4.8 BIOLOGICAL RESOURCES

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INTRODUCTION

This section describes the existing vegetation, plant communities, wildlife, wetlands, and potential habitat for special-status species on the proposed project site, as well as potential impacts to the resources and mitigation measures to reduce or eliminate impacts. In addition, this section describes the 1997 Development Agreement between the City of Rocklin and the developer, which includes an extensive oak tree policy and preservation plan.

The information presented in this section is based on biological research incorporated into the 1995 Clover Valley Lakes Annexation EIR, including the 1991 *Clover Valley Ranch Botanic Survey*[1] from Acorn Environmental Consulting, 2001 *Clover Valley Plant and Animal Impact Analysis*[2] by DAVIS² Consulting Earth Scientists, 2001 *Clover Valley Creek Stream Channel and Fish Passage Investigation*[3] by ECORP Consulting, Inc., the 2004 *Valley Elderberry Longhorn Beetle Mitigation Monitoring Plan*[4] by Foothill Associates, the *Vegetation Survey Report*[5] undertaken by geobotanist Robert F. Holland, PhD. (July, 1992), the 2001 *Clover Valley Lakes Oak Tree Impact/Removal Inventory*[6] by Sierra Nevada Arborists, and the 2005 *Clover Valley Tree Removal Summary*[7] by Stantec Consulting, Inc. (see Appendix J of this Draft EIR). Pertinent comments received in response to the Notice of Preparation (NOP) for the proposed projects have been integrated into the analysis. In December 2005, ECORP Consulting, Inc. prepared a *Biological Impact Evaluation*[8] of the documents noted above to identify potential inadequacies (see Appendix I of this Draft EIR).

In addition, a special-status species review was conducted that includes a taxa-specific literature review, a California Department of Fish and Game (CDFG) Natural Diversity Database (CNDDB) query, and a reconnaissance-level field survey. The evaluation identifies the impacts of the proposed project on wildlife and vegetation that may not have been fully addressed in previous evaluations. The results of this evaluation have been incorporated into this section.

Pertinent comments received in response to the Notice of Preparation (NOP) for the proposed project have been considered in this analysis.

ENVIRONMENTAL SETTING

Clover Valley is long and narrow, characterized by slopes along the eastern and western edges. The project site includes the northern end of Clover Valley, including the hillside that forms the western limit of the valley, and the entire ridge to the east (which includes the east-facing slopes and the lands stretching to Sierra College Boulevard at the site's northeast corner). The surrounding area is undeveloped to the north. The Town of Loomis lies to the east, and a portion of Whitney Oaks ends along the western ridgetop.

This section of the chapter discusses the project site in terms of project area habitats and special-status species.

Project Area Habitats

The following description of project area habitats is taken from original research by Dr. Robert F. Holland, DAVIS² Consulting Earth Scientists, and Acorn Environmental Consulting. ECORP Consulting, Inc. has reviewed the previously prepared documents and commented on potential inadequacies.

Vegetation

Natural vegetation and plant communities are inextricably tied to soil types. Four principal plant communities are identified on the Clover Valley project site: grassland (two types), oak woodland, riparian wetlands, and seasonal wetlands.

Grassland
Two grassland types, mainly consisting of non-native species, are differentiated by past cultural practices, where irrigated pasture areas adjacent to Clover Valley Creek in alluvial soil support perennial grasses such as Bermuda grass (*Cynodon dactylon*) and dallis grass (*Paspalum dilatatum*). Other non-native annual grasses such as those found in the dryland areas include ripgut brome (*Bromus diandrus*), soft chess (*B. mollis*), filaree (*Erodium, sp.*), medusahead (*Taeniatherum asperum*), wild oat (*Avina fatua*), and star thistle (*Centaurea solsicialis*). The annual grasses extend outward, upslope into other soils (Andregg, Inks, and Caperton series) from the wetlands areas adjacent to Clover Valley Creek, beneath the oak woodland canopy, and up into steeper areas. These also extend onto the mesa-type land forms at the upper elevational extremes where topography flattens and the Exchequer soils reside. The grassland covers approximately 190 acres of the project area (30 percent).

Oak Woodland
Oak woodlands grow in shallow to moderately deep, well-drained soils of Inks and Caperton series on relatively steep canyon side slopes, in excess of 20 percent. These soils support a low, dense, closed-canopy woodland of blue oak (*Quercus douglasii*), interior live oak (*Q. wislizenii*), California buckeye (*Aesculus californicus*) and poison oak (*Toxicodendron diversilobum*). Small openings in the woodland canopy support ripgut brome and dogtail grass (*Cynosurus echinatus*). The floor of the oak woodland support a species mixture of annual non-natives similar to the dry grassland. The oak woodland covers approximately 185 acres (29 percent) of the project area.

Riparian Wetlands
Along the banks of the Clover Valley Creek in alluvial deposits (Xerofluvents) a riparian area flourishes that supports Valley oak (*Q. lobata*), willows (*Salix goodingii, S hindsiana, S. laevigata, and S. lasiolepis*), white alder (*Alnus rhombifolia*), cottonwood (*Populus fremontii*), walnut (*Juglans nigra*), wild grape (*Vitis californica*) and blackberry. Virtually all of this riparian habitat is jurisdictional wetland subject to

provisions of Section 404 of the Clean Water Act. The riparian wetlands cover approximately 20.4 acres (3 percent) of the project area.

Seasonal Wetlands
Seasonal wetlands support wiregrass (*Juncus, sp.*), sedge (*Carex, sp.*), Himalaya blackberry (*Rubus procerus*), and other facultative wetland species in discharge areas at the interface of where alluvial deposits (Xerofluvents) nest at the toe of the granite side slopes flanking Clover Valley Creek.[9] The seasonal wetlands cover approximately 21.74 acres (3 percent) of the project area.

Wildlife and Wildlife Habitats

Grassland Habitat
The annual grasslands are likely to support nesting birds such as western meadowlark and horned lark, particularly in areas where grass growth is thickest. This plant community provides foraging grounds for lark sparrow, savannah sparrow, rufous-crowned sparrow, lesser goldfinch, American pipit, and other grassland species.

