4.9 BIOLOGICAL RESOURCES

This section addresses biological resources that could be affected by implementation of the proposed project. The information presented in this section is based on review of existing documents, aerial photography, habitat maps, biological resource databases, and field survey results. The following documents were the primary sources of information for this biological resources analysis.

- Dry Creek Coordinated Resource Management Plan, Placer and Sacramento Counties, California (ECORP 2003)
- Biological Resources Assessment: Downtown Vernon Street and Historic Old Town Specific Plan Area, Roseville, Placer County, California (EDAW 2007) (see Appendix D)

A reconnaissance-level field assessment of the Plan area within 100 feet of Dry Creek was also conducted by EDAW biologists Lynn Hermansen, Erin McDermott, and Dana Terry on October 3, 2006. Additional documents that provided information relevant to this analysis are cited throughout this section, and corresponding references are included in Chapter 9, "References."

This project DEIR has been prepared to meet the requirements of a project-level EIR. The City's intention in preparing this project EIR is that no further environmental review under CEQA would be required for subsequent projects which are consistent with the Specific Plan to provide for the streamlined approval of projects proposed within the Plan area that are consistent with land use designations, adhere to design guidelines (specifically prototype development), or fall within the scope of the Specific Plan and EIR.

4.9.1 EXISTING CONDITIONS

REGIONAL CONTEXT

The Plan area is located in and around the downtown area of the City of Roseville in Placer County (see Exhibit 3-2 in Chapter 3, "Project Description"). The Plan area includes 159 acres in Roseville's Downtown Vernon Street and Historic Old Town districts, and is located within the Citrus Heights and Roseville USGS 7.5-minute topographic quadrangles, in the southeastern portion of the Sacramento Valley.

GENERAL DESCRIPTION

The majority of the Plan area is heavily urbanized and offers little habitat for native plants and wildlife. One important exception is the riparian corridor along Dry Creek which provides habitat for many native species (Exhibit 4.9-1). Dry Creek is a perennial stream and qualifies as a protected "Water of the U.S." subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the federal Clean Water Act. Dry Creek flows through the middle of the City of Roseville within a deeply incised channel. Within the Plan area, the creek flows from north to south and ranges in width between 40 and 80 feet. The creek banks are generally very steep, ranging from 10 to 30 feet in height, and in some places are nearly vertical. There are numerous bank sections where riprap, concrete chunks, gabions, jute netting, and other materials have been placed over time to stabilize the eroding creek banks. Several culverts discharge water from storm drains directly into the creek.

Dense urban development characterizes the area adjacent to the entire west edge of the creek as well as the east edge of the creek north of Lincoln Road. South of Lincoln Road, Dry Creek is bordered by two municipal parks which contain lawns, sports playing fields, playgrounds, and picnic areas. A paved walking/bike path runs along the eastern edge of the creek for a portion of the Plan area. Two vehicular bridges and two pedestrian bridges cross the creek.

Source: EDAW 2007

Existing Dry Creek Habitats **Exhibit 4.9-1**

HABITAT TYPES

Vegetation communities in the Plan area include riparian woodland, ruderal, and landscaped/ developed lands (see Exhibit 4.9-1). A large portion of the Plan area consists of the open water channel of Dry Creek which is unvegetated.

Riparian Woodland

Riparian woodland in the Plan area occurs as a narrow band between Dry Creek and developed areas such as parks, walking paths, and parking lots. However, a stand of high quality riparian woodland composed of mature native trees is present adjacent to the creek in the northeast portion of the Plan area, north of Lincoln Road, (see Exhibit 4.9-1). In sections along the east side of the creek, the tree canopy is continuous with planted street and park trees. Characteristic native tree species of within this portion of the Plan area include white alder (*Alnus rhombifolia*), Fremont cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), Oregon ash (*Fraxinus latifolia*), western sycamore (*Platanus racemosa*), arroyo willow (*Salix lasiolepis*), sandbar willow (*Salix exigua*), and California box elder (*Acer negundo* ssp. *californicum*). Characteristic native plant species present in the understory include coyote brush (*Baccharis pilularis*), mugwort (*Artemisia douglasiana*), California button-willow (*Cephalanthus occidentalis*), western goldenrod (*Euthamia occidentalis*), and western ragweed (*Ambrosia psilostachya*). Non-native plant species present in the understory include Himalayan blackberry (*Rubus discolor*), tree of heaven (*Ailanthus altisimma*), southern catalpa (*Catalpa bignonioides*), glossy privet (*Ligustrum lucidum*), eastern cocklebur (*Xanthium strumarium*), firethorn (*Pyracantha angustifolia*), and sweet fennel (*Foeniculum vulgare*) (EDAW 2007).

Ruderal Vegetation

Ruderal vegetation is typical of disturbed lands on which the native vegetation has been completely removed by human activities such as grading, disking, cultivation, or other surface disturbances. Disturbed areas, if left undeveloped, may become colonized by exotic species as well as native species. Native vegetation may ultimately become at least partially restored if the soils are left intact and there is no further disturbance.

Within the Plan area, ruderal vegetation is present adjacent to paved surfaces such as roads and walking paths. Ruderal vegetation on-site primarily includes non-native annual grasses and forbs typical of local non-native annual grassland including the following observed species: Italian ryegrass (*Lolium multiflorum*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), hare barley (*Hordeum murinum* var. *leporinum*), black mustard (*Brassica nigra*), bristly ox-tongue (*Picris echioides*), sweet fennel, eastern cocklebur, horseweed (*Conyza canadensis*), and yellow-star thistle (*Centauria soltitialis*). Native species present include tall willow-herb (*Epilobium brachycarpum*), dense-flowered willow-herb (*Epilobium densiflorum*), and mugwort, all of which are common in disturbed habitats (EDAW 2007).

Landscaped and Developed Lands

Landscaped and developed lands cover most of the Plan area. Landscaped areas include Saugstad Park and Royer Park. Ornamental trees planted in the Plan area include London plane tree (*Platanus acerifolia*), magnolia (*Magnolia* sp.), camphor tree (*Cinnamomum camphorum*), ash (*Fraxinus* sp.), elm (*Ulmus* sp.), African sumac (*Rhus lancea*), deodar cedar (*Cedrus deodara*), and coast redwood (*Sequoia sempervirens*), among others (EDAW 2007).

WILDLIFE

Riparian habitat along Dry Creek provides suitable habitat for a wide variety of wildlife species. Large riparian trees along the creek are likely used for nesting and cover by many bird species including western wood-pewee (*Contopus sordidulus*), black-headed grosbeak (*Pheucticus melanocephalus*), tree swallow (*Tachycineta bicolor*),

and Cooper's hawk (*Accipiter cooperii*), and could also be utilized as roosting habitat for some bat species such as red bat (*Lasiurus borealis*) and California myotis (*Myotis californicus*). Riparian canopies also provide nesting and foraging habitat for common mammals such as western gray squirrel (*Sciurus griseus*). Understory shrubs provide cover for ground-nesting birds including spotted towhee (*Pipilo maculatus*). Shrubs and fallen logs also provide cover for small mammals, reptiles, and amphibians that forage among the vegetation and leaf litter. The perennial aquatic habitat also provides potential breeding sites for common amphibian species such as Pacific chorus frog (*Pseudacris regilla*), and foraging habitat for reptiles, mammals, and birds such as common garter snake (*Thamnophis sirtalis*), raccoon (*Procyon lotor*), belted kingfisher (*Ceryle alcyon*), and mallard (*Anas platyrhynchos*).

The grass-dominated ruderal patches within the Plan area are likely to support native mammal and bird species that are common in open, disturbed habitats and feed on seeds or herbaceous growth including California vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), and house finch (*Carpodacus mexicanus*). These prey species and insects such as grasshoppers attract generalist predators that occur in a variety of habitats, including American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), gopher snake (*Pituophis catenifer*), and western fence lizard (*Sceloporus occidentalis*).

Urban and landscaped areas do not generally provide important habitat for native wildlife. Non-native species that are common in urban areas include house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and Norway rat (*Rattus norvegicus*). Native wildlife species found in these environments include raccoon, American crow (*Corvus brachyrhynchos*), and mourning dove (*Zenaida macroura*).

