
3.4 BIOLOGICAL RESOURCES

Introduction

The following section discusses the biological resources within the Santa Clara-Alum Rock Corridor study area and the potential for the project to affect these resources. A Biological and Wetland Resources Technical Report was written for this project¹; the findings of this report form the foundation for this section. In general, potentially sensitive resources are associated with the four creek crossings in the Corridor (Lower Silver Creek, Coyote Creek, the Guadalupe River, and Los Gatos Creek.). These areas are addressed in more detail within this section.

Existing Conditions

Environmental Setting

The project would be constructed in a highly developed urban corridor. Because the Santa Clara-Alum Rock Corridor is completely urban, there is no habitat that can be considered undisturbed. This is true even of the creek crossings where two of the four crossings are contained within concrete channels (Lower Silver Creek and the Guadalupe River) and provide only marginal wildlife habitat.

On September 26, 2001 PBS&J botanist Lee Ellis conducted a site survey of the Corridor by automobile and on foot along Santa Clara Street-Alum Rock Avenue from Highway 87 east to Capitol Avenue, and along San Fernando Street from Highway 87 east to Almaden Boulevard. Particular attention was given to riparian and wetland resources occurring along the banks of Coyote Creek, which could be affected by the Single Car LRT Phase of the Project. A second survey was conducted on October 23, 2001 by PBS&J biologist Brent Spencer (fisheries and aquatic biologist). This survey of the Corridor was conducted on foot; binoculars were used to aid wildlife identification. The purpose of this second survey was to determine the likelihood of aquatic and riparian impacts resulting from the construction of the proposed project in the Corridor. A follow-up visit was made by PBS&J biologist Demian Ebert on February 12, 2004 and PBS&J Biologist Sam Bacchini on March 6, 2008 to ensure conditions reported from previous surveys remained valid. All species observed within the Corridor were identified (Table 3.4-1).

¹ PBS&J, June 2008. Biological and Wetland Resources Technical Report, Santa Clara-Alum Rock Corridor Santa Clara County, California. Prepared for Santa Clara Valley Transportation Authority.

Table 3.4-1
Plant and Wildlife Species Observed within the Santa Clara-Alum Rock Corridor

Common Name	Scientific Name
Plants	
Box Elder	<i>Acer negundo</i> ^a
Tree of Heaven	<i>Ailanthus altissima</i>
Ash	<i>Fraxinus</i> sp.
Black walnut	<i>Juglans nigra</i>
Crepe myrtle	<i>Lagerstroemia indica</i>
Magnolia	<i>Magnolia grandiflora</i>
Canary Island date palm	<i>Phoenix canariensis</i>
Chinese pistache	<i>Pistachia chinensis</i>
Western sycamore	<i>Platanus racemosa</i> ^a
Sycamore	<i>Platanus</i> sp.
Fremont cottonwood	<i>Populus fremontii</i> ^a
Coast live oak	<i>Quercus agrifolia</i> ^a
Oaks	<i>Quercus</i> ssp. ^a
Black locust	<i>Robinia pseudoacacia</i>
Peruvian pepper tree	<i>Schinus molle</i>
Cattails	<i>Typha</i> sp. ^a
Mexican fan palm	<i>Washingtonia robusta</i>
Animals	
Western pond turtle	<i>Actinemys marmorata</i> ^b
Mallard	<i>Anas platyrhynchos</i>
Great egret	<i>Ardea alba</i>
Great blue heron	<i>Ardea herodias</i>
Canada goose	<i>Branta canadensis</i>
Anna's hummingbird	<i>Calypte anna</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Rock dove	<i>Columba livia</i>
House sparrow	<i>Passer domesticus</i>
Bushtit	<i>Psaltriparus minimus</i>
Black phoebe	<i>Sayornis nigricans</i>
Eastern fox squirrel	<i>Sciurus niger</i>
Mourning dove	<i>Zenaida macroura</i>

Source: PBS&J.

Notes:

- a. Denotes native plant species.
- b. State and federal species of special concern.

Biological Habitats

Five biological habitats totaling 1.096 acres were identified and mapped from within the Santa Clara-Alum Rock Corridor (Table 3.4-2). These include common habitats such as urbanized areas of landscaping and ruderal (weedy) grasslands. Also, there are remnants of native habitats associated with the creek crossings including mixed riparian forest, emergent wetland, and aquatic habitats. These three are all considered sensitive habitats by California Department of Fish and Game (CDFG).

Habitat Type	Acreage
Coyote Creek	
Aquatic	0.103
Emergent Wetland ^a	0.018
Mixed Riparian Forest	0.458
Ruderal	0.092
Urban Landscaping	0.425
TOTAL	1.096

Notes:

- a. Not based on Section 404 CWA Jurisdictional Delineation.
- b. Los Gatos Creek, Silver Creek and the Guadalupe River will not be impacted by the project, therefore acreages for those creeks are not shown.

Urban Landscaping. This community typically consists of street trees ranging from new plantings to mature trees. Typically, a single species of tree has been planted over an area of one to several blocks, resulting in uniform appearance and habitat. Sycamores (*Platanus* sp) are the most common street tree along Alum Rock Avenue and Santa Clara Street. Other sidewalk trees include Chinese pistache (*Pistachia chinensis*), magnolia (*Magnolia grandiflora*), ash (*Fraxinus* sp), horticultural varieties of oak (*Quercus* spp) and several species of palms (Family *Arecaceae*). Crepe myrtle (*Lagerstroemia indica*) is a shrub commonly used in sidewalk plantings. To the extent possible, all street trees adjacent to the Corridor were identified in Table 3.4-1. The Santa Clara-Alum Rock Corridor has 0.575 acres of urban landscaping directly adjacent to the Coyote Creek stream crossing.

Urban landscaping habitat has little habitat value to most wildlife species. Mature trees located in parks and open spaces may provide some habitat for nesting birds. Field surveys did not result in the observations of wildlife species within urban landscaping habitats.

Mixed Riparian Forest. Mixed Riparian Forest communities form dense cover and a closed canopy over the banks of Coyote Creek north and south of East Santa Clara Street. Vegetation in the riparian corridor of Coyote Creek is comprised of trees and shrubs including native coast live oak (*Quercus*

agrifolia), box elder (*Acer negundo*), Fremont cottonwood (*Populus fremontii*), and western sycamore (*Platanus racemosa*). Non-native trees occurring in the riparian corridor include black walnut (*Juglans nigra*), black locust (*Robinia pseudoacacia*), tree-of-heaven (*Ailanthus altissima*), and California pepper tree (*Schinus molle*). Table 3.4-1 includes a list of riparian plant species occurring along the banks of the Guadalupe River, Coyote Creek, and Lower Silver Creek. The Santa Clara-Alum Rock Corridor contains 0.485 acres of Mixed Riparian Forest.

Riparian corridors provide seasonal and diurnal migration corridors and biologically valuable shelter, breeding, and foraging habitat throughout the year for a diverse assemblage of species. These include resident and migratory birds and smaller mammals. At Coyote Creek, numerous bird species and an eastern fox squirrel (*Sciurus niger*) were observed foraging in riparian vegetation. A western pond turtle (*Actinemys marmorata*) was observed climbing onto a partially submerged log in the creek channel. Western pond turtles are a CDFG species of special concern.

Emergent Wetland. This community, typically dominated by perennial emergent cattails, rushes, and sedges, occurs in areas of permanent, slow-moving fresh water. Urbanization, fill, and channelization have reduced the remaining areas of wetlands to mere fragments of their historic levels. The area of this marsh community has been much reduced throughout its entire range. This community is not well developed in the Guadalupe River because the concrete channel is maintained for flood control and vegetation is removed every few years. However, stands of cattails (*Typha* sp), a characteristic component of the Coastal and Valley Freshwater Marsh community, occur along the banks of Lower Silver Creek north and south of Alum Rock Avenue. Table 3.4-1 includes a list of freshwater emergent plant species occurring along the banks of the Guadalupe River, Coyote Creek, and Lower Silver Creek. The Santa Clara-Alum Rock Corridor contains 0.043 acres of emergent wetlands.