The soils and plants in the annual grassland provide habitat for California vole, California deer mouse, pocket gopher, California ground squirrel, and other small mammals. Small mammal burrows and runways in the thick grass of the toe slopes were particularly apparent during the field surveys, indicating an abundant rodent population. The sandy soil of the toe slopes also makes inviting habitat for small burrowing mammals because it is easy to dig. Rodents in the grassland are prey items for red-tailed and red-shouldered hawk, great horned owl, coyote, bobcat, gopher snake, rattlesnake, and other predators.

Oak Woodland Habitat
Oak woodland provides a number of important wildlife resources, including food, shelter, roosting, and breeding sites. Oak acorns are preferred as essential food items in the diets of western gray squirrel, mule deer, turkey, and other game species. Acorn woodpecker, northern flicker, scrub jay, raccoon, deer mouse, and woodrat also rely on oak acorns. Acorns are not the only food items supplied by oaks; oak foliage and bark insects attract birds such as bushtit, ash-throated flycatcher, white-breasted nuthatch, and western kingbird. Additional, oak dependant fungi, lichen, mistletoe, and galls provide food for species such as northern mockingbird, gray squirrel, and raccoon.

Oak trees offer shade, shelter, and breeding substrate for numerous animals. Woodpecker excavates nest-holes in snags or in dead oak limbs. These cavities are subsequently used by other hole-nesting birds, including western bluebird and American kestrel. Species that use the open grassland for foraging in the day return to oaks at night to roost. Many birds spend the hottest part of the summer days in the shade of densely canopied oak groves.

The poison oak and young live oaks that form a patchy understory in the oak woodland provide cover and nesting sites to Bewick's wren, rufous-sided towhee, and California

quail. Downed branches and dead wood are important to these animals. Small mammals such as deer mice and wood rats inhabit shrub thickets and downed wood.

Riparian Wetlands Habitat
A riparian forest of Valley oaks, white alder, cottonwood, and walnuts cover the banks of Clover Valley Creek.[10] Dense, impenetrable thickets of blackberry border much of the creek, and wild grapes and other lush riparian plants comprise the understory. Unlike many streams in the Sierra foothills, the riparian canopy along Clover Valley Creek is relatively contiguous, a feature that enhances its value to wildlife which use it as a corridor for movement and dispersal.

The thickets of blackberry brambles and other riparian shrubs provide cover, foraging grounds, and nesting habitat for numerous animals. Song sparrow, California quail, white-crowned and golden-crowned sparrow, cottontail, Virginia opossum, striped skunk, and raccoon are all likely inhabitants of the riparian shrubs along Clover Valley Creek.

The Valley oaks, tree willows, and alders of the riparian corridor are likely to support nesting of Cooper's hawk, red-shouldered hawk, black-shouldered kite, violet-green swallow, Nuttall's woodpecker, scrub jay, western kingbird, northern oriole, along with a variety of additional birds. Black-tailed deer, turkey, California quail, and many other species inhabiting the grassland or oak woodland plant communities take cover under the riparian canopy for water, shade, and cool temperatures.

Unlike most small streams at low elevations in the Sierra foothills, Clover Valley Creek had well-flowing water during surveys conducted by Holland in 1992. Clover Valley Creek is supplied with a reliable, perennial source of water via canals operated by the Placer County Water Agency. The abundant and reliable nature of this water supply enhances the site's value to wildlife because it fosters the growth of lush riparian forest as well as supplies a dependable source of drinking water and aquatic foraging habitat.

Beaver occurs along Clover Valley Creek, and likely fish inhabitants are warm-water species such as catfish, largemouth bass, red-shiner, and bluegill. Reptiles and amphibians that typically dwell in or near creek bottoms and in adjacent vegetation include western pond turtle, western toad, terrestrial and common garter snake, ring-neck snake, bullfrog, and Pacific tree frog.

Seasonal Wetlands
Seasonal wetlands are a highly productive, important wildlife resource on the project site. The wildlife value of seasonal wetlands is enhanced by its proximity to a well-developed, undisturbed riparian corridor, and extensive oak woodland. The rich soils and abundant water of creek's floodplain produce lush vegetative growth, attracting deer and other browsers supporting an abundant supply of insects for bats, poorwill, violet green and tree swallow, black phoebe, western kingbird, and other insectivores. Pacific tree frog, common and aquatic garter snake, and mosquitofish are likely inhabitants of the seasonal wetlands, attracting such predators as great blue heron, great and common egret, opossum, raccoon, and striped skunk. Mallard, cinnamon teal, Canada geese, killdeer, and spotted sandpiper are likely to use the shallow ponds for resting and foraging. The

blackberry patches and other dense thickets of vegetation are likely to support yellowthroats, Lincoln sparrow, song sparrow, red-winged blackbird, and other species.[11]

Special-Status Species

For the purposes of this section, special-status species include those species that are listed as Rare, Threatened, or Endangered by the CDFG or the U.S. Fish and Wildlife Service (USFWS); species that are candidates for either State or federal listings; and species designated as Fully Protected or Species of Special Concern by the CDFG and USFWS.

It should be noted that the December 2005 *Biological Impact Evaluation* by ECORP identifies California Native Plant Society (CNPS)-listed species as "special-status species," and these are therefore included in the following chart; however, because only species that are listed as Threatened or Endangered require mitigation under the California and federal Endangered Species Acts, CNPS-listed plants are not included in further impact discussions.

In December of 2005, a search of a five-mile radius surrounding the City of Rocklin on the CNDDB was conducted identifying all special-status species. Table 4.8-1 displays this information and Figure 4.8-1 illustrates the radius around the project site that was evaluated for CNDDB occurrences.

