approximate Scale (feet)

Proposed soil boring location

North

Source: Apex Envirotech, Inc.

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Figure 2.2-4c
Proposed Soil Boring Location Map:
White Rock Road Landfill South

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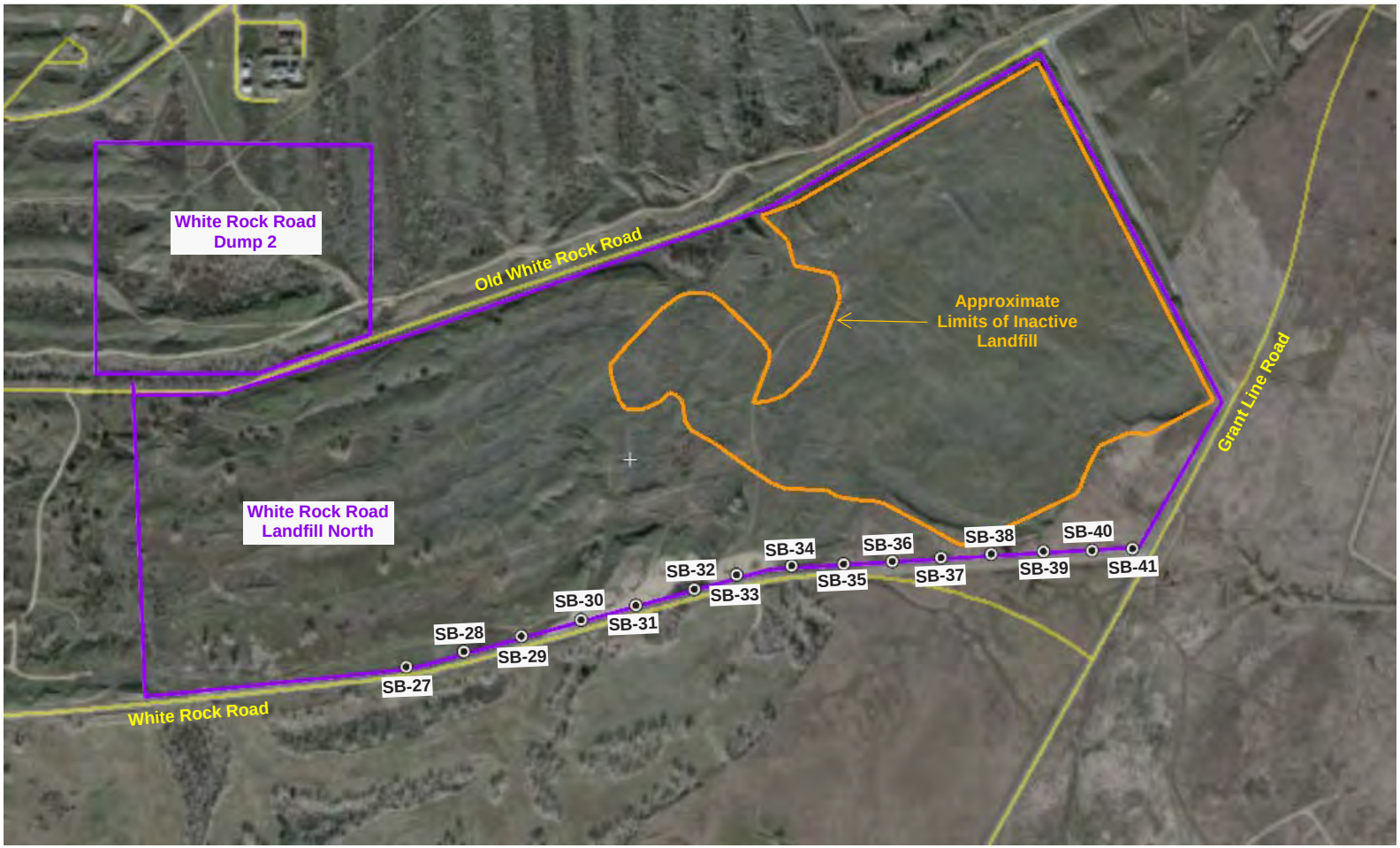

LEGEND

0 300

Approximate Scale (feet)

Proposed soil boring location

North

Source: Apex Envirotech, Inc.

City of Rancho Cordova
Planning Department

Figure 2.2-4d
Proposed Soil Boring Location Map:
White Rock Road Landfill North

Table 2.2.-1
Sampling and Analysis Plan Summary

SITE NAME	SOIL BORINGS	PROPOSED ANALYTES
GEM/Waste Management	SB-1 through SB-4	PCB
GET F Sprayfield	SB-3 through SB-6	Perchlorate
Browning Ferris Industries, Inc.	SB-7 and SB-8	CAM-17, Chloride
Site 74	SB-9 through SB-17	Dioxins/Furans and CAM-17
White Rock Road Landfill – South	SB-18 through SB-26	CAM-17, PAH, and Hydrocarbons
White Rock Road Landfill – North	SB-27 through SB-41	CAM-17, PAH, and Hydrocarbons

CAM 17 – California Administrative Manual 17 Heavy Metals: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium & zinc

PAH – polycyclic aromatic hydrocarbons

PCB – polychlorinated biphenyl

Hydrocarbons – Samples will be analyzed for the full range of Total Petroleum Hydrocarbons (TPHs). If TPHs are detected in a sample, it is recommended that the sample is analyzed for the full suite of volatile organic compounds by method 8260B.

Human Health Risk Assessment

It is recommended that a site specific Tier 2 Human Health Risk Assessment (HHRA) be performed using the RISC- 5 software. A Tier 2 assessment is a semi-qualitative assessment. The Tier 2 HHRA should be performed using field and analytical results for residual petroleum constituents at the site. The RISC-5 model should be run for the scenarios of dermal contact to subsurface workers through soil. The RISC-5 model should use a commercial receptor scenario, a one-in-a-million cancer risk level, and a hazard quotient of less than one for the site.

Site-Specific Health and Safety Plan

It is recommended that a site-specific Health and Safety Plan (HASP) be prepared and retained on-site during all field activities. All work should be conducted according to the HASP. The HASP should contain information on the properties of the hazardous materials known to be on-site. This information is equivalent to that contained in Material Safety Data Sheets.

Unknown Contamination

If any previously unknown hazardous contamination is revealed during project construction, the procedures outlined in the Caltrans Unknown Hazards Procedures shall be followed.

Utility Relocation

For the relocation of utilities, proper coordination with utility owners shall occur and the Underground Service Alert shall be contacted at least two full working days before beginning construction.

2.2.3 Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the concentration of pollutants 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: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb) and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect 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 in their general definition.

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

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs or projects that do not conform to State Implementation Plan (SIP) for attainting the NAAQS. "Transportation Conformity" applies to highway and transit projects and 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 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California) sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, 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 emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years for the RTP) and 4 years (for the TIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at

various analysis years showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), make determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. 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 FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Conformity analysis at the project-level includes verification that the project is included in the regional conformity analysis and a "hot-spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures a violation of the relevant standard and the 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

An Air Quality Study Report was prepared for the proposed project in December 2014. The project site is located in the Sacramento Valley Air Basin, which is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). The dispersion of air pollution in the Sacramento Valley Air Basin is determined by the natural factors discussed below.

Topography

Sacramento County is located within the boundaries of the Sacramento Valley Air Basin, which is bounded by the North Coast ranges on the west, the northern Sierra Nevada on the east, Shasta County to the north, and San Joaquin County to the south. Between the North Coast ranges and the northern Sierra Nevada, the terrain is flat. The Sacramento Valley is often described as a bowl shaped-valley. Air flows into the Sacramento Valley Air Basin through the Carquinez Strait, moving across the Delta, and bringing with it pollutants from the heavily populated San Francisco Bay Area.

Meteorology and Climate

The Sacramento Valley has a Mediterranean climate, characterized by hot dry summers and mild rainy winters. During the year, the temperature may range from 20 to 115 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north.

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

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds with the Delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. During about half of the days from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern and pollutants to circle back southward. This phenomenon's effect exacerbates the pollution levels in the area and increases the likelihood of violating the federal and state air quality standards.

Criteria Air Pollutants and Precursors

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health. The NAAQS and California ambient air quality standards have been set at levels to protect human health with a determined margin of safety. For some pollutants, there are also secondary standards to protect the environment. Ozone and PM are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as CO, NO_2, SO_2, and Pb are considered to be local pollutants because they tend to accumulate in the air locally. Particulate matter is also considered a local pollutant.

Statewide Implementation Plan (SIP)

The following text is taken from the Introduction of the December 2013 California Infrastructure SIP (December 2013):

> Each time the United States Environmental Protection Agency (USEPA) adopts a new national ambient air quality standard (federal standard or standard) or revises an existing standard, the federal Clean Air Act (CAA) requires states to develop and submit an Infrastructure State Implementation Plan (SIP). An Infrastructure SIP is administrative in nature and describes the authorities, resources, and programs a state has in place to implement, maintain, and enforce the federal standards. It does not contain any proposals for emission control measures.
>
> The overarching framework or infrastructure for California's air quality programs is well established. As the air pollution control agency responsible for all purposes set forth in federal law (California Health and Safety Code (H&SC) Section 39602), the Air Resources Board (ARB) submitted California's first Infrastructure SIP in response to the CAA of 1970. USEPA approved this submittal in 1979 (40 Code of Federal Regulations (CFR) 52.220). ARB has submitted several Infrastructure SIP revisions since that time, in response to new or revised federal standards. These revisions build on previous Infrastructure SIP submittals.

When USEPA approves an Infrastructure SIP revision, it becomes part of the overall statewide SIP. **Table 2.2-2** summarizes the federal standards that U.S. EPA most recently adopted or revised. As shown in **Table 2.2-2**, ARB previously submitted Infrastructure SIP revisions to comply with changes to the 1997 ozone standard, 1997 fine particulate matter ($PM_{2.5}$) standard, 2008 lead standard, and 2010 nitrogen dioxide (NO_2) standard. USEPA has not yet acted fully on any of these submittals. In addition, ARB submitted a certification letter for the 2006 $PM_{2.5}$ standard infrastructure requirements.

ARB recently released a new Infrastructure SIP revision (December 2013) that provides additional information and clarification of ARB's previous Infrastructure SIP submittals. In addition, it addresses all infrastructure requirements for the 2008 federal ozone standard, the 2006 and 2012 $PM_{2.5}$ standards, and the 2010 federal sulfur dioxide (SO_2) standard.

ARB approved the December 2013 SIP on January 23, 2014. The USEPA issued a draft rulemaking in October 2014 partially approving and partially disapproving the SIP. In July 2015, U.S. EPA notified states of their failure to make the requirement SIP submission addressing interstate transport of pollutants related to the 0.075 ppm ozone NAAQS. This finding started a 24-month clock for U.S. EPA to issue a final Federal Implementation Plan (FIP) for any state that does not submit a plan within that time period. ARB released a 2015 Infrastructure SIP on November 13, 2015; a public meeting on the document is scheduled for December 17, 2015.

Table 2.2-2
Recent Federal Standard Adoptions/Revisions and Infrastructure SIP Submittals*

Pollutant	Year Standard Revised	Standard Level	Averaging Time	Date ARB Submitted Infrastructure SIP Revision
Ozone	1997	0.08 ppm	8-hour	November 16, 2007
	2008	0.075 ppm	8-hour	No submittal**
$PM_{2.5}$	1997	65 µg/m^3	24-hour	November 16, 2007 and July 7, 2009
		15 µg/m^3	Annual	
	2006	35 µg/m^3	24-hour	July 7, 2009
		155 µg/m^3	Annual	
	2012	35 µg/m^3	24-hour	No submittal
		12 µg/m^3	Annual	
Lead	2008	0.15 µg/m^3	Rolling 3-month	October 6, 2011
NO_2	2010	100 ppb	1-hour	December 12, 2012
		0.053 ppm	Annual	
SO_2	2010	75 ppb	1-hour	No submittal

* $PM_{2.5}$ = fine particulate matter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; ppm = parts per million; µg/m^3 = micrograms per cubic meter; ppb = parts per billion.

** March 12, 2011, was the initial due date for states to submit an Infrastructure SIP for the 2008 ozone standard. However, in light of ongoing litigation, a number of states, including California, did not meet this deadline. In response to further litigation, the USEPA made failure to submit findings on January 4, 2013. These findings started a 24-month clock, setting a new submittal date of January 4, 2015. Rulemaking and litigation concerning the 2008 ozone standard and EPA's new ground-level ozone standards are ongoing.

Source: ARB, California Infrastructure SIP, December 2013, Table 1, p. 2.

Air pollutant concentrations are measured at several monitoring stations in Sacramento County. The locations of these monitoring stations are shown on **Figure 2.2-5**. The nearest representative ambient air quality monitoring stations to the project site include the Sacramento-Del Paso Manor monitoring station (D) and the Sacramento Branch Center Road #2 monitoring station (A). The Sacramento Valley Air Basin is currently designated as nonattainment for the NAAQS for 8-hour ozone standards and the 2006 standard for $PM_{2.5}$. As of October 2015, the EPA Greenbook does not list Sacramento County as a nonattainment area for the 2012 $PM_{2.5}$ standard. The area is designated as nonattainment for the California air quality standards for PM_{10}, $PM_{2.5}$, and ozone standards. Criteria air pollutants, ambient air quality standards, and common sources and effects and attainment status in the project area are summarized in **Table 2.2-3**.

Sensitive Receptors

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term refers to specific population groups as well as to the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, child-care centers, convalescent homes, and hospitals are examples of sensitive land uses.

No sensitive receptors have been identified adjacent to White Rock Road between Sunrise Boulevard and Grant Line Road.

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PARTIAL SCREENSHOT OF GOOGLE MAP

A. Sacramento-Branch Center Rd #2
B. *Proposed Monitoring Site*[1]
C. Elk Grove-Bruceville Rd
D. Sacramento-Del Paso Manor
E. Sacramento-El Camino Watt
F. Folsom-Natoma St
G. Sacramento-Goldenland Ct.
H. North Highlands-Blackfoot Way
I. Rancho Seco
J. Sloughhouse
K. Sacramento-Health Dept.
L. Sacramento-T Street (operated by CARB)
M. Walnut Grove Tower (Monitors ozone and meteorology aloft)

Source: Red Rock Inc. 2014. Initial Site Assessment: White Rock Road Widening Project - White Rock Road from Sunrise Boulevard to Grant Line Road, Sacramento County, California

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Figure 2.2-5
Sacramento Air Quality Monitoring Stations

Table 2.2-3
State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [9] Standard	Federal [9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O_3) [2]	1 hour 8 hours	0.09 ppm 0.070 ppm	--- 0.070 ppm	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG)/VOCs and nitrogen oxides (NOx) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal: 1-hour: Attainment 8-hour: Nonattainment State: 1-hour: Nonattainment (Serious) 8-hour: Nonattainment
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm [1] 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Attainment/ Maintenance State: Attainment
Respirable Particulate Matter (PM_{10}) [2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 --- [2]	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).	Federal: 24-hour: Attainment State: 24-hour: Nonattainment Annual: Nonattainment
Fine Particulate Matter ($PM_{2.5}$) [2]	24 hours Annual	--- 12 µg/m^3	35 µg/m^3 12.0 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter—a toxic air contaminant—is in the $PM_{2.5}$ size range. Many aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	Federal (2006): 24 Hour: Nonattainment Annual: Attainment/ Unclassified State: Annual: Nonattainment

Table 2.2-3 (Cont.)
State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [9] Standard	Federal [9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm .030 ppm	0.100 ppm [7] (98^{th} percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the NOx group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal: Attainment/ Unclassified State: Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours Annual	0.25 ppm --- 0.04 ppm ---	0.075 ppb 0.5 ppm 0.14 ppm 0.030 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment State: Attainment
Lead (Pb)[3]	Monthly Quarterly Rolling 3-month average	1.5 µg/m^3 --- ---	--- 1.5 µg/m^3 0.15 µg/m^3	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Federal: Attainment/ Unclassified State: Attainment
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	State Only: Attainment
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	State Only: Unclassified

Table 2.2-3 (Cont.)
State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [9] Standard	Federal [9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Visibility-Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: Not related to the Regional Haze program under the federal Clean Air Act, which is oriented primarily toward visibility issues in national parks and other "Class I" areas.	See particulate matter above.	State Only: Unclassified
Vinyl Chloride[3]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	State Only: Unclassified

Based on the California ARB Air Quality Standards chart (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf)

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter; ppb = parts per billion (thousand million)

1 Rounding to an integer value is not allowed for the state 8-hour CO standard. Violation occurs at or above 9.05 ppm. Violation of the federal standard occurs at 9.5 ppm due to integer rounding.

2 Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hr. $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. In September 2009, the USEPA began reconsidering the $PM_{2.5}$ NAAQS; the 2006 action was partially vacated by a court decision.

3 ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both ARB and the USEPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong. Lead NAAQS are not required to be considered in Transportation Conformity analysis.

4 Prior to June 2005, the 1-hour NAAQS was 0.12 ppm. The 1-hour NAAQS is still used only in 8-hour ozone early action compact areas, of which there are none in California. However, emission budgets for 1-hour ozone may still be in use in some areas where 8-hour ozone emission budgets have not been developed.

5 The 65 µg/m^3 $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for the newer NAAQS are found adequate or State Implementation Plan amendments for the newer NAAQS are completed.

6 As of September 16, 2009, the USEPA is reconsidering the 2008 8-hour ozone NAAQS (0.075 ppm); the USEPA is expected to tighten the primary NAAQS to somewhere in the range of 60–70 ppb and to add a secondary NAAQS. The USEPA plans to finalize reconsideration and promulgate a revised standard by August 2010.

7 Final 1-hour NO_2 NAAQS published in the Federal Register on February 9, 2010, effective March 9, 2010. Initial nonattainment area designations should occur in 2012 with conformity requirements effective in 2013. Project-level hot-spot analysis requirements, while not yet required for conformity purposes, are expected.

8 The USEPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010.

9 State standards are "not to exceed" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as noted above.

Environmental Consequences

Regional Air Quality Conformity

The proposed project is listed in the SACOG MTP/SCS 2035 financially constrained Regional Transportation Plan, which was found to conform by SACOG on March 20, 2008. The FHWA and the FTA made a regional conformity determination on May 16, 2008. The project is also included in the SACOG financially constrained 2015/2018 MTIP on page 59 and page 77. SACOG adopted the 2015/2018 MTIP and MTP/SCS Amendment #4 on September 18, 2014. The SACOG 2015/2018 MTIP and MTP/SCS Amendment #4 was determined to conform by the FHWA and the FTA on December 15, 2014. The design concept and scope of the proposed project are consistent with the project description in the MTP/SCS 2035 and the 2015/2018 MTIP and the open to traffic assumptions of SACOG's regional emissions analysis.

FHWA made its air quality conformity finding for the proposed project on January 11, 2016; see Appendix H for a copy of FHWA's conformity finding.

Project-Level Conformity

The project is located in an attainment/maintenance area for the federal CO standards and in an attainment area for the state CO standard. Therefore, a hot-spot analysis for CO was required.

The project is located in an attainment area for the federal PM_{10} standard and a nonattainment area for the state PM_{10} standards. The project is located in an attainment area for the federal 24-hour $PM_{2.5}$ standard, an attainment/unclassified area for the federal annual $PM_{2.5}$ standard, and a nonattainment area for the state $PM_{2.5}$ standard. Therefore, a local hot-spot analysis for conformity was required for $PM_{2.5}$ and PM_{10}.

The project is also located in a serious nonattainment area for the state 1-hour ozone standard, in a nonattainment area for the state 8-hour ozone standard, in an attainment area for the federal 1-hour ozone standard, and in a severe nonattainment area for the federal 8-hour ozone standard. However, because ozone is a regional pollutant, there is no hot-spot procedure for ozone.

Carbon Monoxide Hot-Spot Analysis

Caltrans' Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) was used to evaluate the potential local-level CO impacts of the proposed project. The hot-spot analysis covered area roadways, existing and future (year 2030) traffic volumes, overall network delays, and study area intersections affected by the project. Refer to **Figure 2.2-5** for the locations of air quality monitoring stations in Sacramento County.

The CO Protocol provides decision flow charts to assist the lead agency in evaluating requirements that apply to a proposed action. The Air Quality Study Report prepared for the proposed project used the analytical framework, which consists of a series of questions, from the CO Protocol flow chart. The last level of questions in the flowchart (Level 7) of the CO Protocol flow chart assists lead agencies in determining whether further analysis of project impacts is required. Level 7 includes evaluation of potential increases in the number of vehicles operating in cold start mode, where an increase of 2 percent or more would be considered potentially significant, and evaluation of potential increases in traffic volumes, where an increase of more than 5 percent would be considered potentially significant and an increase of less than 5 percent may be considered potentially significant if there is also a reduction in average speeds. According to the Air Quality Study Report, the proposed project would not result in a change in the percentage of vehicles operating in cold start mode, nor would the proposed

project affect vehicle fleet percentages on area roadways. Refer to Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities," for a discussion of existing and future traffic volumes.

The proposed project is located in an attainment area for federal and state CO standards, and the existing CO concentrations in the project area are substantially below the ambient air quality standards. Additionally, the proposed project would result in overall decreases in vehicle congestion and delay, would not affect the percentages of vehicles operating in cold start mode, and would not affect vehicle fleet percentages on area roadways. For these reasons, further analysis of localized mobile-source CO concentrations is not required.

Particulate Matter ($PM_{2.5}$ and PM_{10}) Hot-Spot Analysis

Qualitative PM hot-spot analysis is required under the USEPA Transportation Conformity rule for Projects of Localized Air Quality Concern (POAQC). Projects that are not POAQC do not require detailed PM hot-spot analysis. The Interagency Consultation Group (made up of Caltrans, the EPA, and the FHWA) reviewed the proposed project in May 2012 and determined that the proposed project is not considered a POAQC for $PM_{2.5}$ and PM_{10} because it does not meet the definition of a POAQC as defined in the USEPA's Transportation Conformity Guidance. Therefore, a PM hot-spot analysis is not required for the proposed project. Documentation of the Interagency Consultation Group is included in Appendix H.

Permanent Impacts

Long-term air quality impacts attributable to the proposed project would be associated with the operation of motor vehicles along White Rock Road. Motor vehicle operational emissions were quantified using emission factors derived from the California ARB's Emission Factor computer program for existing (year 2013), future with project (year 2030) conditions, and future no build (year 2030) conditions. Estimated annual operational emissions in the project area are summarized in **Table 2.2-4**.

Table 2.2-4
Estimated Operational Emissions of Criteria Air Pollutants for the Build Alternative

Scenario	Emissions (Tons per Year)				
	ROG	CO	NOx	PM_{10}	$PM_{2.5}$
Year 2013 – Existing/No Build Alternative	0.21	7.55	0.97	1.33	0.39
Year 2013 – Build Alternative	0.26	9.59	1.23	1.69	0.50
Change from Existing/No Build Alternative	+0.05	+2.04	+0.26	+0.36	+0.11
Year 2030 – No Build Alternative	0.18	11.08	1.33	5.04	1.64
Change from Existing/No Build Alternative	-0.03	+3.53	+0.36	+3.71	+1.25
Year 2030 – Build Alternative	0.19	11.58	1.41	5.97	1.96
Change from Existing/No Build Alternative	-0.02	+4.04	+0.44	+4.65	+1.57
Change from Year 2030 No Build Alternative	+0.01	+0.51	+0.08	+0.93	+0.32

Note: Emissions modeling was conducted based on EMFAC2011 emission factors obtained for Sacramento County and traffic volume data obtained from the traffic analysis prepared for the proposed project. Includes exhaust emissions and PM emissions associated with brake and tire wear, as well as re-entrained road dust.