Emergent wetlands provide important nesting and foraging habitat for many species of birds and small mammals. A great egret (*Ardea alba*) was observed foraging in cattails in Lower Silver Creek, and a great blue heron (*Ardea herodias*), a mallard (*Anas platyrhynchos*), Canada geese (*Branta canadensis*), and a pied-billed grebe (*Podilymbus podiceps*) were observed in and around the confluence of Los Gatos Creek and the Guadalupe River, just north of the Corridor.

Ruderal. This habitat, which in the Santa Clara-Alum Rock Corridor is associated with riparian corridors, consists of disturbed areas that are dominated by non-native vegetation. Plant species observed in ruderal habitats include California pepper tree, palms, and non-native grasses. The Corridor contains 0.267 acres of ruderal habitat. Within the Santa Clara-Alum Rock Corridor, ruderal areas provide limited foraging opportunities for hawks, small birds, and small mammals. No wildlife species were observed in the ruderal areas during field surveys.

Aquatic. The aquatic community consists of the open water portions of the stream crossings. The Santa Clara-Alum Rock Corridor contains 0.121 acres of aquatic habitat along the Coyote Creek crossing. The Guadalupe River, Coyote Creek, and Lower Silver Creek provide habitat for aquatic invertebrate species such as insects and crayfish, and vertebrates including Sacramento suckers (*Catostomus occidentalis*), steelhead (*Oncorhynchus mykiss*), Pacific chorus frogs (*Pseudacris regilla*), western garter snakes (*Thamnophis elegans*), western pond turtle (*Actinemys marmorata*), red-eared

slider (*Trachemys scripta elegans*), and waterfowl-like mallards, and American coots (*Fulica americana*). Streams also provide an essential source of water for wildlife residing in riparian and upland habitats.

Special-Status Species

Special-status species include those that are formally listed as threatened, endangered, or rare (in the case of plants) by the federal government or the State of California; candidates for listing; and species of concern that could become candidates for listing in the future. Species of local concern, heritage trees, and migratory birds also may be considered to be special-status species.

Information on special-status species is based on review of the CDFG California Natural Diversity Database (CNDDDB) RareFind Report for the U.S. Geological Survey (USGS) 7.5-minute San Jose West and San Jose East quadrangles.² Information on the habitat requirements of native plant species occurring in the San Jose area was obtained from the California Native Plant Society's *Online Inventory of Rare and Endangered Vascular Plants of California*.³ In addition, U.S. Fish and Wildlife Service (USFWS) provided a list of Endangered and Threatened Species that May Occur In or Be Affected by Projects in Santa Clara County.^{4,5,6} CDFG also provided information regarding sensitive species potentially occurring in the Corridor.⁷ The combined sources above resulted in a total of 30 species reported from the greater San Jose area. These include 15 species of plants, one invertebrate, four species of fish, three species of reptiles and amphibians, five species of birds, and three species of mammals (Table 3.4-3). The following discussion of special-status plants and animals focuses on those species for which habitats are available within the Santa Clara-Alum Rock Corridor.

Special-Status Plant Species. All of the special-status plant species that have been reported from the San Jose East and San Jose West 7.5-minute USGS quadrangles are predominantly associated with habitats (chaparral, salt marsh, coastal dunes) or soils (alkaline or serpentine) not found within the Santa Clara-Alum Rock Corridor. Because these habitats and soils do not occur within the Santa Clara-

² CDFG (California Department of Fish and Game) 2008. California Natural Diversity Database, Rarefind Version 3.0 Information dated March, 2008.

³ CNPS (California Native Plant Society) 2008. Inventory of Rare and Endangered Vascular Plants of California, Online Edition, <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>.

⁴ USFWS (U.S. Fish and Wildlife Service) 2001. Federal endangered and threatened species that may be affected by projects in the San Jose East and West 7½-minute quadrangles. Original response to NOP. Reference File No. PPN-2877.

⁵ USFWS (U.S. Fish and Wildlife Service) 2004. Federal endangered and threatened species that may be affected by projects in the San Jose East and West 7½-minute quadrangles. Database updated October 21, 2003, Queried February 18, 2004. Update of 2001 list. Available online at: http://sacramento.fws.gov/es/spp_lists/QuadName_Search.cfm.

⁶ USFWS Online Special-Status Species Database, http://sacramento.fws.gov/es/spp_lists/auto_list_form.cfm, accessed March of 2008.

⁷ Floerke, R.W. 2001. Letter to Lee Ellis, EIP Associates, from Central Coast Regional Manager R.W. Floerke, CDFG dated October 11, 2001. Subject: Response and information regarding sensitive species light rail transit corridor, Santa Clara County.

**Table 3.4-3
Special Status Species Potentially Occurring within the Vicinity of the Santa Clara-Alum Rock Corridor Project Site**

Common Name	Scientific Name	Status ^a		Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ^b
		Fed/CA/Other			
PLANTS					
Big-scale balsamroot	<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	none/none/1B.2		Occurs in chaparral, cismontane woodland, and valley and foothill grassland, sometimes in serpentine soil substrates at elevations ranging from 90–1400 meters; blooms March to June.	Low. Lack of suitable serpentine soil substrates or valley/foothill grasslands likely precludes the presence of this species at the project site.
Round-leaved filaree	<i>California macrophyllum</i>	none/none/1B.1		Occurs in cismontane woodland and valley and foothill grassland often with clay soil substrates at elevations ranging from 15–1200 meters; blooms March to May.	Absent. Lack of suitable serpentine soil substrates or valley/foothill grasslands likely precludes the presence of this species at the project site. No recent records indicate presence.
Congdon's tarplant	<i>Centromadia parryi</i> ssp. <i>congdonii</i>	none/none/1B.2		Occurs in valley and foothill grasslands with alkaline soil substrates at elevations ranging from 1–230 meters; blooms May to October.	Absent. Lack of suitable valley/foothill grasslands precludes the presence of this species at the project site. No recent records indicate presence.
Robust spineflower	<i>Chorizanthe robusta</i> var. <i>robusta</i>	FE/none/1B.1		Cismontane woodland openings, coastal dunes, and coastal scrub habitats in association with sandy or gravelly soil substrates. 3–300 meters. Blooms April to September	Absent. Absence of suitable sandy substrates or any coastal scrub habitats likely precludes the presence of this species at the project site.
Mt. Hamilton Thistle	<i>Cirsium fontinale</i> var. <i>campylon</i>	none/none/1B.2		Drainages through serpentine soils in woodland, chaparral, and grassland habitats	Absent. Lack of suitable serpentine soil substrates likely precludes the presence of this species at the project site. No recent records indicate presence
San Francisco collinsia	<i>Collinsia multicolor</i>	none/none/1B.2		Closed-cone coniferous forest and coastal scrub habitats often in association with serpentine soils. 30–250 meters. Blooms March to May	Absent. Absence of suitable serpentine soil substrates or any coastal scrub habitats likely precludes the presence of this species at the project site.
Santa Clara Valley dudleya	<i>Dudleya setchellii</i>	FE/none/1B.1		Rocky and serpentine valley and foothill grasslands. 60–455 meters. Blooms April to June.	Low. Lack of suitable serpentine soil substrates likely precludes the presence of this species at the project site. The nearest recent record is roughly five miles away.
Fragrant fritillary	<i>Fritillaria liliaceae</i>	none/none/1B.2		Occurs in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland often in serpentine soil substrates at elevations ranging from 3–410 meters; blooms February to April.	Absent. Lack of suitable serpentine soil substrates and suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence.