Table 4.8-1
Special-Status Species with the Potential to Occur within Clover Valley

Common Name	Scientific Name	Federal ESA Status	Calif. ESA Status	Other Status	Habitat Description	Approx. Survey Dates	Family (plants)	Distribution [plants by County(ies)]
Plants								
Big-scale balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*	-	-	1B	cismontane woodland; valley/foothill grassland (sometimes serpentine)	March-June	Asteraceae	Alameda, Butte, Mariposa, Napa, Placer, Santa Clara, Tehama
Brandeqee's clarkia	*Clarkia biloba ssp. brandegee*	-	-	1B	chaparral, cismontane woodland	May-July	Onagraceae	Butte, El Dorado, Nevada, Placer, Yuba
Stinkbells	*Fritillaria agrestis*	-	-	4	cismontane woodland, valley/foothill grassland (clay/serpentine)	March-June	Liliaceae	Alameda, Contra Costa, Fresno, Kern, Mendocino, Monterey, Mariposa, Placer, Sacramento, San Barbara, San Benito, San Luis Obispo, San Mateo, Stanislaus, Tuolumne
Sanford's arrowhead	*Sagittaria sanfordii*	-	-	FSC, 1B	marsh, creeks, ditches	May-October	Alismataceae	Butte, Del Norte, Fresno, Kern, Merced, Marin, Sacramento, Shasta, San Joaquin, Tehama, (ext. Ora., Vent.)
Invertebrates								
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	-	-	elderberry shrubs	Any season		Central Valley/foothills
Amphibians								
California red-	*Rana aurora*	FT	-	CSC	streams, marshes, ponds	May 1-		Coast Range (extirpated

Table 4.8-1
Special-Status Species with the Potential to Occur within Clover Valley

Common Name	Scientific Name	Federal ESA Status	Calif. ESA Status	Other Status	Habitat Description	Approx. Survey Dates	Family (plants)	Distribution [plants by County(ies)]
legged frog	*draytonii*					November 1		(?) Sierra foothills)
Foothill yellow-legged frog	*Rana boylii*	-	-	FSC, CSC, FS, BLM	rocky streams	April-September		Western Sierra foothills to Kern Co., San Joaquin Co.
Western spadefoot toad	*Spea hammondii*	-	-	FSC, CSC, BLM	vernal pools, wetlands/adjacent grassland	March-May		widespread Central Valley
Reptiles								
Northwestern pond turtle	*Clemmys marmorata marmorata*	-	-	FSC, CSC, FS	creeks, ponds	April-October		widespread N. California
Coast horned lizard (*frontale* population)	*Phrynosoma coronatum*	-	-	FSC, CSC, BLM	open, sandy areas, varied habitats	April-Oct		widespread
Birds								
White-tailed kite (nesting)	*Elanus leucurus*	-	-	FSC, CFP	woodland, grassland	March-June		widespread
Northern harrier (nesting)	*Circus cyaneus*	-	-	CSC	marsh, grassland	April-September		widespread
Sharp-shinned hawk (nesting)	*Accipiter striatus*	-	-	CSC	woodland	nest (April-August); winter CV (September-April)		widespread

Table 4.8-1
Special-Status Species with the Potential to Occur within Clover Valley

Common Name	Scientific Name	Federal ESA Status	Calif. ESA Status	Other Status	Habitat Description	Approx. Survey Dates	Family (plants)	Distribution [plants by County(ies)]
Cooper's hawk (nesting)	*Accipiter cooperii*	-	-	CSC	woodland	April-July		widespread
Ferruginous hawk (wintering)	*Buteo regalis*	-	-	FSC	grassland	November-February		Central Valley
Golden eagle (nesting and wintering)	*Aquila chrysaetos*	-	-	BCC, CSC, CFP, CDF, BLM	grassland	nest (February-August); winter CV (October-February)		widespread
Merlin (wintering)	*Falco columbarius*	-	-	CSC	woodland, grassland	September-April		widespread
California black rail	*Laterallus jamaicensis coturniculus*	-	CT	BCC, CFP	marsh	March-July		coastal, SF Bay-delta, Yuba County
Burrowing owl (burrow sites)	*Athene cunicularia*	-	-	FSC, BCC, CSC, BLM	grassland	March-August		Central Valley
Loggerhead shrike	*Lanius ludovicianus*	-	-	FSC, BCC, CSC	grassland, woodland	April-May		widespread
California thrasher	*Toxostoma redivivum*	-	-	FSC	chaparral, riparian scrub	February-July		Sierra Nevada foothills, Coast Range
Yellow-	*Icteria virens*	-	-	CSC	riparian	May-July		foothills

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Special-Status Species with the Potential to Occur within Clover Valley

Common Name	Scientific Name	Federal ESA Status	Calif. ESA Status	Other Status	Habitat Description	Approx. Survey Dates	Family (plants)	Distribution [plants by County(ies)]
breasted chat (nesting)								
Lark sparrow (nesting)	*Chondestes grammacus*	-	-	CNDDB	oak woodland, scrub	year round res. (nests April-May)		widespread
Tricolored blackbird (nesting colony)	*Agelaius tricolor*	-	-	FSC, BCC, CSC, BLM	marsh, grassland	April-June		widespread
Mammals								
Yuma myotis	*Myotis yumanensis*	-	-	FSC, BLM	riparian woodland, caves, mines, buildings, bridges, rock crevices, trees	April-September		widespread
Townsend's big-eared bat	*Corynorhinus townsendii townsendii*	-	-	FSC, CSC, FS, BLM	caves, mines, buildings, rock crevices, trees	April-September		San Joaquin, Marin, Humboldt, Alameda, Napa, Lake, Yolo, Colusa, Mendocino (from CNDDB)
Pallid bat	*Antrozous pallidus*	-	-	CSC, FS, BLM	mines, man-made structures, rock outcrops, and woodland near open grasslands for foraging	April-September		Lake, Sonoma, Marin, Mariposa, Tuolumne, San Joaquin, Inyo, Kern, Santa Barbara, San Bernadino, Riverside, Orange, Imperial, San Diego, San Luis Obispo, Mono (from CNDDB)

Table 4.8-1
Special-Status Species with the Potential to Occur within Clover Valley

Common Name	Scientific Name	Federal ESA Status	Calif. ESA Status	Other Status	Habitat Description	Approx. Survey Dates	Family (plants)	Distribution [plants by County(ies)]
Ringtail	*Bassariscus astutus*	-	-	CFP	rock outcrops, riparian	any season		
American badger	*Taxidea taxus*	-	-	CSC	annual grassland	any season		widespread