As shown in **Table 2.2-4**, the 2030 build alternative would have slightly higher emissions than the 2030 no build alternative. The predicted increases in emissions for year 2030 are due largely to an increase in projected average daily volumes along White Rock Road resulting, in part, from the proposed project as well as the widening of White Rock Road from Grant Line Road to the El Dorado County/Sacramento County line, which is a separate planned project in the region. Overall, planned improvements to White Rock Road are projected to result in a substantial reduction in overall network delay and associated emissions in the project area, including reductions in vehicle delay along US 50.

Temporary Impacts

Emissions and Dust

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by construction activities including excavation, grading, hauling, and other construction-related activities. Emissions from construction also are anticipated and would include CO, nitrogen oxides (NOx), VOCs, directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants such as diesel exhaust PM. Levels of ozone, which is a regional pollutant derived from NOx and VOCs in the presence of sunlight and heat, may also increase in the project area due to temporary construction activities.

The principal sources of pollutant emissions during construction are fugitive dust and engine exhaust from construction equipment. Stationary or mobile powered on-site construction equipment would include various off-road equipment such as front-end loaders, backhoes, dozers, rollers, pavers, and paving equipment. 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 added source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} 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.

In addition to dust-related PM_{10} emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NOx, VOCs, and some soot particulate (PM_{10} and $PM_{2.5}$) 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. As previously discussed, no sensitive land uses have been identified adjacent to White Rock Road between Sunrise Boulevard and Grant Line Road that would be exposed to these emissions.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. 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 sulfur), so SO_2-related issues due to diesel exhaust will be minimal.

Construction emissions were estimated using the SMAQMD's Road Construction Emissions Model, Version 7.1.5.1. Emissions modeling was conducted for each of the major construction phases of the proposed project based on construction information provided by the project engineer and default parameters contained in the model. **Table 2.2-5** shows the calculated construction emissions estimated to result from project construction.

Table 2.2-5
Estimated Construction-Generated Emissions for the Build Alternative

Construction Phase	Emissions (Pounds per Day)				
	ROG	CO	NOx	PM_{10}	$PM_{2.5}$
Site Clearing/Preparation	6.0	27.3	34.3	12.0	3.9
Grading & Excavation	15.6	70.5	157.1	17.6	8.8
Drainage/Utilities/Subgrade	9.8	45.0	68.1	14.3	6.0
Paving	6.5	30.6	37.6	12.7	2.4
Maximum Daily	**15.6**	**70.5**	**157.1**	**17.6**	**8.8**

Note: Emissions were calculated using the SMAQMD's Road Construction Emissions Model, Version 7.1.5.1 based on construction information provided by the project engineer. PM emissions reflect total emissions from mobile sources and fugitive dust; includes an estimated 50 percent reduction in fugitive emissions with compliance with Caltrans Standard Specifications.

Depending on the phase of construction, maximum daily construction emissions would total approximately 15.6 pounds per day (lbs/day) of reactive organic gases (ROG), 70.5 lbs/day of CO, 157.1 lbs/day of NOx, 17.6 lbs/day of PM_{10}, and 8.8 lbs/day of $PM_{2.5}$, as shown in **Table 2.2-5**. Project construction would occur over a period of approximately 18 months. Construction activities will not last for more than 5 years at one general location; therefore, construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

Odors

During construction, minor sources of odors would be present at the project site. Exhaust odors from diesel engines powering construction equipment, as well as emissions associated with asphalt paving, may be considered offensive to some individuals. However, because odors would be temporary and would disperse rapidly with distance from the source, construction-generated odors would not be anticipated to result in the frequent exposure of receptors to objectionable odors.

Naturally Occurring Asbestos

The project area is not located in an area identified as either containing or likely to contain serpentine and ultramafic rock; therefore, the discovery of naturally occurring asbestos during project construction would be unlikely.

Exposure to Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the USEPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Mobile source air toxics (MSAT) are a subset of 21 of the 188 air toxics defined by the Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. There are six main toxics, including diesel exhaust, benzene, and formaldehyde, among others. Of these, diesel-exhaust particulate matter (diesel PM) is of primary concern.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the USEPA regulate 188 air toxics, also known as hazardous air pollutants (HAPs). The USEPA has assessed this

expansive list in its latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in its Integrated Risk Information System. In addition, the USEPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from its 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While the Federal Highway Administration considers these the priority MSATs, the list is subject to change and may be adjusted in consideration of future USEPA rules.

The 2007 USEPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Based on an FHWA analysis using the USEPA's MOVES2010b model, as shown in **Figure 2.2-6**, even if vehicle miles traveled (VMT) increase by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

PROJECT-LEVEL ANALYSIS

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. In the FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

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

The purpose of the proposed project is to relieve congestion and meet future transportation demand. According to the Final Transportation Analysis for the proposed project, with the proposed project, all roadway segments would operate at an acceptable level of service in the year 2030, with the exception of the segment from Sunrise Boulevard to Rancho Cordova Parkway, which would operate at LOS E. Without the proposed project, all of the White Rock Road segments in the proposed project area would operate at LOS F. LOS F conditions result in greater emissions due to decreased speeds and longer time spent idling.

Furthermore, it is important to note that the estimated existing and future year traffic volumes for White Rock Road, as shown in **Tables 2.1-12** and **2.1-14** in Section 2.1.5, “Traffic and Transportation/Pedestrian and Bicycle Facilities,” are substantially lower than the FHWA criterion value of 140,000 average annual daily traffic, which is identified as the minimum volume for higher potential MSAT effects. In addition, no sensitive land uses have been identified adjacent to White Rock Road between Sunrise Boulevard and Grant Line Road that would be exposed to MSATs generated by the proposed project.

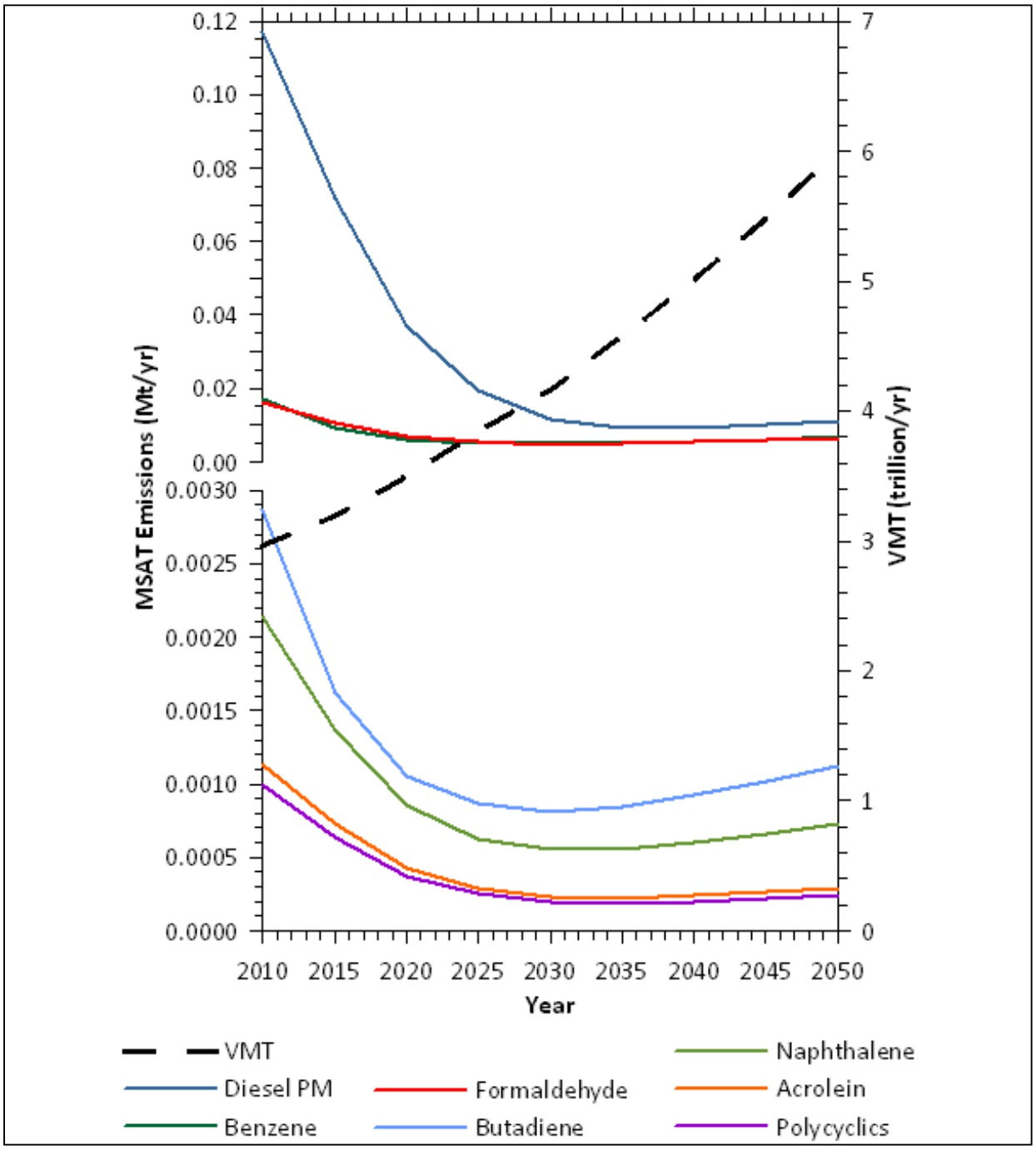
For the proposed build alternative, the amount of MSATs emitted would be proportional to the vehicle miles traveled, assuming that other variables such as fleet mix are the same for each alternative. As discussed in Section 2.1.5, “Traffic and Transportation/Pedestrian and Bicycle Facilities,” traffic volumes estimated for the build alternative are slightly higher than those for the no build alternative because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in traffic volumes would lead to higher MSAT emissions for the preferred build alternative along the highway corridor. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to the USEPA's MOVES2010b model, emissions of all of the priority MSATs decrease as speed increases. Also, emissions will likely be lower than present levels in the design year as a result of the USEPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050 (see **Figure 2.2-6**). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The widening of White Rock Road contemplated as part of the proposed build alternative will have the effect of moving some traffic closer to some nearby land uses; therefore, there may be localized areas where ambient concentrations of MSATs could be higher than with the no build alternative. However, the magnitude and the duration of these potential increases compared to the no build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a roadway is widened, the localized level of MSAT emissions for the build alternative could be higher relative to the no build alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Furthermore, as previously noted, traffic volumes along White Rock Road would not have a substantial number of diesel trucks (i.e., 10,000 average daily traffic [ADT], or greater). In addition, MSATs may be lower in other locations when traffic shifts away from nearby land uses. However, on a regional basis, the USEPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

CALIFORNIA MSAT FRAMEWORK (CEQA ONLY)

In September 2000, the California Air Resources Board (CARB) adopted the Diesel Risk Reduction Plan (DRRP), which recommends many control measures to reduce the risks associated with diesel-exhaust emissions (diesel PM) and achieve a goal of reducing diesel PM emissions by 85 percent from 2000 levels by 2020. The DRRP incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. Ongoing efforts by CARB to reduce diesel-exhaust emissions from these sources include the development of specific statewide regulations, which are designed to further reduce diesel PM emissions. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions. Since the initial adoption of the DRRP in September 2000, CARB has adopted numerous rules related to the reduction of diesel PM from mobile sources, as well as the use of cleaner-burning fuels. Transportation sources addressed by these rules include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty equipment.

Figure 2.2-6
National MSAT Emission Trends 2010–2050
for Vehicles Operating on Roadways Using the USEPA's MOVES2010b Model



Climate Change

Climate change is analyzed at the end of this chapter. Neither the USEPA nor the FHWA has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on the 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 upfront 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 a separate CEQA discussion at the end of this chapter and may be used to inform the NEPA decision. The four strategies set forth by the FHWA to lessen climate change impacts correlate with efforts that the State of California has undertaken and is undertaking to deal with transportation and climate change: improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

Avoidance, Minimization, and/or Mitigation Measures

Construction of the proposed project would be required to comply with Caltrans' Standard Specifications, Section 14-9 (Air Quality). Caltrans' specifications pertaining to dust control and dust palliative requirements are a required part of construction contracts and should effectively reduce and control emission impacts during construction. These requirements include daily watering of areas disturbed by construction activities. In addition, the California Health and Safety Code requires the contractor to prevent visible dust from leaving the construction site. Most of the construction impacts to air quality are short term in duration and therefore will not result in long-term adverse conditions. Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control, will reduce any air quality impacts resulting from construction activities:

1. The construction contractor shall comply with Caltrans' Standard Specifications in Section 14 (2010).

    - Section 14-9.02 (Air Pollution Control) 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 14-9.03 (Dust Control) is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.

2. Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emission or at the right-of-way line depending on local regulations.

3. Spread soil binder on any unpaved roads used for construction purposes and on all project construction parking areas.

4. Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions.

5. Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

6. Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.

7. 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.

8. Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to minimize emission of dust (particulate matter) during transportation.

9. Promptly and regularly remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.

10. Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area. Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may need to use controls such as dampened straw.

11. 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.

12. 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.

SMAQMD Rules & Regulations

In addition to the above Caltrans' Standard Specifications, the following Enhanced Exhaust Control Practices, as recommended by the SMAQMD, will also be included to further reduce construction-generated emissions:

Enhanced Exhaust Control Practices

1. The project representative shall submit to the lead agency and the SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.

    - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.

- The project representative shall provide the anticipated construction timeline including start date, and the name and phone number of the project manager and on-site foreman.

- This information shall be submitted at least four business days prior to the use of subject heavy-duty off-road equipment.

- The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

2. The project representative shall provide a plan for approval by the lead agency and the SMAQMD demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent California ARB fleet average, or reductions sufficient to demonstrate compliance with the SMAQMD's maximum allowable mass emissions threshold of 85 lbs/day of NOx.

    - This plan shall be submitted in conjunction with the equipment inventory.

    - Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, the payment of mitigation fees to the SMAQMD, and/or other options as they become available.

3. The project representative shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40 percent opacity for more than 3 minutes in any one hour.

    - Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately.

    - Non-compliant equipment will be documented and a summary provided to the lead agency and the SMAQMD monthly.

    - A visual survey of all in-operation equipment shall be made at least weekly.

    - A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.

4. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other SMAQMD, state, or federal rules or regulations.

In lieu of implementing all or a portion of the above Enhanced Exhaust Control Practices, a refined emissions modeling analysis can be performed, once more detailed construction information becomes available. The refined analysis will be conducted in accordance with applicable SMAQMD-recommended methodologies and guidance. Emissions-reduction

measures will be included sufficient to demonstrate compliance with the SMAQMD's maximum allowable mass emissions threshold of 85 lbs/day of NOx. The refined analysis will be reviewed and endorsed by the SMAQMD and the City prior to initiating construction. Based on a preliminary analysis of the preferred alternative, the use of solar/battery-powered signal boards and newer heavy-duty off-road equipment would likely be sufficient to reduce construction-generated emissions to below the SMAQMD's maximum allowable mass emissions threshold of 85 lbs/day of NOx.

As noted above, Caltrans' Standard Specifications, Section 14, specifically requires compliance with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, including air pollution control rules, regulations, ordinances, and statutes provided in Government Code Section 11017 (Public Contract Code Section 10231).

2.2.4 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 those measures are not feasible. The CEQA noise analysis is included at the end of this section.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and Caltrans, 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 include 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). The following table (**Table 2.2-6**) lists the noise abatement criteria for use in the NEPA 23 CFR 772 analysis.

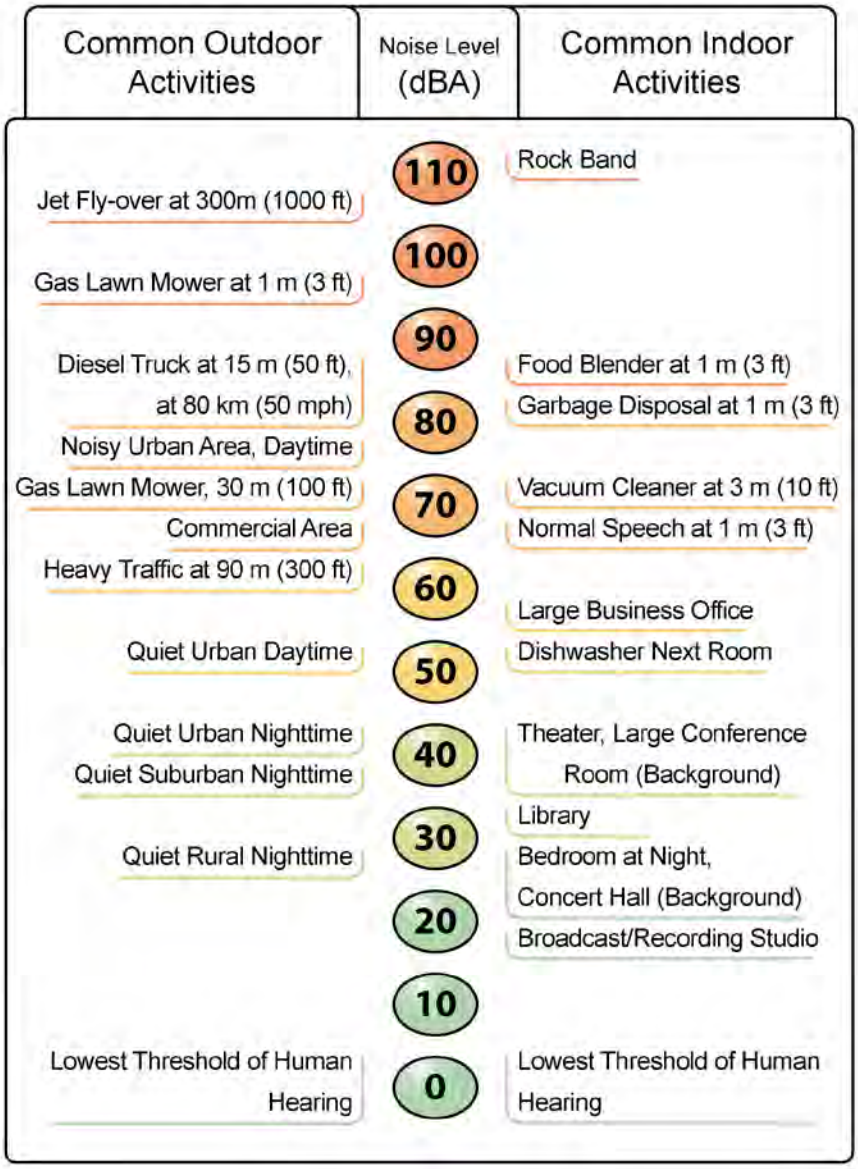
Table 2.2-6
Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of Activity Category
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[1]	67 (Exterior)	Residential.
C[1]	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 (Exterior)	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.

[1] Includes undeveloped lands permitted for this activity category.

Table 2.2-7 shows 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.

Table 2.2-7
Noise Levels of Common Activities



According to the Caltrans' 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 noise abatement criteria.

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.

Caltrans' 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 7 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.

Affected Environment

A noise study report was prepared for the proposed project in July 2014 to evaluate noise impacts and abatement under the requirements of 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise," and identify land uses and sensitive receptors, particularly areas of frequent human use that would benefit from reduced noise levels. **Figure 2.2-7** shows the location of the existing and future receptors, for which noise measurements were taken, in relation to the project site.

A survey of existing land uses was conducted to identify areas that might be affected by noise from the proposed project. Existing land use in the project area consists mostly of vacant/undeveloped land owned by Aerojet. Land uses along White Rock Road from Sunrise Boulevard to Salisbury Road near the western portion of the project site include a mix of industrial, warehouse, vehicle parking lots, vacant land, and retail/commercial land uses. These land uses are represented by receivers R1 and R2 shown on **Figure 2.2-8**. No outdoor areas of frequent human use that would benefit from a lowered noise level (e.g., backyards, outdoor dining areas, or playgrounds) were identified for these land uses. Along the remainder of the project site from Salisbury Road to Grant Line Road, the majority of the project area is undeveloped, with some intermittent industrial land uses and one residential dwelling (located approximately 430 feet south of White Rock Road). As shown on **Figure 2.2-9,** industrial land uses between Salisbury Road and Grant Line Road are represented by R13 and the existing residential dwelling located south of White Rock Road is represented by R10.

Planned future development in the project area includes the Rio Del Oro Specific Plan, which is located adjacent to and south of White Rock Road and includes a mix of residential, commercial, business park, industrial park, public, and other land uses. The Rio Del Oro Specific Plan has been approved; however, final discretionary development permits, including building permits, have not yet been issued for the planned land uses identified in the Specific Plan. No permitted undeveloped land uses were identified in the project area. Planned future development within the Rio Del Oro Specific Plan is represented by receivers R3 through R9, R11, and R12 shown on **Figures 2.2-8** and **2.2-9**.

Four existing and nine future noise receptors were analyzed for the proposed project, including:

- Existing:
    - **R1** represents an existing industrial land use located north of the project site along White Rock Road and commercial/restaurant uses at the corner of Sunrise Boulevard and White Rock Road. R1 is considered an Activity Category F land use for industrial uses and an Activity Category E for commercial/restaurant uses.
    - **R2** represents an existing industrial land use located south of the project site along White Rock Road. R2 is considered an Activity Category F land use.

- **R10** represents an existing residential dwelling located approximately 430 feet south of the project site along White Rock Road. R1 is the only existing residential land use in the project area and is considered an Activity Category B land use. Because this receptor represents a residence, it is concerned a sensitive receptor.

- **R13** represents an existing industrial land use located north of White Rock Road. R13 is considered an Activity Category F land use.

- Future:

  R3 to R9, R11, and R12 are all future planned undeveloped land uses, which are considered Activity Category G land uses.

  - **R3** represents future single-family residential land uses south of White Rock Road within the Rio Del Oro Specific Plan. R3 was located approximately 10 feet from the nearest road right-of-way.

  - **R4** represents future single-family residential land uses south of White Rock Road within the Rio Del Oro Specific Plan. R4 was located approximately 10 feet from the nearest road right-of-way.

  - **R5** represents future medium-density residential land uses south of White Rock Road within the Rio Del Oro Specific Plan. R5 was located approximately 10 feet from the nearest road right-of-way.

  - **R6** represents future high-density residential land uses south of White Rock Road within the Rio Del Oro Specific Plan. R6 was located approximately 10 feet from the nearest road right-of-way.

  - **R7** represents future industrial park land uses south of White Rock Road within the Rio Del Oro Specific Plan.

  - **R8** represents future business park land uses south of White Rock Road within the Rio Del Oro Specific Plan.