Table 3.4-3 (Continued)
Special Status Species Potentially Occurring within the Vicinity of the Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status ^a		Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ^b
		Fed/CA/Other			
Contra Costa goldfields	<i>Lasthenia conjugens</i>	FE/none/1B.1		Occurs in cismontane woodland, alkaline playas, valley and foothill grassland, and mesic vernal pools at elevations ranging from 0–470 meters; blooms March to June.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence.
Arcuate bush mallow	<i>Malacothamnus arcuatus</i>	none/none/1B.2		Chaparral and cismontane woodland habitats, usually in gravelly alluvium. 15–355 meters. Blooms April to September	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence.
Hall’s bush mallow	<i>Malacothamnus hallii</i>	none/none/1B.2		Chaparral and coastal scrub habitats. 10–760 meters. Blooms May to September	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence.
Hairless popcornflower	<i>Plagiobothrys glaber</i>	none/none/1A		Alkaline meadows and seeps, coastal salt marshes and swamps. 15–180 meters. Blooms March to May.	Absent. This species is presumed extinct in California; project site lacks suitable salt marsh and alkaline meadow habitats.
Metcalf Canyon jewel-flower	<i>Streptanthus albidus</i> ssp. <i>albidus</i>	FE/none/1B.1		Occurs in relatively open areas in dry grassy meadows on serpentine soils and balds. 45–800 meters. Blooms April to July.	Low. Lack of suitable serpentine soil substrates likely precludes the presence of this species at the project site.
Caper-fruited tropidocarpum	<i>Tropidocarpum capparideum</i>	none/none/1B.1		Occurs in valley and foothill grassland in alkaline hills at elevations ranging from 1–455 meters; blooms March to April.	Low. Lack of suitable habitats likely precludes the presence of this species at the project site.
INVERTEBRATES					
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	FT/none/none		The butterfly and its host plants (dwarf plantain, purple owl’s-clover, and dense flowered owl’s clover) are found in areas with serpentine soil, soils derived from the serpentine mineral, and other ultramafic rocks. Adult activity peaks between February to early May.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence within five miles of the project area.
FISH					
Delta smelt	<i>Hypomesus transpacificus</i>	FT/none/ NA		Native to deltaic and riverine systems of Sacramento Valley.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence within five miles of the project area. The project is also well out of any designated critical habitat.

Table 3.4-3 (Continued)
Special Status Species Potentially Occurring within the Vicinity of the Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status ^a		Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ^b
		Fed/CA/Other			
Central California Coast steelhead ESU	<i>Oncorhynchus mykiss</i>	FT/none/NA		Coastal streams with stable water supply, clean gravels, and good quality riparian habitat.	Moderate. The segment of Coyote Creek passing through the project area, and a portion of the Guadalupe River outside the project area (to the north) are designated as Critical Habitat for this species. Although no spawning habitat is present within the project area, this species may pass through Coyote Creek during spawning migrations.
Central Valley steelhead ESU	<i>Oncorhynchus mykiss</i>	FT/none/NA		Central Valley streams with stable water supply, clean gravels, and good quality riparian habitat.	Low. This DPS does not occur in the project area, but passes through the San Francisco Bay during migrations to spawning sites along the Sacramento and San Joaquin Rivers and their tributaries.
Central Valley winter-run chinook salmon ESU	<i>Oncorhynchus tshawytscha</i>	FE/SE/NA		Native to Sacramento and San Joaquin rivers and their tributaries.	Low. This species/ESU does not spawn or occur in the project area, but passes through the San Francisco Bay and Delta on its way to spawning areas in the Sacramento River and its tributaries.
Central Valley spring-run chinook salmon ESU	<i>Oncorhynchus tshawytscha</i>	FE/SE/NA		Native to Sacramento and San Joaquin rivers and their tributaries.	Low. This species/ESU does not spawn or occur in the project area, but passes through the San Francisco Bay and Delta on its way to spawning areas in the Sacramento River and its tributaries.
AMPHIBIANS					
California tiger salamander	<i>Ambystoma californiense</i>	FT/CSC/NA		Occurs in grasslands and open oak woodland that provide suitable aestivation (i.e., summer retreats) and/or breeding habitat in close proximity to vernal pools, seasonal wetlands, or artificial impoundments (e.g., stock ponds). Threatened by predation from Centrarchid fish species (e.g., sunfish, bluegill, large-mouth bass), bullfrogs, and signal and red swamp crayfish.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site.

Table 3.4-3 (Continued)
Special Status Species Potentially Occurring within the Vicinity of the Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status ^a		Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ^b
		Fed/CA/Other			
California red-legged frog	<i>Rana aurora draytonii</i>	FT/CSC/NA		Typically found in slow-flowing portions of perennial streams, ephemeral streams, and hillside seeps that maintain pool environments (including ponds) or saturated soils throughout the summer months. Threatened by predation from Centrachid fish species, bullfrogs, and signal and red swamp crayfish.	Low. While marginally suitable upland and breeding habitat is available along the project corridor, CRLF are not likely to occur due to the presence of predatory bullfrogs and crayfish or fish. Known CNDDDB occurrences of this species all occur roughly five miles away from the project area.
REPTILES					
Western pond turtle	<i>Actinemys marmorata</i>	none/CSC/NA		Associated with permanent or nearly permanent water in a wide variety of aquatic habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water	Observed. Species observed at the Coyote Creek crossing during an early survey. There are CNDDDB occurrences in both Coyote Creek and the Guadalupe River.
Silvery Legless Lizard	<i>Anniella pulchra pulchra</i>	none/CSC/NA		Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter.	Absent. Lack of suitable habitats likely precludes the presence of this species at the Project Site.
California Horned Lizard	<i>Phrynosoma coronatum frontale</i>	none/CSC/NA		Inhabits open country, especially sandy areas, washes, flood plains and wind-blown deposits in a wide variety of habitats.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site.
BIRDS					
Cooper's hawk	<i>Accipiter cooperii</i>	none/CSC/MBTA		(Nesting) woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Moderate. Tall trees occurring in the riparian habitat of the Guadalupe River and Coyote Creek adjacent to the Corridor may provide potential nesting habitat. Though foraging opportunities for these species are not present in the project area.
Burrowing owl	<i>Athene cunicularia</i>	none/CSC/MBTA		Prefers burrows adjacent to open grassland and ruderal habitats. Dependent upon ground squirrels and other burrowing animals to provide nesting locations; also uses culverts for burrows.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site.
Yellow warbler	<i>Dendroica petechia brewsteri</i>	none/CSC/MBTA		Nests in dense riparian vegetation along streams.	Moderate. Riparian habitat along Coyote Creek could provide potential nesting habitat for this species. No records for this species in the vicinity.