Statutes/Codes

FE	Federal ESA listed, Endangered.
FT	- Federal ESA listed, Threatened.
FPE	- Formally Proposed for federal ESA listing as Endangered.
FPT	- Formally Proposed for federal ESA listing as Threatened.
FPD	- Listed under Federal ESA, but formally proposed for delisting.
Fd	- Formally Delisted (delisted species are monitored for 5 years).
FC	- Candidate for federal ESA listing as Threatened or Endangered.
FSC	- U. S. Fish and Wildlife Service Species of Concern (USFWS, updated August 11, 2004).
BCC	- U. S. Fish and Wildlife Service Bird of Conservation Concern (USFWS, 2002).
BLM	- Bureau of Land Management Sensitive Species.
FS	- U. S. Forest Service Sensitive Species.
CE	- California ESA or Native Plant Protection Act listed, Endangered.
CT	- California ESA or Native Plant Protection Act listed, Threatened.
CR	- California ESA or Native Plant Protection Act listed, Rare.
CC	- Candidate for California ESA listing as Endangered or Threatened.
CFP	- Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
CSC	- California Department of Fish and Game Species of Special Concern (CDFG, updated August 2004).
CDF	- California Department of Forestry Sensitive Species.
1A	- California Native Plant Society/Presumed extinct.
1B	- California Native Plant Society/Rare or Endangered in California and elsewhere.
2	- California Native Plant Society/Rare or Endangered in California, more common elsewhere.
4	- California Native Plant Society/Plants of Limited Distribution.
CNDDB	- Species that is tracked by CDFG's Natural Diversity Database but does not have any of the above special-status designations otherwise.

Figure 4.8-1
CNDDB Map

BROWNIE's – PLEASE ADD THIS ATTACHED 11 X 17 FIGURE

Plants

According to CNDDB records, one special-status plant has the potential to occur within the Clover Valley site: Sanford's arrowhead (*Sagittaria sanfordii*). Although Sanford's arrowhead is a federal Species of Concern, Sanford's arrowhead was not mentioned in the USFWS's Biological Opinion dated October 27, 2005. In addition, the following species are considered by the CNPS to be Rare or Endangered in California (1B status): Big-scale balsamroot (*Balsamorhiza macrolepis var. macrolepis*) and Brandegee's clarkia (*Clarkia biloba ssp. Brandegee*). Stinkbells (*Fritillaria agrestis*) is considered to have Limited Distribution (4 status).

The probability of special-status plant species occurring on-site is considered low. Of the species listed above, the plant considered most likely to occur is Brandegee's clarkia due to the suitable habitat and topography on the project site. This species has no federal or State listing. Past surveys of the property conducted by highly qualified botanists (e.g., Dr. Robert Holland) failed to identify this or any other special-status species. Although the Biological Impact Evaluation notes that past botanical work is somewhat dated (circa 1992) and follow-up surveys targeting the above species may be warranted, the species do not require mitigation because they are not federal- or State-listed as Endangered, Threatened, Fully Protected, or Species of Special Concern.

Valley Oak
The Valley oak (*quercus lobata*) was identified by CNPS as a sensitive plant species. Although the Valley oak has been placed on the limited distribution watch list (List 4) of the California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California*, the species is not in the CDFG's CNDDB.

Invertebrates

Due to the absence of vernal pools or similar seasonal wetlands, the presence of listed branchiopod crustaceans (i.e., vernal pool fairy shrimp and tadpole shrimp) is not expected.

Valley Elderberry Longhorn Beetle
One special-status invertebrate has the potential to occur on the Clover Valley site, the Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*). Foothill Associates prepared a Valley Elderberry Longhorn Beetle Mitigation Monitoring Plan in 2004. A Biological Opinion (BO) from USFWS was received on October 27, 2005, regarding potential impacts to VELB, and mitigation was established regarding transplanting of affected habitat and the establishment of conservation areas.

VELB was listed as Threatened by the U.S. Department of the Interior in 1980. Conservation efforts aimed at the species' recovery have included protecting existing elderberry thickets, replanting elderberry shrubs, and transplanting elderberry shrubs inhabited by beetle larvae to new sites.

VELB historically occurred throughout the Central Valley, from Shasta County south into Kern County (Arnold et al. 1994). In contrast, surveys conducted between 1984 and 1991 detected VELB in only 12 patches of natural riparian vegetation along the Sacramento, American, and San Joaquin rivers and their tributaries (Arnold et al. 1994). Habitat loss is the single greatest factor contributing to the decline of this species. Riparian forests throughout the Central Valley have been destroyed as a result of human activities associated with urban development, agriculture, and water diversions and conveyance.

Fish

A stream channel and fish passage investigation was performed (ECORP 2001) to assess the suitability of the Clover Valley Creek stream channel as a migratory corridor for State- and federal-listed anadromous fish species, such as steelhead (*Oncorhynchus mykiss*) or Species of Concern, such as fall-run Chinook salmon (*O. tshawytscha*). During their 2001 assessment, ECORP determined that, given the presence of significant downstream barriers, upstream passage of adult salmonids (including steelhead and Chinook salmon) adjacent to the proposed project site was not possible.

The National Oceanic and Atmospheric Administration (NOAA) Fisheries issued a BO on May 9, 2002, which concluded that the proposed project is not likely to jeopardize the continued existence of Central Valley steelhead on-site due to downstream impediments, which could potentially prohibit migratory salmonid passage. However, the BO includes reasonable and prudent measures, terms and conditions, and conservation recommendations to minimize incidental take of Central Valley steelhead.

In addition, an Essential Fish Habitat Consultation document was provided as an attachment to the NOAA Fisheries BO. This consultation concluded that the proposed project may adversely affect fall-run Chinook in the Dry Creek watershed due to channel disturbance from construction and its associated downstream sedimentation. The EFH conservation recommendations mirrored the conservation recommendations specified in the BO.

Amphibians

The habitats and vegetation communities on-site may provide potentially suitable habitat for two special-status amphibians, the California red-legged frog and the Foothill yellow-legged frog; however, the presence of these species is considered very unlikely. The Western spadefoot toad has been addressed in previous project documents as a potentially occurring species. However, due the absence of suitable breeding habitat, the presence of the Western spadefoot toad is not expected.