FISHERIES

Dry Creek is host to a diverse assemblage of native and introduced fish species, both resident and anadromous (i.e., species that spawn in fresh water after migrating as adults from marine habitat). Native species documented within Dry Creek include the anadromous Central Valley steelhead (*Oncorhynchus mykiss*), Central Valley fall/ late-fall run chinook salmon (*Oncorhynchus tshawytscha*), and Pacific lamprey (*Lampetra tridentata*), and the resident Sacramento pikeminnow (*Ptychocheilus grandis*), hitch (*Lavinia exilicauda*), and Sacramento sucker (*Catostomus occidentalis*) (Vanicek 1993). Dry Creek also supports a variety of introduced species, such as bluegill (*Lepomis macrochirus*), green sunfish (*Lepomis cyanellus*), bass (*Micropterus* spp.), bullhead (*Ameiurus* spp.), common carp (*Cyprinus carpio*), western mosquitofish (*Gambusia affinis*), fathead minnow (*Pimephales promelas*), and golden shiner (*Notemigonus crysoleucas*) (Vanicek 1993, GANDA 1999, ECORP 2003).

Numerous fishery studies have been completed for the Dry Creek watershed and the results are summarized in the Dry Creek Watershed Coordinated Resource Management Plan (ECORP 2003). Fisheries habitat elements were assessed on a reach-by-reach basis within the Dry Creek Watershed Management Plan. The reach of Dry Creek within the Plan area, Douglas Boulevard to Folsom Road (Reach Number 20), is characterized as having fair cover in the form of remnant riparian and landscaped vegetation. Although a few riffles and pools are present, most of the reach is channelized and the overall quality is considered to be fair to poor for native fish species (ECORP 2003).

SPECIAL-STATUS SPECIES

Special-status species include plants and animals that are legally protected or are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Special-status species addressed in this section include:

- Species listed, proposed for listing, or considered candidates for listing as threatened or endangered under the federal and/or state Endangered Species Acts (ESA and/or CESA);

- Species identified by the California Department of Fish and Game (DFG) as California Species of Special Concern;
- Animals fully protected in California under the California Fish and Game Code (Sections 3511, 4700, 5050, and 5515);
- Plants listed as Endangered or Rare under the California Native Plant Protection Act; and/or
- Plants designated by the California Native Plant Society (CNPS) as List 1B (plants rare, threatened or endangered in California and elsewhere) or List 2 (plants rare, threatened or endangered in California but more common elsewhere).

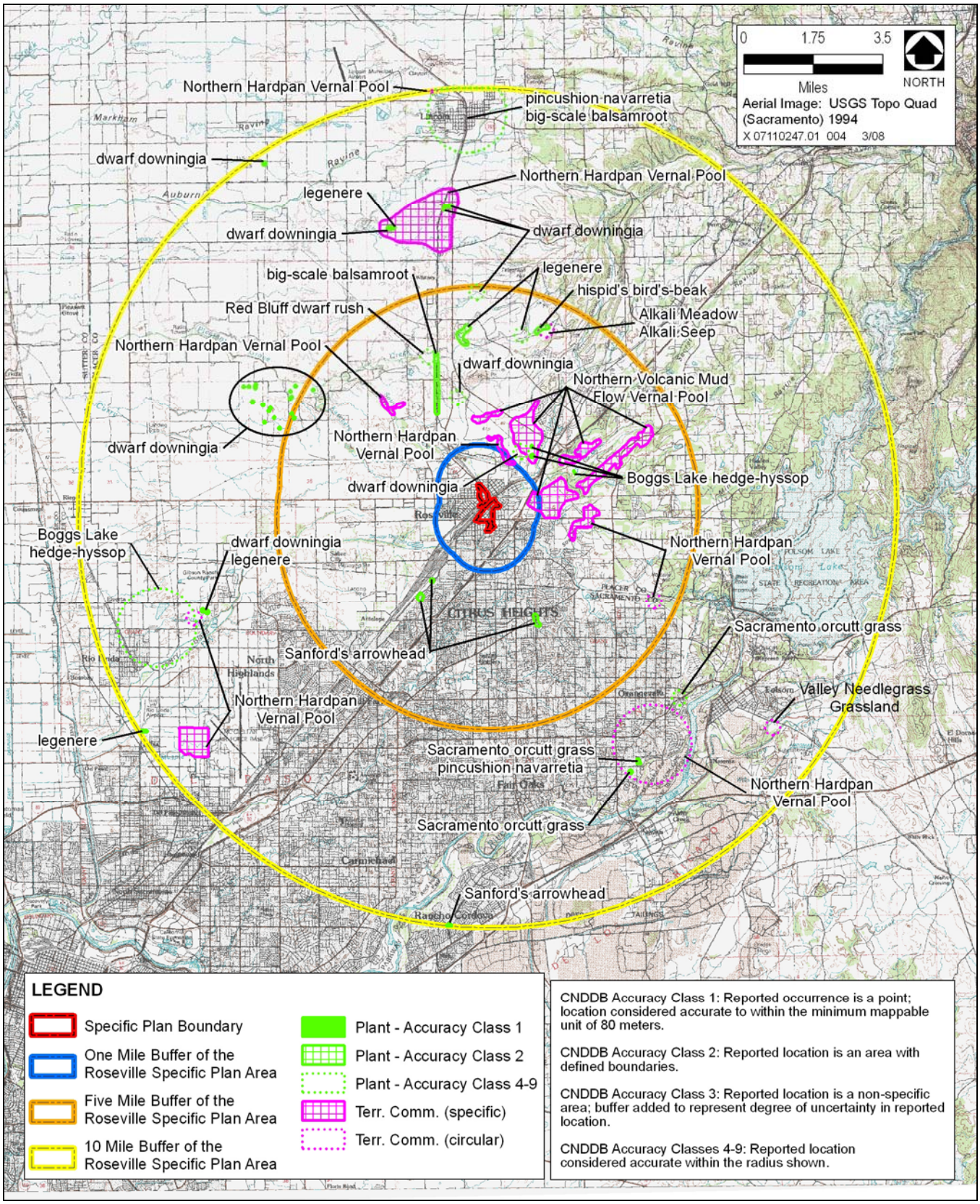
The term "California Species of Special Concern" is applied by DFG to animals that are not listed under ESA or CESA but are nonetheless declining at a rate that could result in future listing, or that historically occurred in low numbers and currently face known threats to their persistence. For species classified as "fully protected" under the California Fish and Game Code, "take" (any activity likely to directly or indirectly kill an individual) is prohibited under any circumstances. CNPS rare plant designations are used by both the U.S. Fish and Wildlife Service (USFWS) and DFG when considering formal species protection under ESA and CESA, and provide one source of evidence used by lead agencies to determine which plants meet the definition of endangered, rare, or threatened species, as described in Section 15380 of the State CEQA Guidelines.

An evaluation of special-status species with potential to occur in and adjacent to the Plan area was conducted and based on searches of DFG's California Natural Diversity Database (CNDDB) (2007), the Sacramento USFWS database of federally listed species that may be affected by projects in the region (USFWS 2006b), and the CNPS Electronic Inventory of Rare and Endangered Plants of California (CNPS 2006), as well as review of existing biological resource documents. CNDDB, USFWS, and CNPS inventory and searches were conducted for the Citrus Heights USGS 7.5-minute quadrangle and the eight adjacent quadrangles. Although the CNDDB is the most current and reliable tool for tracking occurrences of special-status species, it is important to note that is contains only those records that have been reported to DFG and additional species occurrences may exist in the area.

Special-status Plants

Based on literature and database reviews, a reconnaissance-level site evaluation, and a familiarity of the biologists with the region's flora, 17 special-status plant species were evaluated for potential to occur within the greater region surrounding the City of Roseville (EDAW 2007). Seven of these species have been documented within 5 miles of the Plan area: Sanford's arrowhead (*Sagittaria sanfordii*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), legenere (*Legenere limosa*), and hispid birds-beak (*Cordylanthus mollis* ssp. *hispidus*); and an additional two species have been documented within 10 miles of the Plan area: Sacramento orcutt grass (*Orcuttia viscida*) and pincushion navarretia (*Navarretia myersii* ssp. *myersii*) (see Exhibit 4.9-2) (CNDDB 2007). The additional eight species considered in this analysis include Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), slender orcutt grass (*Orcuttia tenuis*), sylvan microseris (*Microseris sylvatica*), hoary navarretia (*Navarretia eriocephala*), tripod buckwheat (*Eriogonum tripodum*), stinkbells (*Fritillaria agrestis*), and Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*) (EDAW 2007).

None of the 17 special-status plant species evaluated have potential to occur within the Plan area because the required habitat types are not present (EDAW 2007). The Plan area is limited to riparian, ruderal, landscaped, and developed habitats, while the special-status species present in the region are restricted to other specialized natural habitats not present in the Plan area including cismontane woodland, coniferous forest, chaparral, pinyon and juniper woodland, valley/foothill grassland, vernal pools, meadows and seeps, marshes and swamps, and lake margins. A table outlining the listing status and habitat requirements of each individual species is provided in the Biological Resources Assessment (see Appendix D).