Table 3.4-3 (Continued)
Special Status Species Potentially Occurring within the Vicinity of the Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status ^a		Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ^b
		Fed/CA/Other			
American peregrine falcon	<i>Falco peregrinus anatum</i>	Delisted/SE; CFP/NA		Frequents bodies of water in open areas with cliffs and canyons nearby for cover and nesting.	High. A pair is nesting on the San Jose City Hall rooftop. Any similar structures could in theory provide similar habitat. Only urban area foraging habitat is present in the project area.
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE/SE; CFP/NA		Saltwater and brackish marshes often crossed by tidal sloughs in the San Francisco Bay. Closely associated with pickleweed (<i>Salicornia virginica</i>).	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence within five miles of the project area.
California least tern	<i>Sterna antillarum browni</i>	FE/SE; CFP/NA		Migratory species that usually arrives in California in April and depart in August; nest in colonies on bare or sparsely vegetated flat substrates near the coast.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence within five miles of the project area.
MAMMALS					
Pallid bat	<i>Antrozous pallidus</i>	None/CSC/ None		Daytime roosts in buildings and crevices; less often in caves, mines, and hollow trees. Nighttime roosts in buildings, caves, mines and cliff overhangs.	Low. Bridges along the project corridor do not appear to be suitable roost sites for this species. No recent records indicate presence.
Hoary bat	<i>Lasiurus cinereus</i>	None/CSC/NA		This species roosts in foliage of large trees.	Moderate. Could potentially roost in any of the larger trees along the project corridor.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE/ST/NA		Species inhabits suitable grassland, scrubland, alkali meadows and playas, and agricultural landscapes in the San Joaquin Valley and in surrounding foothill areas of the Coast Ranges, Sierra Nevada, and Tehachapi Mountains.	Absent. Project area outside the known range for the species. No known CNDDDB occurrences of this species within five miles of the project corridor.

Source: PBS&J.

Notes:

Special Status Species: Animals that were included in this table have a ranking of CSC or higher. Special-status plants that were included in this table have a ranking of List 2 or higher.

a. Status:

Federal

FE Federally listed as Endangered

FT Federally listed as Threatened

MBTA Protected by Migratory Bird Treaty Act

Table 3.4-3 (Continued)
Special Status Species Potentially Occurring within the Vicinity of the Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status ^a Fed/CA/Other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ^b
<u>State</u>				
SE		State listed as Endangered		
ST		State listed as Threatened		
CR		California rare		
CFP		California Department of Fish and Game designated “Fully Protected” – Permit required for “take”		
CSC		California Department of Fish and Game designated “Species of Special Concern”		
SAL		California Department of Fish and Game designated “Special Animals List”		
<u>Other</u>				
CNPS 1A		Presumed extinct in California.		
CNPS 1B		California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.		
CNPS 2		California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California, but more common elsewhere.		
CNPS Threat Code Extension:				
		1. Species seriously endangered in California		
		2. Species fairly endangered in California		
		3. Species not very endangered in California		
b. Likelihood of Occurrence:				
Likelihood of Occurrence within the study area, unless noted within the analysis, is derived from the following formula:				
<ul style="list-style-type: none"> • Absent: Species, habitat, or community was not observed during biological field surveys conducted at an appropriate time for identification of the species; or species is restricted to habitats that do not occur within the study area. • Low: The species is not likely to occur within the site as no recent extant records cite the species' occurrence in or near the survey (project) area (approximately five miles), or the on-site habitat(s) needed to support the species are of poor quality and not likely to be utilized by the species. • Moderate: Either an historical record exists of the species within the vicinity of the study area (approximately five miles) or the habitat requirements associated with the species occur within the study area. The validity of a historical occurrence is weighted by the condition of on-site habitat at the time of occurrence versus existing habitat conditions. • High: An extant historical record cites the species in or near the study area, and the habitats strongly associated with that species occur within the study area or in its immediate vicinity (within one mile). • Observed: Species, habitat, or community was observed within the study area at the time of the biological field survey. 				

Alum Rock Corridor, habitat for sensitive plants also does not occur and they are not further discussed in this section.

Special-Status Wildlife Species. Of the special-status wildlife species reported as potentially occurring within the Santa Clara-Alum Rock Corridor by USFWS and the CNDDDB, only 19 species have the potential to actually be found within the area. These 19 species are the ones that could occur within the Corridor. These are discussed in more detail in the following sections. The CNDDDB does not contain any recent reports of sensitive species occurrences along the project corridor. It does contain a California tiger salamander (*Ambystoma californiense*) collection record from San Jose in 1895; a population that is now thought to have been extirpated.⁸ The Corridor is either beyond the known range or does not contain suitable habitat for many of the species listed by USFWS. Examples of these species include: San Joaquin kit fox (*Vulpes macrotis mutica*), delta smelt (*Hypomesus transpacificus*), winter-run Chinook salmon (*Oncorhynchus tshawytscha*), California horned lizard (*Phrynosoma coronatum frontale*), California tiger salamander, and silvery legless lizard (*Anniella pulchra pulchra*). Those species that would not be found within the Corridor are not discussed further, but they are included in Table 3.4-3.

Mammals. The CNDDDB contains no occurrence records in the Santa Clara-Alum Rock Corridor for special-status mammals and none were observed during field surveys. Although as many as two species of bats likely forage along the riparian corridors of the Guadalupe River, Coyote Creek, and Lower Silver Creek, the bridges spanning these urban watercourses provide marginal roosting habitat. These bridges generally do not provide breeding habitat for bats because bats are extremely sensitive to human disturbance.

Amphibians. California red-legged frogs (*Rana aurora draytonii*) occur in the greater San Jose area. However, there is no breeding or aestivation habitat for red-legged frogs in the Santa Clara-Alum Rock Corridor and the CNDDDB contains no records of occurrence of these species within the Corridor.⁹ It is possible that flood events could wash red-legged frog larvae or adults into watercourses in the vicinity of the Corridor. However, it is not likely that they would become established there because preferred stream habitat includes deep pools and quiet backwaters with abundant aquatic vegetation.¹⁰ The creeks that cross the Corridor are relatively slow moving most of the time but lack backwaters and aquatic vegetation and as such provide only marginal habitat for this species.

Reptiles. The slow-moving water and vegetated banks of Coyote Creek provide habitat for the western pond turtle. Turtles could lay eggs on the upper creek banks and within the riparian corridor. Areas outside of the riparian corridors are completely urbanized and do not provide suitable egg-laying habitat for pond turtles. The western pond turtle is a State and federal species of concern, and is

⁸ CDFG (California Department of Fish and Game) 2004. California Natural Diversity Database, Rarefind Version 3.0 Information dated January 5, 2004. Element Code AAAAAA01147. Occurrence # 41.

⁹ CDFG (California Department of Fish and Game) 2004. California Natural Diversity Database, Rarefind Version 3.0 Information dated March 1, 2008.

¹⁰ USFWS (U.S. Fish and Wildlife Service) 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland OR. Viii +173 pp.

protected by CDFG. A western pond turtle was observed in Coyote Creek at the creek crossing during a survey of the Corridor.

Birds. There is no breeding habitat in the highly developed Santa Clara-Alum Rock Corridor for the majority of special-status bird species occurring in the San Jose area (Appendix B, Table 2). The CNDDDB does contain occurrence records within the Corridor for several special-status bird species.

Cattails occurring in the Lower Silver Creek channel provide potential breeding habitat for the tricolored blackbird (*Agelaius tricolor*); however vegetation is cleared from the concrete lined portions of the channel for flood control purposes at regular intervals, further lowering habitat value. Although not reported in the CNDDDB, riparian breeding habitat for the yellow warbler (*Dendroica petechia brewsteri*) occurs adjacent to the Guadalupe River and Coyote Creek. No open fields or grasslands used for foraging by the western burrowing owl, or the American peregrine falcon (*Falco peregrinus anatum*) occur within the Corridor. Although there are occurrences of nesting burrowing owls in the nearby Norman Y. Mineta San Jose International Airport, the Corridor does not provide suitable habitat for this species. The American peregrine falcon generally requires cliffs for nesting, which are not present in the vicinity. However, a pair has an observed nesting on the roof of the City of San Jose's City hall in 2007/2008.

Tall trees occurring in the riparian habitat of the Guadalupe River and Coyote Creek adjacent to the Corridor may provide potential nesting habitat for the Cooper's hawk (*Accipiter cooperii*) although foraging opportunities for these species are not present in the project area.