California Red-legged Frog
California red-legged frog (*Rana aurora draytonii*) is federally listed as Threatened and considered by CDFG to be a Species of Special Concern. Adult California red-legged frogs prefer dense, shrubby or emergent riparian vegetation near deep (≥2.3 feet), still or

slow moving water, especially where dense stands of overhanging willow and an intermixed fringe of cattail occur (Hayes and Jennings 1988). This subspecies breeds from November through April (Jennings and Hayes 1994). California red-legged frogs breed in a variety of aquatic habitats including streams, deep pools, backwater areas within streams and creeks, ponds, marshes, sag ponds, dune ponds, stock ponds, and lagoons (USFWS 2002). Upland areas provide important sheltering habitat during winter when California red-legged frogs are known to aestivate in burrows and leaf litter.

The historic range of the California red-legged frog extended along the coast from Marin County, California and inland from Shasta County, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1994, USFWS 2002). This area includes the Coast Ranges and the west slope of the Sierra Nevada Mountains at elevations below 5,000 feet. The current range is greatly reduced, with most remaining populations occurring along the coast from Marin County to Ventura County, and in isolated locations along the foothill region of the west slopes of the Sierra Nevada Mountains. The California red-legged frog has experienced a 70 percent reduction in its range in California as a result of several factors including habitat alteration, excessive harvest, and introduction of non-native predators, especially bullfrogs and introduced fish species. Current information suggests that this species has been extirpated from most of its Sierra Nevada range (Jennings 1996). California red-legged frogs were likely extirpated from the Central Valley floor prior to 1960 (USFWS 1996c).

Currently, records of California red-legged frog within project vicinity do not exist (CDFG 2005), although there are two known occurrences of California red-legged frog in Placer County. California red-legged frog (Occurrence No. 9) was observed prior to 1951 at Michigan Bluff, approximately four miles east-northeast of Foresthill. A single adult (Occurrence No 446) was observed in 2001, in an ephemeral pool located north of Pennsylvania Point, on the west end of Ralston Ridge, El Dorado National Forest (CDFG 2003).

The California red-legged frog is not likely to occur within the project area based on the documented extirpation of the species from the Central Valley floor and the distance of the site from documented occurrences in the Sierra Nevada foothills. While historically known to occur in the project vicinity (circa the 1940s), there have been no recent sightings, and the species is not expected to occur. A BO recently issued by the USFWS for the project did not identify the California red-legged frog as an issue.

Foothill Yellow-Legged Frog

The Foothill yellow-legged frog (*Rana boylii*) is designated as a federal Species of Concern, a CDFG Species of Special Concern, and a U.S. Forest Service Sensitive Species. The Foothill yellow-legged frog is a small, highly aquatic frog that occurs in association with perennial streams that contain cobble and boulder-sized substrate, have shallow riffles, are partially shaded, and are at elevations below 1,830 m (6,000 ft) (Hayes and Jennings 1988, Jennings and Hayes 1994, Kupferberg 1996, Ashton et al. 1998, Stebbins 2003). They may also occupy ephemeral creeks that retain perennial pools through the end of summer. While Clover Valley Creek is considered potential

habitat for this species, the presence of this frog is considered highly unlikely. Existing populations of Foothill yellow-legged frog occur at higher elevations in the foothills.

Western Spadefoot Toad

The Western spadefoot toad (*Spea hammondii*) is not listed pursuant to either the California or federal Endangered Species Acts. This species is, however, designated as a CDFG Species of Special Concern and a USFWS Species of Concern. Within California, Western spadefoot toad is known from the vicinity of Redding, Shasta County, southward to northwestern Baja California, at elevations below 4,475 feet (Jennings and Hayes 1994). Necessary habitat components of the Western spadefoot toad include suitable underground retreats and breeding ponds. The species is mostly terrestrial, but requires temporary rain pools or pools within intermittent drainages to reproduce. Spadefoots spend most of their adult life within underground burrows, or other suitable refugia, such as rodent burrows. Suitable breeding sites include temporary rain pools, such as vernal pools and seasonal wetlands or pools within portions of intermittent drainages (Jennings and Hayes 1994). Breeding and egg laying occurs at night, typically between late February and May (Jennings and Hayes 1994). Eggs are deposited on submerged debris and vegetation. After hatching, larvae complete their development within 3 to 11 weeks, and post-metamorphic juveniles feed and immediately seek underground refugia. Upon metamorphoses, the adults are largely terrestrial in nature and will burrow into sandy or gravelly soils utilizing the "spades" on the hind feet.

Western spadefoot toad in Placer County is known to breed in relatively deep man-made features, such as ponded areas adjacent to railroad tracks, and in intermittent drainage plunge pools or similar pools that hold water through late spring. Subsequent to a site reconnaissance survey, ECORP Consulting, Inc. noted that spadefoot toad is historically known to breed in an intermittent portion of Kaseburg Creek (April 12, 1992). This creek and several other drainages have since become perennial and currently support an array of predatory species, such as non-native warm water fish species, bullfrog, and crayfish. The status of spadefoot toad in these areas is unknown.

The vernal pools, seasonal wetlands, drainage swales, and intermittent drainages and adjacent grasslands in the region represent potentially suitable habitat for the Western spadefoot toad. In fact, five larvae (CNDDB Occurrence No. 172) were observed in a pool adjacent to railroad tracks, adjacent to Taylor Road, in 1994. This location is situated in an historical vernal pool landscape. Vernal pools do not occur on the Clover Valley property. Furthermore, Clover Valley is likely to support various introduced fishes and amphibians such as the bullfrog. The presence of predatory species within Clover Valley Creek, and the creek's perennial nature, reduces its suitability as a breeding site for Western spadefoot toad. Many factors indicate that Western spadefoot toad is unable to reproduce successfully in the presence of exotic predators, primarily including introduced fishes, but also bullfrogs and crayfishes (K. Baldwin, S. Morey, B. Shaffer, pers. comm., as cited in Jennings and Hayes 1994).

Reptiles

The habitats and vegetation communities on-site may provide potentially suitable habitat for two special-status reptiles, the Northwestern pond turtle and the Coast horned lizard.

Northwestern Pond Turtle
Northwestern pond turtle (*Clemmys marmorata marmorata*) is currently not listed and protected pursuant to either the California or federal Endangered Species Act, but it is considered a CDFG Species of Special Concern and USFWS Species of Concern. Northwestern pond turtle is typically found in ponds, marshes, and still or slow moving creeks and streams. Within the project area, the marshes and Clover Valley Creek represent potentially suitable habitat for northwestern pond turtle.