Special-status Plant Occurrences within 10 Miles of the Project Site **Exhibit 4.9-2**

Special-status Animals

Based on literature and database reviews, a reconnaissance-level site evaluation and a familiarity with the region's fauna, 63 animal species of conservation concern were considered to have at least some potential to occur within the greater region surrounding the City of Roseville (EDAW 2007). The majority of these species, however, were dismissed from further review either because the Plan area is out of the species' current geographic or elevation range (e.g., California red-legged frog), the species' required habitats (e.g., vernal pools, coniferous forest) are not present in the Plan area, or the species are not formally classified as special-status following the definition above (e.g., great blue heron, great egret). Exhibits 4.9-3 and 4.9-4 identify the locations of where CNDDB-tracked invertebrate and vertebrate species occur within 10 miles of the Plan area (CNDDB 2007).

A total of 13 special-status wildlife and fish species determined to have potential to occur in the Plan area and are discussed below. Table 4.9-1 provides information on the species' regulatory status, habitat requirements, and an assessment of their potential for occurrence, and each species is discussed in more detail following the table. Additional information on these and other species evaluated as part of this analysis is provided in the Biological Resources Assessment (see Appendix D).

Special-status Invertebrates

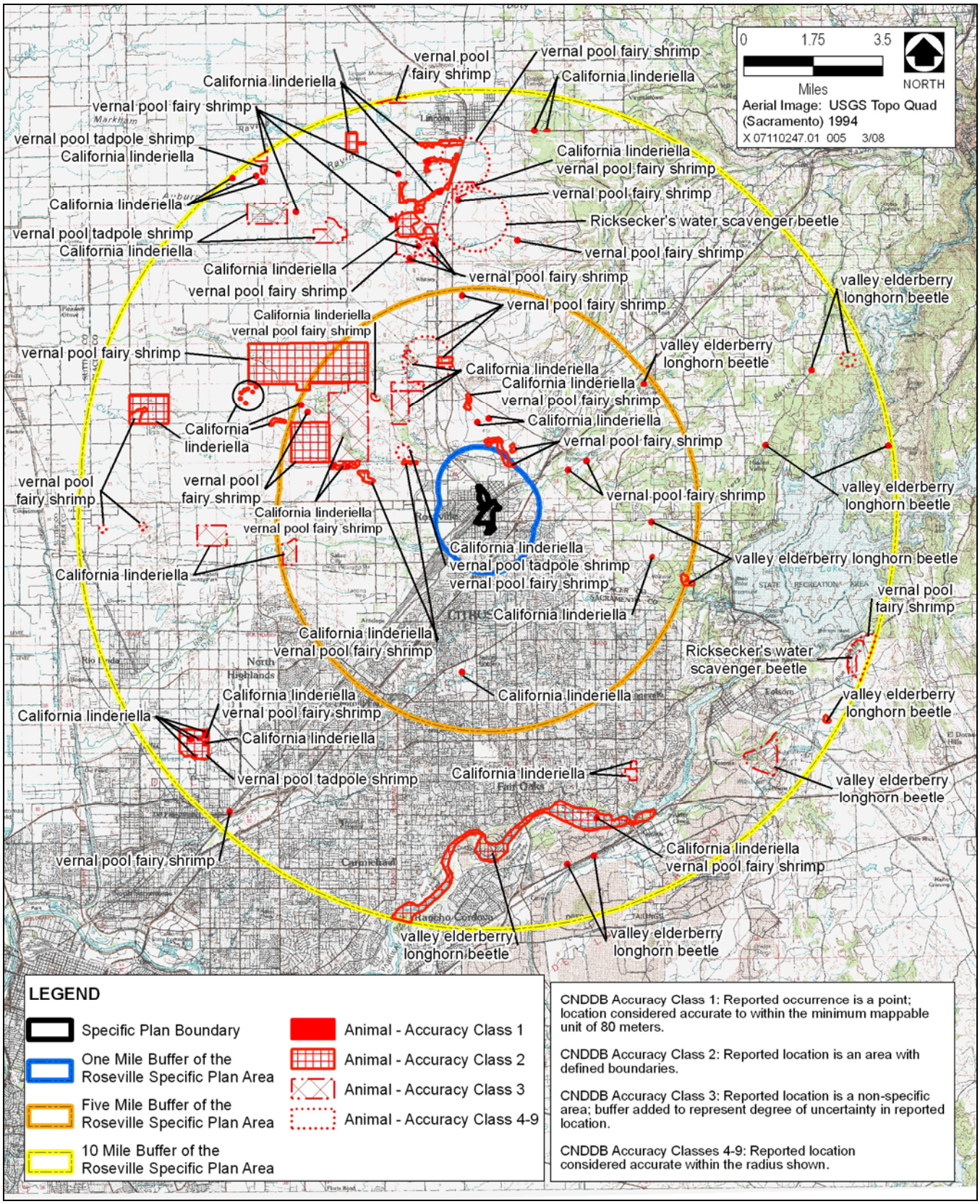
The valley elderberry longhorn beetle was the only special-status invertebrate identified as potentially occurring in the Plan area. Valley elderberry longhorn beetles require elderberry shrubs for reproduction and survival, spending most of their life cycle as larvae within the stems. Many valley elderberry longhorn beetle occurrences have been recorded between 4 and 10 miles from the Plan area (CNDDB 2007), and the species is considered to have a moderate potential to occur within the Plan area. During the site reconnaissance survey conducted on October 3, 2006, six elderberry shrubs were observed in the Plan area, all with stem diameters of 1.0 inch or greater (EDAW 2007). The locations of these shrubs are shown in Exhibit 4.9-1. The USFWS has recently proposed to delist valley elderberry longhorn beetles from their current protected status under the ESA due in part to the success of past riparian habitat restoration projects (USFWS 2006a). The final ruling of whether or not to delist this species will likely take more than a year to complete.

Special-status Fish

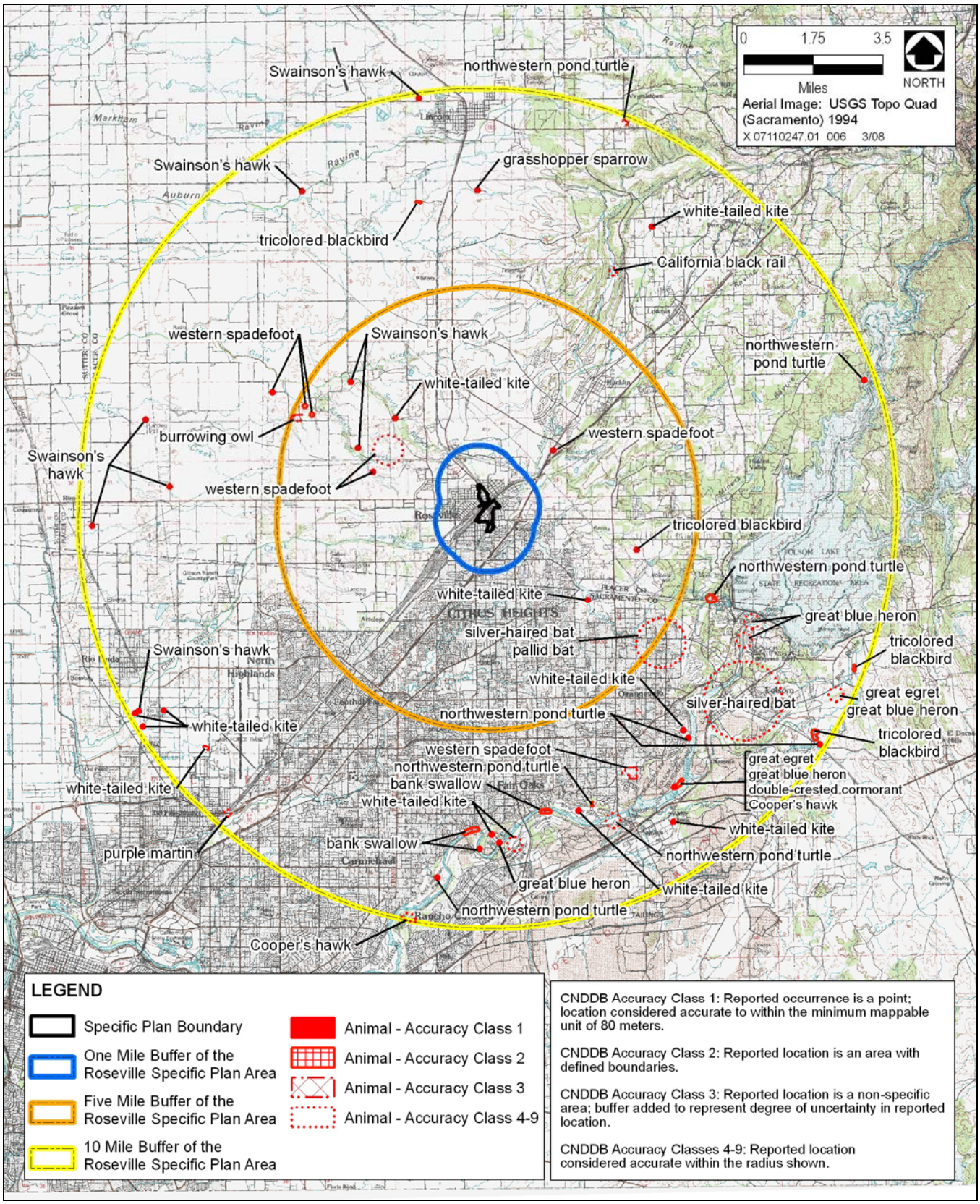
Anadromous salmonids, Central Valley steelhead and Central Valley fall/late-fall run chinook salmon are both seasonally present in Dry Creek during adult upstream and juvenile downstream migration periods and spawn and rear in Secret and Miners Ravines. The section of Dry Creek that runs through the Plan area is located upstream of the Sacramento River and downstream of Dry Creek's confluences with Secret and Miners Ravines. Dry Creek and several of its tributaries including Secret Ravine are included in the Valley-American Hydrologic Unit of critical habitat for Central Valley steelhead (National Marine Fisheries Service [NMFS] 2005). The segment of Dry Creek within the Plan area contains suitable migration habitat for salmonids traveling to upstream spawning areas, but does not contain suitable spawning habitat itself as few riffles with appropriate substrate conditions are present. Upstream spawning migration of adults and downstream migration of juvenile steelhead and chinook salmon generally occur after October 15 and prior to June 15.