Invertebrates. Only one special-status invertebrate species is reported as occurring in the San Jose area: the Bay checkerspot butterfly (*Euphydryas editha bayensis*). This species is associated with serpentine habitat or dependent upon their host plant species growing on serpentine soils, neither of which occur within the Santa Clara-Alum Rock Corridor. The Critical habitat also occurs well outside of the project area.¹¹

Fish. Of the five sensitive species of fish or sensitive species Evolutionarily Significant Units (ESU's), only the Central California Coast steelhead DPS (*Oncorhynchus mykiss*) and Chinook salmon (*Oncorhynchus tshawytscha*), have a reasonable potential to occur within the study area (Appendix B, Table 2). A detailed discussion of this species follows.

Steelhead - Central California Coast ESU-Federally Threatened. The Central Coast steelhead are an anadromous form of rainbow trout, which return to freshwater streams to spawn. In February 1994, the National Oceanic and Atmospheric Administration (NOAA) Fisheries identified and established 15 ESU's of west coast steelhead populations (Federal Register 1998). The Central California Coast steelhead ESU was listed as threatened under the *Federal Endangered Species Act of 1973* (FESA) on August 18, 1997, and consists of steelhead populations from the Russian River in Sonoma County south to and including Aptos Creek in Santa Cruz County. This ESU also includes San Francisco Bay

¹¹ Federal Register 2001. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Bay Checkerspot Butterfly (*Euphydryas editha bayensis*); Final Rule. Vol 66, No. 83, p. 21449-21489.

and its tributaries, excluding the Sacramento/San Joaquin River system east of Vallejo, California. Thus, steelhead found in Bay Area streams would potentially belong to the Central California Coast steelhead ESU.

Steelhead populations are known to be present in the Guadalupe River and Coyote Creek. The Santa Clara Valley Water District (SCVWD) does not have any records or evidence of steelhead within Lower Silver Creek (Abel 2001). The location of stream crossings within the Santa Clara-Alum Rock Corridor do not contain suitable spawning or rearing habitat for steelhead. These creeks at these locations only function as migration habitat for steelhead and other salmonids. Lower Silver Creek lacks a well-developed riparian corridor. Lack of riparian cover often results in elevated water temperatures. Field surveys did not result in the observation of steelhead within the project area. In 2005 Coyote Creek, including the segment that passes through the project area, was designated as Critical Habitat for this species (Federal Register 2005).

Chinook salmon—Central Valley Spring run ESU-Federally Threatened, State Threatened. The Chinook salmon, like steelhead, return to fresh water streams to reproduce and is State and federally listed as a threatened species. In recent years, runs of Chinook salmon have been documented in the Guadalupe River and Coyote Creek. The origin of these fish is the subject of much debate among researchers, biologists, agencies, and local environmental groups as the project area is not a part of any of the ESUs defined by NOAA/NMFS.¹² The timing of the run, late July to December, with the bulk of the run in September and October, is consistent with the Central Valley Fall/Late Fall-run Chinook salmon ESU. To date, no Chinook salmon have been documented in Lower Silver Creek (Abel 2001; CNDDDB 2004). The field surveys did not result in the observation of Chinook salmon within the project area.

Regulatory Setting

Federal Endangered Species Act of 1973. Section 3 of FESA defines an endangered species as any species or subspecies “in danger of extinction throughout all or a significant portion of its range.”¹³ A threatened species is defined as any species or subspecies “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”¹⁴ Designated endangered and threatened species, as listed through publication of a final rule in the Federal Register, are fully protected from a “take” without a permit administered by USFWS or NOAA Fisheries as appropriate. A take is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 USC 1532(19)). Proposed endangered or threatened species are those for which a proposed regulation, but not final rule, has been published in the Federal Register. Species protected by the FESA that could occur within the Santa Clara-Alum Rock Corridor include steelhead and the California red-legged frog.

¹² <http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Chinook/Index.cfm>

¹³ Federal Endangered Species Act, Section 3 part 6.

¹⁴ Federal Endangered Species Act, Section 3 part 20.

Section 7 of the FESA requires that federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat. This obligation requires federal agencies to consult with the USFWS on any actions (issuing permits including Section 404 permits, issuing licenses, providing federal funding) that may affect listed species to ensure that reasonable and prudent measures will be undertaken to mitigate impacts on listed species. Consultation with USFWS can be either formal or informal depending on the likelihood of the action to adversely affect listed species or critical habitat. Once a formal consultation is initiated, USFWS will issue a Biological Opinion (either a “jeopardy” or a “no jeopardy” opinion) indicating whether the proposed agency action will or will not jeopardize the continued existence of a listed species or result in the destruction or modification of its critical habitat. A permit cannot be issued for a project with a “jeopardy” opinion unless the project is redesigned to lessen impacts.

Migratory Bird Treaty Act of 1918. The *Migratory Bird Treaty Act* (MBTA) makes it unlawful to “take” (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10.13, including their nests, eggs, or products. The MBTA provides legal protection to over 800 species of birds including many that are common within the project area such as American robin (*Turdus migratorius*), red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), as well as neotropical migrants such as Bullock’s oriole (*Icterus bullockii*), Pacific slope flycatcher (*Empidonax difficilis*), warbling vireo (*Vireo gilvus*), and black-headed grosbeak (*Pheucticus melanocephalus*), and all the species of gull (*Larus* spp) and swallows (Family *Hirundinidae*).

Clean Water Act Section 401. As part of the Army Corps of Engineers (Corps) Section 404 permit review process, the California Regional Water Quality Control Board (RWQCB) issues a Water Quality Certification or waiver under Section 401 of the Clean Water Act. The RWQCB will also review the project for consistency with Waste Discharge Requirements under the State land disposal regulations. In reviewing the project, the RWQCB will consider impacts to waters of the State in addition to filling of federally-protected wetlands. Widening of the bridge over Coyote Creek could likely require a permit from the Corps and hence a 401 Certification from the RWQCB.

Clean Water Act Section 404. Section 404 requires that a permit be obtained from the Corps prior to the discharge of dredged or fill materials into “Waters of the United States or wetlands.” Waters of the United States are broadly defined by the Corps to include navigable waterways, their tributaries, ponds, lakes, and wetlands. Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land) are considered “jurisdictional wetlands.” Several general (Nationwide or Regional) Section 404 permits that streamline the regulatory process exist for certain activities that are deemed to have minimal impacts such as minor road crossings, utility corridor crossings, maintenance, and minor streambank stabilization projects. Projects that do not meet the criteria for general permits require specific individual permits. The Corps is required to consult with USFWS, Environmental Protection Agency, and CDFG in

carrying out its discretionary authority for individual permits under Section 404. Widening of the bridge over Coyote Creek could likely require a permit from the Corps.

State Endangered Species Act. The *California Endangered Species Act* (CESA) declares that deserving plant or animal species will be given protection by the State because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

California Fish and Game Code Section 1600-1616. Under Sections 1600-1616 of the *California Fish and Game Code*, the CDFG prohibits activities that would “substantially divert or obstruct the natural flow of, or substantially change or use any material of the bed, channel, or bank of any river, stream and lake, or deposit or dispose of debris, waste or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream or lake” without consulting with CDFG. Notification is required prior to any such activities and CDFG will issue an Agreement with any necessary mitigation to ensure protection of the State’s fish and wildlife resources. The lack of any precise definitions of river, stream, or lake allows CDFG, as a practical matter, some latitude in determining what physical features qualify.

California Fish and Game Code Sections 3503, 3503.5, 3511, 3513, and 3800. These sections of the *California Fish and Game Code* prohibit the “take, possession, or destruction of birds, their nests or eggs” including 13 species of fully protected birds (Section 3511) that may not be taken or possessed at any time. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a “take”. The *California Fish and Game Code* incorporates the MBTA into Section 3513 thereby providing State protection to species listed in the MBTA (Section 1.2.2). The only species exempt from these take provisions are house sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*).¹⁵ Removal of vegetation required for construction of the project could result in loss of eggs or young unless it is properly scheduled.