  - **R9** represents future regional town center, business park, public, and quasi-public land uses south of White Rock Road within the Rio Del Oro Specific Plan.

  - **R11** represents future single-family residential land uses south of White Rock Road within the Rio Del Oro Specific Plan. R11 was located approximately 10 feet from the nearest road right-of-way.

  - **R12** represents future single-family residential land uses south of White Rock Road within the Rio Del Oro Specific Plan. R12 was located approximately 10 feet from the nearest road right-of-way.

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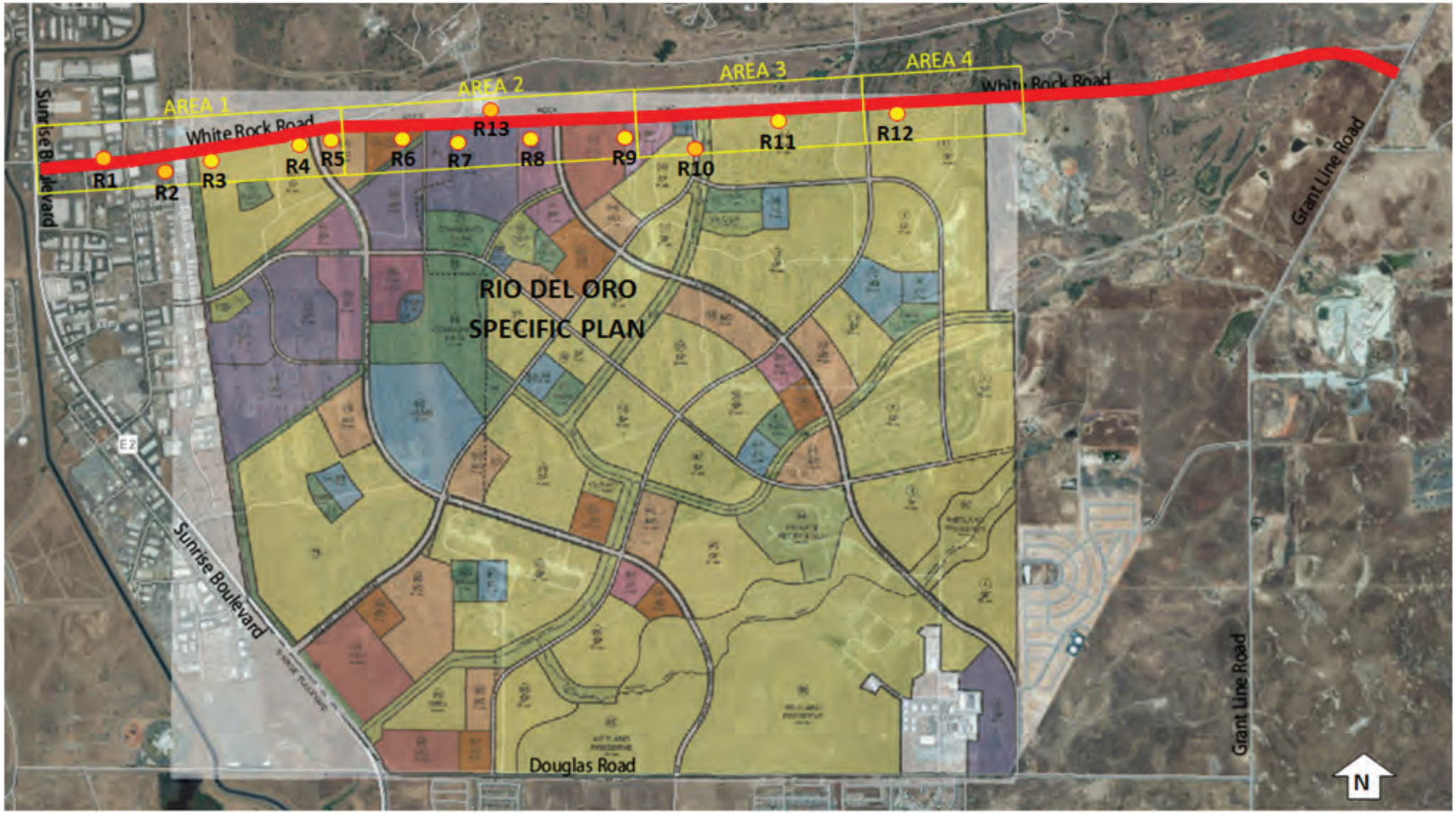


Source: USGS 2014, Wood Rodgers 2013, Rancho Cordova 2008

City of Rancho Cordova
Planning Department

Figure 2.2-7
Modeled Noise Receiver Locations

T:_CSWork\Rancho Cordova, City of\Capital Improvements\White Rock-Grant Figures

- R1: Existing Industrial (11315 White Rock Rd.)
- R2: Existing Industrial (11430 White Rock Rd.)
- R3: Planned Single-Family Residential
- R4: Planned Single-Family Residential
- R5: Planned Medium Density Residential

N

Not to scale.
All Locations are approximate.
Image Source: Wood Rogers 2013

- R13: Existing Industrial (11855 White Rock Road)
- R6: Planned High-Density Residential
- R7: Planned Industrial Park
- R8: Planned Business Park
- R9: Planned Regional Town Center, Business Park, Public/Quasi-Public

N

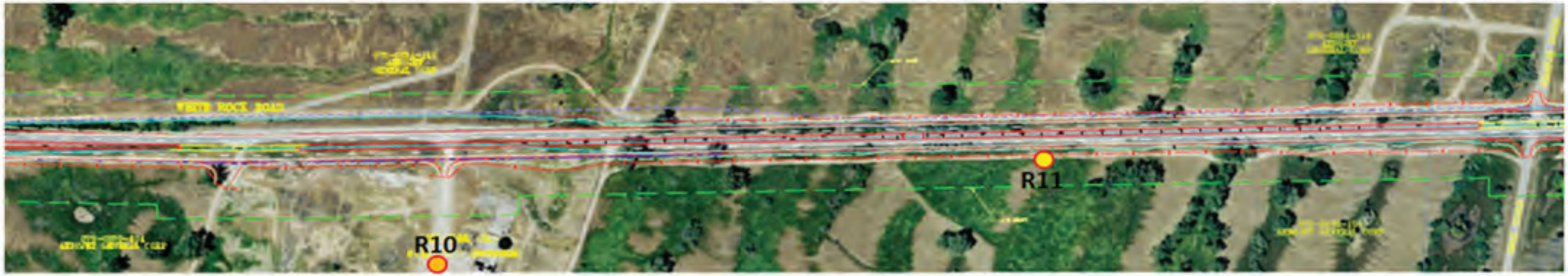
Not to scale.
All Locations are approximate.
Image Source: Wood Rogers 2013

Source: Wood Rodgers 2013

City of Rancho Cordova
Planning Department

Figure 2.2-8
Receiver Locations

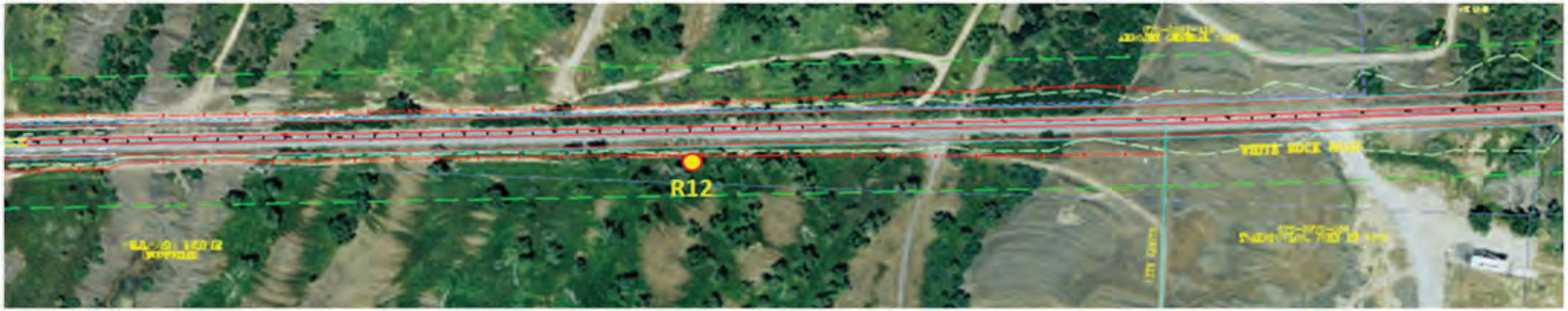
T:_CSWork\Rancho Cordova, City of\Capital Improvements\White Rock-Grant Figures



R10: Existing Single-Family Residence (12300 White Rock Road)
R11: Planned Single-Family Residential

N

Not to scale.
All Locations are approximate.



R12: Planned Single-Family Residential

N

Not to scale.
All Locations are approximate.

Source: Wood Rodgers 2013

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Figure 2.2-9
Receiver Locations

Noise Measurements

Short-term noise monitoring was conducted at three exterior locations along White Rock Road on July 10 and July 11, 2013. The average vehicle speed along White Rock Road during short-term measurements was 45 mph. During short-term monitoring, wind speeds ranged from 1 to 5 mph; wind speed did not exceed 10 mph during any of the noise monitoring surveys conducted. A background ambient noise measurement was conducted at the terminus of Manufacturers Drive, east of Luyung Drive. **Figure 2.2-10** shows the location of the short-term, background, and long-term measurement locations. **Table 2.2-8** provides a summary of the short-term measurements and the background measurement conducted for the proposed project.

Table 2.2-8
Summary of Short-Term Measurements

Measurement Locations[1]		Address	Land Use	Date	Start Time	Duration (minutes)	Measured L_{eq}
Location	Description						
ST-1	50 Feet from Road Centerline	11430 White Rock Rd.	Industrial	7-10-13	1430–1500	30	66.3
	50 Feet from Road Centerline	11430 White Rock Rd.	Industrial	7-11-13	1320–1345	25	65.4
ST-2	69 Feet from Road Centerline	11468 White Rock Rd.	Vacant/ Undeveloped	7-10-13	1600–1700	60	65.7
	69 Feet from Road Centerline	11468 White Rock Rd.	Vacant/ Undeveloped	7-11-13	1700–1715	15	66.5
ST-3	42 Feet from Road Centerline	11700 White Rock Rd.	Vacant/ Undeveloped	7-10-13	1515–1530	15	66.9
	42 Feet from Road Centerline	11700 White Rock Rd.	Vacant/ Undeveloped	7-11-13	1410–1425	15	66.3
B-1	Background Noise Measurement	Terminus of Manufacturers Dr., east of Luyung Dr.	Industrial/Vacant/ Undeveloped	7-11-13	1540–1550	10	53.8

Notes: 1. Measurement locations are approximately 4.5 feet above ground level. Refer to **Figure 2.2-10** for measurement locations.

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Source: USGS 2014

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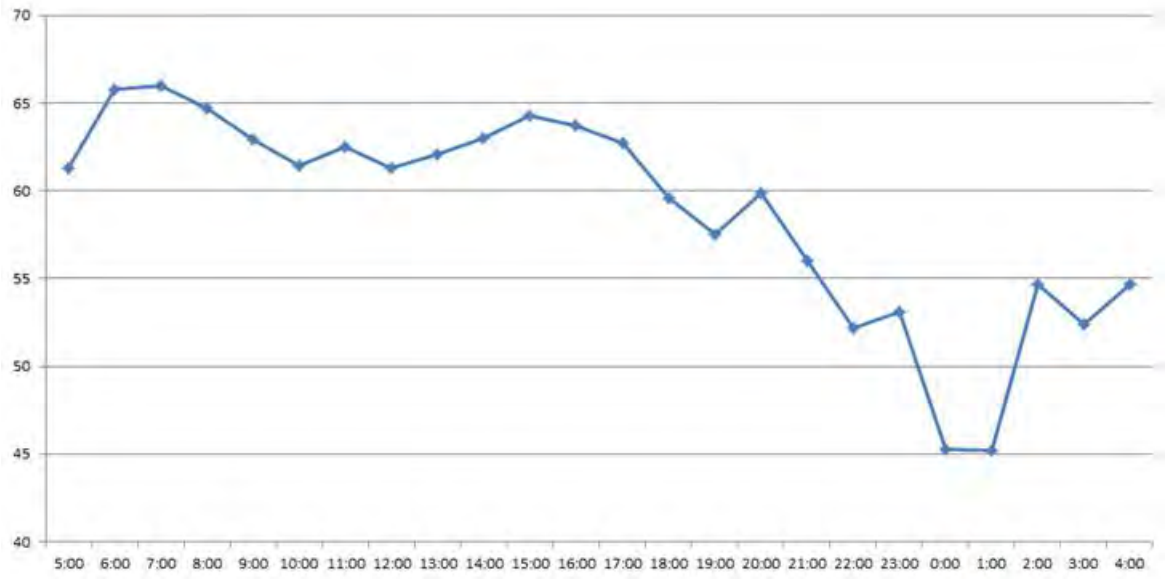
Figure 2.2-10
Noise Measurement Locations and Nearby Land Uses

Traffic along White Rock Road was the dominant noise source at all three short-term monitoring locations. Sound levels measured during short-term noise monitoring were relatively consistent, ranging between 65 and 67 dBA. Long-term noise monitoring was conducted at one location along White Rock Road over a 24-hour period beginning Thursday, October 11, 2012, and ending Friday, October 12, 2012. The purpose of the long-term monitoring was to identify variations in sound levels throughout the day. **Figure 2.2-11** shows the hourly sound levels at measurement location LT-1 over the 24-hour measurement period. The sound levels were relatively consistent during the daytime (generally between 60 and 66 dBA). The highest sound levels, which occurred between 6 a.m. and 8 a.m., can be attributed to traffic moving at steady speeds during the a.m. peak traffic hour. Nighttime noise levels drop substantially because of the drop in traffic volumes, particularly between midnight and 1 a.m.

Figure 2.2-11
Hourly Sound Levels at Location LT-1, July 10–11, 2013



Source: Ambient 2014

For noise calibration purposes existing traffic noise levels were predicted using the FHWA Traffic Noise Model version 2.5 (TNM 2.5). TNM 2.5 was used to compare measured traffic noise levels to modeled noise levels at exterior field measurement locations ST-1, ST-2, and ST-3. **Table 2.2-9** compares measured and modeled noise levels at each short-term measurement location.

Table 2.2-9
Comparison of Measured to Predicted Sound Levels in the TNM Model

Measurement Position	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Measured Minus Predicted (dB)
ST-1	66.3	67.1	0.8
ST-2	65.7	65.8	0.1
ST-3	66.9	66.3	-0.6

Predicted existing noise levels were compared to monitored noise levels obtained on October 12, 2012, for which corresponding traffic monitoring was conducted. The predicted existing sound levels are within 2 dB of the measured sound levels and are therefore considered to be in reasonable agreement with the measured sound levels.

Environmental Consequences

No Build Alternative

Under the no build alternative, noise increases resulting from the construction and operation of the project would not occur because the project would not be built. However, because traffic along White Rock Road and surrounding roadways (Sunrise Boulevard, Grant Line Road, and other streets intersecting with White Rock Road) is the predominant source of noise in and around the project area, and traffic on these roadways is anticipated to increase as a result of planned development in and around the project area and a growing population in Rancho Cordova and Sacramento County, noise levels in and around the project area would continue to increase over time as traffic in the area increases. **Table 2.2-10** outlines the predicted noise levels under no build conditions for the year 2030 as compared to the predicted noise levels under the build alternative.

Build Alternative

The project is considered a Type 1 project under 23 CFR 772 because it involves the widening of White Rock Road from Sunrise Boulevard to Grant Line Road, including the addition of through traffic lanes. From Sunrise Boulevard to Luyung Drive, improvements to the existing six-lane portion of White Rock Road include restriping and additional pavement for the addition of a second westbound through lane on the east leg of the Fitzgerald Road/Sunrise Park Drive intersection with White Rock Road. From Luyung Drive to Grant Line Road, White Rock Road will be widened from two lanes to four lanes. Therefore, Caltrans has determined the proposed project to be a Type 1 project.

Operational Impacts

Table 2.2-10 shows the applicable NACs for the receptors and the predicted noise levels under existing and future conditions for each existing and future receptor (R1 through R13) in the project area. Refer to **Figures 2.2-8** and **2.2-9** for the locations of receptors R1 through R13.

Existing industrial land uses are located at 11855 White Rock Road, 11430 White Rock Road, and 12584 White Rock Road (R1, R2, and R13). These land uses are considered Activity Category F land uses. One restaurant was identified at the southeast corner of the Sunrise Boulevard and White Rock Road intersection, which is considered an Activity Category E land use. Under future no build conditions, predicted traffic noise levels would range from 66 to 71 dBA L_{eq}. Under future build conditions, predicted traffic noise levels range from 69 to 72 dBA L_{eq}. The majority of existing nonresidential land uses in the project area are considered Activity Category F land uses. There are no impact criteria for Activity Category F land uses. No exterior areas of frequent human use that would benefit from a lowered noise level were identified for the Activity Category E land use. As a result, consideration of noise abatement is not required for these land uses.

Table 2.2-10
Predicted Traffic Noise Levels

Receiver I.D.	Land Use	Number of Dwelling Units	Address/Location	White Rock Road Worst Hour Noise Levels - L_{eq}(h), dBA [a,b]											
				Existing/No-Build Noise Level L_{eq}(h), dBA	Existing Build Noise Level L_{eq}(h), dBA	Existing Build Noise Level Minus Existing/No-Build Noise Level L_{eq}(h), dBA	Future No-Build Noise Level L_{eq}(h), dBA	Future Build Noise Level L_{eq}(h), dBA	Future Build Noise Level Minus Future No-Build Noise Level L_{eq}(h), dBA	Future Build Noise Level Minus Existing/No-Build Noise Level L_{eq}(h), dBA	Activity Category	NAC	Impact Type[a]	Noise Prediction with Barrier	Barrier Insertion Loss (I.L.)
1	Existing Industrial/Commercial	NA	11315 White Rock Rd.	67	70	3	71	72	1	5	E/F	None /72 dBA	NA	NA	NA
2	Existing Industrial	NA	11430 White Rock Rd.	63	65	2	66	69	3	6	F	None	NA	NA	NA
3	Future Single-Family Residential (SFR)	NA	Rio del Oro Specific Plan	67	70	3	71	75	4	8	G	None	NA	NA	NA
4	Future Single-Family Residential (SFR)	NA	Rio del Oro Specific Plan	71	71	0	74	76	2	5	G	None	NA	NA	NA
5	Future Medium-Density Residential (MDR)	NA	Rio del Oro Specific Plan	70	71	1	74	75	1	5	G	None	NA	NA	NA
6	Future High-Density Residential (HDR)	NA	Rio del Oro Specific Plan	72	68	-4	75	71	-4	-1	G	None	NA	NA	NA
7	Future Industrial Park (MP)	NA	Rio del Oro Specific Plan	66	66	0	69	70	1	4	G	None	NA	NA	NA
13	Existing Industrial	NA	11855 White Rock Rd.	67	70	3	70	72	2	5	F	None	NA	NA	NA
8	Future Business Park (BP)	NA	Rio del Oro Specific Plan	65	66	1	68	70	2	5	G	None	NA	NA	NA
9	Future Regional Town Center (RTC)/Business Park (BP)/Public/Quasi Public (P/QP)	NA	Rio del Oro Specific Plan	65	66	1	68	70	2	5	G	None	NA	NA	NA
10	Existing Single-Family Residential (SFR)	1	12300 White Rock Rd.	52	57	5	55	60	5	8	B	67 dBA	None	NA	NA
11	Future Single-Family Residential (SFR)	NA	Rio del Oro Specific Plan	70	71	1	74	75	1	5	G	None	NA	NA	NA
12	Future Single-Family Residential (SFR)	NA	Rio del Oro Specific Plan	71	71	0	75	75	0	4	G	None	NA	NA	NA

a. A/E = Approach or Exceed, SI = Substantial Increase (12 dBA or more), NA = Not Applicable. NAC = Noise Abatement Criterion. Act.Cat.=Activity Category Land Use

b. Exterior noise levels for existing industrial/retail commercial uses and future planned land uses are included for reporting purposes only.

c. Future land uses are based on planned land uses, as currently identified in the Rio del Oro Specific Plan. Planned land uses identified in the Specific Plan have not received final discretionary approval. There are no noise abatement criterions for undeveloped land uses that have not received final discretionary approval. Predicted traffic noise levels are included for reporting purposes only.

One existing residential dwelling (R10) is located at 12300 White Rock Road, approximately 430 feet south of White Rock Road. Under future no build conditions, the predicted traffic noise level at this residence is 55 dBA $L_{eq.}$ Under future build conditions, the predicted traffic noise level at this residence is 60 dBA L_{eq}. The existing residential land use is considered an Activity Category B land use having an exterior NAC of 67 dBA L_{eq}(h). Predicted traffic noise levels would not approach or exceed the NAC, nor would project implementation result in a significant increase in traffic noise levels, which is defined by Caltrans as an increase of 12 dB or greater. Therefore, consideration of noise abatement is not required for this residence.

Future nonresidential land uses located adjacent to White Rock Road and within the Rio Del Oro Specific Plan area include industrial park, business park, regional town center, and public/quasi-public land uses (R7–R9). Under future build conditions, predicted traffic noise levels at these land uses would range from 68 to 69 dBA $L_{eq.}$ Under future build conditions, predicted traffic noise levels would increase to approximately 70 dBA L_{eq}. As Activity Category G land uses, there is no NAC for these land uses and the noise modeling results are included for reporting only; no consideration of abatement is required.

Based on the modeling conducted, predicted future no build noise levels at future residential land uses located nearest White Rock Road and within the Rio Del Oro Specific Plan area (R3 to R6 and R11 and R12) would range from 71 to 75 dBA $L_{eq.}$ Under future build conditions, predicted traffic noise levels at these same land uses would range from 71 to 76 dBA L_{eq}. It is important to note that the proposed realignment of White Rock Road would result in a decrease of approximately 4 dBA L_{eq} at the proposed future high-density residential land uses (R6) due to the relocation of vehicle traffic away from this land use. As Activity Category G land uses, there is no NAC for these land uses and the noise modeling results are included for reporting only; no consideration of abatement is required.

Construction Noise Impacts

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. **Table 2.2-11** summarizes noise levels produced by construction equipment commonly used on roadway construction projects.

Table 2.2-11
Construction Equipment Noise Levels

Equipment	Noise Level (dBA L_{max} at 50 feet)
Bulldozers	82
Heavy Trucks	81
Backhoe	78
Pneumatic Tools	85
Concrete Pump	81
Loader	79
Roller	80
Compressor	78
Crane	81
Drill Rig	79
Paver	77
Hoe Ram	90

Source: FHWA Roadway Construction Noise Model, 2008

Construction equipment is expected to generate noise levels ranging from 70 to 90 dBA L_{max} at a distance of 50 feet only during the time that the type of equipment listed above is actively being used. Currently, there are no residences located within 50 feet from the center of construction activities. The nearest residence to the project site is located in excess of 400 feet from the roadway, and no other noise-sensitive land uses have been identified in the project area. Noise produced by construction equipment decreases at a rate of about 6 dB per doubling of distance from the source. No significant adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans' Standard Specifications and would be short-term, intermittent, and dominated by local traffic noise. Sound control is required to conform to the provisions in Section 14.8-02 (Noise Control) of the Standard Specifications.