Special-status Reptiles

The northwestern pond turtle was the only special-status reptile identified as potentially occurring in the Plan area. Northwestern pond turtles generally occur in slow-moving streams, ponds, freshwater marshes, and lakes. They prefer aquatic habitat with refugia such as undercut banks and submerged vegetation and require emergent basking sites such as mud banks, rocks, logs, and roots to regulate their body temperatures. In addition to adult use of aquatic habitats, pond turtles may reside underground in terrestrial habitats at any time of year either as eggs (April–October), hatchlings (September–April), or hibernating adults (October–April) (NatureServe 2007).



Special-status Invertebrate Occurrences within 10 Miles of the Project Site **Exhibit 4.9-3**



Special-status Vertebrate Occurrences within 10 Miles of the Project Site **Exhibit 4.9-4**

Table 4.9-1
Special-status Wildlife and Fish Species with Potential to Occur in the Plan Area

Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
Invertebrates				
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Federal: threatened	Elderberry shrubs, typically in riparian habitats below 3,000 feet in elevation	High: Documented along Dry Creek within 5 miles of project site; elderberry shrubs and suitable riparian habitat present
Fish				
Central Valley fall/late fall-run chinook salmon	*Oncorhynchus tshawytscha*	Federal: species of concern CA: species of special concern	Sacramento and San Joaquin Rivers and their tributaries; spawning occurs in gravel of shallow, upstream reaches	Known to occur in Dry Creek during passage to and from spawning habitat upstream in Secret and Miner's Ravines
Central Valley steelhead	*Oncorhynchus mykiss*	Federal: threatened	Sacramento and San Joaquin Rivers and their tributaries; spawning occurs in gravel of shallow, upstream reaches	Known to occur in Dry Creek during passage to and from spawning habitat upstream in Secret and Miner's Ravines
Reptiles				
Northwestern pond turtle	*Actinemys marmorata marmorata*	CA: species of special concern	Ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nest in nearby uplands with low, sparse vegetation	Low: marginally suitable habitat is present
Birds				
White-tailed kite	*Elanus leucurus*	CA: fully protected	Forage in grasslands and agricultural fields; nest in open woodlands, woodland margins, and scattered trees	Low: Suitable nesting habitat present and suitable foraging habitat present within a few miles, but more likely to nest outside of urban areas where suitable foraging habitat is less than a mile away
Cooper's hawk	*Accipiter cooperii*	CA: species of special concern	Forage and nest in open woodlands and woodland margins, and occasionally in residential areas	Moderate: Suitable nesting and foraging habitat present
Swainson's hawk	*Buteo swainsoni*	CA: threatened	Forage in grasslands and agricultural fields; nest in open woodlands, woodland margins, and scattered trees	Low: Suitable nesting habitat present and suitable foraging habitat present within a few miles, but more likely to nest outside of urban areas where suitable foraging habitat is less than a mile away

Table 4.9-1
Special-status Wildlife and Fish Species with Potential to Occur in the Plan Area

Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
Loggerhead shrike	*Lanius ludovidianus*	CA: species of special concern	Forage primarily in grasslands and agricultural fields; nest in scattered shrubs and trees as well as woodland/scrub edges of open habitats	Low: Suitable nesting habitat and marginally suitable foraging habitat present
California yellow warbler	*Dendroica petechia brewsteri*	CA: species of special concern	Nests primarily in riparian areas dominated by willows, cottonwoods, sycamores, or alders; may also inhabit oak and coniferous woodlands and urban areas near streams	Low: Suitable nesting and foraging habitat present; however, no nesting records are known from the Roseville area
Yellow-breasted chat	*Icteria virens*	CA: species of special concern	Nest and forage in riparian thickets of willow and other brushy tangles near water and thick understory in riparian woodland	Moderate: Suitable nesting and foraging habitat present
Mammals				
Pallid bat	*Antrozous pallidus*	CA: species of special concern	Typically roosts in caves or rock crevices; however, occasionally roost in buildings or tree cavities. Forages in a variety of habitats including riparian and urban, though most commonly in open, arid lands	Low: Marginally suitable roosting and foraging habitat present
Townsend's big-eared bat	*Corynorhinus townsendii*	CA: species of special concern	Typically roosts in caves; however, occasionally roost in buildings or bridges. Forages in all habitats except alpine and subalpine, though most commonly in forests and woodlands	Low: Marginally suitable roosting and foraging habitat present
Western mastiff bat	*Eumops perotis californicus*	CA: species of special concern	Roosts in trees, rock crevices, and buildings. Forages in a variety of habitats including riparian and urban areas, though most commonly in open, arid lands	Low: Marginally suitable roosting and foraging habitat present

Notes:
CA = California
Sources: CNDDB 2007, EDAW 2007, USFWS 2006b

Females have been reported ranging as far as 500 meters (1,640 feet) from a watercourse to nest (Reese and Welsh 1997), although such long distances are rare and typically occur only where suitable nest sites are not available nearby (Zeiner et al. 1990). Nest sites are most often situated on unshaded south- or west-facing slopes and are sparsely vegetated with short grasses or forbs; these features increase nest temperature and are important for egg development. Nests have been observed in many soil types from sandy to very hard clay (Zeiner et al. 1990).

Potential habitat for northwestern pond turtles within the Plan area is of marginal quality as the banks of Dry Creek are generally steep and offer few exposed areas for basking. Few sites within the Plan area are suitable for pond turtle nesting as the majority of the Dry Creek corridor is dominated by either riparian trees or by hardscape such as rip-rap or gabions. Predators of turtle eggs and hatchlings (e.g., dogs, raccoons, skunks) are also expected to be abundant in the Plan area's urban-creek interface. This species is known to occur between 6 and 10 miles from the Plan area (CNDDB 2007), but is not known to occur near the City of Roseville within waters hydrologically connected to Dry Creek and is considered to have a low potential to occur on-site.

Special-status Birds

Six special-status bird species may potentially occur in the Plan area. Swainson's hawks and white-tailed kites typically nest in scattered riparian or woodland trees adjacent to grasslands and/or row crop fields that provide suitable foraging habitat. Both species are known to occur within 5 miles of the Plan area (CNDDB 2007). The Plan area's riparian trees along Dry Creek provide potential nesting habitat for both Swainson's hawks and white-tailed kites, and suitable foraging habitat is present in grasslands and agricultural fields within an available distance of downtown Roseville. Swainson's hawks have been recorded foraging up to 18.6 miles from nest sites (Estep 1989), and foraging ranges during the breeding season have been estimated at approximately 1,000–7,000 acres (Bechard 1982, Estep 1989, Johnsgard 1990). While both species have potential to nest on-site, they are more likely to nest in closer proximity to prime foraging habitat and in less urban areas that are less subject to human disturbance.