Porter-Cologne Water Quality Control Act. The *Porter-Cologne Water Quality Control Act* charges the State Water Resources Control Board (SWRCB) and the nine statewide RWQCBs with protecting water quality throughout California. Typically, the SWRCB and RWQCBs act in concert with the Corps under Section 401 of the *Clean Water Act* in relation to permitting fill of federally jurisdictional waters. The U.S. Supreme Court ruling in the case of the *Solid Waste Agency of Cook County v. U.S. Army Corps of Engineers* limited the regulatory jurisdiction of the Corps under Section 404 of the *Clean Water Act*.¹⁶ This action did not limit the State’s regulatory jurisdiction over Waters of the State.¹⁷ Waters of the State are defined in Section 13050(e) of the *Porter-Cologne Water Quality Control Act* as “...any surface water or groundwater, including saline waters, within the boundaries of

¹⁵ Fish and Game Code of California, Section 3801.

¹⁶ United States Supreme Court, January 9, 2001. *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*. No 99-1178. Also known as the SWANCC decision.

¹⁷ Guzy, G.S. and R.J. Andersen. 2001. Memorandum from the Corps regarding: Supreme Court ruling concerning CWA jurisdiction over isolated waters. Available online at: <http://www.spn.usace.army.mil/regulatory/swancc.pdf>.

the state.”¹⁸ Currently, an applicant would delineate the wetlands on their property utilizing methodology presented in the 1987 *Corps of Engineers Wetland Delineation Manual*¹⁹ and the delineation would be verified by the Corps. In cases where an area meets the criteria to be considered a wetland, but the Corps does not have jurisdiction, the applicant is referred to the appropriate RWQCB. Within the greater San Jose area the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) can exercise its jurisdiction over wetlands where a proposed project does not require a federal permit, but involves removal or placement of material into Waters of the State. In these cases, the project must receive a permit for Waste Discharge Requirements or a Waiver of Waste Discharge Requirements from the SFBRWQCB to proceed. Projects that affect Waters of the State are required by the SFBRWQCB to incorporate mitigation.

Local Regulations.

City of San Jose Municipal Code Chapter 13.28. Chapter 13.28 of the San Jose Municipal Code deals with protection of street trees and heritage trees. This chapter defines street trees as any vegetation over six feet in height growing within a public right-of-way. Street trees themselves are not considered a sensitive resource unless they have been designated as a heritage tree by the City Council as per Section 13.28.330. Heritage trees are those that have been protected because of their size, location, unique qualities or other special significance to the community. Civil penalties are established in Section 13.32.090 for individuals damaging a designated heritage tree. A permit is required for removal and replacement of heritage trees. Replacements ratios and species for trees removed are generally established by the City’s Arborist Inspector during project implementation. While VTA, as a regional agency, is not required to comply with this code, review of the heritage tree list provided by the City’s Arborist indicates that there are no designate heritage trees within the Santa Clara-Alum Rock Corridor.²⁰

Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan. The Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) is a regional partnership between six Local Partners (the County of Santa Clara, Santa Clara Valley Transportation Authority, Santa Clara Valley Water District, and the Cities of San Jose, Gilroy and Morgan Hill) and three Wildlife Agencies (the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service [NMFS-NOAA Fisheries]). The HCP/NCCP addresses the conservation of natural communities, endangered species, and other less sensitive species of native wildlife. The purpose of this will be to encourage and simplify the process of conserving sensitive habitats for special-status species. Once the Plan is approved, it will likely allow for incidental take of covered species with the requirement of mitigation of lost habitat at approved ratios. This HCP/NCCP is in the development stages and is projected to be adopted in 2010.

¹⁸ Porter-Cologne Water Quality Control Act with additions and amendments, Effective January 1, 2002.

¹⁹ Environmental Laboratory 1987. *Corps of Engineers Wetland Delineation Manual*. Wetlands Research Program Technical Report Y-87-1 (on-line edition). Available online at: <http://www.spk.usace.army.mil/pub/outgoing/co/reg/wlman87.pdf>.

²⁰ Resolution No. 69745. Resolution of the Council of the City of San Jose designating certain trees as heritage trees, placing said trees on the heritage tree list, and deleting certain trees therefrom, and repealing resolution No. 60892. Adopted June 17, 2008

Impact Assessment and Mitigation Measures

Approach and Methodology

Project plans for the proposed project were incorporated into a project-specific Geographic Information System (GIS). Habitats mapped at each of the creek crossings were included in this GIS. This allowed for a calculation of total acres of habitat within the Corridor, as well as acres of habitat that could be impacted by the proposed project.

The potential effects on special-status species were evaluated by assessing the presence and quality of habitats within the Corridor that these species typically prefer. The proposed project was not considered to have an effect on species for which suitable habitat did not exist within the Corridor. Because the Santa Clara-Alum Rock Corridor is almost completely urban, there is limited habitat for wildlife. As mentioned above, sensitive plant species reported in this area are typically associated with habitats and soil types not found in the Corridor. Some of the stream crossings support riparian habitats that in turn can support sensitive wildlife species.

Standards of Significance

Based on significance criteria used by VTA, the proposed project may result in substantial adverse effects related to biological resources if they would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the CDFG or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in regional plans, policies, or regulations or by the CDFG or USFWS;
- have a substantial adverse effect on federally-protected wetlands as defined in Section 404 of the *Clean Water Act* (including, but not limited to, marshes, vernal pools, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- conflict with the provisions of an adopted habitat conservation plan (HCP), a natural community conservation plan (NCCP), or other approved local, regional, or State HCP.

Impacts in any of the above categories would be considered *unavoidable significant* effects if they could not be (a) eliminated, (b) avoided or minimized by redesign or relocation of some components of the proposed project, (c) reduced to a less-than-significant level, or (d) compensated for by replacement of equal habitat extent and value.

Mitigation measures provided within this section are intended to reduce the potential impacts to sensitive resources described above. Should a regulatory agency (USFWS, CDFG, Corps, RWQCB, etc.) determine that an impact would not occur (because a species or habitat is determined not to be present) or additional mitigation measures would be required, changes proposed by the agencies will take precedence over the mitigation measures included in this section.

Environmental Analysis

In order to determine biological resources impacts due to construction and operation of the project, a level of significance is determined and reported in the impact statement. Conclusions of significance are defined as follows: significant (S), potentially significant (PS), less than significant (LTS), no impact (NI), and beneficial (B). If the mitigation measures would not diminish potentially significant or significant impacts to a less-than-significant level, the impacts are classified as “significant and unavoidable (SU).” For this section, BIO refers to Biological Resources.

For the purposes of this analysis, the proposed project includes the implementation of BRT and Single Car LRT in the Santa Clara-Alum Rock Corridor in two phases. Phase 1 includes the implementation of BRT service and Phase 2 includes the implementation of Single Car LRT service. Potential biological resources impacts associated with the BRT Phase or the Single Car LRT Phase, are essentially identical except for LRT over Coyote Creek. Most biological resources potentially affected by the proposed project are associated with the creek crossings. The four creeks within the project area are Lower Silver Creek, Coyote Creek, the Guadalupe River, and Los Gatos Creek. The BRT Phase would cross all four of these creeks but require no modifications to the existing bridges and therefore not impact resources in these locations. The Single Car LRT Phase would cross Lower Silver Creek, Coyote Creek, and the Guadalupe River, as well as Los Gatos Creek under Single Car LRT Alignment Option 1. Work on the surface of the Lower Silver Creek and Guadalupe River bridges, as well as the Los Gatos Creek bridge under Single Car LRT Alignment Option 1, would be required, but the structures themselves would not be altered. However, the Single Car LRT Phase would require the widening of the bridge over Coyote Creek. Because the project phases are so similar, they are combined in the following discussion of effects. Instances in which project effects would differ between the two phases are described as necessary.