Avoidance, Minimization, and/or Abatement Measures

The project would not cause any noise impacts during operations that require the consideration of noise abatement. The following measures will be implemented to reduce the project's potential noise effects during construction:

- Noise-generating construction activities occurring in the proximity of noise-sensitive land uses (e.g., residential uses) shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between the hours of 8:00 a.m. and 6:00 p.m. on weekends.

- The following mandatory noise abatement measures will be implemented as required by Caltrans Standard Specifications Section 14-8.02:

    - Per Section 14-8.02 (Noise Control), do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.

    - Each internal combustion engine, used for any purpose on the job, or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler.

    - As directed by the Caltrans' resident engineer, the contractor shall implement appropriate additional noise abatement measure including, but not limited to, changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, or installing acoustic barriers around stationary construction noise sources.

CEQA Noise Analysis

The CEQA noise analysis is completely independent of the NEPA-23 CFR 772 analysis discussed in this section, which is centered on noise abatement criteria. Under CEQA, the assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

In addition to the federal and state regulations discussed for the NEPA noise analysis, the following regulatory framework applies to the proposed project.

Sacramento County General Plan

The Sacramento County General Plan (2011) Noise Element establishes goals and policies to control environmental noise and to protect the citizens of Sacramento County from excessive noise exposure. The County's General Plan Noise Element includes the following policies that relate to noise and are relevant to the proposed project.[13]

Construction Noise:

Policy NO-8: Noise associated with construction activities shall adhere to the County Code requirements. Specifically, Section 6.68.090(e) addresses construction noise within the County.

Transportation Projects:

Policy NO-9: For capacity enhancing roadway or rail projects, or the construction of new roadways or railways, a noise analysis shall be prepared in accordance with the Table 3 requirements. If projected post-project traffic noise levels at existing uses exceed the noise standards of Table 1, then feasible methods of reducing noise to levels consistent with the Table 1 standards shall be analyzed as part of the noise analysis. In the case of existing residential uses, sensitive outdoor areas shall be mitigated to 60 dB, when possible, through the application of feasible methods to reduce noise. If 60 dB cannot be achieved after the application of all feasible methods of reducing noise, then noise levels up to 65 dB are allowed.

If pre-project traffic noise levels for existing uses already exceed the noise standards of Table 1 and the increase is significant as defined below, feasible methods of reducing noise to levels consistent with the Table 1 standards should be applied. In no case shall the long-term noise exposure for non-industrial uses be greater than 75 dB; long-term noise exposure above this level has the potential to result in hearing loss.

A significant increase is defined as follows:

Pre-Project Noise Environment (Ldn)	Significant Increase
Less than 60 dB	5+ dB
60–65 dB	3+ dB
Greater than 65 dB	1.5+ dB

The General Plan Noise Element referenced in the policy above identifies that noise levels for new residential and office uses affected by traffic noise shall not exceed 65 dB day-night average noise level (Ldn) at sensitive outdoor areas and 45 dB (Ldn) at sensitive indoor areas for all residential uses.

[13]The tables discussed in the policies can be found in the County's General Plan at: http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/GP%20Elements/Noise%20Element.pdf

City of Rancho Cordova General Plan

The City of Rancho Cordova General Plan (2006) Noise Element establishes goals and policies to improve the noise environment in the City's Planning Area. The Rancho Cordova General Plan Noise Element includes the following policies that relate to noise and are relevant to the proposed project.

Policy N.2.2: Ensure that operational noise levels of new roadway projects will not result in significant noise impacts.

- Action N.2.2.1 – Assess the significance of the noise increase of all roadway improvement projects in existing areas according to the following criteria:

  - Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and

  - Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and

  - Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +1.5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant.

Table N-2 from the General Plan Noise Element identifies that noise levels for residential land uses affected by traffic noise shall not exceed 60 dB Ldn at sensitive outdoor areas and 45 dB Ldn at sensitive indoor areas for all residential uses.

CEQA Noise Impacts

Under CEQA Guidelines Appendix G, the proposed project may result in significant noise impacts if it would:

- Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

- Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in exposure of persons residing or working in the project area to excessive noise levels.

- For a project within the vicinity of a private airstrip, result in exposure of persons residing or working in the project area to excessive noise levels.

Baseline Year Conditions

The comparative analysis conducted by Ambient (2014) examines the existing (year 2008) noise levels at surrounding receivers compared with predicted noise levels if the project were in place under baseline year (2008) conditions. With the exception of the existing single-family residence located approximately 430 feet south of White Rock Road, no other sensitive receptors have been identified in the project area. The existing single-family residence is represented by receiver R10. According to the Noise Study Report (2014) prepared for the proposed project, for baseline year conditions, the traffic noise level at R10 was predicted as 52 dBA L_{eq}(h) under no build conditions and as 57 dBA L_{eq}(h) under build conditions, which represents an increase of 5 dBA L_{eq}(h). Under build conditions, predicted traffic noise levels of 57 dBA L_{eq}(h) would not exceed the City's standard of 60 dB Ldn at sensitive outdoor areas identified in Table N-2 of the City of Rancho Cordova General Plan.

Future Year (2030) Conditions

Table 2.2-12 shows the predicted future year (2030) traffic noise levels at existing and future sensitive receptor locations within the project area.

Table 2.2-12
Predicted Future Year (2030) Noise Levels

Receiver	Land Use	Traffic Noise Levels, L_{eq}(h), dBA		
		No Build	Build	Change in Noise
R3	Future Single-Family Residential	71	75	+4
R4	Future Single-Family Residential	74	76	+2
R5	Future Single-Family Residential	74	75	+1
R6	Future Single-Family Residential	75	71	-4
R10	Existing Single-Family Residential	55	60	+5
R11	Future Single-Family Residential	74	75	+1
R12	Future Single-Family Residential	75	75	0

Source: Ambient 2014

As shown in **Table 2.2-12**, the proposed project would result in increases in noise levels at the existing receptor location and four future receptor locations, and would result in a decrease in noise levels at one future receptor location and no change in noise levels at one future receptor location.

Operational Impacts

Noise levels at the sole existing sensitive receptor within the project area, which is located in excess of 400 feet from White Rock Road, are not predicted to exceed the City's standard of 60 dB Ldn at sensitive outdoor areas (as identified in Table N-2 of the City of Rancho Cordova General Plan). Future sensitive receptors in the project area, including the future single-family residences represented by receivers R3 through R6, R11, and R12, are located within the Rio Del Oro Specific Plan area. The EIS/EIR for the Rio Del Oro Specific Plan includes mitigation measures requiring site-specific acoustical analysis for proposed subdivision maps, which will identify feasible measures to reduce noise impacts related to the increased traffic on surrounding roadways resulting from development of the Rio Del Oro Specific Plan area. For these reasons, under CEQA, no significant noise impact related to exposure of persons to or generation of noise levels in excess of standards or substantial permanent increases in ambient noise levels would occur as a result of the project and no mitigation is required.

The proposed project is not located within an airport land use plan or within 2 miles of a public airport or public use airport, nor is it located in the vicinity of a private airstrip. Therefore, the project would have no impact related to exposure of persons residing or working in the project area to excessive noise levels associated with airports. No mitigation is required.

Construction Impacts

During construction of the proposed project, noise levels would temporarily increase to noise levels ranging from 70 to 90 dBA L_{max} at a distance of 50 feet, as shown in **Table 2.2-11**, due to the use and operation of heavy equipment. Generally, for point source noise there is a 6 dBA decrease in noise level per doubling of distance, and for highway traffic noise, because it is a line source, there is a 3 dBA decrease in noise level per doubling of distance. The only sensitive noise receptor in the project area, represented as R10 on **Figure 2.2-9**, is a single-family residence located approximately 430 feet south of White Rock Road. At this distance, construction noise levels would be substantially lower than the 70 to 90 dBA L_{max} noise levels at a distance of 50 feet from the construction area. Without accounting for background noise levels, the decrease in noise level for point source noise sources could be more than 48 dBA quieter and for line source noise sources more than 24 dBA quieter. Therefore, under CEQA, no significant noise impact related to exposure of persons to or generation of noise levels in excess of standards would occur as a result of the project and no mitigation is required. However, mitigation measures provided for noise in Section 2.2.4, “Noise,” will be incorporated into the project and will further reduce noise impacts to less than significant.

The proposed project does not include any features that would result in generation of groundborne vibration or groundborne noise levels. Therefore, the project would have no impact from groundborne vibration and noise levels. No mitigation is required.

2.3 Biological Environment

The purpose of this section is to describe the existing biological environment and to review the proposed White Rock Road Widening project in sufficient detail to determine to what extent the project may affect biological resources. Data presented in this section is based on the Natural Environment Study (NES) prepared for the proposed project in February 2014, the Biological Assessment (BA) prepared in January 2014, and technical documents (e.g., focused species studies and wetland delineations) related to effects on biological resources in the Biological Study Area (BSA). The BSA represents an approximately 357-acre area defined by the limits of construction and a 250-foot buffer on either side of the project alignment (**Figure 2.3-1**).

2.3.1 Natural Communities

This section 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. Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act (FESA) are discussed below in Section 2.3.5, “Threatened and Endangered Species.” Wetlands and other waters are discussed in Section 2.3.2.

Natural communities of special concern are habitats that have been determined by natural resource agencies, such as the California Department of Fish and Wildlife (CDFW), to be sensitive or rare. Two natural communities of concern, vernal pool and seasonal wetland, are present in the BSA. Many of the on-site vernal pool and seasonal wetland habitats provide suitable habitat for special-status species vernal pool crustaceans; therefore, these habitats are considered in this analysis under Section 2.3.5, "Threatened and Endangered 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.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act (FESA) are discussed below in Section 2.3.5, "Threatened and Endangered Species." Wetlands and other waters are discussed in Section 2.3.2.

Affected Environment

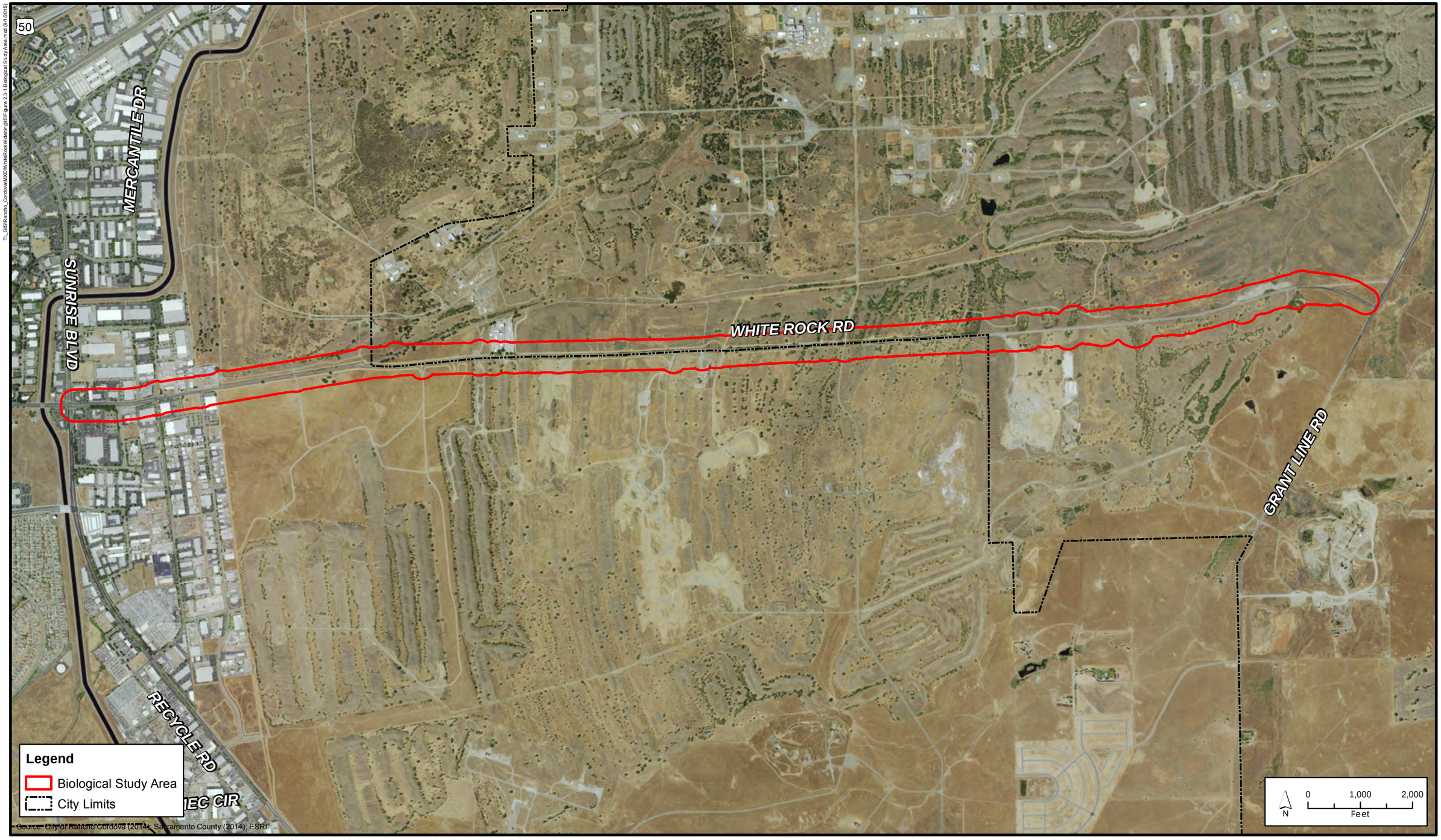
The existing land uses along the project alignment include industrial development in the western portion, with the remainder characterized by disturbed lands associated with historic mining operations. The majority of the undeveloped vacant land adjacent to the project alignment is currently owned by Aerojet. Additionally, several approved and pending projects will add residential development in the vicinity of White Rock Road, including Rio Del Oro Specific Plan, Easton Specific Plan, and in the City of Folsom sphere of influence (**Figure 1.1-3**).

A large portion of the BSA consists of urban land uses (roadway); however, annual grassland and ruderal habitats occur along the eastern portion, with several scattered vernal pools and seasonal wetlands (**Figure 2.3-2**). Annual grassland, ruderal, and urban habitats are not considered to be natural communities of special concern by the CDFW. A discussion of the affected environment and impacts to aquatic resources can be found in Section 2.3.2, "Wetlands and Other Waters," and Section 2.3.5, "Threatened and Endangered Species."

Table 2.3-1 provides a summary of the estimated number of acres of each vegetative community within the BSA.

Table 2.3-1
Vegetation Types and Aquatic Resources within the Biological Study Area

Vegetation Type and Aquatic Resources	Acres Within the BSA
Urban/Ruderal	307.33
Annual Grassland	45.13
Vernal Pool	2.93
Seasonal Wetland	1.61
Total	**357.00**



City of Rancho Cordova
Planning Department

Figure 2.3-1
Biological Study Area

T:_GIS\Rancho_Cordova\MXD\WhiteRockWidening\BSFigure 2.3-2 Habitat.mxd (2/11/2016)

Sunrise Boulevard

White Rock Road

Grant Line Road

Legend

Biological Study Area

Habitat Type

Annual Grassland

Seasonal Wetland

Urban/Ruderal

Vernal Pool

N

0 1,000 2,000

Feet

Source: City of Rancho Cordova (2014); Sacramento County (2014); ESRI.

City of Rancho Cordova
Planning Department

Figure 2.3-2

Habitat Map

Urban and Ruderal Habitat

The urban land use encompasses the existing roadway along with the industrial development along the western portion of the alignment. The ruderal habitat comprises the majority of the habitat in the BSA and adjacent lands. This habitat is associated with historic mining operations and characterized by mine tailing deposits with rill and depressional formations. Overstory vegetation that has become established in these areas includes Fremont's cottonwood (*Populus fremontii*), willow (*Salix* sp.), tree-of-heaven (*Ailanthus altissima*), and blue elderberry (*Sambucus mexicana*). Understory vegetation consists of coyote brush (*Baccharis piularis*), yellow star-thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), curly dock (*Rumex crispus*), poison oak (*Toxicodendron diversilobum*), milk thistle (*Silybum marianum*), Klamath weed (*Hypericum perforatum*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut brome (*B. diandrus*), medusahead (*Taeniatherum caput-medusae*), soft brome (*B. hordeaceus*), and oat (*Avena* sp.).

Because of the undeveloped nature of the majority of the project area, wildlife species typical of annual grassland habitats would also be associated with the ruderal habitat type. Wildlife species commonly associated with urban development and likely to occur in the industrial, developed portions of the project include western scrub jay (*Aphelocoma californica*), mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), common raven (*Corvus corax*), raccoon (*Procyon lotor*), and western gray squirrel (*Sciurus griseus*).

Annual Grassland

Annual grassland habitats are open grasslands dominated by annual plant species found from the flat plains of the Central Valley to the coastal mountain ranges of Mendocino County and in scattered locations across the southern portion of the state. This community type is dominated by ripgut brome, soft chess (*Bromus hordeaceus*), silver European hairgrass (*Aira caryophyllea*), oat, sticky tarweed (*Holocarpha virgata*), perennial cat's-ear (*Hypochaeris radicata*), bur clover (*Medicago polymorpha*), fox fescue (*Vulpia myuros*), medusahead, and long-beak storksbill (*Erodium botrys*).

Annual grasslands provide foraging habitat for a wide variety of wildlife species including raptors, seed-eating birds, small mammals, amphibians, and reptiles. However, some of these species require special habitat features such as cliffs, caves, ponds, or habitats with woody vegetation for breeding, resting, and escape cover. Reptiles commonly associated with this habitat type include western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalis viridis*). Black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), western harvest mouse (*Reithrodontomys megalotis*), Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), badger (*Taxidea taxus*), and coyote (*Canis latrans*) are mammals commonly found in this habitat type. Common birds known to breed in annual grasslands are burrowing owl (*Athene cunicularia*), short-eared owl (*Asio flammeus*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*).

Wildlife Corridors

The CDFW Biogeographic Information & Observation System was reviewed to determine whether the project site is located in an Essential Connectivity Area. The BSA was not identified as occurring in an Essential Connectivity Area; therefore, the project is not likely to adversely affect migratory corridors.

Environmental Consequences

No Build Alternative

Under the no build alternative, natural communities would not be affected because the project would not be implemented. No vegetation or trees would be removed or affected as a result of the project.

Build Alternative

Direct Impacts

The proposed project would result in permanent impacts to 2.47 acres of annual grassland and temporary impacts to 1.97 acres. In addition, project-related activities would result in 39.53 acres of permanent impact and 21.80 acres of temporary impact to urban/ruderal habitat. These communities are not considered sensitive or rare by the CDFW; therefore, no mitigation is proposed. Impacts to annual grassland habitats are discussed further under Section 2.3.4, "Animal Species," related to impacts to Swainson's hawk (*Buteo swainsoni*) foraging habitat.

Indirect Impacts

Indirect impacts to natural communities could occur for a number of reasons, though primarily through increased human/wildlife interactions and habitat fragmentation. As a result of existing and planned development in the project area, White Rock Road would be heavily traveled with vehicular traffic and bicycles, increasing the amount and severity of indirect impacts to plant and wildlife species and their habitats in the BSA. As discussed in the Growth Section 2.1.2 the proposed project would accommodate the existing and planned growth.

Additionally, roads can be a barrier to movement and effectively isolate populations. The County and cities of Rancho Cordova and Galt are preparing a Habitat Conservation Plan (SSHCP) that, when implemented, will ensure major movement corridors will be protected and wide swaths of natural communities will be preserved.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures are proposed to reduce the direct and indirect effects of project-related activities.

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- Soil stabilization and sediment control best management practices (BMPs) shall be implemented to ensure that contamination of sediment and other pollutants does not occur. Waste management and material pollution control BMPs shall also be implemented to minimize the potential for pollutant spills or releases from construction equipment.

- In addition, standard staging area practices for sediment-tracking reduction shall also be implemented where necessary and may include vehicle washing and street sweeping.

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 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the 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 United States Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Standard 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 allow 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. There are two types of Standard permits: Individual permits and Letters of Permission. 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 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the 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 State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCB) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or 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 CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by waste discharge requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for additional details.

Affected Environment

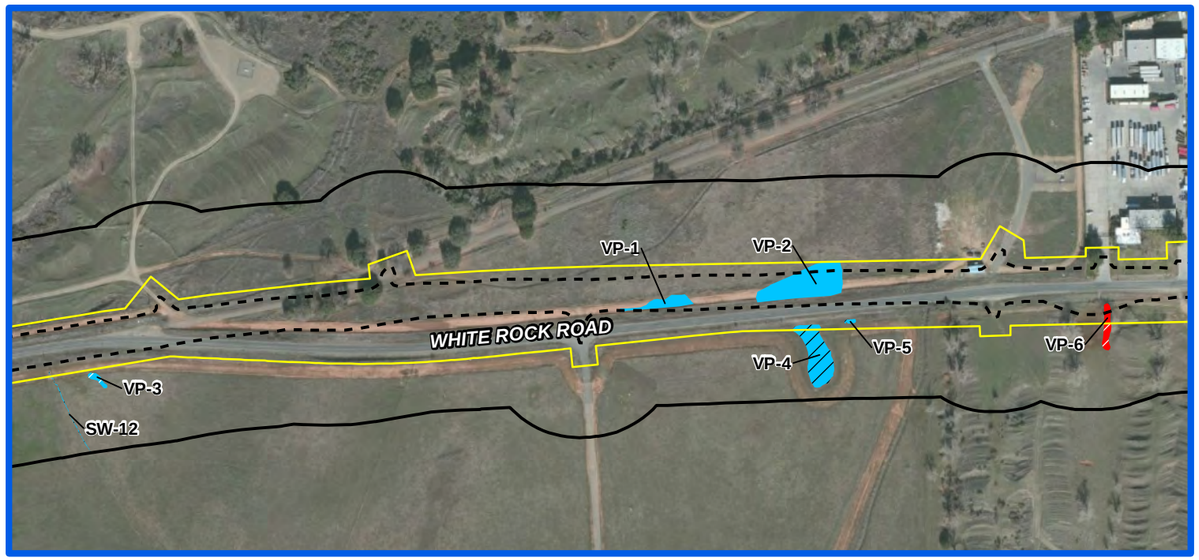
Three wetland delineations were conducted within the BSA: the Wetland Delineation Report for White Rock Road Widening Project in 2010; the Delineation of Waters of United States White Rock Road Widening in 2008; and the Rio del Oro Wetland Delineation in 2009. These delineations were combined to determine the location and extent of jurisdictional wetlands and other waters of the U.S. within the BSA. The combined delineation was submitted to the USACE for verification on March 11, 2014. A Biological Memorandum was prepared in response to comments on the combined delineation. On August 25, 2014, the USACE issued a formal jurisdictional determination stating that all wetlands and other waters identified within the BSA are intrastate isolated waters with no apparent interstate or foreign commerce connection; therefore, these waters are not currently subject to USACE regulation under the Clean Water Act.