Cooper's hawks are woodland raptors with moderate potential to occur in the Dry Creek riparian corridor on-site. This species hunts small avian prey primarily in riparian habitats, and occasionally forages in residential developments with abundant trees. Cooper's hawks could nest in the Plan area's riparian and ornamental trees and forage in the riparian corridor and adjacent parks.

Loggerhead shrikes forage primarily in open habitats such as grassland, savannah, shrub-steppe, and agricultural fields. They nest in scattered shrubs and trees within foraging areas and along wooded margins of open habitats. Shrikes are known to nest in riparian habitats in the Central Valley but have a low probability of occurrence in the Plan area due to the marginally suitable foraging habitat on-site.

Yellow warblers and yellow-breasted chats typically nest in willow thickets and other riparian habitat types with a dense shrub layer. They typically nest in the brushy riparian understory, 2–16 feet above the ground, and prey primarily on insects. Both species are relatively uncommon breeders in the Central Valley, and have low to moderate potential to occur in the suitable riparian habitat that flanks Dry Creek either during the breeding season or during migration.

Special-status Mammals

Three special-status bat species have potential to occur in the Plan area: pallid bat, Townsend's western big-eared bat, and western mastiff bat. Pallid bat and western mastiff bat are more common in drier, open habitats, while Townsend's western big-eared bat is more common in mesic sites. All three species, however, are known to forage in a wide variety of habitats and may occur in urban, riparian, grassland, shrubland, oak woodland and savannah, coniferous and deciduous forests, chaparral, and desert habitats (Zeiner et al. 1990). These species use mature trees, snags, rock crevices, caves, and man-made structures such as buildings and bridges for roosting either for winter roosting (hibernacula) or for forming nursery colonies. Pallid bat and western mastiff bat

typically roost in relatively small colonies (less than 100 individuals, often as few as 12) (Zeiner et al. 1990). Townsend's western big-eared bat also roosts in small colonies in some locations and may nest in colonies of over 1,000 where suitable caves are available. Bats generally exhibit high site fidelity and will not abandon an established roosting area unless disturbed. One pallid bat occurrence has been documented by CNDDB within 10 miles of the Plan area; however, this occurrence was based on a single female specimen collected from the area in 1941 (CNDDB 2007). Bats that nest in small colonies are typically under-reported in databases such as CNDDB, however, due to their nocturnal nature and the relatively sparse research and monitoring of these species. Based on the presence of suitable roosting and foraging habitat, special-status bat species are considered to have a low potential to occur within the Plan area, although these species may roost in trees lining Dry Creek or under any of several pedestrian and road bridges which span the creek.

SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the Clean Water Act, or the State's Porter-Cologne Act, as discussed in the Section 4.9.2, "Regulatory Setting," below. Sensitive habitats may be of special concern to these agencies and to conservation organizations for a variety of reasons including their locally or regionally rare or declining status or because they provide important habitat to common and special-status species. Sensitive habitats also provide other important ecological functions such as enhancing flood and erosion control and maintaining water quality. Many of these habitats are tracked in the CNDDB. Habitats in the Plan area that are considered sensitive include Dry Creek and its associated riparian habitat, and oak trees protected under the City of Roseville Municipal Code. Dry Creek receives regulatory protection under the jurisdiction of the USACE, RWQCB, and DFG. The creek's adjacent riparian woodland is also under DFG jurisdiction. Exhibit 4.9-1 identifies the locations and extent of sensitive and other habitats in the Plan area within the study area for biological resources which consisted of a 100-foot-wide corridor from the top of the banks of Dry Creek.

4.9.2 REGULATORY SETTING

Biological resources in California are protected by a variety of federal, state and local laws and regulations. Important regulations pertaining to biological resources in the Plan area are discussed below.

FEDERAL REGULATORY ISSUES

Federal Endangered Species Act

Pursuant to the federal ESA, the USFWS and the NMFS have authority over projects that may affect the continued existence of a federally listed threatened or endangered species. Section 9 of the ESA and federal regulations prohibit the take of federally listed fish or wildlife species. "Take" is defined under the ESA, in part, as killing, harming, or harassing. Under federal regulations, take is defined further to include habitat modification or degradation where it actually results or is reasonably expected to result in death or injury to wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements domestically a series of international treaties that provide for migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird…" (USC Title 16, Section 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The list of species protected by MBTA has recently been updated by USFWS; the current list can be found in the August 24, 2006 Federal Register (71 FR 50194). This list includes several

hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Clean Water Act

Section 404 of the federal Clean Water Act (CWA) establishes a requirement for a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Dry Creek is considered a water of the United States. Based on a reconnaissance-level field delineation conducted by EDAW on October 3, 2006, the portion of Dry Creek that flows through the Plan area supports a total of 4.34 acres of jurisdictional waters, located below the ordinary high water mark of the creek (EDAW 2007).

STATE REGULATORY ISSUES

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA), a permit from DFG is required for projects that could result in take of a species that is state listed as threatened or endangered (California Fish and Game Code Section 2050 et seq.). Under CESA, take is defined as an activity that would directly or indirectly kill an individual of a species. The definition does not include “harm” or “harass” as in the federal ESA. As a result, the threshold for take under CESA is higher than that under the ESA (i.e., habitat modification is not necessarily considered take under CESA). California Fish and Game Code Section 2081 authorizes DFG to issue a permit for the take of state-listed species incidental to otherwise lawful activities, or to coordinate with USFWS during the Section 10(a) process to make the federal permit consistent with CESA.

Section 1602 of the California Fish and Game Code – Streambed Alteration

Sections 1600–1603 of the California Fish and Game Code state that it is unlawful for any person or agency to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources, or to use any material from the streambeds, without first notifying DFG of such activity and receiving a Streambed Alteration Agreement if impacts are expected to occur. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. DFG’s jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife.

Fully Protected Species under the California Fish and Game Code

Four sections of the California Fish and Game Code (Sections 3511, 4700, 5050, and 5515) list 37 fully protected species. These statutes prohibit take or possession at any time of fully protected species. DFG is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. DFG has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

California Fish and Game Code Sections 3503–3503.5 – Protection of Birds

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under jurisdiction of the RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and ground water, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet the waste discharge requirements of the Regional Board.

Pursuant to Section 401 of the CWA and EPA 404 (b)(1) guidelines, in order for a USACE federal permit applicant to conduct any activity which may result in discharge into navigable waters, they must provide a certification from the RWQCB that such discharge will comply with state water quality standards. The RWQCB has a policy of no-net-loss of wetlands and typically requires mitigation for all impacts to wetlands before it will issue a Section 401 water quality certification.

LOCAL REGULATORY ISSUES

City of Roseville General Plan

The *City of Roseville General Plan 2020* (City of Roseville 2004) contains several goals, policies, and implementation measures for the conservation of open space, native vegetation, and wildlife. General plan policies relevant to the proposed project are listed below.

- **Open Space and Conservation – Vegetation and Wildlife – Policy 1:** Incorporate existing trees into development projects, and where preservation is not feasible, require mitigation for the loss of removed trees.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 2:** Preserve and rehabilitate continuous riparian corridors and adjacent habitat along the City's creeks and waterways.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 5:** Limit recreation activities within the 100-year flood plain and require additional setback areas for trails and other public recreation uses so that natural resource areas are not adversely impacted.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 6:** Provide for protection and enhancement of native fishery resources.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 10:** Manage public lands with special-status species to encourage propagation of the species and discourage non-indigenous, invasive species.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 11:** Preserve and mitigate for creeks and riparian areas within the defined boundaries of impacting projects where long-term resource viability is feasible and desirable.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 12:** Consider the use of City property for habitat preservation and mitigation requirements resulting from development proposals when such efforts do not conflict with existing resources, recreational opportunities, or other City goals, policies, or programs.

Roseville Municipal Code

The City of Roseville recognizes the value of native trees through adoption of a tree preservation ordinance in Chapter 19.66 of its Municipal Code (Roseville Municipal Code 2006). This ordinance defines a protected tree as a native oak tree equal to or greater than 6 inches in diameter at breast height, measured as a total of a single trunk or multiple trunks. The Municipal Code defines a native oak tree as any tree of the species valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), or interior live oak (*Quercus wislizenii*), or hybrids thereof. During the field reconnaissance survey of October 3, 2006, EDAW identified 40 valley oak trees and 11 interior live oak trees within 100 feet of Dry Creek (EDAW 2007) that qualify for protection under this code.