Potential impacts associated with the extension of transit services in the Capitol Expressway Corridor were analyzed in the Capitol Expressway Light Rail Final Supplemental Environmental Impact Report (FSEIR) dated January 2007, which is incorporated herein by reference. Potential impacts of the proposed project not analyzed in the Capitol Expressway Light Rail FSEIR are described below, as necessary.

*BIO-1. Implementation of either the proposed project would have no effect on special-status plants.
(NI)*

The majority of the sensitive plant species that have the potential to occur within the 7.5-minute USGS San Jose East and San Jose West quadrangles are species that are endemic to serpentine

or alkaline soils, or habitats that are not found within the Corridor (Table 3.4-3). Therefore, there will be no impact to these species from the proposed project.

BIO-2. Implementation of the proposed project would have no effect on riparian and aquatic habitat at Los Gatos Creek, Guadalupe River, and Lower Silver Creek. (NI)

There would be no modifications to the support structures on the bridges that cross Los Gatos Creek, the Guadalupe River, or Lower Silver Creek with implementation of the proposed project. Therefore, the proposed project is not expected to pose any adverse effects to Central California Coast DPS steelhead or Chinook salmon in the Guadalupe River. No effects are expected to either species in Lower Silver Creek, as neither species is known to be present. For this reason, the proposed project would have no impact on the riparian corridors or aquatic habitats of these three creeks.

BIO-3. The loss of urban landscaping and ruderal habitats associated with implementation of the proposed project would have a less-than-significant impact on biological resources. (LTS)

Project construction throughout the Santa Clara-Alum Rock Corridor, including roadway changes associated with both phases, would result in the loss of urban landscaping and ruderal habitats throughout the Corridor. The loss of urban landscaping and ruderal habitats would not represent a significant impact because these habitats have negligible habitat values for native plant and wildlife species.

Construction of either phase in the Santa Clara-Alum Rock Corridor would result in the removal of street trees due to roadway work and the construction of station platforms. Street trees within the Corridor typically include sycamores, Chinese pistache, magnolias, ash, oaks, and palms. Because none of these are considered sensitive by CDFG, the removal of street trees themselves would have a less-than-significant impact. However, many of these street trees are large enough to provide bird nesting habitats. Potential project impacts to nesting birds is discussed in Impact Bio-4.

BIO-4. The removal of street trees, riparian habitat, and other vegetation within the project area could result in disturbances to nesting birds. (S)

Nesting birds, their nests, and eggs are fully protected by the *California Fish and Game Code* (Sections 3503, 3503.5) and the MBTA. Swallows may nest on bridges within the Corridor and are protected by the MBTA. Sensitive species of birds such as the yellow warbler (*Dendroica petechia*) may nest in the riparian vegetation at Coyote Creek. Removal of vegetation or other structures that lead to loss of eggs or young would be considered a significant impact.

MITIGATION MEASURES. The following mitigation measures would reduce the effects related to tree removal to a less-than-significant level. (LTS)

BIO-4.1 Construction activities will, to the extent practicable, be timed to avoid vegetation removal during the nesting season (typically February 1st to August 31st). If

vegetation is removed outside the nesting season, there would be no impact and mitigation would not be required.

If removal of vegetation must occur during the nesting season, then a qualified biologist shall conduct a preconstruction nesting surveys in suitable nesting habitat where construction activities would occur, plus a 250 foot buffer, no more than two weeks prior to construction to determine if nesting birds are present. If nesting birds are present, a suitable buffer zone, as determined through coordination with CDFG or USFWS, shall be observed and construction activities shall be suspended in this zone until future surveys indicate that chicks have fully fledged (left the nest). If vegetation has not been removed within two weeks of the survey, another survey shall be conducted to ensure birds have not started nesting within the construction area.

Installation of bird exclusion netting on the Coyote Creek Bridge prior to the nesting season will alleviate the need for preconstruction surveys provided the netting is maintained in good repair and prevents birds from nesting on the structures. If the exclusion netting should fail to prevent birds from nesting on the structures, or not installed, an alternative measure could include removal of nests prior to the onset of nesting season, but this would require more monitoring to ensure the birds do not return and rebuild the nests.

BIO-4.2 Street trees removed or damaged by construction activities shall be replaced with plantings of the same tree species, or native tree species in accordance with streetscape guidelines established by the City of San Jose. Additionally, to be in compliance with Executive Order 13112, which addresses invasive species, all replacement trees shall be California native species.²¹ Street trees greater than 12 inches in diameter at breast height (DBH) shall be replaced at a 3:1 ratio (new : removed) with the same species. If trees to be replaced are less than 12 inches DBH, a replacement ratio of 2:1 shall be used.

Mature trees designated for retention shall be preserved by installing temporary fencing at the drip line of trees prior to construction. There shall be no construction activity, storage of materials, or worker parking within the drip lines of these trees.

BIO-5. Widening of the Coyote Creek Bridge associated with implementation of the Single Car LRT Phase may affect the aquatic, wetland, and riparian habitat at Coyote Creek. (S)

Where the Santa Clara-Alum Rock Corridor crosses Coyote Creek, the project could result in impacts to the creek and its associated riparian corridor and the biological resources within the aquatic and riparian habitats. Project plans detail the widening of the East Santa Clara Street Bridge over Coyote Creek with the implementation of Single Car LRT. This would require the

²¹ Federal Register, 1999. Presidential Documents, Executive Order 13112 of February 3, 1999. Vol. 63, No. 25. pp 6183. Section 2(2)(iv).

clearing and construction of support structures on one or both sides of the existing bridge (Figure 3.4-1). Bridge construction would result in the permanent removal of adjacent riparian corridor because the width of the bridge would be increased. Also, widening of this bridge is projected to require intrusion into the riparian habitat about 30 feet beyond the width of the expanded bridge on each side. Widening of this bridge would result in the permanent and temporary loss of sensitive habitats. The wider bridge would result in the permanent loss of 0.04 acres of Mixed Riparian Forest and ~~about 130 square feet (0.003 acres)~~ of Emergent Wetland on each side for a total of 0.08-acres of mixed riparian forest, and 0.006 acres ~~about 260 square feet~~ of Emergent Wetland. This permanent loss of sensitive habitats would be considered a significant impact.

Construction is estimated to require the temporary removal of ~~0.14~~0.24 acres of Mixed Riparian Forest and ~~about 348 square feet (0.008~~0.016 acres) of Emergent Wetland ~~on each side~~. Because sensitive habitats would be affected, even if they are restored following construction, this would be considered a significant impact. Additionally, as further discussed in BIO-6, any construction that involves placement of crews or equipment within the creek has the potential to significantly affect the aquatic habitat and the species that use this habitat primarily through release of contaminants and habitat modification.

Implementation of BRT service would not require modification of Coyote Creek Bridge; therefore, there would be no impact to sensitive aquatic resources or riparian habitat in this location associated with BRT.