A total of 17 seasonal wetlands and 16 vernal pools were identified in the BSA (**Figure 2.3-3**). A description of each community type is provided below.

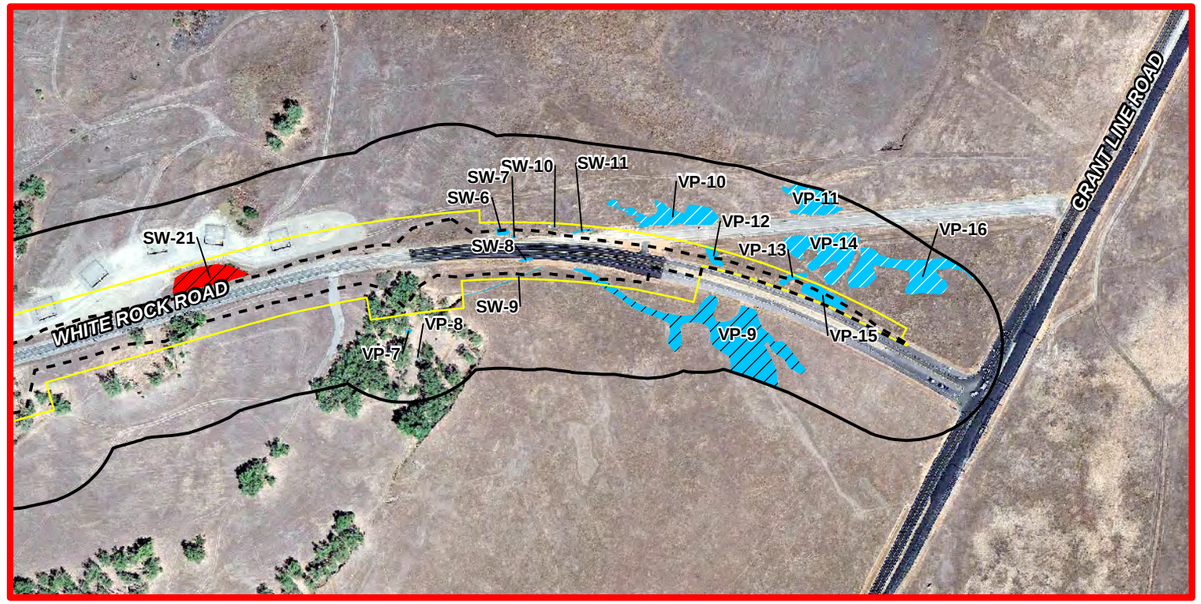
Vernal Pool

Vernal pool communities in the vicinity of Rancho Cordova have developed as a result of complex interactions between the area's climate, hydrological cycle, and geology, combined with biological, chemical, and evolutionary processes. Vernal pools are typically associated with an impervious soil layer (hardpan). This soil layer allows lateral subsurface flow of precipitation that percolates through the soil profile. As a result, vernal pools capture water during the rainy season (winter and spring months) from surface water runoff as well as subsurface inflows. Vernal pool plants are typically those that have evolved to grow under wet conditions and therefore flower and seed before the summer drought stops their growth.

Popcorn flower (*Plagiobothrys stipitatus*), monkeyflower (*Mimus tricolor*), and downingia (*Downingia bicornuta*) were identified within the vernal pools within the BSA, while the adjacent uplands consisted of ripgut brome, Klamath weed, yellow star-thistle, and Italian thistle (*Carduus pycnocephalus*).



Map ID	Feature Type	Habitat Status	Impact Type	Acres
SW-1	Seasonal Wetland	Non-Habitat	None	0.025
SW-2	Seasonal Wetland	Non-Habitat	None	0.024
SW-3	Seasonal Wetland	Non-Habitat	None	0.064
SW-4	Seasonal Wetland	Non-Habitat	None	0.215
SW-5	Seasonal Wetland	Non-Habitat	None	0.031
SW-6	Seasonal Wetland	Habitat	Direct	0.012
SW-7	Seasonal Wetland	Habitat	Direct	0.002
SW-8	Seasonal Wetland	Habitat	Direct	0.005
SW-9	Seasonal Wetland	Habitat	Direct	0.008
SW-10	Seasonal Wetland	Habitat	Indirect	0.001
SW-11	Seasonal Wetland	Habitat	Indirect	0.006
SW-12	Seasonal Wetland	Habitat	Indirect	0.006
SW-14	Seasonal Wetland	Non-Habitat	None	0.093
SW-15	Seasonal Wetland	Non-Habitat	Permanent	0.002
			Temporary	0.056
			None	0.171
SW-16	Seasonal Wetland	Non-Habitat	Temporary	0.009
			None	0.072
SW-20	Seasonal Wetland	Non-Habitat	Temporary	0.034
			None	0.575
SW-21	Seasonal Wetland	Non-Habitat	Temporary	0.197
VP-1	Vernal Pool	Habitat	Direct	0.078
VP-2	Vernal Pool	Habitat	Direct	0.345
VP-3	Vernal Pool	Habitat	None	0.019
VP-4	Vernal Pool	Habitat	Indirect	0.222
VP-5	Vernal Pool	Habitat	Indirect	0.007
VP-6	Vernal Pool	Non-Habitat	Permanent	0.008
			Temporary	0.012
			None	0.029
VP-7	Vernal Pool	Habitat	None	0.003
VP-8	Vernal Pool	Habitat	None	0.001
VP-9	Vernal Pool	Habitat	Direct	0.018
			Indirect	0.827
VP-10	Vernal Pool	Habitat	None	0.225
VP-11	Vernal Pool	Habitat	None	0.186
VP-12	Vernal Pool	Habitat	Direct	0.032
VP-13	Vernal Pool	Habitat	Direct	0.025
VP-14	Vernal Pool	Habitat	None	0.339
VP-15	Vernal Pool	Habitat	Direct	0.089
VP-16	Vernal Pool	Habitat	None	0.403



Legend

- Wetland Delineation Boundary
- Project Footprint
- Temporary Construction Easement

Habitat

- Direct Impact
- Indirect Impact
- No Impact

Non-Habitat

- Permanent Impact
- Temporary Impact
- No Impact

Source: City of Rancho Cordova, 2015; PMC, 2014

City of Rancho Cordova
Planning Department

Figure 2.3-3

Impacts to Aquatic Features and Vernal Pool Crustacean Habitat

Vernal pools provide habitat for a wide array of wildlife, including raptors, migratory birds, shorebirds, frogs, toads, salamanders, and pollinating insects. They are also home to various sensitive species of vernal pool crustaceans.

Seasonal Wetland

Seasonal wetlands are areas that are ephemerally wet as a result of the accumulation of surface water and rainwater within depressional areas. Plant species found in seasonal wetlands within the BSA include curly dock, little quaking grass (*Briza minor*), water pygmyweed (*Crassula aquatica*), Mediterranean barley (*Hordeum marinum*), and creeping spikerush (*Eleocharis macrostachya*).

This habitat type provides cover and water for various species of birds, mammals, reptiles, and amphibians. Many wildlife species are dependent on wetland habitats for foraging, nesting, and cover. Additionally, wetlands provide habitat for several species of ducks, geese, herons, egrets, and other shorebirds such as the American coot, great blue heron, and great egret. Several passerine or songbirds may also forage in wetland habitats including the black phoebe. Finally, seasonal wetlands may provide suitable habitat for various sensitive species of vernal pool crustaceans.

Environmental Consequences

No Build Alternative

Under the no build alternative, because the project would not be implemented, there would be no effects to wetlands or waters of the U.S.

Build Alternative

Project activities within the BSA may result in the loss of vernal pool habitat from proposed vegetation disturbance or removal. Because of the proximity of a heavily trafficked road, the habitat value for wildlife is narrowed. Impacts to vernal pools and seasonal wetlands are discussed in Section 2.3.5, “Threatened and Endangered Species.”

No current or foreseeable actions will contribute to the cumulative effect on seasonal wetlands and vernal pool features within the BSA. Although there will be some direct impact to vernal pool habitat due to the proposed road widening, the vernal pools are relatively isolated in nature and already exhibit signs of degradation of functions and values due to the adjacent road and cattle grazing uses. Direct impacts will be mitigated through the implementation of the measures discussed below; therefore, no cumulative impacts to seasonal wetland or vernal pool habitat are anticipated. A summary of direct and indirect impacts are shown on **Figure 2.3-3**.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation set forth to compensate for impacts to aquatic features is included in the discussion of vernal pool crustaceans in Section 2.3.5, “Threatened and Endangered Species.” Mitigation for all aquatic features was determined based on whether or not a feature was considered vernal pool crustacean habitat.

Wetlands Only Practicable Finding

Wetlands and other water are protected under a number of laws and regulations, one of which is the Executive Order for the Protection of Wetlands (E.O. 11990). E.O. 11990 regulates the activities of federal agencies with regards to wetlands. It essentially provides that a federal agency cannot undertake or provide assistance for new construction located in wetlands unless it finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm to wetlands.

Although all wetlands within the BSA were determined by the USACE not to be jurisdictional under the CWA Section 404, E.O. 11990 has a broader definition of wetlands which includes "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds."

Only one build alternative was evaluated in the draft environmental document. Other alternatives were considered and eliminated prior to the draft environmental document due to a variety of factors as discussed in Section 1.4.3. Given the presence of wetlands on both sides of the existing White Rock Road as well as throughout the area south of US 50 and south of existing White Rock Road, there is no at-grade or alternate alignment alternative that would avoid wetlands. All wetland habitat in the project area is marginal habitat, as described in this section. As such, this habitat represents low-value habitat for both endangered and common species that use wetland habitat. Building bridges or other structures to avoid the wetlands would not be in overall best public interest since the wetlands are of low quality and the construction costs for those structures would high. The No Build Alternative was also found not be practicable because it would not meet the proposed project's purpose and need and would result in greater traffic and air quality impacts in the future years as development in the area creates greater travel demand that would remain unmet resulting in increasing congestion (see **Table 2.1-14**). Therefore, there is no practicable alternative to avoid the wetlands.

The proposed project would include all practicable measures to minimize harm to wetlands. Replacement mitigation that would be required to compensate for the loss of wetland habitat as a result of the proposed project would be high-quality, high-value habitat, which, cumulatively, would result in improvement of wetland habitat available as compared to preservation of the marginal wetland habitat on-site. No net loss of wetlands will be achieved through purchase of mitigation credits, payment to an in-lieu fee program, or restoration.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

2.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 2.3-5 in this document for detailed information about these species.

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

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), CA Public Resources Code, Sections 2100-21177.

Affected Environment

Special-Status Plants

Four special-status plant species were identified as having the potential to occur within the BSA: Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii* ssp. *myersii*), and slender Orcutt grass (*Orcuttia viscida*). Please see Appendix G to this document contains the species list prepared for the proposed project. All of the species identified are associated with vernal pools and mesic grasslands.

Two surveys were conducted in the project vicinity, in the Rio Del Oro Specific Plan area, in order to identify the presence of special-status plant species. The first survey in 1995 did not identify the presence of any listed plant species; however, a follow-up survey conducted in 2003 identified Greene's legenere in the southwestern portion of the project site. This portion of the Rio Del Oro Specific Plan area is the only portion of the project site that remains in a relatively natural state, undisturbed by historic mining operations in the area.

The analysis presented in this section is based on the aforementioned technical studies along with the NES prepared for the proposed project in February 2014.

Protected Trees

Sacramento County Staff Arborist Todd Smith (International Society of Arboriculture Certified Arborist #WE-6782A) prepared an arborist report for the project in April 2010. The report identified all native oak trees with a diameter at breast height (dbh) of 6 inches or more within the Area of Potential Effect. A total of 39 trees, including interior live oak (*Quercus wislizenii*), blue oak (*Q. douglasii*), and valley oak (*Q. lobata*), were identified and tagged in the field.

Environmental Consequences

No Build Alternative

Under the no build alternative, because the project would not be implemented, there would be no effects to special-status plant species.

Build Alternative

Special-Status Plants

Although one special-status plant species, Sacramento orcutt grass, has been historically located in the project vicinity, locality records identify these areas as occurring in relatively undisturbed areas over 1 mile south of the BSA. Because of the continued disturbance associated with a heavily trafficked road (White Rock Road) and this species not been observed in the BSA, including during the surveys conducted for this project, it is considered unlikely that special-status plant species occur within the BSA; therefore, no impact analysis for special-status plant species is provided herein.

Protected Trees

A total of 145 dbh inches of valley oak, 392 dbh inches of interior live oak, and 72 dbh inches of blue oak will be removed as a result of the project. Two of the trees surveyed were identified as being in poor condition; therefore, when the total dbh is adjusted to remove these two trees, the final impact is 573 dbh inches. Because project activities in the BSA may result in the loss of protected trees from proposed vegetation disturbance or removal because of the trees' proximity to a heavily trafficked road, the habitat value for wildlife is narrowed.

Avoidance, Minimization, and/or Mitigation Measures

The following protective measures are recommended to avoid damage to trees proposed for preservation during construction:

- A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.
- Protective fencing shall be installed at the driplines of the protected trees prior to the start of any construction work (including grading or placement of vehicles on-site) in order to avoid damage to the trees and their root systems. This fencing may be installed around the outermost dripline of clusters of trees proposed for protection, rather than individual trees. Fencing shall be shown on all project plans.
- No vehicles, construction equipment, mobile home/office, supplies, materials, or facilities shall be driven, parked, stockpiled, or located within the driplines of protected trees. A laminated sign indicating such shall be attached to fencing surrounding trees on-site.
- No grading (grade cuts or fills) shall be allowed within the driplines of protected trees.
- Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree.

- No trenching shall be allowed within the driplines of protected trees. If it is absolutely necessary to install underground utilities within the dripline of a protected tree, the utility line shall be bored and jacked under the supervision of a certified arborist.
- The construction of impervious surfaces within the driplines of protected trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system shall be installed under the supervision of a certified arborist. Wherever possible, pervious concrete shall be used as an alternative to traditional concrete when it is required under tree driplines.
- No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of protected trees. An aboveground drip irrigation system is recommended.
- Landscaping beneath protected trees may include non-plant materials such as bark mulch or wood chips. The only plant species that shall be planted within the driplines of protected trees are those that are tolerant of the natural environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.
- Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute A300 pruning standards and the International Society of Arboriculture's tree-pruning guidelines.
- No signs, ropes, cables (except those which may be installed by an arborist to provide limb support), or any other items shall be attached to the protected trees.

The removal of 573 inches dbh of native oak trees shall be compensated for by planting native oak trees—either valley oak, blue oak, or interior live oak—in numbers sufficient to replace the dbh inches lost. Dbh inches shall be replaced based on the ratios below, at locations authorized by the City of Rancho Cordova.

Equivalent compensation based on the following ratio is required:

- one D-pot seedling (40 cubic inches or larger) = 1 inch dbh
- one 15-gallon tree = 1 inch dbh
- one 24-inch box tree = 2 inches dbh
- one 36-inch box tree = 3 inches dbh

Prior to the start of construction, a Replacement Oak Tree Planting Plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the City of Rancho Cordova for approval. The Replacement Oak Tree Planting Plan shall include the following minimum elements:

- Species, size, and locations of all replacement plantings.
- Method of irrigation.
- A tree-planting detail, including the 10-foot-deep boring hole to provide for adequate drainage.
- Planting, irrigation, and maintenance schedules.

- Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a three-year establishment period, and to replace any of the replacement oak trees which do not survive during that period.

No replacement tree shall be planted within 15 feet of the driplines of existing oak trees or landmark-size trees that are retained on-site or within 15 feet of a building foundation or swimming pool excavation. The minimum spacing for replacement oak trees shall be 20 feet on center. Examples of acceptable planting locations are publicly owned lands, common areas, and landscaped frontages (with adequate spacing). Generally unacceptable locations are utility easements, sewers, storm drains, under overhead utility lines, private yards of single-family lots (including front yards), and roadway medians.

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's National Marine Fisheries Service (NOAA Fisheries Service) and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3-5 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

Affected Environment

The analysis in this section is based on the NES for the White Rock Road improvements prepared by the City of Rancho Cordova in February 2014 and the BA prepared by the City of Rancho Cordova and submitted to the USFWS in January 2014.

Based on the results of the literature review and surveys, four special-status wildlife species, along with other migratory birds and raptors, have the potential to occur in the vicinity of the BSA: western spadefoot (*Spea hammondii*), western burrowing owl, white-tailed kite (*Elanus leucurus*), and American badger. Please see Appendix G of this document for the species list prepared for the proposed project. **Figure 2.3-4** shows the previously recorded occurrences of special-status species within a 5-mile radius of the BSA.

According to the results of the California Natural Diversity Database (CNDDB), USFWS, California Native Plant Society (CNPS) database searches, surveys, or historic records, no other special-status wildlife species have potential to occur within the BSA. Federal and state-listed threatened and endangered species discussed in Section 2.3.5, "Threatened and Endangered Species," are vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), and Swainson's hawk.

Western Spadefoot

The western spadefoot toad is a California species of special concern. According to the USFWS, western spadefoot utilizes aquatic breeding ponds and upland, nonbreeding habitat; however, during much of the year they are found in upland grassland, chaparral, and woodland communities. This species prefers grassland, scrub, and chaparral locally, but could also occur in oak woodlands. Breeding typically takes place between January and May.

The seasonal wetlands, vernal pool, and adjacent grasslands in the BSA represent suitable habitat for the western spadefoot. There are four known occurrences within a 5-mile radius of the BSA. Although this species was not observed during field surveys, species-specific surveys were not conducted.

Western Burrowing Owl

The western burrowing owl is a ground-dwelling owl that is a California species of special concern. According to the USFWS, it is a year-long resident of open country in deserts and grasslands, and in urban and suburban sites including golf courses, road cuts, levees, and airports. Although these owls are often considered to be diurnal, they are almost entirely nocturnal or at least crepuscular (active at dawn and dusk). This small owl preys mostly on insects, small mammals, reptiles, birds, and carrion. This owl usually nests in the old burrows of ground squirrels, badgers, or other small mammals, although they may dig their own burrows in soft soil. Where burrows are scarce, pipes, culverts, and even nest boxes may be utilized.

The annual grasslands located within and adjacent to the BSA represent suitable habitat for the western burrowing owl. There are 13 known occurrences within a 5-mile radius of the BSA. Although this species was not observed during field surveys, species-specific surveys were not conducted.

American Badger

The American badger is a California species of special concern. According to the USFWS, it prefers open areas and may also frequent brushlands with little groundcover. When inactive, the species occupies underground burrows. The American badger is mostly nocturnal and changes burrows often, rarely using the same burrow multiple nights in a row.

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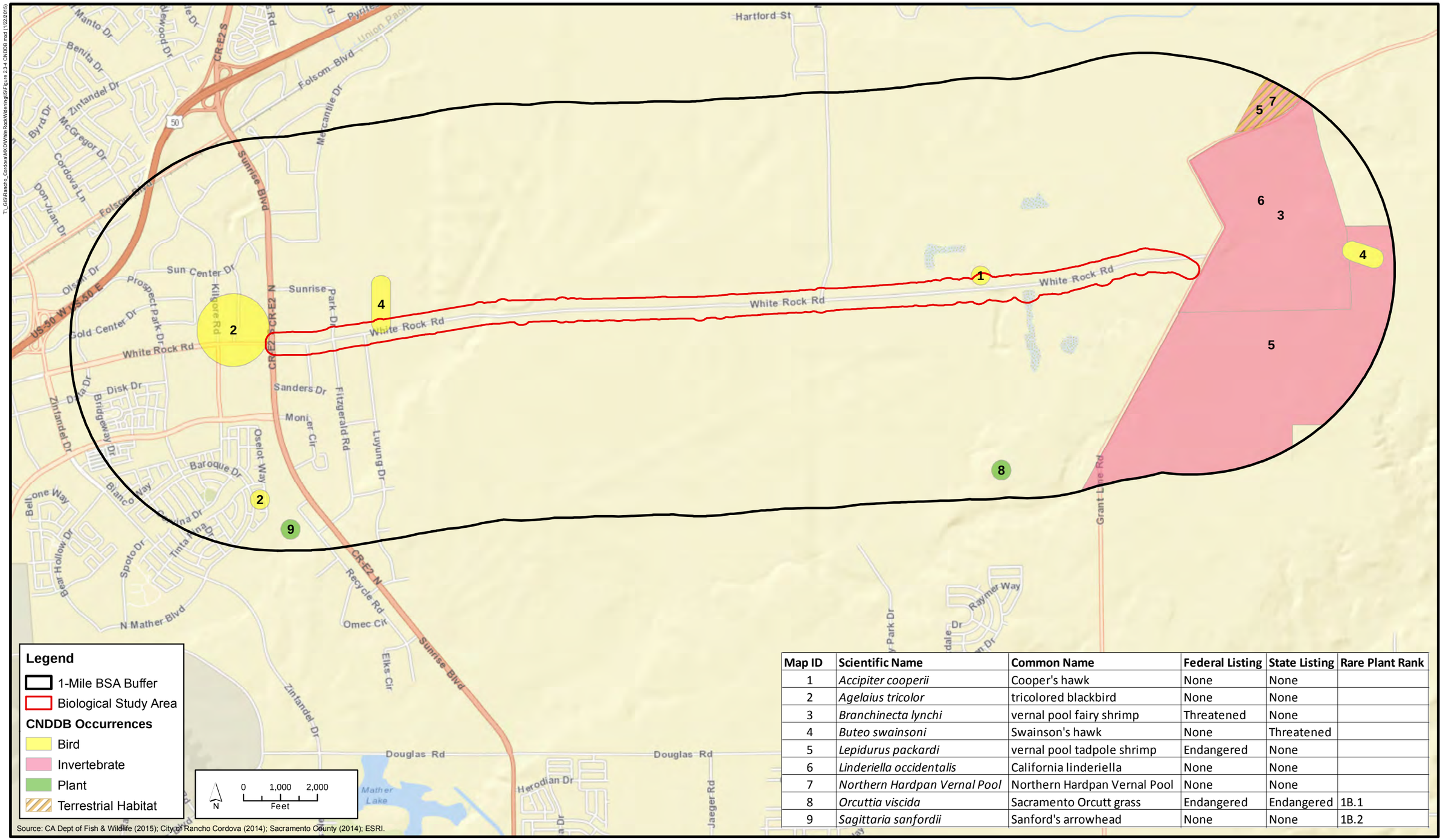

Legend

- 1-Mile BSA Buffer
- Biological Study Area

CNDDB Occurrences

- Bird
- Invertebrate
- Plant
- Terrestrial Habitat

Map ID	Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank
1	*Accipiter cooperii*	Cooper's hawk	None	None	
2	*Agelaius tricolor*	tricolored blackbird	None	None	
3	*Branchinecta lynchi*	vernal pool fairy shrimp	Threatened	None	
4	*Buteo swainsoni*	Swainson's hawk	None	Threatened	
5	*Lepidurus packardi*	vernal pool tadpole shrimp	Endangered	None	
6	*Linderiella occidentalis*	California linderiella	None	None	
7	*Northern Hardpan Vernal Pool*	Northern Hardpan Vernal Pool	None	None	
8	*Orcuttia viscida*	Sacramento Orcutt grass	Endangered	Endangered	1B.1
9	*Sagittaria sanfordii*	Sanford's arrowhead	None	None	1B.2

Source: CA Dept of Fish & Wildlife (2015); City of Rancho Cordova (2014); Sacramento County (2014); ESRI.