Coast Horned Lizard
Coast horned lizard (*Phrynosoma coronatum*) is currently not listed and protected pursuant to either the California or federal Endangered Species Act, but it is considered a CDFG Species of Special Concern. This lizard occurs in grasslands, brushlands, woodlands, open coniferous forest and other open areas with sandy or loose soil. While historically known to occur in the project region, sightings have not occurred recently. Open areas associated with portions of the property's grassland represent potentially suitable habitat for this species.

Birds

Potentially nesting bird species include white-tailed kite, northern harrier, Cooper's hawk, California black rail, yellow-breasted chat, lark sparrow, loggerhead shrike, and tricolored blackbird. The winter residents, migrants, and non-nesting spring residents include sharp-shinned hawk, golden eagle, ferruginous hawk, and merlin.

White-Tailed Kite
White-tailed kite (*Elanus leucurus*) has no special status pursuant to either California or federal Endangered Species Acts. However, white-tailed kite is Fully Protected according to the Fish and Game Code Section 3511 and is considered a Species of Concern by the USFWS. White-tailed kite nests in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range typically from March through June. White-tailed kite forages within open grassland, savannah, and agricultural cropland habitats, mainly on rodents, but may also take insects, reptiles, amphibians, and birds. The trees on-site represent potential nesting habitat and the grassland represents suitable foraging habitat for white-tailed kite. White-tailed kite has been observed foraging on-site, but active nests were not observed during the initial field survey.

Northern Harrier
Northern harrier (*Circus cyaneus*) is not formally listed and protected pursuant to either the California or federal Endangered Species Acts, but is considered by the CDFG to be a Species of Special Concern. Northern harrier is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. Nesting season typically includes

April through September. This species nests on the ground, and typical nesting substrates include emergent wetland/marsh, open grasslands, or savannah habitats. Foraging occurs within a variety of open habitats such as marshes, agricultural fields, and open grasslands. Northern harrier feeds upon rodents, birds, amphibians, reptiles, crustaceans, and insects. Northern harrier was observed foraging within the grassland community on-site, but active nests were not observed during the initial field survey.

Cooper's Hawk
Cooper's hawk (*Accipiter cooperii*) is a CDFG Species of Special Concern, but is not formally listed and protected pursuant to either the California or federal Endangered Species Acts. Typical nesting and foraging habitat includes riparian woodland, dense oak woodland, and other woodlands near water. Nesting generally occurs in the Central Valley, Sierra Nevada, and Coast Range foothills during April through July. The trees on-site represent potentially suitable nesting habitat for Cooper's hawk.

Yellow-Breasted Chat
Yellow-breasted chat (*Icteria virens*) is a CDFG Species of Special Concern. Yellow-breasted chats nest in North America and winter in Mexico and Guatemala. This warbler typically nests within thick riparian scrub habitat in lower to middle elevations of the Sierra Nevada and Coast Range foothills. Nesting occurs during May through August. The blackberry thickets and riparian scrub habitat on-site represent potentially suitable yellow-breasted chat nesting habitat, but none were observed during the initial field survey.

Lark Sparrow
Lark sparrow (*Chondestes grammacus*) is not listed and protected pursuant to either State or federal Endangered Species Acts. The species is not considered a Species of Concern by either CDFG or USFWS, but is a species that is tracked by CDFG in the CNDDB. Consequently, lark sparrow is subject to review during the CEQA process. Lark sparrow can be found throughout California generally west of the Sierra Nevada. Lark sparrow nests within a wide variety of communities including oak woodland, chaparral, and grassland savannahs, among others. Lark sparrow nests are constructed on the ground or small trees and shrubs. The nesting period ranges from April through May. The oak woodland community on-site represents potentially suitable nesting habitat for lark sparrow but none were observed during the initial field survey.

California Black Rail
California black rail (*Laterallus jamaicensis coturniculus*) is listed as a Threatened species and protected pursuant to the California Endangered Species Act. This species is Fully Protected pursuant to California Fish and Game Code §3511, and is a USFWS Bird of Conservation Concern. Typical habitat for black rail includes coastal saltmarsh, delta emergent marsh, and interior freshwater emergent marsh. California black rail is a year-round resident in the San Francisco Bay region and at inland locations within Placer, Yuba, Butte, and Nevada Counties. Nesting typically occurs from March through July. The marshes on-site represent potentially suitable habitat for California black rail, but none have been observed during prior field surveys.

Loggerhead Shrike
The loggerhead shrike (*Lanius ludovicianus*) is not formally listed and protected pursuant to either the California or federal Endangered Species Acts but is considered a Species of Concern and Bird of Conservation Concern by the USFWS and a Species of Special Concern by the CDFG. Shrikes nest within small trees and shrubs and forage upon insects and small vertebrate prey in open grassland and meadows. Nesting typically occurs during April through May. The oak woodland and grassland communities on-site represent potentially suitable nesting and foraging habitat for loggerhead shrike, but none were observed during the initial field survey.

Tricolored Blackbird
The tricolored blackbird (*Agelaius tricolor*) is not formally listed and protected pursuant to either the California or federal Endangered Species Acts, but is considered a Species of Concern and Bird of Conservation Concern by the USFWS and a Species of Special Concern by the CDFG. This colonial nesting species is distributed widely throughout the Central Valley and Coast Range. Suitable nesting habitat includes emergent marsh, willow thickets, blackberry thickets, and tall herbs. Open grassland and agricultural fields are characteristic foraging areas. Nesting occurs during April through July. The marshes on-site and the grassland represent potentially suitable nesting and foraging habitat, respectively, for tricolored blackbird. Tricolored blackbird was not observed on-site during the initial field survey.

Other Special-Status Birds
Potentially occurring special-status birds that are not expected to nest on-site include sharp-shinned hawk (*Accipiter striatus*), golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), and Merlin (*Falco columbarius*). These species may rarely be found on-site or in the vicinity during migration and/or post-breeding winter visitants. None of these species is listed and protected pursuant to the California Endangered Species Act. The California Fish and Game Code §3511 specifically protects the golden eagle. The sharp-shinned hawk, ferruginous hawk, and Merlin are Species of Concern according to the USFWS and/or CDFG.