4.9.3 SIGNIFICANCE THRESHOLDS, IMPACTS, AND MITIGATION MEASURES

METHODOLOGY

A reconnaissance-level field assessment of the Plan area within 100 feet of Dry Creek was conducted by EDAW biologists Lynn Hermansen, Erin McDermott, and Dana Terry on October 3, 2006. The purpose of the reconnaissance survey was to assess current site conditions, classify and map habitats, and evaluate the potential of the project site to support sensitive biological resources including special-status species. Searches of DFG's CNDDB (2007), the Sacramento USFWS database of federally listed species that may be affected by projects in the region (USFWS 2006b), and the CNPS Electronic Inventory of Rare and Endangered Plants of California (CNPS 2006) were also conducted for the Citrus Heights USGS 7.5-minute quadrangle and eight adjacent quadrangles, and existing biological resource documents for the project vicinity (e.g., ECORP 2003, EDAW 2007) were reviewed. Potential impacts to biological resources resulting from implementation of the proposed project were determined by overlaying project plans with the habitat map for the Plan area (see Exhibit 4.9-1), and evaluating potential effects to common and sensitive biological resources that could result from potential temporary (i.e., construction-related) and long-term (i.e., habitat restoration or structural changes) effects.

THRESHOLDS OF SIGNIFICANCE

The significance thresholds below are based on relevant provisions of CEQA, the State CEQA Guidelines, environmental questions in Appendix G of the Guidelines, and significance criteria used in other relevant environmental compliance documents for similar projects.

The proposed project would be considered to have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special-status species in local or regional plans, policies, or regulations, or by DFG, USFWS, or NMFS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by DFG, USFWS, or NMFS;
- Have a substantial adverse effect on federally protected waters or wetlands as defined by Section 404 of the Clean Water Act 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation or resource management plan; or

- Substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

IMPACT 4.9-1 **Biological Resources – Effects on Special-status Fish Species.** *The proposed project includes several restoration and enhancement components that would improve the aquatic and riparian habitat quality along Dry Creek and would benefit special-status fish species in the long term. Implementation of the proposed project could also result in temporary disturbance and/or degradation of habitat for special-status fish within Dry Creek during the period of project construction. This impact would be* ***potentially significant****.*

Central Valley steelhead and Central Valley fall/late-fall run chinook salmon occur seasonally within the Plan area as they migrate to and from suitable spawning habitats in tributaries upstream of Dry Creek. Upstream spawning migration of adults and downstream migration of juvenile steelhead and chinook salmon generally occur after October 15 and prior to June 15. Dry Creek has also been designated by NMFS as critical habitat for Central Valley steelhead.

Several project features would improve instream habitat for migrating steelhead and salmon as well as resident native fish species. These activities include restoring diverse flow habitats (e.g., riffle/pool complex) and large woody debris to the creek, planting native riparian vegetation along the creek banks, and diverting pavement sheet runoff away from Dry Creek. Project construction activities within Dry Creek's aquatic habitat, including bank and creek restoration/stabilization treatments, may also result in temporary disturbance to fisheries habitat or death or injury to individuals during the construction period. Several construction activities in the riparian habitat along Dry Creek's upper banks, including placement of bridge abutments and associated scour protection, slope re-grading for bank stabilization, construction of trails, construction of the library amphitheater, and floodwall reconstruction, may also result in temporary degradation of aquatic habitats through sediment runoff or vegetation removal. If degradation of habitat occurs and/or individual steelhead or salmon are present within construction areas and are incidentally injured or killed, the proposed project would result in a potentially significant impact.

IMPACT 4.9-2 **Biological Resources – Effects on Valley Elderberry Longhorn Beetles.** *Implementation of the proposed project could result in removal or disturbance of elderberry shrubs, which may provide habitat for valley elderberry longhorn beetles. If elderberry shrubs with stem diameters 1.0 inch or greater are removed or disturbed, this impact would be* ***potentially significant****.*

During site reconnaissance, six elderberry shrubs were detected within the Plan area's riparian habitat, all with stems over 1.0 inch in diameter and with potential to support valley elderberry longhorn beetles. All blue elderberry shrubs of this size in the Central Valley are considered by USFWS to have the potential to harbor valley elderberry longhorn beetle larvae, and are regulated as such to facilitate the species' recovery under the ESA (USFWS 1999). Although no known occurrences of the beetle have been documented in the Plan area, valley elderberry longhorn beetles are known to occur nearby and could utilize Plan area shrubs.

Several project components would be expected to benefit valley elderberry longhorn beetles in the long term such as riparian habitat enhancement and bioengineered bank stabilization treatments that may protect existing elderberry shrubs. However, if elderberry shrubs in which larvae are present are removed during project implementation, for example during bridge or trail construction or the application of hardscape for bank stabilization, such removal could result in the loss of beetles. Mortality of beetle larvae could also result from project activities if the health of the shrubs is adversely affected, for example by earthmoving activities near shrub roots or the application of herbicides during site restoration. Adverse impacts to elderberry shrubs could affect valley elderberry longhorn beetles even if larvae are absent at the time of impact, due to the loss of potential

habitat. If project implementation includes removal or disturbance to elderberry shrubs with diameters 1.0 inch or greater at ground level, the proposed project would have a potentially significant impact.

IMPACT 4.9-3 **Biological Resources – Effects on Raptors and Special-status Birds.** *The riparian habitat restoration components of the proposed project would increase the quality of habitat available to special-status birds, an impact considered beneficial in the long term. However, implementation of the proposed project could also result in short-term construction-related impacts to special-status birds nesting in the Plan area. This temporary impact would be considered* ***potentially significant****.*

Several special-status birds have the potential to nest within the Plan area (see Table 4.9-1), primarily within the riparian corridor along Dry Creek. Swainson's hawks, white-tailed kites, and Cooper's hawks may nest in large riparian trees (e.g., oak, sycamore) in the Plan area; loggerhead shrikes, yellow warblers, and yellow-breasted chats may nest in Plan area riparian shrubs and small trees (e.g., willow, alder).

Removal of trees or shrubs containing active special-status bird nests could occur with project implementation, and visual or noise disturbance of active nests could result in nest abandonment and mortality of eggs or chicks. The potential loss of nests of special-status birds that could result from implementation of the proposed project would be potentially significant.

IMPACT 4.9-4 **Biological Resources – Effects on Special-status Bats.** *The riparian habitat restoration components of the proposed project would increase the quality of potential habitat available to special-status bats, an effect considered beneficial in the long term. Temporary adverse impacts to special-status bats could also occur as a result of project construction activity if special-status bat maternity roosts occur in the Plan area and are incidentally removed or disturbed during construction. This potential impact would be considered* ***less than significant*** *because no bat colonies are known to occur within the project area and few individuals are expected to occur there.*

Three special-status bat species have the potential to roost within the Plan area (see Table 4.9-1), primarily within the riparian corridor along Dry Creek. Although western mastiff bat, pallid bat, and Townsend's big-eared bat may roost in trees, under bridges, and in buildings within the Plan area, these species have a low probability of roosting on-site because the marginal habitat quality meets only their minimum requirements.

Several components of the proposed project have potential to increase the quality of roosting and foraging habitat for both common and special-status bat species. The planting of additional trees and building of additional pedestrian bridges may increase the number of potential roost sites adjacent to Dry Creek, and habitat enhancement measures may increase available insect prey associated with creek riffles and riparian plants. Implementation of the proposed project could also result in short-term construction-related loss and/or disturbance of special-status bats if any existing trees, bridges, or buildings planned for removal harbor roosting bats on the day they are removed. However, because the potential for these species to roost on-site is low, any temporary impacts to special-status bats would be expected to be in very low numbers. This impact would thus be considered less than significant.

IMPACT 4.9-5 **Biological Resources – Effects on Northwestern Pond Turtles.** *Although implementation of the proposed project could result in temporary construction-related loss and/or disturbance northwestern pond turtles, this species has a low potential for occurrence on-site and effected individuals are expected to be few, if any. This impact would thus be considered* ***less than significant****.*

Potential habitat for northwestern pond turtles within the Plan area is of marginal quality because the banks of Dry Creek are generally steep and offer few exposed areas for basking and thermoregulation. Predators of turtle eggs and hatchlings (e.g., dogs, raccoons, skunks) are also expected to be abundant in the Plan area's urban-creek interface. This species is known to occur in the region, but is not known to occur near the City of Roseville within

waters hydrologically connected to Dry Creek. Northwestern pond turtles are considered to have a low potential to occur on-site, and are not expected to nest or hibernate there.