City of Rancho Cordova
Planning Department

Figure 2.3-4

Previously Recorded Occurrences of Special-Status Species Within 1 Mile of the Biological Study Area

The annual grasslands and ruderal habitats located within and adjacent to the BSA represent suitable habitat for the American badger. Two known occurrences have been documented for this species within a 5-mile radius of the BSA. Although this species was not observed during field surveys, species-specific surveys were not conducted.

Raptors and Migratory Birds

Habitat in the BSA provides suitable nesting and foraging opportunities for many avian species, including some raptors and migratory birds including white-tailed kite, Cooper's hawk, and ferruginous hawk. Although no active large stick nests or signs of old or previously used nests were observed during field visits, numerous trees in the BSA could serve as nesting habitat for raptors and other migratory birds. The nests of all raptor and migratory bird species are protected under the MBTA and Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active nest.

Environmental Consequences

No Build Alternative

Under the no build alternative, because the project would not be implemented, there would be no effects to special-status wildlife.

Build Alternative

The build alternative would have permanent and temporary direct and indirect effects to four special-status wildlife species, as described below.

Western Spadefoot

The proposed project will result in permanent impacts to 0.614 acre and temporary impacts to 1.069 acre of vernal pool and seasonal wetland habitat that could support the western spadefoot (**Figure 2.3-3**). There is potential that take of this species could occur during construction activities, either through take of adults or tadpoles during project construction or through take of eggs through fill of habitat. Activities that produce low frequency noise and vibration in or near habitat for western spadefoot may be detrimental to the species. Western spadefoots are extremely sensitive to such stimuli, which cause them to break dormancy and emerge from their burrows. This could result in direct impacts due to mortality or indirect impacts resulting in reduced productivity.

The proposed project is not anticipated to result in cumulative impacts to the western spadefoot. Implementation of the mitigation measures listed under "Avoidance, Minimization, and Mitigation Measures" will ensure the project does not result in cumulative impacts to this species.

Western Burrowing Owl

The proposed project will result in permanent impacts to 2.47 acres and 1.97 acres of temporary impact to annual grassland habitat that could support the western burrowing owl. Indirect impacts occur for a number of reasons including increased human/wildlife interactions and habitat fragmentation. The proposed project will be heavily trafficked, increasing the amount and severity of indirect impacts to this species and its habitat in the BSA. Additionally, roads can be a barrier to movement and effectively isolate populations. The proposed project will not result in increased vehicular traffic; however, the future developments will likely increase traffic in the vicinity.

The proposed project is not anticipated to result in cumulative impacts to the western burrowing owl though implementation of future planned projects in the vicinity may have effects. These projects have been approved through separate CEQA processes. Implementation of the avoidance and minimization measures listed under "Avoidance, Minimization, and Mitigation Measures" will ensure the project does not result in cumulative impacts to this species.

American Badger

The proposed project will result in permanent impacts to 2.47 acres and temporary impacts to 1.97 acres of annual grassland habitat that could provide habitat for the American badger. Indirect impacts occur for a number of reasons, including increased human/wildlife interactions and habitat fragmentation. The proposed project will be heavily trafficked, increasing the amount and severity of indirect impacts to this species and its habitat in the BSA. Additionally, roads can be a barrier to movement and effectively isolate populations. . The proposed project will not result in increased vehicular traffic; however, the future developments will likely increase traffic in the vicinity.

The proposed project is not anticipated to result in cumulative impacts to American badger. Implementation of the avoidance and minimization measures listed under "Avoidance, Minimization, and Mitigation Measures" will ensure the project does not result in cumulative impacts to this species.

Raptors and Migratory Birds

The BSA contains several large trees suitable for nesting, which may be removed during construction activities. If nesting birds are present during project construction, the proposed project may cause direct mortality through removal of trees that contain active nests. The loss of active nests or direct mortality is prohibited by the MBTA and Fish and Game Code Section 3503.5. If construction occurs during the non-nesting season, no impacts are expected; however, if construction activities were scheduled to occur during the nesting season, mitigation would be necessary to avoid potential impacts.

Construction activities that require the disturbance of trees and vegetation could cause direct impacts to nesting birds, if birds are actively nesting during construction activities. Removal of habitat within the BSA would be considered a direct and significant impact if any of these species were taken or deterred from traditional nesting or foraging locations.

Indirect impacts can result from excessive noise, disturbance, and vibrations, which can cause nesting birds to abandon their nests. Potential nest abandonment and mortality to eggs and chicks as a result of construction would be considered significant impacts.

The proposed project is not anticipated to result in cumulative impacts to migratory birds and/or raptors. Although potential nesting habitat could be directly impacted, other suitable nesting habitat is available in close proximity to the proposed project, and upland habitats (foraging habitat) will be restored upon completion of construction if temporary impacts occur.

Avoidance, Minimization, and/or Mitigation Measures

Western Spadefoot

The following avoidance and minimization measures are proposed:

- Prior to the start of construction activities that would disturb western spadefoot habitat, a biological monitor shall survey for the presence of adult western spadefoot. If adult western spadefoot are present, they shall be relocated prior to disturbance of habitat, if feasible. This relocation shall be done in consultation with the CDFW.

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- Additional impacts from habitat disturbance will be avoided by installing protective silt fencing between the aquatic habitats and the construction area limits to prevent accidental disturbance during construction and to protect water quality within the aquatic habitats during construction.

- Standard BMPs will be implemented during and after construction to protect water quality in sensitive habitat areas during construction.

- A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of western spadefoot habitat in and near the project area and to instruct them on proper avoidance.

Mitigation set forth to compensate for impacts to listed vernal pool crustacean habitat (i.e., seasonal wetlands and vernal pools) will also compensate for the western spadefoot, as they share similar habitats.

Western Burrowing Owl

The following avoidance and minimization measures are proposed:

- If clearing and construction activities will occur during the nesting period for burrowing owls (February 1–August 31), a qualified biologist shall conduct focused surveys for burrowing owls on and adjacent to the project site. Surveys shall be conducted in accordance with the CDFW's *Staff Report on Burrowing Owl Mitigation* (2012). Surveys shall be repeated if project activities are suspended or delayed for more than 15 days during nesting season.

- If no burrowing owls are detected, no further mitigation is required. If active burrowing owls are detected, the City of Rancho Cordova will implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW's 2012 Staff Report prior to initiating project-related activities that may impact burrowing owls.

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- A WEAP shall be implemented to educate construction workers about the presence of western burrowing owl habitat in and near the project area and to instruct them on proper avoidance.

No compensatory mitigation is required. The proposed avoidance and minimization measures are sufficient to minimize impacts to nesting and foraging habitat disturbed by project construction activities.

American Badger

The following avoidance and minimization measures are proposed:

- A preconstruction survey of the project area and a 100-foot buffer adjacent to the project area shall be conducted for the presence of the badger dens and signs of badger occupancy. The survey shall be completed no more than seven days prior to the initiation of vegetation removal and ground-disturbing activities. If no dens are observed, a second survey shall be conducted within 24 hours of vegetation removal and ground-disturbing activities to ensure that no badgers have entered the area since the first survey. Preconstruction surveys shall be repeated as necessary if vegetation removal and ground-disturbing activities are delayed or postponed for more than 30 days.

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- A WEAP shall be implemented to educate construction workers about the presence of American badger habitat in and near the project area and to instruct them on proper avoidance.

No compensatory mitigation is required. The proposed avoidance and minimization measures are sufficient to minimize impacts to suitable habitat disturbed by project construction activities.

Raptors and Migratory Birds

If construction occurs between January 15 and August 15, several measures must be implemented to reduce impacts to migratory birds and raptors to a less than significant level. These measures include the following:

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- To prevent impacts to MBTA-protected birds and their nests, removal of trees will be limited to only those necessary to construct the proposed project.

- If construction or tree removal is proposed during the breeding/nesting season for MBTA-protected birds and raptors (typically January 15 through August 15), a focused survey for active nests within and in the vicinity of (no less than 250 feet outside project boundaries, where possible) the project site shall be conducted by a qualified biologist. Two surveys will be conducted, at least one week apart, with the second survey occurring no more than two days prior to tree removal or other construction activities. If no active nests are found, tree removal or construction activities may proceed.

- If an active nest is located during preconstruction surveys, the USFWS and/or the CDFW (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a

minimum radius of 100 feet around an active raptor nest) or alteration of the construction schedule.

- No action is necessary if no active nests are found or if construction will occur during the non-breeding season (generally August 16 through January 14).

No compensatory mitigation is required. The avoidance and minimization measures are sufficient to minimize impacts to nesting and foraging habitat disturbed by project construction activities.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) 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 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a No Effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 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 the CDFW. For species listed under both the FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

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

Affected Environment

The analysis in this section is based on information provided in the NES for the White Rock Road improvements prepared in February 2014, in the BA prepared in January 2014, and in the Biological Opinion issued on January 26, 2015, by the USFWS. The BSA, described in Section 2.3.1, "Natural Communities," and shown in **Figure 2.3-1**, consists of the limits of construction and a 250-foot buffer on either side of the project alignment. This includes White Rock Road from Sunrise Boulevard to Grant Line Road and areas within the 250-foot buffer. A list of special-status species and habitats that have the potential to occur in the BSA was prepared using information provided by the USFWS Sacramento office's Species Lists, the USFWS Critical Habitat Portal, the CDFW California Natural Diversity Database, and the CNPS Inventory of Rare and Endangered Plants of California. Appendix G to this document contains the species list prepared for the proposed project. Based on known regional occurrences and the presence of suitable habitat within the BSA, three federally-listed species, vernal pool fairy shrimp, vernal pool tadpole shrimp (vernal pool crustaceans), and valley elderberry longhorn beetle (VELB), and one state-listed species, Swainson's hawk, may occur within the BSA. No special-status species were observed in the BSA.

A search of the USFWS Sacramento office's Species List database was performed for the Carmichael and Buffalo Creek, California, U.S. Geological Survey (USGS) 7.5-minute quadrangles to identify special-status species under USFWS jurisdiction that may be affected by the proposed project. In addition, a query of the USFWS's Critical Habitat Portal was conducted to identify any designated critical habitat on or in the vicinity of the BSA. The California Natural Diversity Database provided a list of known occurrences for special-status species within a 1-mile and 5-mile radius of the proposed project. Lastly, the CNPS database was queried to identify special-status plant species with the potential to occur within the Carmichael and Buffalo Creek, California, USGS quadrangles.

When the USFWS lists a species as threatened or endangered under the Federal Endangered Species Act, areas of habitat considered essential to its conservation and survival may be designated as critical habitat. These areas may require special consideration and/or protection due to their ecological importance. The project area contains critical habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp.

Summary of Federal and State Consultation Process

In the context of the proposed project, FESA consultation with the USFWS would be initiated if development could result in take of threatened or endangered species or adversely modify critical habitat of such species. Consultation with the USFWS in regard to potential impacts to VELB and vernal pool crustaceans is required for the proposed project. To initiate this process, a BA was prepared regarding potential effects and proposed measures for the aforementioned federally listed species. Caltrans, as the lead federal agency, has submitted the BA to the USFWS and has formally requested the USFWS to initiate Section 7 consultation. The BA was reviewed by the USFWS. The Biological Opinion issued by the USFWS on January 26, 2015, determined that the proposed project may affect and is likely to adversely affect VELB, vernal pool fairy shrimp, and vernal pool tadpole shrimp, but the proposed project is not likely to result in jeopardy to threatened and endangered species. Jeopardy as used in the Biological Opinion means a Federal action that is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

The CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. The CESA allows the CDFW to authorize exceptions to the state's prohibition against take of a listed species if the take of a listed species is incidental to carrying out otherwise lawful project that has been approved under CEQA (Fish and Game Code Section 2081). Take of state-listed species is not anticipated as a result of project activities; therefore, consultation with the CDFW is not required.

Threatened and Endangered Wildlife Species

Provided below are species accounts for each of the threatened and endangered wildlife species that, according to results of database searches, surveys, or historic records, have potential to occur within the project vicinity. Based on known regional occurrences and the presence of suitable habitat within the BSA, three federally-listed species, vernal pool fairy shrimp, vernal pool tadpole shrimp (vernal pool crustaceans) VELB, and one state-listed species, Swainson's hawk may occur within the BSA

Vernal Pool Crustaceans

The analysis presented in this section is based on information provided in the Biological Opinion for the proposed project (January 2015), the NES for the proposed project (February 2014), and the aforementioned delineations. Two types of wetlands were identified within the BSA: vernal pools and seasonal wetlands. Potential aquatic invertebrate special-status species in the BSA include vernal pool fairy shrimp and vernal pool tadpole shrimp. The vernal pool fairy shrimp is federally listed as threatened. It is associated with intermittent swales and vernal pools in grassland communities. Cysts hatch and shrimp become active when pools fill during the winter rainy season. There is potential for vernal pool fairy shrimp to occur within the BSA. This species has been documented within 1 mile of the BSA. The vernal pool tadpole shrimp is federally listed as endangered and occurs in vernal pools, swales, and various other seasonally ponded habitats in the Sacramento Valley containing clear to highly turbid water. Breeding pools for this species are commonly found in grass-bottomed swales in unplowed grasslands; the pools may be mud-bottomed and highly turbid. Vernal pool tadpole shrimp have been documented within 1 mile of the BSA.

Sixteen vernal pools and 17 seasonal wetlands were identified within the BSA (see **Figure 2.3-3**). Of these, 15 vernal pools and 7 seasonal wetlands were determined to provide suitable habitat for vernal pool crustaceans.

Formal surveys have not been conducted throughout the entire BSA; however, formal surveys were conducted for the Rio Del Oro Specific Plan project. Vernal pool fairy shrimp and vernal pool tadpole shrimp were identified in 1995. Follow-up surveys conducted in 2001 confirmed the presence of vernal pool fairy shrimp; however, no other listed vernal pool crustaceans were identified. Due to the previously documented occurrences in the project vicinity, presence of these species is inferred within the BSA for the purposes of this impact analysis. No designated critical habitat for vernal pool crustaceans occurs within the BSA.

Valley Elderberry Longhorn Beetle

Protocol-level surveys for VELB were completed within a 100-foot buffer of the project footprint in April and May of 2010, in accordance with USFWS's *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (1999). The USFWS requires that a minimum setback of 20 feet be maintained from the dripline of each elderberry plant. The USFWS also requires that the area

within the 100-foot buffer of the BSA be restored and/or protected during and after construction. Therefore, all shrubs or clumps within the project footprint and within a 100-foot buffer of the project footprint were surveyed. The locations of the elderberry shrubs were mapped and digitized onto an aerial photograph (**Figure 2.3-5**).

The survey conducted by the Sacramento County Department of Environmental Review and Assessment (now known as the Sacramento County Planning and Environmental Review Division) identified 108 elderberry shrubs in the BSA. Each shrub includes all stems and/or shoots within 10 to 30 feet of each other. There are 80 shrubs within the area of direct impact, which was defined as the limits of construction, and a 20-foot buffer off the edge of limits of construction. The area of indirect impact was defined by those areas beyond the 20-foot buffer and out to 100 feet beyond the limits of construction, and includes 20 shrubs. The remaining eight shrubs were located beyond the 100-foot buffer, in the no impact zone. All shrubs were located in non-riparian habitat, and the presence of exit holes was only identified on one shrub.

Critical habitat for VELB was designated in the final rule listing the species as threatened. The two designated critical habitat units include an area along the south bank of the American River and an area south of State Route 160 and bounded by the Union Pacific Railroad tracks and Commerce Circle. As such, the BSA is not located within designated critical habitat for VELB.

Swainson's Hawk

Three occurrences of Swainson's hawk have been observed within a 5-mile radius of the BSA. Although no active Swainson's hawk nests or signs of old or previously used nests were observed during field studies, numerous trees in the project vicinity could serve as nesting habitat. Annual grasslands covering 45.87 acres within the BSA provide foraging habitat for Swainson's hawk. The BSA contains several large trees suitable for nesting, which may be removed during construction activities.

Environmental Consequences

No Build Alternative

Under the no build alternative, because the project would not be implemented, there would be no effects to threatened or endangered species.

Build Alternative

The build alternative would have permanent and temporary direct and indirect effects to four threatened and endangered species, as described below. See the prior "Summary of Federal and State Consultation Process" subsection for a discussion of the CESA and FESA determinations.

Vernal Pool Crustaceans

The project will result in 0.615 acre of direct impact and 1.068 acre of indirect impact to vernal pool crustacean habitat (see **Figure 2.3-3**). Indirect impacts were calculated for all suitable vernal pool crustacean habitats within 250 feet of the limits of construction.

Table 2.3-2 provides a summary of the direct and indirect impacts to vernal pool crustacean habitat that would result from the proposed project.

T:_GIS\Rancho_Cordova\MXD\WhiteRockWidening\ISI\Figure 2.3-5 Elderberry Impacts.mxd (9/2/2016)

Sunrise Boulevard

White Rock Road

Match Line

Match Line

White Rock Road

Grant Line Road

Legend

- Biological Study Area
- Temporary Construction Zone
- Impact Area

Impacts to Elderberry

- Direct
- Indirect
- No Impact

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Figure 2.3-5

Impacts to Elderberry within the Biological Study Area

Table 2.3-2
Vernal Pool Crustacean Impact

Feature ID	Feature Type	Habitat Status	Impact Type	Acres
SW-1	Seasonal Wetland	Non-Habitat	None	0.025
SW-2	Seasonal Wetland	Non-Habitat	None	0.024
SW-3	Seasonal Wetland	Non-Habitat	None	0.064
SW-4	Seasonal Wetland	Non-Habitat	None	0.215
SW-5	Seasonal Wetland	Non-Habitat	None	0.031
SW-6	Seasonal Wetland	Habitat	Direct	0.012
SW-7	Seasonal Wetland	Habitat	Direct	0.002
SW-8	Seasonal Wetland	Habitat	Direct	0.005
SW-9	Seasonal Wetland	Habitat	Direct	0.008
SW-10	Seasonal Wetland	Habitat	Indirect	0.001
SW-11	Seasonal Wetland	Habitat	Indirect	0.006
SW-12	Seasonal Wetland	Habitat	Indirect	0.006
SW-14	Seasonal Wetland	Non-Habitat	None	0.093
SW-15	Seasonal Wetland	Non-Habitat	Permanent	0.002
			Temporary	0.056
			None	0.171
SW-16	Seasonal Wetland	Non-Habitat	Temporary	0.009
			None	0.072
SW-20	Seasonal Wetland	Non-Habitat	Temporary	0.034
			None	0.575
SW-21	Seasonal Wetland	Non-Habitat	Temporary	0.197
VP-1	Vernal Pool	Habitat	Direct	0.078
VP-2	Vernal Pool	Habitat	Direct	0.345
VP-3	Vernal Pool	Habitat	None	0.019
VP-4	Vernal Pool	Habitat	Indirect	0.222
VP-5	Vernal Pool	Habitat	Indirect	0.007
VP-6	Vernal Pool	Non-Habitat	Permanent	0.008
			Temporary	0.012
			None	0.029
VP-7	Vernal Pool	Habitat	None	0.003
VP-8	Vernal Pool	Habitat	None	0.001
VP-9	Vernal Pool	Habitat	Direct	0.018
			Indirect	0.827
VP-10	Vernal Pool	Habitat	None	0.225
VP-11	Vernal Pool	Habitat	None	0.186
VP-12	Vernal Pool	Habitat	Direct	0.032
VP-13	Vernal Pool	Habitat	Direct	0.025
VP-14	Vernal Pool	Habitat	None	0.339
VP-15	Vernal Pool	Habitat	Direct	0.089
VP-16	Vernal Pool	Habitat	None	0.403

It is not anticipated that construction of the proposed project will substantially contribute to cumulative impacts to special-status vernal pool crustaceans. If these species are present within the project area, and the mitigation strategy outlined under "Avoidance, Minimization, and Mitigation Measures" is fulfilled, the effects on their habitat will be fully compensated for and therefore will not result in any cumulative impacts.

Valley Elderberry Longhorn Beetle

The project will result in direct impacts to 80 elderberry shrubs. Direct impacts were calculated by identifying all elderberry shrubs within the limits of construction and within a 20-foot buffer of the limits of construction. Indirect effects to elderberry shrubs were calculated by identifying all mapped elderberry shrubs outside the 20-foot buffer and within a 100-foot buffer of the limits of construction. As a result, 20 elderberry shrubs may be indirectly impacted by the project.

Minimization ratios provided in the USFWS guidelines (1999) are based on the number of stems potentially impacted by a project; therefore, direct and indirect impacts to elderberry stems have been quantified in **Table 2.3-3**. Based on this data, 451 elderberry stems will be directly impacted, 128 stems will be indirectly impacted, and 30 stems will be unaffected.

Table 2.3-3
Potential Quantitative Effects of the Project on Elderberry Shrubs

Location	Stem Diameter in inches	Exit Holes Present	Stem Count		
			Direct Impact Construction limits + 20-foot buffer	**Indirect Impact** 20-foot buffer to 100-foot buffer	**No Impact** Outside 100-foot buffer
Non-Riparian	1"–3"	Yes	0	0	0
		No	198	69	16
	3"–5"	Yes	1	0	0
		No	184	48	8
	>5"	Yes	1	0	0
		No	67	11	6
Totals			**451**	**128**	**30**

Source: City of Rancho Cordova, Biological Assessment, January 2014

Implementation of the mitigation strategy outlined under "Avoidance, Minimization, and Mitigation Measures" will ensure that the loss of VELB habitat is fully compensated for. The project will therefore not substantially contribute to cumulative impacts to this species.

Swainson's Hawk

The BSA contains several large trees suitable for nesting, which may be removed during construction activities. If nesting raptors are present during project construction, the proposed project may cause direct mortality of this species through the removal of trees that contain nests actively used by this species. Excessive noise, disturbance, and vibrations can cause nesting raptors to abandon their nests. The loss of active nests or direct mortality is prohibited by the MBTA and Fish and Game Code Section 3503.5.

The proposed project will result in the permanent loss of 2.47 acres of suitable Swainson's hawk foraging habitat. Additionally, the project will result in temporary impacts to 1.97 acres of suitable foraging habitat during project construction.

The proposed project could result in indirect impacts to Swainson's hawk through habitat degradation and removal of trees suitable for nesting, as well as from additional traffic and increased human presence.

It is not anticipated that construction of the proposed project will substantially contribute to cumulative impacts to the Swainson's hawk because although potential foraging habitat could be directly impacted, other suitable foraging habitat is available in close proximity to the proposed project, and non-native grassland (foraging habitat) will be replaced to ensure no net loss.

Avoidance, Minimization, and/or Mitigation Measures

Vernal Pool Crustaceans

The City and its primary construction contractor shall implement the following measures to reduce impacts to vernal pool crustaceans:

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- Soil stabilization and sediment control BMPs shall be implemented to ensure contamination of sediment and other pollutants does not occur. Waste management and material pollution control BMPs shall also be implemented to minimize the potential for pollutant spill or releases from construction equipment.