Mammals
The habitats and vegetation communities on-site may provide potentially suitable habitat for three special-status mammals, the Yuma myotis, the Townsend's big-eared bat, the Pallid bat, and the ring-tailed cat.

Yuma Myotis
Yuma myotis (*Myotis yumanensis*) is not formally listed and protected pursuant to either the California or federal Endangered Species Acts, but is considered a Species of Concern by the USFWS. Maternity colonies and roosting habitat are typically found in caves, mines, buildings, and under bridges (CDFG 1990). Yuma Myotis was not observed on-site; however, this species has the potential to occur within the project area.

Townsend's Big-Eared Bat
Townsend's big-eared bat (*Corynorhinus townsendii*) occurs throughout California and is considered a cave obligate species. The species is not formally listed and protected pursuant to either the California or federal Endangered Species Act, but is considered a Species of Concern by the USFWS and a Species of Special Concern by the CDFG. Although it will occasionally use a tree as a roost, this species prefers caves, mines, bridges, or buildings for roost sites. Townsend's big-eared bat feeds primarily on moths and prefers to forage along the edge of clumps of native vegetation. This bat is a year-round resident in California. Although Townsend's big-eared bat was not observed on-site, it has the potential to occur within the project area.

Pallid Bat
Pallid bat (*Antrozous pallidus*) is not formally listed and protected pursuant to either the California or federal Endangered Species Act but is considered a Species of Special Concern by the CDFG. Typical day roosts can be found in rock crevices, tree hollows, caves, mines, and buildings, and night roosts may include porches and buildings (CDFG 1990). Pallid bat was not observed on-site, but does have the potential to occur within the project area.

Ringtail
The ringtail (ring-tailed cat, *Bassariscus astutus*) is considered a Fully Protected species by the California Department of Fish and Game. The ringtail occurs in various riparian habitats, and in brush stands of most forest and shrub habitats, at low to middle elevations. Hollow trees, logs, snags, cavities in talus and other rocky areas, and other recesses are used for cover. Although not observed, the ringtail could potentially occur on the property.

American Badger
The American badger (*Taxidea taxus*) is considered a Species of Special Concern by the CDFG. Badgers occupy a diversity of habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows near timberline are preferred. Badgers prey primarily on burrowing rodents such as gophers and ground squirrels. While the badgers could potentially occur on site, their presence is considered unlikely.

REGULATORY CONTEXT

A number of federal and State statutes and local policies provide the regulatory structure that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site.

Federal

Federal Endangered Species Act

Provisions of the federal Endangered Species Act (FESA), as amended (16 USC 1531) protect federally listed Threatened and Endangered species and their habitats from unlawful take. "Take" under FESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The U.S. Fish and Wildlife Service's (USFWS) regulations define harm to include some types of "significant habitat modification or degradation." The U.S. Supreme Court ruled on June 29, 1995, that "harm" may include habitat modification "...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."

U. S. Army Corps of Engineers: Waters of the United States

Areas meeting the regulatory definition of "Waters of the United States" are subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (Corps). The Corps, under provisions of Section 404 of the Clean Water Act (CWA) (1972), has jurisdiction over "Waters of the United States" (jurisdictional waters). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sand flats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U. S.," tributaries of waters otherwise defined as "Waters of the U. S.," the territorial seas, and wetlands adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3).

Construction activities within jurisdictional waters are regulated by the Corps. The placement of fill material into such waters must be in compliance with permit requirements of the Corps. The Corps permits are not effective in the absence of State water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the State agency charged with implementing water quality certification in California.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. The State Fish and Game Code §3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act.

State

California Endangered Species Act

Provisions of California's Endangered Species Act (Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) protect State-listed Threatened and Endangered species. The CDFG regulates activities that may result in "take" of individuals. Take is defined as, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill".

California Species of Special Concern

The CDFG has also produced three lists (amphibians and reptiles, birds, and mammals) of Species of Special Concern that serve as "watch lists." Species on these lists either are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. California Species of Special Concern may receive special attention during environmental review, but do not have statutory protection.

California State Fish and Game Code

Migratory birds are also protected in California. The State Fish and Game Code §3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act.

Raptors (*e.g.*, eagles, hawks, and owls) and their nests are protected under both federal and State regulations. In addition to the MBTA, birds of prey are specifically protected in California under State Fish and Game Code section 3503.5 (1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Section 89 of the Fish and Game code defines "Take." "Take" means hunt, pursue, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

California Department of Fish and Game: Streambed Alteration Agreement

CDFG jurisdiction generally extends to the "hinge points" on the top-of-bank of opposing channel banks and/or the full lateral extent of riparian vegetation beyond the top-of-bank. Definitions used in the identification of CDFG jurisdiction are contained in various documents including the Fish and Game Code, Title 14 of the California Code of Regulations (Hernandez 1999), and *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code* (1994a). The areas generally include rivers, streams, creeks, or lakes. In addition, canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.

The bed and banks of Clover Valley Creek and Antelope Creek, including the aquatic habitat within Ordinary High Water Mark (OHWM), and the riparian woodland extending beyond its banks are potentially subject to the regulatory jurisdiction of the California Department of Fish and Game under Sections 1602. A Streambed Alteration Agreement is required prior to any work within the bed and banks, and associated riparian woodland of Clover Valley Creek.

Local

City of Rocklin General Plan

The 1991 City of Rocklin General Plan provides policies adopted by the City Council in order to help guide the direction of the City. The polices related to biological resources are as follows:

Open Space, Conservation and Recreation

Policy 1	To encourage the protection of natural resource areas, scenic areas, hilltops, open space areas and parks from encroachment or destruction by incompatible development through the use of conservation easements, buffers, setbacks or other measures. Development shall be required to provide usable land areas outside of conversion easements or established natural resource buffers.
Policy 2	To encourage the protection of wetlands, vernal pools, and rare, threatened and endangered species of both plants and animals through either avoidance of these resources or implementation of appropriate mitigation measures where avoidance is not feasible, as determined by the City of Rocklin.
Policy 4	To encourage the protection of oak trees, including heritage oaks, and other significant vegetation from destruction.
Policy 15	To provide adequate yard areas and building setbacks from creeks, riparian habitat, hilltops, and other natural resources.
Policy 16	To encourage developments to incorporate resources such as creeks, steep hillsides, and quarries in private, but restricted, ownership.
Policy 17	To consider acquisition and development of small areas along creeks at convenient safe locations for use by general public.
Policy 19	To minimize the degradation of water quality through requiring implementation of techniques such as, but not limited to, the prohibition of grading, placement of fill or trash or alteration to vegetation within designated stream setback buffer areas, and requiring the installation of measures which minimize runoff waters containing pollutants and sediments from entering surface waters. Measures for minimizing pollutants and sediments from entering watercourses may include oil/grit separators, detention basins and flow reduction devices.