MITIGATION MEASURES. The following mitigation measures would reduce effects on aquatic and riparian habitats associated with the implementation Single Car LRT service in the Corridor to a less-than-significant level. (LTS)

BIO-5.1 Restore aquatic, wetland, and riparian habitat. Permanent removal of 0.08 acres of Mixed Riparian Forest and 0.006 acres of Emergent Wetland, and temporary removal of an additional 0.24 acres of Mixed Riparian Forest and 0.016 acres of Emergent Wetland in Coyote Creek in the vicinity of the Coyote Creek Bridge would require mitigation. The resource agencies are currently expecting

mitigation to occur either onsite, or at an approved mitigation bank, at a minimum ratio of 1:1, or at another ratio determined by the agencies (restored : impacted).²²

Therefore, a ~~total minimum~~ of ~~0.32-0.22~~ acres of Mixed Riparian Forest and 0.03 acres of Emergent Wetland would have to be restored within Coyote Creek (Table 3.4-4). ~~Of this, the~~ Construction impacts would be temporary and these areas can be restored following construction. However, it is possible that the resource agencies would require off-site mitigation even for the temporary construction impacts.

**Table 3.4-4
Mixed Riparian and Emergent Wetland Habitat Impacts (Acres)**

Habitat	Loss			Mitigation (1:1 minimum)
	Permanent	Temporary	Total	Total
Mixed Riparian	0.08	0.24	0.32	0.32
Emergent Wetland	0.006	0.016	0.022	0.022

Source: PBS&J.

Areas suitable for riparian restoration are becoming difficult to find in the Santa Clara Valley.²³ There is also a planned flood improvement project on Coyote Creek that could remove mitigation if not properly coordinated. Because mitigation cannot be accommodated entirely on-site, VTA shall investigate the adjacent reaches of Coyote Creek for additional mitigation opportunities. If mitigation cannot be conducted adjacent to the area of disturbance, VTA shall coordinate with resource agency personnel (CDFG and SCVWD) to identify other potential riparian mitigation sites within the watershed. Assuming the adoption of the HCP/NCCP another option would be to pay fees into the HCP/NCCP for offsite preservation/restoration of these habitats.

A qualified biologist, in coordination with resource agency personnel, shall develop a riparian mitigation and monitoring plan. The plan shall include:

- Replacement of ~~0.54-0.32~~ acres (minimum ratio of 1:1; or at another ratio determined by the agencies) of ~~riparian~~-Mixed Riparian habitat including riparian values and functions;
- Replacement of 0.022 acres (minimum ratio of 1:1; or at another ratio determined by the agencies) ~~390 square feet~~ of Emergent Wetland habitat;

²² EIP Associates 2004. Memorandum dated May 14, 2004 from D. Ebert to M. Kay regarding riparian restoration costs and constraints for the VTA – Santa Clara/Alum Rock Corridor project (10558-02).

²³ EIP Associates 2004. Memorandum dated May 14, 2004 from D. Ebert to M. Kay regarding riparian restoration costs and constraints for the VTA – Santa Clara/Alum Rock Corridor project (10558-02).

- Identification of the locations where mitigation shall take place;
- Replacement of plantings that are in-kind using locally collected plant materials to the maximum extent practicable;
- Removal of non-native species to be replaced with commercially-available native species common to the planting area;
- Irrigation of plantings through the end of the monitoring period;
- Monitoring of the restoration project by a qualified biologist for a period of five years, with annual monitoring reports submitted to the resource agencies. Success criteria shall be determined for plant survival, percent cover, health and vigor of plants, and/or other criteria as determined in consultation with the resource agencies, but an 80 percent survival rate is typically standard;
- ~~Replanting~~ If at any time during the five-year monitoring period survival is less than the success criteria; a qualified biologist, in consultation with the resource agencies, shall 1) determine the cause of mortality and 2) modify the replacement plant palette and planting density to ensure successful replacement. Replanting shall then occur; and
- Develop an adaptive management strategy for the restoration effort in consultation with the agencies to ensure success of the restoration effort in the face of changing site conditions.

BIO-5.2 *Obtain Streambed Alteration Agreement.* Any activities that require modification of the stream banks or placement of work crews or equipment into the channel of Coyote Creek would require a permit from the Corps, a Streambed Alteration Agreement from CDFG, a Section 401 Clean Water Certification from RWQCB, and a permit from SCVWD. VTA shall obtain the appropriate permits from the Corps, CDFG, RWQCB, and SCVWD. The key in obtaining these permits is to minimize intrusion into the creek, have a completed mitigation plan (see Mitigation BIO-5.1), conduct preconstruction surveys for sensitive species (see Mitigation BIO-4.1, BIO-6.2, and BIO-7.1), and conduct work during the time of year when salmonids are not present (see Mitigation Measure BIO-6.1). Consultation may be required with USFWS and NOAA Fisheries under Section 7 of the FESA as part of the Corps permitting process.

BIO-6. *Widening of the Coyote Creek Bridge associated with implementation of Single Car LRT service may affect sensitive aquatic species in Coyote Creek. (S)*

The construction of proposed project in the Santa Clara-Alum Rock Corridor is not expected to pose any impacts to steelhead or Chinook salmon in the Guadalupe River as conceptual plans do not indicate any alterations to the crossing or its habitats. No impacts are expected to either species in Lower Silver Creek, or Los Gatos Creek, as neither species is known to be present in the creek. However, potentially significant impacts may occur to steelhead or Chinook

salmon in Coyote Creek. Coyote Creek supports runs of Central California Coast ESU steelhead which are federally listed as threatened species. It is unclear which ESU the Chinook recorded from Coyote Creek belong to, as this creek is not a part of the defined ranges of any designated ESU²⁴, and therefore it is difficult to determine their protection status. Coyote Creek at the Santa Clara Avenue Bridge does not contain spawning or rearing habitat for either of these species, but could be used as a migration corridor. As described above, the Single Car LRT Phase includes the widening of the Coyote Creek Bridge. Because construction details are not known at this time, it has been assumed that the creek-side intrusion zone indicated in the drawings would be subject to complete removal of vegetation and the presence of workers and equipment. Utilizing these assumptions, construction activities could impact steelhead or Chinook if they were present during construction. Because both steelhead and Chinook salmon are protected by State and federal laws, impacts from construction of the bridge to these species would be potentially significant. Assessment of effects to listed fish species would need to be addressed during a Section 7 consultation with NOAA Fisheries conducted as part of the Corps' permitting process.

Although this area of Coyote Creek is not known to support California red-legged frogs, this species could occur here following storms that transport the larvae or adults from known populations in upstream areas. Any activities within the stream or riparian areas could affect this species if they are present. Because the red-legged frog is federally threatened and is a CDFG species of concern, activities that affect this species would be considered a significant effect.

A western pond turtle was observed within Coyote Creek during field surveys. Removal of riparian vegetation required for construction of the Single Car LRT Phase could result in significant impacts to this species if they remain in the immediate area of the Coyote Creek Bridge.

MITIGATION MEASURES. The following mitigation measures would reduce the effects on salmonid fishes, California red-legged frogs and western pond turtles to a less-than-significant level. (LTS)

BIO-6.1 To avoid adverse effects to steelhead and Chinook salmon, construction activities in Coyote Creek associated with the Single Car LRT Phase shall take place during non-migration periods. This means construction activities within the creek and riparian corridor shall be restricted to ordinarily dry-weather months (June 15th to October 15th) when steelhead and Chinook salmon are not likely to be migrating. Additionally, assessment of effects to listed fish species may need to be addressed during a Section 7 consultation with the NOAA Fisheries conducted as part of the Corps permitting process (see Mitigation Measure BIO-5.2).

²⁴ <http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Chinook/Index.cfm>

BIO-6.2 Preconstruction surveys for the California red-legged frog and western pond turtles shall be conducted by a qualified biologist prior to the start of work within the riparian or aquatic habitats of Coyote Creek. If these species are not present, then there would be no impact to them and no further mitigation is required. If these species are found, any individuals found shall be removed from the work area by an approved biologist in consultation with the USFWS or CDFG. Exclusion methods may include the installation of netting, silt fencing or similar appropriate materials around the work area, followed by daily surveys of the work area prior to construction activities shall be conducted to ensure these species do not enter the work area.