- In addition, standard staging area practices for sediment-tracking reduction should also be implemented where necessary, and may include vehicle-washing and street-sweeping.

In addition to the proposed avoidance and minimization measures, the following compensatory mitigation is proposed:

- Prior to groundbreaking, the applicants[14] shall purchase fairy shrimp and tadpole shrimp habitat credits at a 3:1 ratio for direct impacts (0.615 x 3 = 1.845 acres), 2:1 ratio for indirect impacts (1.068 x 2 = 2.136 acres), and 1:1 ratio for direct impacts to non-habitat (0.010 acre) at a USFWS-approved conservation bank(s) that has a service area that covers the proposed project. The credits purchased may be in a combination of creation and preservation credits; however, no more than 0.625 acre of creation credits may be purchased for the minimization of the total direct impacts. The credits may be purchased in no more than two phases, with each applicant purchasing the total required for their portion of the proposed project.

The proposed mitigation strategy is in accordance with the USFWS's *Corps of Engineers Vernal Pool Programmatic Consultation* (1996).

[14] An agreement between the City and the County has not been formally executed. The "applicants" as used here refers to the City, the County, or the responsible developer.

Valley Elderberry Longhorn Beetle

The following avoidance and minimization measures will be implemented as part of the project prior to construction to avoid and minimize effects to VELB habitat:

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- Impacts from accidental disturbance during construction will be avoided by installing protective fencing between the shrubs identified for preservation and the construction area limits to prevent accidental disturbance during construction. Pursuant to the USFWS (1999) VELB conservation guidelines, elderberry shrub areas that will not be disturbed within a 100-foot buffer zone from the edge of project construction will be fenced and designated as avoidance areas during project construction. Fencing will be set back a minimum of 20 feet from the dripline of each elderberry shrub not within the construction footprint.

- Water trucks shall be used to water areas of exposed dirt to control dust from the project site.

- Signs shall be erected along the edge of elderberry avoidance areas noticing construction crews that the area is VELB habitat and must not be disturbed. These signs shall remain for the duration of construction.

- A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of VELB habitat in and near the project area and to instruct them on proper avoidance.

A comprehensive plan for avoidance, on-site mitigation, off-site mitigation, or other compensation will be developed in cooperation with relevant state and federal agencies.

The USFWS concurred in the Biological Opinion with the proposed requirements and replacement ratios for elderberry plants to be removed by the project. Mitigation will be completed as follows:

Transplant Elderberry Plants that Cannot be Avoided

Elderberry plants must be transplanted if they cannot be avoided by the proposed project. All elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level must be transplanted to a USFWS-approved conservation area. At the USFWS's discretion, a plant that is unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible, the compensation ratios in **Table 2.3-4** may be increased to offset the additional habitat loss.

Trimming of elderberry plants (e.g., pruning along roadways, bike paths, or trails) with one or more stems 1.0 inch or greater in diameter at ground level may result in take of VELB. Therefore, trimming is subject to appropriate compensation measures as outlined in **Table 2.3-4**. All transplanting or trimming shall occur in accordance with procedures outlined in the 1999 USFWS VELB guidelines and shall be protected and monitored according to the guidelines.

Table 2.3-4
Compensation Ratios for Elderberry Shrubs Affected by the Project

Riparian	Elderberry Stem Size	Exit Holes	Number of Stems	Seedling Ratio	Number of Replacement Elderberries	Associated Native Ratio	Number of Associated Seedlings
No	>1" and <3"	No	198	1:1	198	1:1	198
No	>3" and <5"	No	184	2:1	368	1:1	368
No	>5"	No	67	3:1	201	1:1	201
No	>1" and <3"	Yes	0	2:1	0	2:1	0
No	>3" and <5"	Yes	1	4:1	4	2:1	8
No	>5"	Yes	1	6:1	6	2:1	12
Total Stems Affected			**451**				
Total Replacement Plantings					**777**		**787**
Conservation Credits Proposed for Planting (total replacement plantings/10)						**157**	

Source: Biological Assessment 2014

1. All stems measuring 1 inch or greater in diameter at ground level on a single shrub are considered occupied when exit holes are present anywhere on the shrub.
2. Ratios in the Seedling Ratio column correspond to the number of cuttings or seedlings to be planted per elderberry stem (1 inch or greater in diameter at ground level) affected by the project.
3. Ratios in the Associated Native Plant Ratio column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.

Plant Additional Seedlings or Cuttings

Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) must be replaced, in a USFWS-approved conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). Compensation ratios are listed and explained in **Table 2.3-4**. Stock of either seedlings or cuttings should be obtained from local sources. Cuttings may be obtained from the plants to be transplanted if the project site is in the vicinity of the conservation area. If the USFWS determines that the elderberry plants on the proposed project site are unsuitable candidates for transplanting, the USFWS may allow the applicant to plant seedlings or cuttings at higher than the stated ratios in **Table 2.3-4** for each elderberry plant that cannot be transplanted.

Plant Associated Native Species

A mix of native plants associated with the elderberry plants at the project site or similar sites will be planted at ratios ranging from 1:1 to 2:1 (native tree/plant species to each elderberry seedling or cutting [see **Table 2.3-4**]). These native plantings must be monitored with the same survival criteria used for the elderberry.

Swainson's Hawk

The following avoidance and minimization measures are proposed:

- During project development, the size of the work area limits will be reduced to the smallest amount feasible within sensitive habitat areas.

- To avoid impacts to nesting habitat, the removal of potential nest trees will be limited to only those necessary to construct the proposed project.
- For trees that must be removed to construct the proposed project, the City of Rancho Cordova will target the removal of trees to occur outside the nesting season between September 1 and March 1. If trees cannot be removed outside the nesting season, preconstruction surveys will be conducted prior to tree removal to verify the absence of active raptor nests within 500 feet of construction activities. Two surveys will be conducted, at least one week apart, with the second survey occurring no more than two days prior to tree removal.
- If no active nests are found, tree removal may proceed. If active nests are found, the CDFW shall be notified, and the tree shall not be removed until the nest is no longer active, as determined by a CDFW-approved biologist. No construction activities shall take place within a 500-foot radius of the active nest (or another distance determined appropriate during consultation with the CDFW).
- Measures to minimize impacts to Swainson's hawk foraging habitat include restoration of foraging habitat temporarily disturbed by project construction activities. After construction is completed, all temporarily disturbed areas will be stabilized with hydroseed and replanted with a mixture of native and non-native plants (as deemed appropriate by a CDFW-approved biologist).

To compensate for the permanent loss of 2.47 acres of potential foraging habitat, it is anticipated that the City of Rancho Cordova will purchase mitigation credits from a CDFW-approved Swainson's Hawk Mitigation Fund at a 1:1 ratio, or at another appropriate ratio as determined by the CDFW based on the project's distance from known hawk nests.

Implementation of the above-referenced avoidance and minimization measures, along with the compensatory mitigation for impacts to Swainson's hawk foraging habitat, will reduce project-related impacts to a less than significant level under CEQA.

2.3.6 Invasive Species

Regulatory Setting

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

Affected Environment

The analysis in this section is based on the information provided in the NES for the White Rock Road improvements prepared in February 2014 and the BA prepared in January 2014. The BSA, described in Section 2.3.1, "Natural Communities," and shown in **Figure 2.3-1**, consists of the limits of construction and a 250-foot buffer on either side of the project alignment. This includes White Rock Road from Sunrise Boulevard to Grant Line Road and areas within the 250-foot buffer. No invasive species were identified within the BSA.

Environmental Consequences

Little change in invasive species present in the BSA is expected under the No Build Alternative. Short-term impacts from construction under the proposed project build alternative would include ground disturbance and removal of native species that could facilitate the establishment of invasive plant species. Invasive plant propagules (e.g., seeds, bulbs, rhizomes) may be inadvertently introduced via construction equipment or workers. Construction activities also may increase the risk of fires, which could cause disturbance to native vegetation and assist the spread of invasive species.

Avoidance, Minimization, and/or Mitigation Measures

In compliance with the Executive Order on Invasive Species, EO 13112, and subsequent guidance from the FHWA, the landscaping and erosion control included in the project will not use species listed as invasive. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

2.4 Cumulative Impacts

2.4.1 Regulatory Setting

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

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

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

2.4.2 Affected Environment

The Resource Study Area used for the proposed project's cumulative impact analysis includes the area roughly south of U.S. 50, north of Jackson Road, west of Grant Line Road and east of Sunrise Boulevard. The cumulative setting assumes that Rancho Cordova builds out in a land use pattern similar to SACOG's Preferred Blueprint Scenario. The Rancho Cordova General Plan (e.g., Land Use Map and Circulation Plan) is consistent with the basic principles and design strategies of SACOG's Preferred Blueprint Scenario, including increasing compact land use patterns, a mix of residential densities, mixed-use projects, transportation choices, a variety of housing choices and density, encouraging infill, quality design, and natural resources conservation. While the Blueprint would improve the regional transportation system and air quality by reducing the frequency and length of vehicle trips and making efficient use of scarce land resources by providing more dense compact developments, it ultimately would result in greater environmental and cumulatively considerable impacts in many of the technical issue areas than the proposed project (i.e., local transportation impacts, biological resources impacts, loss of farmland, etc.).

Past, Present, and Reasonably Foreseeable Actions

Past and present actions that are likely to add to the cumulative impacts on a resource include previously approved and currently planned land use developments, which are detailed below. Reasonably foreseeable future actions are those that are likely to occur in the future and will add to the cumulative impact on a particular resource. Analysis of potential impacts to resources includes the proposed project and proposed roadway and development projects in the region that may contribute to cumulative impacts. **Table 2.4-1** lists the planned developments near the project site and **Table 2.4-2** lists major planned roadway projects near the project area. North of White Rock Road, the Aerojet Planning Area is planned for intense development (i.e., offices, research and development activities, light industrial uses), which will likely be located near the center of the planning area along a planned extension of Hazel Avenue. Proposed land uses that are near the project area are illustrated in **Figure 2.1-2**.

Table 2.4-1
Development in Project Area

Development	Dwelling Units	Commercial/Office	Location
Rio Del Oro	11,601	521 acres	Immediately south of White Rock Road
Easton Place at Easton	1,500	213 acres	North of White Rock Road, south of US 50
Westborough at Easton	5,100	None proposed	North of White Rock Road, south of US 50
Glenborough at Easton	3,390	None proposed	North of White Rock Road, south of US 50
North Douglas I	666	None proposed	South of White Rock Road, just north of Douglas Road
North Douglas II	153	None proposed	South of White Rock Road, immediately north of the North Douglas I project
Folsom South of US 50	10,212	487 acres	South of US 50, north of White Rock Road, generally east of Prairie City Road, west of the Sacramento/El Dorado County line
Heritage Falls	960	None proposed	South of White Rock Road, north of Douglas Road, and west of Grant Line Road
Total	33,582	1,221	

Table 2.4-2
Planned Roadway Projects near the Project Area

Name	Jurisdiction	Description	Estimated Completion (Year)
White Rock Road	Sacramento County Department of Transportation	In Sacramento County, widen and realign White Rock Road to four lanes from Grant Line Road to Prairie City Road. Install two new traffic signals at the intersection of White Rock Road at Prairie City Road and White Rock Road at Grant Line Road.	2020
White Rock Road Roadway Improvements	Sacramento County Department of Transportation	In Sacramento County: White Rock Road from Prairie City Road to El Dorado County line: Widen the roadway from two lanes to four lanes along the existing road alignment of White Rock Road between Prairie City Road and the El Dorado County line.	2035
Grant Line Road – Expressway Phase I	City of Rancho Cordova	Widen existing roadway to four lanes and complete remaining sections of four-lane expressway from Jackson Highway to White Rock Road including intersection improvements at Jaeger Road, Kiefer Blvd., International Drive, and Jackson Highway. (Phase I)	2035
Kilgore Road	City of Rancho Cordova	Widen to four lanes from International Drive to White Rock Road.	2035
Rancho Cordova Parkway	City of Rancho Cordova	Phase 1: Douglas Road to White Rock Road, construct Rancho Cordova Parkway as a six-lane roadway including intersection improvements at Villagio and White Rock Road.	2035
Douglas Road/Grant Line Road Signal	City of Rancho Cordova	Install a new traffic signal at the intersection of Douglas Road and Grant Line Road and widen Douglas Road and Grant Line Road approaching the intersection to accommodate left-turn and right-turn pockets and bicycle lanes.	2015

As discussed in Section 2.1, “Human Environment,” the project is consistent with several regional and local plans, including the Rancho Cordova General Plan (General Plan). As part of the approval of the General Plan, an EIR was prepared to assess the potential environmental impacts resulting from implementation of the General Plan and to offer mitigation measures to minimize those impacts (City of Rancho Cordova 2006a). Because the proposed project was included as in the transportation element of the General Plan, the project’s potential cumulative impacts were previously identified as part of the General Plan EIR. The Rancho Cordova General Plan and its EIR is available here: http://www.cityofranchocordova.org/Index.aspx?page=104. The Rancho Cordova General Plan and its EIR is hereby incorporated by reference.

According to the General Plan EIR, cumulatively considerable impacts as a result of the implementation of the General Plan when considered in the context of existing, proposed, planned and approved development in the region were identified for: land use; agriculture; population, and employment; local roadways and state highways; regional air quality; traffic noise; stationary noise; water quality; water supply; biological resources; cultural resources; wastewater; water services; and visual.

Prior to incorporation of the City in 2003, the area included in the General Plan was largely undeveloped and prominently grassland. Prior to 1848, the main uses were agricultural; however, the area became a center for mining activities after gold was discovered in the area in 1848. Areas of mining activity were subject to extensive disturbances and even today mining tailings are visible throughout much of the area. In the 1950s, Aerojet acquired over 5,000 acres of land south of what is now US 50 and began what is still today a large aerospace/defense

industry campus. Past activities associated with the development of aerospace/defense products, such as rockets, also substantially altered the land and resources within the area resulting in topographic alterations and contaminant releases that have resulted in the area being designated a Superfund site

Today, the General Plan area contains a mix of land uses: residential, commercial/retail, office/business center, institutional (e.g., church, school), industrial/warehouse, drainage channels/canals/levees, infrastructure (e.g., roads, utility corridors), commercial recreational, and open space/preserve uses. Significant natural features in the area include the American River, numerous creeks and streams, wetlands, and annual grasslands. Oak trees, streams, creeks, and the American and Cosumnes Rivers are among the most significant natural visual features in the area. The current aesthetics and visual resources of the City are similar to other suburban communities with a few distinguishing differences. As of the date of the General Plan, there were 625 acres of vernal pools and 212 acres of fresh water marshes, as well as 20,728 acres of vernal pool grassland within the General Plan area. Portions of land have been set aside for wetland preservation, mitigation, and creation. Past and current development has substantially impacted many acres of biological resources within the General Plan area. As detailed above, the General Plan EIR identified that the General Plan's implementation when considered along with, past, present, and probable future projects would result in a cumulatively significant loss of biological resources in the region.

Environmental Consequences

Land Use

No Build Alternative

No direct impacts to land use are anticipated under the no build alternative, as no right-of-way acquisition would occur. Under the no build alternative, construction would not occur on White Rock Road for the proposed improvements and the roadway would remain in its current configuration. The no build alternative could result in indirect impacts to planned development in Rancho Cordova, as planned development could be constrained by the existing conditions of the roadway. This could result in displacement of development to other areas in the region that have not been previously contemplated for the residential, commercial, industrial, and other development types that have been planned and considered in the City of Rancho Cordova and located in the project area including the approved Rio Del Oro Specific Plan and the Westborough Planning Area, the existing Sunridge Specific Plan, and Suncreek Specific Plan (see **Figure 1.1-3**). Therefore, the no build alternative could indirectly contribute to cumulative impacts to land use.

Build Alternative

As discussed in Sections 2.1.1, "Land Use" and 2.1.1.2, "Consistency with State, Regional, and Local Plans and Programs," the proposed project is included in, and is consistent with, regional and local planning documents including the SACOG Preferred Blueprint Scenario, SACOG MTP/SCS 2035, SACOG 2015/2018 MTIP, Sacramento County General Plan, and City of Rancho Cordova General Plan. The build alternative would not divide an established community, nor would it conflict with an applicable land use plan, policy, regulation, or applicable habitat conservation plan. Therefore, the proposed project would not contribute to cumulative impacts to land use.

Growth

No Build Alternative

As discussed under Section 2.1.2, “Growth,” under the no build alternative, urban development in the project area would continue as planned by the City of Rancho Cordova and Sacramento County, while White Rock Road would remain in its current configuration of two lanes. The no build alternative would not result in any direct cumulative growth impacts. However, under this alternative, the traffic demand would greatly exceed the capacity of the roadway, which could constrain planned growth in Rancho Cordova, and result in the displacement of growth to other areas in the region that are not planned for growth. Therefore, the no build alternative could contribute to cumulative growth impacts.

Build Alternative

The proposed project would support planned growth as identified in the City of Rancho Cordova General Plan. As discussed in Section 2.1.2, “Growth,” properties south of White Rock Road and along Grant Line Road are included in current master planning efforts including the Rio Del Oro Specific Plan, which has been approved, the proposed Cordova Hills Special Planning Area and Suncreek Specific Plan, and the existing Sunridge Specific Plan (see **Figure 1.1-3**). The proposed project will not induce additional growth beyond what is already contemplated in the City of Rancho Cordova General Plan and will therefore not contribute to cumulative impacts associated with growth.

Community Impacts

No Build Alternative

Under the no build alternative, construction on White Rock Road to widen the roadway from two lanes to four lanes would not occur. No relocations, real property acquisitions, or easements would be necessary, and no impacts related to relocations or real property acquisitions would occur.

Build Alternative

The project would have no impact on social values in the community, nor would it affect a community landmark or social gathering place or cause community separation. The proposed project would require slope and public utilities easements on parcels along White Rock Road and would require right-of-way acquisition on Aerojet property (APN 072-0370-104). The parcel on which right-of-way acquisition would be required is vacant and the amount of property that would be acquired is minimal. As discussed in Section 2.1.3, “Community Impacts,” no impacts related to relocations or real property acquisition would occur. For these reasons, the proposed project would not contribute to cumulative impacts to existing or planned communities near the project site.

Traffic and Transportation/Pedestrian and Bicycle Facilities

No Build Alternative

As discussed in Section 2.1.5, “Traffic and Transportation/Pedestrian and Bicycle Facilities,” the two-lane White Rock Road would constrain traffic volumes, which would result in LOS F conditions along four segments of White Rock Road under 2030 traffic demand levels. Although

the pace of future development in Rancho Cordova and this area of Sacramento County is unknown, it is likely that traffic volumes on White Rock Road would exceed 18,000 vehicles per day before the year 2030. LOS F conditions on White Rock Road are not consistent with City of Rancho Cordova and Sacramento County General Plan policies, which seek to maintain LOS D or better and LOS E or better, respectively, for urban roadways. Therefore, the no build alternative could contribute to cumulative impacts to traffic and transportation facilities.

Build Alternative

Section 2.1.5, "Traffic and Transportation/Pedestrian and Bicycle Facilities," includes discussion of the year 2030 traffic volumes and level of service at several intersections, roadway segments, and freeway segments. The proposed project itself does not cause any impacts to intersection, roadway segment, or freeway segment levels of service in the future year 2030 condition. In fact, the proposed project would improve the year 2030 level of service on White Rock Road from Sunrise Boulevard to Grant Line Road when compared to the future no build condition (see **Table 2.1-16**). The proposed project would also have a beneficial impact to pedestrian and bicycle facilities by adding bike lanes and sidewalks where there currently are none. Therefore, the proposed project would not contribute to cumulative impacts to traffic and transportation and pedestrian and bicycle facilities.

Visual/Aesthetics

No Build Alternative

The no build alternative would not involve construction and therefore would not result in cumulative visual impacts.

Build Alternative

The resource study area for visual resources includes views of White Rock Road from White Rock Road, Sunrise Road, Grant Line Road, and surrounding properties. Because the proposed project would only have temporary impacts to viewers during the construction period, and will not result in any permanent impacts to scenic resources, the build alternative would not contribute to cumulative impacts to visual resources and aesthetics.

Cultural Resources

No Build Alternative

The no build alternative would not involve construction of the project and therefore would not result in cumulative impacts to cultural resources.

Build Alternative

The resource study area for cultural resources includes the area within the boundaries of the project APE. As discussed in Section 2.1.7, "Cultural Resources," the proposed project has the potential to affect three historic properties (the Douglas Missile Test Facility District, the American River Placer Mining District, and the Rebel Hill Ditch). An assessment of effects to the three properties was performed and documented in the FOE for the project, which found that the project would not diminish the integrity of the properties to a level at which the properties would fail to convey their significance. Further, the FOE for the project concluded that the project would have no adverse effect on the three historic properties. Because the project is not

anticipated to have substantial effects to cultural or historical resources in the area, and because of the limited potential for the project to disturb cultural or historical resources, the project would not contribute to cumulative impacts to cultural or historical resources.

Water Quality and Storm Water Runoff

No Build Alternative

The no build alternative would not involve construction and therefore would not result in cumulative water quality or storm water runoff impacts.

Build Alternative

The proposed project would not modify any creeks or channels. Potential temporary water quality impacts from erosion, sedimentation, materials storage and use, and possibly encountering contaminated groundwater during construction would be reduced by implementing BMPs in compliance with local and state water quality permits and regulations. Although increased development associated with the City of Rancho Cordova General Plan would contribute to cumulative water quality impacts, it is anticipated that the proposed project itself would not contribute to cumulative water quality and storm water runoff impacts. The proposed project would implement source control and treatment control best management practice as required by the RWQCB, which will be specified in the approved project Storm Water Pollution Prevention Plan.

Hazardous Waste/Materials

No Build Alternative

The no build alternative would not involve construction and therefore would not result in cumulative hazardous waste/material impacts.

Build Alternative

No substantial impacts from hazardous materials are anticipated from operation or construction of the proposed project with implementation of mitigation measures identified in Section 2.2.2, “Hazardous Waste/Materials.” Based on the information above, the project would not contribute to cumulative impacts from hazardous waste and materials.

Air Quality

No Build Alternative

The no build alternative would not involve construction of the project and therefore would not result in direct cumulative air quality impacts. The no build alternative could result in indirect cumulative air quality impacts. Indirect air quality impacts may occur due to the projected increase in traffic on White Rock Road resulting from development of the Rio Del Oro Specific Plan area and other areas in the region, while White Rock Road would remain a two-lane road which could result in delays in circulation and increased idling of motor vehicles.

Build Alternative

To analyze a transportation project's cumulative impacts to air quality, the project's effects to regional air quality conformity must be examined. Regional-level conformity is concerned with how well the region is meeting the standards set for the various pollutants that may affect air quality. At the regional level, metropolitan transportation plans (MTPs) are developed that include all of the transportation projects planned for a region over a period of years. Based on the projects included in the MTP, an air quality model is run to determine whether or not the implementation for those projects would result in a violation of the Clean Air Act, including non-federal regionally significant projects. If no violations would occur, then the regional planning organization—in this case, SACOG—and the appropriate federal agencies, such as the FHWA, make the determination that the MTP is in conformity with the Clean Air Act, and all projects that are part of the MTP are deemed to be in conformity at the regional level.