Project construction, including creek restoration and bank stabilization treatments, is expected to temporarily disturb aquatic and riparian habitats on-site. If northwestern pond turtles are present within construction areas, particularly during bridge construction and bank stabilization, they could be inadvertently harmed by construction equipment. This impact is unlikely, however, because of this species' low probability of occurrence and because of its ability to swim away from construction areas at the first sign of disturbance. Any construction-related impacts to northwestern pond turtles would thus be expected in very low numbers, if any, and this impact would be considered less than significant.

IMPACT 4.9-6 **Biological Resources – Impacts to Jurisdictional Waters and Sensitive Natural Communities.** *Implementation of the proposed project would include enhancement of the aquatic and riparian woodland habitats within and along Dry Creek, providing a beneficial long-term impact. Project implementation could also result in temporary disturbance and/or degradation of riparian and aquatic habitat during the period of project construction, as well as both temporary and permanent impacts to waters of the United States due to bank stabilization treatments and bridge construction. These impacts would be* ***potentially significant****.*

The segment of Dry Creek within the Plan area is considered a water of the United States subject to USACE jurisdiction under Section 404 of the CWA. The riparian woodland corridor that flanks Dry Creek is also considered a sensitive natural community by DFG and the *City of Roseville General Plan*. In the Plan area, approximately 4.34 acres of the channel of Dry Creek below the ordinary high water mark are subject to USACE and RWQCB jurisdiction. DFG jurisdiction in the Plan area encompasses the entire Dry Creek riparian corridor including the 4.34 acres of federally jurisdictional waters and all land to the outer edge of the existing riparian vegetation.

Several project features may require temporary construction-related or permanent placement of fill within waters of the United States. These proposed plan elements include: bank stabilization treatments that require hardscape, placement of bridge abutments and associated scour protection, construction of trails, construction of the library amphitheater, floodwall reconstruction, bank recontouring for flood conveyance or restoration, and construction of step pools or riffles for salmonid habitat enhancement. In addition, water features such as the one proposed for the town square may discharge into Dry Creek, requiring outfall pipe installation or upgrades. Riparian woodland habitat would be enhanced in the long term through the planting of native vegetation and control of invasive plants, but may be temporarily removed during bank recontouring efforts. Temporary and permanent placement of fill within federal and state jurisdictional waters and temporary disturbance to riparian habitat would be considered potentially significant impacts.

IMPACT 4.9-7 **Biological Resources – Wildlife Movement Corridors.** *Habitat enhancement components of the proposed project would have a long-term beneficial effect on the wildlife movement corridor along Dry Creek. Project construction is not expected to block wildlife movement; temporary impacts to the corridor would thus be considered* ***less than significant****.*

A wildlife movement corridor is generally a topographical/landscape feature or movement area that connects two areas of natural habitat. Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by changes in vegetation, rugged terrain, and/or human disturbance. The section of Dry Creek within the Plan area serves as a movement corridor for a variety of aquatic species including freshwater invertebrates, anadromous and stream-dwelling fish, frogs and other amphibians, aquatic reptiles such as garter snakes, and potentially semi-aquatic mammals such as beavers. Dry Creek's associated riparian woodland also provides a movement corridor for terrestrial wildlife, including small mammals and mammalian carnivores, riparian birds, terrestrial insects including native pollinators, and terrestrial reptiles.

The proposed project is not expected to adversely impact the wildlife movement corridors provided by Dry Creek and its associated riparian habitat. Although some project elements may include the introduction of hardscape to small areas along the waterside edge of the corridor (e.g., bridge abutments), these structures are not expected to entirely bisect the corridor or block wildlife movement. Further, additional project features (e.g., planting native vegetation, removing exotics, bioengineered bank stabilization) are planned to increase the overall habitat quality of the Dry Creek corridor in the long term. Any impacts to the corridor are thus likely to be restricted to the period of active construction, and are expected to be less than significant during that time.

IMPACT 4.9-8 Biological Resources – Impacts to Protected Trees. *Proposed project features, grading, and construction activities may overlap or may occur within the drip line of protected trees. Depending upon the configuration of the approved site plans and the final extent of grading, the project may result in* ***potentially significant*** *impacts to protected trees.*

The Tree Preservation Ordinance of the Roseville Municipal Code contains provisions for preservation, removal, and replacement of protected trees. The Municipal Code defines a protected tree as a native oak tree equal to or greater than 6 inches in diameter at breast height, measured as a total of a single trunk or multiple trunks. The Municipal Code defines a native oak tree as any tree of the species valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), or interior live oak (*Quercus wislizenii*) or hybrids thereof. During site reconnaissance, EDAW biologists identified and mapped the locations of 40 protected valley oak trees and 11 protected interior live oak trees in the Plan area within 100 feet of Dry Creek (see Exhibit 4.9-1). Additional native oaks may be present along the streets of the developed portions of the Plan area. Depending on the final configuration of future development projects in the Plan area and the extent of grading needed, impacts to some protected trees may occur. This is considered a potentially significant impact.

4.9.4 MITIGATION MEASURES

No mitigation measures are necessary for the following less-than-significant impacts.

4.9-4: Biological Resources – Effects on Special-status Bats.

4.9-5: Biological Resources – Effects on Northwestern Pond Turtles.

4.9-7: Biological Resources – Wildlife Movement Corridors.

The following mitigation measures are provided for potentially significant impacts.

Mitigation Measure 4.9-1: Special-status Fish

The following measures shall be implemented to mitigate adverse effects to special-status fish species potentially resulting from the proposed project. To the extent feasible, the project shall be designed and constructed to avoid and minimize adverse effects to special-status fish species and aquatic habitats within the Specific Plan area.

- Project construction activities within the aquatic habitat of the active creek channel shall be conducted between June 15 and October 15, during the season that migrating chinook salmon and steelhead are not likely to be present. Construction within the riparian habitat along the upper banks of the creek need not be restricted to this timeframe, provided that the following measures (and those described in Section 4.12, Hydrology and Water Quality") are implemented to avoid or minimize sediment runoff into the creek.

- Silt fencing shall be placed around the construction areas within the aquatic habitat of the active creek channel. Silt fencing shall protect upstream and downstream areas from any construction related impacts. All construction activities within the aquatic habitat of the active creek channel shall be conducted within the silt fence area. Cofferdams shall be used if construction in a live channel is necessary. To the extent feasible, they shall be designed to maintain an open channel to allow continued movement of aquatic species. If dewatering

of a construction area is needed, it shall occur according to a Fish Translocation and Salvage Plan prepared by a qualified biologist.

- All outflow from any project-related dewatering that may be necessary when excavating the outfall installation areas shall be filtered and pumped downstream of the construction area.

- After completion of construction within the aquatic habitat of the active creek channel, all remaining side cast shall be removed from the work area and silt fencing shall be removed.

- Revegetation of disturbed areas within the riparian habitat of the active creek channel with native riparian plants shall be accomplished prior to the onset of the winter rains in the year of construction.

Mitigation Measure 4.9-2: Valley Elderberry Longhorn Beetles

The following measures shall be implemented to mitigate adverse effects to valley elderberry longhorn beetles potentially resulting from the proposed project. If valley elderberry longhorn beetles are delisted in the future, as has recently been proposed by USFWS (USFWS 2006a), these measures may be amended to conform to any revised USFWS guidelines regarding this species.

- To the extent feasible, implementation of the project shall be designed and constructed to avoid and minimize adverse effects to elderberry shrubs.

- Before project construction within the riparian habitat of the active creek channel would begin, focused surveys for elderberry shrubs shall be conducted within the Dry Creek riparian corridor and adjacent municipal parks in and within 100 feet of proposed construction-sites. Such surveys will not be required within areas lacking suitable habitat for elderberry shrubs (i.e., areas already in residential development).

- Where elderberry shrubs with 1.0 inch or greater stem diameter are found, USFWS conservation guidelines for valley elderberry longhorn beetles shall be followed by establishing a 100-foot buffer around the dripline of such shrubs wherever feasible to completely avoid potential impacts to valley elderberry longhorn beetles (USFWS 1999). All buffers shall be marked with brightly colored flags or fencing and shall be maintained until project construction is complete. Earthmoving activities, herbicide use, and other construction and maintenance activities with potential to impact valley elderberry longhorn beetles and/or their host shrubs would be avoided within these buffer zones. A qualified biologist will provide project contractors and construction crews working in the vicinity of an elderberry shrub buffer zone with a worker-awareness program before such work begins. This program will be used to describe the species, its habits and habitats, its legal status and required protection, and all applicable mitigation measures.