The current regional transportation plan is the MTP/SCS 2035. On March 20, 2008, SACOG made a determination that the MTP conformed with the State Implementation Plan. The proposed project was part of the MTP/SCS 2035 and thus was found to also be in conformity. Because the proposed project would not lead to any permanent regional or local air quality standard exceedances, the project would not contribute to any increase in cumulative air quality impacts. However, it is acknowledged that growth under the City's General Plan would result in cumulatively considerable air pollutant emissions as identified under the City of Rancho Cordova General Plan EIR, which is hereby incorporated by reference.

Noise

No Build Alternative

The no build alternative would not involve construction and therefore would not result in cumulative noise impacts.

Build Alternative

The proposed project would be constructed prior to the residential and other land uses associated with the Rio Del Oro Specific Plan development. Noise-related impacts associated with increased traffic on White Rock Road resulting from development of the Rio Del Oro Specific Plan area would be reduced with implementation of mitigation included in the Rio Del Oro Specific Plan EIR/EIS (SCH# 2003122057), which requires site-specific analysis for proposed subdivision maps. Therefore, the build alternative would not contribute to cumulative noise impacts.

Biological Environment

No Build Alternative

The no build alternative would not involve construction and would therefore not contribute to cumulative impacts associated with natural communities, wetlands and other waters, plant species, animal species, threatened and endangered species, or invasive species.

Build Alternative

Refer to the “Natural Communities,” “Wetlands and Other Waters,” “Plant Species,” “Animal Species,” and “Threatened and Endangered Species” subsections under Section 2.3 “Biological Environment,” for discussion of cumulative impacts to biological resources.

2.5 Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the United States, the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the main source of greenhouse gases. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. Adaptation refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).[15]

There are four primary strategies for reducing GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.[16]

Regulatory Setting

State

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

[15] http://climatechange.transportation.org/ghg_mitigation/
[16] http://www.fhwa.dot.gov/environment/climate_change/mitigation/

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

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

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

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

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

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

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

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

Federal

Although climate change and GHG reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG analysis. [17] FHWA supports the approach that 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 assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many

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

planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

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

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

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

U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions. U.S. EPA in conjunction with NHTSA issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.[18]

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

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

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

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will

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

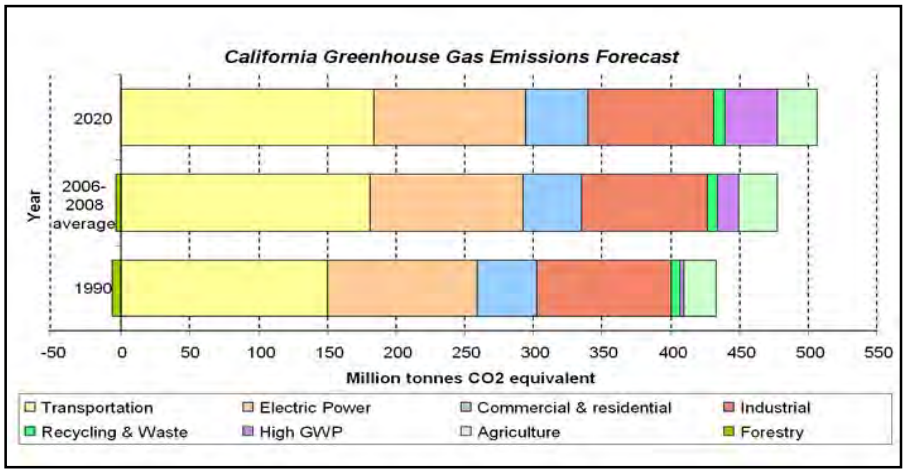
cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.[19] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the greenhouse gas inventory for California (forecast last updated October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

Figure 2.5-1
California Greenhouse Gas Forecast



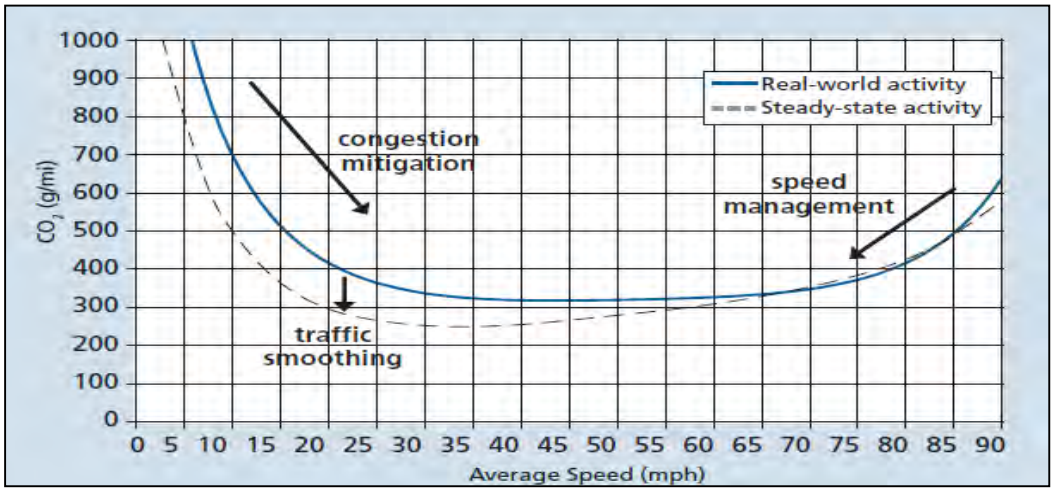
Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

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

Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing GHG emissions 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, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[20]

One of the main strategies in Caltrans' Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of CO_2 from mobile sources, such as automobiles, occur at stop-and-go speeds (0–25 mph) and speeds over 55 mph; the most severe emissions occur from 0 to 25 mph (see **Figure 2.5-2)**. To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, GHG emissions (particularly CO_2) may be reduced.

Figure 2.5-2
Possible Effect of Traffic Operation Strategies in Reducing On-Road CO_2 Emissions[21]



Environmental Consequences

GHG emissions for transportation projects can be divided into those produced during operations and those produced during construction. GHG emissions generated during operation and construction of the proposed build alternative are discussed below.

Long-Term Operational Emissions

Long-term operation emissions associated with the proposed project would be associated with the operation of motor vehicles on White Rock Road. Motor vehicle operational emissions were quantified using emission factors derived from the California ARB's Emission Factor (EMFAC2011) computer program for existing and future with project (year 2030) conditions. Average daily traffic (ADT) and vehicle speeds were derived from the traffic analysis prepared for this project. Estimated annual operational emissions are summarized in **Table 2.5-1**.

[20] The 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

[21] Barth, Matthew, and Kanok Boriboonsomsin. 2010. "Traffic Congestion and Greenhouse Gases." TR News 268, May-June 2010. http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf.

As shown in **Table 2.5-1**, in comparison to existing no build conditions, projected year 2030 build alternative conditions would result in an increase of approximately 3,147.3 $MTCO_2e$ per year. An increase of approximately 384.8 $MTCO_2e$ per year in the project area would result from the build alternative compared to the existing no build conditions, and an increase of approximately 268.5 $MTCO_2e$ per year would result from the build alternative under year 2030 conditions compared to year 2030 conditions for the no build alternative. This slight increase in operational GHG emissions would be predominantly associated with increases in traffic volumes in the project area resulting, in part, from the proposed project as well as from the widening of White Rock Road from Grant Line Road to the El Dorado County/Sacramento County line, which is a separate planned project in the region. From a regional perspective, the planned widening of White Rock Road from Grant Line Road to the El Dorado County/Sacramento County line is projected to result in substantial reduction in overall network delay and associated emissions in the region, including reductions in vehicle delay along US 50.

Table 2.5-1
Annual Greenhouse Gas Emissions within Proposed Project Area

Scenario	Greenhouse Gas Emissions ($MTCO_2e$/year)
Year 2013 – Existing/No Build Alternative	1,420.9
Year 2013 – Build Alternative	1,805.7
Change from Year 2013 Existing/No Build Alternative	384.8
Year 2030 – No Build Alternative	4,299.7
Change from Year 2013 Existing/No Build Alternative	2,878.8
Year 2030 – Build Alternative	4,568.2
Change from Year 2013 Existing/No Build Alternative	3,147.3
Change from Year 2030 No Build Alternative	268.5

Note: Based on emission factors obtained from the EMFAC2011 computer model and traffic data obtained from the traffic analysis prepared for the proposed project.

GHG emissions are only useful for a comparison between the build and no build alternatives. Actual GHG emissions will vary depending on multiple factors such as fuel mix, rate of acceleration, and the aerodynamics and efficiency of the vehicles. EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle, and fuel cycle emission rates can vary dramatically depending on the amount of additives such as ethanol and the source of the fuel components. In addition, the proposed project is not located in an area that is considered directly vulnerable to projected future sea level rise and is funded.

Short-Term Construction Emissions

GHG 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 on-site 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.

Construction GHG emissions are predominantly associated with emissions generated by motorized off-road equipment and on-road vehicles, including material transport trips and employees traveling to and from the project site. The amount of emissions generated would vary depending on multiple factors, such as the type and number of equipment required and

hours of use. GHG emissions can be reduced by use of cleaner, more efficient equipment and by implementing traffic management during construction phases to minimize associated vehicle delays on area roadways. The proposed project would comply with applicable state, federal, and/or local rules and regulations developed as a result of implementing control and mitigation measures proposed as part of their respective State Implementation Plans.

Construction GHG emissions were estimated using the SMAQMD's Road Construction Emissions Model, Version 7.1.5.1. Emissions modeling was conducted based on estimated area of disturbance and average daily amount of soil to be imported and exported. All other construction activity assumptions, including equipment use and on-road vehicle travel distances, were based on the default parameters contained in the model. Construction-generated emissions are summarized in **Table 2.5-2**.

Table 2.5-2
Construction-Generated Greenhouse Gas Emissions for the Build Alternative

Construction Activity	GHG Emissions	
	CO_2 lbs/day	Total $MTCO_2e$
Site Clearing/Preparation	4,336.4	
Grading & Excavation	18,230.4	
Drainage/Utilities/Sub-grade	7,796.9	
Paving	4,888.7	
	Total:	2,103.3

Note: Emissions calculated using the SMAQMD's Road Construction Emissions Model (RCEM), Version 7.1.5.1 based on construction information provided by the project engineer.

Compliance with Caltrans' Standard Specifications, Section 14-9 (Air Quality), would require construction equipment to be maintained in proper condition and the use of low-sulfur fuel in all construction equipment. Limits on the extended idling of heavy-duty diesel-powered construction equipment within 500 feet of nearby land uses would also be required. These measures would result in reductions in construction-generated emissions. 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.

CEQA Conclusion

Greenhouse Gas Reduction Strategies

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement EOs S-3-05 and S-01-07 and helps achieve the targets set forth in AB 32. Many of the strategies Caltrans 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,

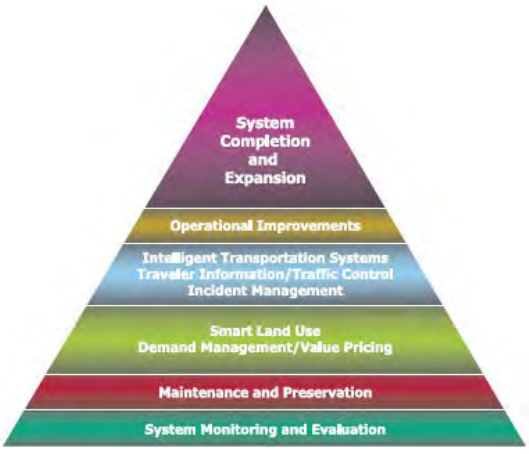


Figure 2.5-3: Mobility Pyramid

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 is expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements, as depicted in **Figure 2.5-3**.

Caltrans is supporting efforts to reduce VMT by planning and implementing smart land use strategies: job/housing proximity, transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars and light- and heavy-duty trucks; Caltrans is doing this by supporting ongoing 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 the USEPA and ARB.
Table 2.5-3 summarizes the Caltrans and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Avoidance and Minimization Measures

According to the Caltrans' Standard Specifications, the contractor must comply with all of the local SMAQMD rules, ordinances, and regulations regarding to air quality restrictions. California regulations limit idling from both on-road and off-road diesel-powered equipment. The California ARB enforces the idling limitations. The SMAQMD requires idling time to be minimized either by shutting equipment off when not in use or reducing the time of idling to 5 minutes, which is required by California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485. The SMAQMD requires that clear signage be provided that posts this requirement for workers at the entrances to the site.

Table 2.5-3 Climate Change/CO_2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.07	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, ARB, California Energy Commission		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	.0045	.0065 .045 .0225
Non-Vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy conservation opportunities	.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 .36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods movement action plan	Not Estimated	Not Estimated
Total					2.72	18.18

The following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans 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, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from 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, the Office of Science and Technology Policy, and the NOAA, released its interagency report on 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 adaptation must also involve the natural environment. Efforts are under way 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, former Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise. The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings and interagency coordination meetings. This chapter summarizes the results of Caltrans' and the City of Rancho Cordova's efforts to identify, address, and resolve project-related issues through early and continuing coordination.

3.1 Early Coordination

Since 2009, representatives from Caltrans, the City of Rancho Cordova, Sacramento County, engineering and environmental consultants, and other members of the project development team have met on a regular basis. Since the proposed project began again in November 2010, there have not been any formal coordination efforts with the public.

3.2 Circulation and Public Review of Initial Study/Environmental Assessment

The Initial Study/Environmental Assessment (IS/EA) was circulated for public review on October 29, 2015. The public comment period ended on December 1, 2015. An open house format public hearing was held on November 30, 2015 from 6:00 pm to 7:00 pm at Rancho Cordova City Hall (2729 Prospect Park Drive, Rancho Cordova, CA 95670. No members of the public or other interested parties attended the public hearing and no comments were received.

Copies of the IS/EA were available for download from the City's website: http://www.cityofranchocordova.org/Index.aspx?page=184 and also made available at the following locations:

- Rancho Cordova Library (9845 Folsom Boulevard, Sacramento, CA 95827),
- Gold River Community Association (11715 Gold Country Boulevard, Rancho Cordova, CA 95670),
- Sacramento County Administration Building (700 H Street, Sacramento, CA 95814),
- Caltrans District 3 (703 B St, Marysville, CA 95901)

In addition, the Draft IS/EA was mailed to individuals and entities listed in Chapter 5. Notice of Intent to Adopt a Negative Declaration/Notice of Availability/Notice of Public Hearing was published in the Grapevine Independent on October 23, 2015. A copy of the notice can be found at the end of this chapter. Copies of the Draft IS/EA along with a Notice of Completion was filed with the State Clearinghouse on October 29, 2015 as well.

The following comment letters/e-mails were received during the public comment period.

Letter/ E-mail	Individual or Signatory	Affiliation	Date
A	Rob Ferrera	Sacramento Municipal Utility District	11/19/15
B	Tom Zlotkowski	Capital SouthEast Connector JPA	11/20/15
C	Stephanie Tadlock	Central Valley Regional Water Quality Control Board	11/23/15
D	Christopher Hunley	County of Sacramento Environmental Management Department	11/30/15
E	Jeffery Morneau	California Department of Transportation (Caltrans)	11/30/15
F	Chris Holm	WalkSacramento	11/30/15
G	Molly Wright	Sacramento Metropolitan Air Quality Management District	12/1/15
H	Scott Morgan	State Clearinghouse	12/1/15

The comment letters and responses are provided in Appendix I of this document.

3.3 U.S. Army Corps of Engineers

On March 11, 2014, a Preliminary Wetland Delineation was submitted to the USACE. Comments from the USACE were received on April 15, 2014.

A Biological Memorandum in response to the comments on the Preliminary Wetland Delineation was submitted to the USACE on June 12, 2014. The USACE responded on August 25, 2014, with concurrence of the delineation.

3.4 U.S. Fish and Wildlife Service

The BA for the proposed project was prepared in January 2014.On February 13, 2014, Caltrans sent the USFWS a letter requesting formal consultation for valley elderberry longhorn beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

On February 28, 2014, Caltrans received an insufficiency letter from the USFWS requesting additional information on the proposed project.

On June 13, 2014, Caltrans responded to the USFWS with the requested information in order to complete the initiation package.

On July 21, 2014, additional maps for the proposed project were provided as a follow-up to the June 13, 2014, response to the USFWS.

A Biological Opinion issued by USFWS on January 26, 2015, determined that the proposed project may affect and is likely to adversely affect the valley elderberry longhorn beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp, but the proposed project is not likely to result in jeopardy to threatened and endangered species.

3.5 State Historic Preservation Office

On September 2, 2014, representatives from the State Historic Preservation Office, the environmental consultant, and the cultural resources subconsultant for the proposed project had a preliminary discussion regarding the project.

On April 16, 2015, Caltrans received concurrence from the State Historic Preservation Office on Caltrans' determination that the American River Placer Mining District and the Douglas Missile Test Facility Historic District were previously determined to be eligible for the National Register of Historic Places; the letter also documented concurrence with the determination that the Rebel Hill Ditch is a contributing element to the American River Placer Mining District. . A Finding of Effect (FOE), which documented no adverse effect, was sent to SHPO in June 2015; SHPO concurred with the FOE on July 28, 2015. SHPO concurrence letters can be found at the back of Appendix B.

3.6 Regional Water Quality Control Board and Department of Toxic Substances Control

On December 3 and 4, 2013 and on December 4 and 6, 2013, the Regional Water Quality Control Board (RWQCB) and the Department of Toxic Substances Control (DTSC), respectively, were contacted to obtain existing documentation and data regarding potential contaminants and their clean-up status within the project area. Most notably information was sought regarding contaminants associated with the Aerojet Superfund sites.

As the hazardous waste studies were being finalized for the project, a meeting was held on April 16, 2015 with representatives from the City, Caltrans, RWQCB, DTSC and Aerojet. The purpose of the meeting was to share project description information and draft project documentation regarding the potential for the project to encounter contaminated materials and to seek input from DTSC and RWQCB regarding the proposed additional soil borings and testing to be conducted as part of the future Phase 2 Hazardous Waste Assessment.

At the April 16, 2015 meeting, RWQCB and DTSC were asked to provide written acknowledgement of the project description and proposed Phase 2 sampling and analysis plan. Acknowledgment letters were received from DTSC on June 24, 2015 and from the RWQCB on July 28, 2015.

3.7 Interagency Consultation Group—Air Quality Conformity

The project was submitted to the Interagency Consultation Group (made up of Caltrans, USEPA, and FHWA) in April 2012 to determine whether the project would be considered a Project of Air Quality Concern (POAQC) for $PM_{2.5}$ and PM_{10}. In May 2012, that group determined that the project is not a POAQC (see Appendix H for documentation).

FHWA made its conformity finding on January 11, 2016 (see Appendix H for letter).

Chapter 4 List of Preparers

This document was prepared and/or reviewed by the following people:

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Joyce Hunting, Director of Biological Services
Contribution: Quality control and review of the document

Environmental Science Associates (ESA)

Kelly Dunlap, Director of Transportation
Contribution: Overview and review of environmental documentation

City of Rancho Cordova

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Contribution: Managing engineer and review of document

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AECOM Technology Corporation

Mark Bowen, Historian/Architectural Historian
Contribution: Preparation of cultural technical studies and review of Cultural Resources section of document

Denise Jurich, Archaeologist
Contribution: Review of Cultural Resources section of document

California Department of Transportation

Kelly McNally, Associate Environmental Planner
Contribution: Served as the Caltrans environmental coordinator for the project and conducted oversight review of the document

Joseph Robinson, Associate Environmental Planner
Contribution: Served as the Caltrans environmental coordinator for the project and conducted oversight review of the document

David Van Dyken, Senior Transportation Planner
Contribution: Review and oversight of transportation documentation

Mark Melani, Office of Environmental Engineering
Contribution: Review and oversight of hazardous materials documentation

Kathleen Grady, Landscape Architect
Contribution: Review and oversight of aesthetic documentation

Maureen Doyle, Associate Environmental Planner
Contribution: Review and oversight of biological resources documentation

Shalanda Christian, Air Quality Specialist
Contribution: Review and oversight of air quality documentation

Erin Dwyer, Associate Environmental Planner
Contribution: Review and oversight of cultural resources documentation

Chris Kuzak, Associate Environmental Planner
Contribution: Review and oversight of cultural resources documentation

Chapter 5 Distribution List

The following agencies and organizations received hard or electronic copies of the Draft Initial Study/Environmental Assessment (IS/EA).

5.1 Federal Agencies

U.S. Fish and Wildlife Service – 2800 Cottage Way, Suite W-2605, Sacramento, CA 95825, Attn: Lily Douglas

5.2 State Agencies

California Environmental Protection Agency – 75 Hawthorne Street #11, San Francisco, CA 94105

California Air Resources Board – 2014 Capitol Avenue, Sacramento, CA 95811

California Regional Water Quality Control Board, Central Valley Region – 11010 Sun Center Drive, Suite 200, Rancho Cordova, CA 95670, Attn: Alexander McDonald

California Transportation Commission – 1120 N Street, Room 2221 (MS-52), Sacramento, CA 95814

California Department of Conservation – 801 K Street – MS 24-01, Sacramento, CA 95814

California Department of Fish and Wildlife, Region 2 – 1701 Nimbus Road, Rancho Cordova, CA 95670

Department of Toxic Substances Control – 8800 Cal Center Drive, Sacramento, CA 95826, Attn: Cindy Chain-Britton

State Historic Preservation Office – 1725 23rd Street, Suite 100, Sacramento, CA 95816, Attn: Carol Roland-Nawi

Native American Heritage Commission – 915 Capital Mall, Room 364, Sacramento, CA 95814, Attn: Randy Yonemura

5.3 Local Agencies and Organizations

County of Sacramento, Environmental Management Department – 10590 Armstrong Avenue, Suite A, Mather, CA 95655

PG&E – 343 Sacramento Street, Auburn, CA 95603, Attn: Donny Kennedy

SMAQMD – 777 12th Street, 3rd Floor, Sacramento, CA 95814, Attn: Paul Philley

SMUD – 6201 S Street, MS B304, Sacramento, CA 95852, Attn: Rachel Del Rio

Walk Sacramento – 909 12th Street, Suite #122, Sacramento, CA 95814, Attn: Teri Duarte

Sacramento Metropolitan Fire District, Fire Prevention Bureau – 3012 Gold Canal Drive, Rancho Cordova, CA 95670

Sacramento Regional Transit – P.O. Box 2110, Sacramento, CA 95812

SACOG – 1415 L Street, Sacramento, CA 95814

Aerojet – 2001 Aerojet Road, Rancho Cordova, CA 95742, Attn: Rodney Fricke

Sacramento Area Bicycle Advocates – 909 12th Street, Suite 116, Sacramento, CA 95814, Attn: Walt Seifert

Capital Southeast Connector JPA – 10640 Mather Boulevard, #120, Mather, CA 95655

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