- If complete avoidance of shrub buffer zones is not feasible, USFWS shall be consulted. It is anticipated that either a new buffer width would be agreed upon along with additional protections for the safety of the beetles and shrubs, or that shrubs that could not be adequately protected would be transplanted to a protected location before construction would begin, in accordance with established USFWS guidelines (USFWS 1999) and a USFWS-approved mitigation and monitoring plan. Shrubs shall be transplanted to an area protected in perpetuity as habitat for valley elderberry longhorn beetles through a conservation easement or similar mechanism. Replacement mitigation plantings shall also be provided based on USFWS guidelines, which require replacement ratios ranging from 1:1 to 8:1 for lost stems at least 1 inch in diameter, depending on the size of the affected stems. Associated native species will be planted at ratios ranging from 1:1 to 2:1 for each elderberry planting. Transplants and mitigation plantings shall be monitored to ensure that USFWS success criteria are met (i.e., 60 percent survival of elderberry plants and associated riparian plantings). The proponent may elect either 10 years of monitoring, with surveys and reports to USFWS every year; or 15 years of monitoring, with surveys and reports on years 1, 2, 3, 5, 7, 10, and 15. The mitigation and monitoring plan shall describe both short- and long-term maintenance and management of the mitigation site; and specify remedial measures to be undertaken if mitigation success criteria are not met. Long-term management of

mitigation lands shall be ensured by establishing a management endowment or other suitable funding source. The mitigation shall be implemented in a preserved portion of the project site in Dry Creek's riparian corridor, elsewhere within the Dry Creek watershed, or in suitable habitat elsewhere in Placer County or an adjacent county. If mitigation occurs off-site, it shall be at a location that would provide at least equal-quality habitat for valley elderberry beetles as the project site after implementation of the mitigation.

Mitigation Measure 4.9-3: Raptors and Special-status Birds

The following measures shall be implemented to mitigate adverse effects to raptors and special-status birds potentially resulting from the proposed project.

- Potential disturbance of nesting special-status birds and raptors shall be reduced by limiting vegetation removal and grading to the non-breeding season (generally September 1 to February 28) to the extent feasible.

- To avoid nest disturbance and a potential reduction in fledging success resulting from construction activities within the riparian habitat of the active creek channel and during the breeding season (March 1 to August 31), focused surveys for raptors and special-status birds would be conducted by a qualified biologist no more than 15 days prior to the beginning of construction. Surveys for raptors and special-status birds would include suitable nesting habitat within 500 feet of construction areas. If no active nests are found, no further measures would be needed.

- If active raptor or special-status bird nests are found, impacts would be avoided by the establishment of appropriate buffers and/or nest monitoring by a qualified biologist. The size of the buffer would be determined by a qualified biologist and may vary, depending on the species biology, location, nest stage, and specific construction activities to be performed while the nest is active. A qualified biologist shall monitor active nests to determine when the young have fledged and are feeding on their own, or the nest has failed. No construction activities would occur within a buffer zone until a qualified biologist confirms that the nest is no longer active.

Mitigation Measure 4.9-6: Jurisdictional Waters and Sensitive Habitats

The following measures shall be implemented to mitigate adverse effects to jurisdictional waters and sensitive habitats potentially resulting from the proposed project.

- To the extent feasible, the project shall be designed and constructed to avoid and minimize adverse effects to jurisdictional waters of the United States and riparian habitat within the Specific Plan area. Bioengineering bank stabilization techniques shall be used to the extent feasible and the installation of hardscape within jurisdictional waters of the United States shall be minimized to the greatest extent feasible to achieve the overall project objectives.

- Wherever possible, riparian woodland habitat shall be avoided and preserved; the connectivity of the Dry Creek riparian corridor shall be maintained and enhanced. Areas of riparian woodland to remain undisturbed shall be clearly marked for avoidance during construction by methods such as fencing of flagging and construction personnel shall be educated about the need to avoid adverse effects on this resource.

- The project shall incorporate restoration and enhancement of the riparian corridor into the final design plans and construction specifications. Loose rock and concrete debris along the creek banks shall be removed as appropriate. The riparian corridor along the creek channel shall be enhanced by the planting of native shrub, tree, and understory species to create a more diverse vegetation structure and thus a higher quality habitat for wildlife. Enhancement should include planting, establishment, and maintenance of suitable riparian species native to the region as well as removal and control of exotic plant species.

- Before any ground disturbing activities begin within the aquatic or riparian habitat of the active creek channel, a qualified biologist shall map potential waters of the United States as part of a formal delineation of waters of the United States and shall identify all riparian habitat that could be affected by the project. The findings shall be documented in a detailed report and submitted to the USACE for verification as part of the formal Section 404 wetland delineation process. If there would be unavoidable effects under USACE jurisdiction, the Section 404 process shall be completed and the acreage of affected jurisdictional habitat shall be replaced and/or rehabilitated. The acreage of jurisdictional wetland affected shall be replaced on a "no-net-loss" basis is accordance with USACE regulations. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by feasible methods agreeable to USACE. All minimization and compensation measures adopted through the permitting process shall be implemented.

- Approval by the RWQCB, as determined during the Section 401 and Section 404 permitting processes, shall be required. All mitigation requirements determined through this process shall be implemented before any ground disturbing activities begin.

- If there would be unavoidable effects to habitats under DFG jurisdiction, a streambed alteration agreement shall be obtained and affected habitat shall be replaced and/or rehabilitated. Because project implementation could result change to the natural flow and/or bed and bank of Dry Creek, the project could require a Section 1602 streambed alteration agreement from DFG. If complete avoidance of indentified riparian habitat is not feasible, the acreage of riparian habitat that would be removed shall be replaced or rehabilitated on a "no-net-loss" basis in accordance with DFG regulations and as specified in the streambed alteration agreement, if needed. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by feasible methods agreeable to DFG. All minimization and compensation measures adopted through the permitting process shall be implemented.

Mitigation Measure 4.9-8: Protected Trees

The following measures shall be implemented to mitigate adverse effects to protected trees potentially resulting from the proposed project. Tree removal shall be avoided unless 1) necessary for project construction, 2) identified as safety hazards in a Certified Arborist Tree Survey and located in existing or planned public access areas (e.g., streets, trails), or 3) if exotic invasive species (e.g., tree of heaven). In the Dry Creek riparian corridor, snags, dead wood and branches on live trees, and fallen branches shall be retained to the maximum extent possible due to the important habitat functions that they provide for wildlife.

- Based on final approved project plans, the project applicant shall determine where protected trees are present within areas proposed for construction and shall identify trees for avoidance or removal.

- A Tree Preservation Plan shall be prepared for the protected trees within the Plan area that shall be avoided by the project to ensure that they are adequately protected during construction activities. A Certified Arborist shall prepare a Tree Preservation Plan in accordance with the Title 19 Article IV of the Roseville Municipal Code, which shall contain detailed recommendations for tree preservation and removal based on construction and grading plans. The Tree Preservation Plan shall address each tree potentially affected by construction and recommend preservation or removal based on its suitability for preservation, proximity to construction activities, and ability to tolerate impacts. The Tree Preservation Plan shall also include general preservation and construction guidelines to assist in the protection of trees within or near the grading limits or near construction zones. The Tree Preservation Plan shall include recommendations for specific protective measures for trees before, during, and after construction to reduce impacts to trees from development and maintain their health throughout the construction process. The Tree Preservation Plan shall be prepared using information in a Tree Survey and Assessment or similar report including information on each tree's species, size, location, condition, and suitability for preservation.

- Where the removal of protected oaks is deemed necessary, the loss shall be mitigated according to Section 19.66.070 of the Roseville Municipal Code which requires that the replacement be calculated based upon an inch-for-inch replacement of the diameter at breast height of the tree removed. Mitigation trees shall be planted at appropriate sites and with appropriate maintenance to ensure their long-term self-sustaining survival. Where possible, mitigation oaks will be planted in canopy gaps along Dry Creek's riparian corridor within the Plan area, or elsewhere within the City of Roseville. A performance standard of 80 percent of the established mitigation trees shall be met after 5 years. The mitigation trees shall not be dependent upon significant maintenance measures within the last 2 years of monitoring, including supplemental irrigation and staking. Alternatively, an in-lieu fee payment can be made to the City of Roseville Native Oak Tree Propagation Fund, which is calculated per inch based on the diameter at breast height of the tree removed.

4.9.5 RESIDUAL SIGNIFICANT IMPACTS

With implementation of the mitigation measures described above, all impacts to Biological Resources would be reduced to a less-than-significant level.