City of Rocklin Oak Tree Ordinance and Guidelines (1997)

The Oak Tree Preservation Guidelines were adopted by Section 17.77.100 of the Rocklin Municipal Code, a part of the Oak Tree Preservation Ordinance. The guidelines require protection and preservation for all oak trees located wholly or partially within the City. As stated in the ordinance:

> "Oak tree" is defined as an oak tree with a trunk diameter at breast height (TDBH) (four and one-half feet above the root crown) of six inches or more and of a species identified in the City of Rocklin Oak Tree Preservation Guidelines as native to the Rocklin area. The diameter of multi-trunked trees shall be the TDBH of the largest trunk only. Prior to removal of any native oak tree, the property owner must submit an application to the Rocklin Planning Department for an Oak Tree Removal Permit. The application will provide the species, size and condition of the tree(s) proposed for removal. The applicant should provide a site plan indicating the location of the tree(s) proposed for removal and the proximity of the tree(s) to structures or other manmade improvements. Additionally, if deteriorating health of the tree is a factor for removal, the applicant may be required to provide a certified arborist's report on the health of the tree(s). Any replacement tree, including a transplanted tree, which dies within five years of being planted, must be replaced on a one-to-one basis. Mitigation will be required, and can either be by tree replacement or by payment into the City of Rocklin Oak Tree Preservation Fund.

The guidelines identify the minimum size of any replacement tree for a development to be 15 gallons. If the proposed number of trees to be removed on an undeveloped lot is more than 20 percent of the TDBH or more than 20 percent of the total number of all the surveyed trees, the total number of trees required to be replaced shall be of a one-inch diameter at breast height, which is roughly equivalent to a 15-gallon tree. According to the City of Rocklin Oak Tree Preservation Guidelines, a two-step process exists for determining the total number of TDBH (in inches) of replacement trees required for removal of more than 20 percent of the TDBH or more than 20 percent of the total number of all surveyed trees. The two-step process is described in Table 4.8-2.

Table 4.8-2
City of Rocklin: Replacement Tree Determination Formula

Step 1				
TDBH of all Surveyed Trees on the Site	×	20%	=	Discount Diameter
Step 2				
TDBH of all Surveyed Trees on the Site to be removed	–	Discount Diameter	=	Total TDBH (in.) of Replacement Trees Required

Data Source: City of Rocklin Oak Tree Ordinance, 1997.

1997 Development Agreement

In response to the concerns raised in the 1995 Clover Valley Lakes Annexation EIR regarding the potentially significant loss of oak trees within the proposed project site, the

City of Rocklin and the developer executed the 1997 Development Agreement (City Ordinance No. 773). Section 5.3 of the Development Agreement outlines specific tree preservation provisions. Components of the Development Agreement ensure the majority of oak trees would be protected, in accordance with the Preliminary Arborist's Report. Section 5.3 states "any oak trees removed for the construction of the public streets indicated on Exhibit C shall not be counted as oak trees removed by the Developer." In the Development Agreement, Exhibit C is the General Plan Amendment GPA-91-07. Further, "the number of oak trees removed for each subsequent phase of the Project shall be applied against the total number of oak trees in the Project, rather than against the number of oak trees for a particular phase." This calculation determines if the number of oak trees that are removed exceed the greater of 25 percent of the project's total oak tree diameter at breast height (DBH), or 25 percent of the total number of trees in the project.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

For the purposes of this EIR, an impact would be considered significant if the implementation of the proposed project would, or potentially would:

- Conflict with adopted environmental polices and goals of Rocklin, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan; or
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species; or
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as Threatened, Endangered, Fully Protected, or Species of Special Concern in local or regional plans, policies, or regulations; or
- Substantially reduce the habitat of a fish or wildlife species; or
- Cause a fish or wildlife population to drop below self-sustaining levels; or
- Threaten to eliminate a plant or animal community; or
- Reduce the number or restrict the range of an endangered, rare or threatened species; or
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or
- Have a substantial adverse effect on federally protected wetlands defined by Section 404 of the Clean Water Act.

Method of Analysis

In their *Biological Impact Evaluation* of December 2005, ECORP Consulting, Inc. evaluated previous biological surveys and studies, including the following:

- Acorn Environmental. 1991. *Clover Valley Ranch Botanic Survey*. Georgetown, CA.
- Davis[2] Consulting Earth Scientists. 1990. *Wetlands Delineation for Clover Valley Ranch*. Georgetown, CA.
- Davis[2] Consulting Earth Scientists. 2001. *Clover Valley Plant and Animal Impact Analysis*. Georgetown, CA.
- ECORP Consulting, Inc. 2001. *Clover Valley Creek Stream Channel and Fish Passage Investigation*. Roseville, CA.
- Holland, R. 1992. Vegetation Survey Report (letter).
- Sanders, S. 1992. Wildlife Survey Report (not available for review).
- Sierra Nevada Arborists. 2001. *Clover Valley Lakes Oak Tree Impact/Removal Inventory*. Truckee, CA.
- Foothill Associates. 2004. *Valley Elderberry Longhorn Beetle Mitigation Monitoring Plan, 622-acre Clover Valley Project, Placer County, CA*. Roseville, CA.
- Stantec Consulting, Inc. 2005. Clover Valley Tree Removal Summary. Sacramento, CA.

ECORP's special-status species review included a CNDDB query of portions of the Sheridan, Lincoln, Gold Hill, Auburn, Pleasant Grove, Roseville, Rocklin, Pilot Hill, Rio Linda, Citrus Heights, Folsom, and Clarksville USGS topographic quadrangles. In addition, ECORP conducted a reconnaissance-level field survey on November 16, 2005. ECORP Consulting, Inc. prepared a Biological Impact Evaluation of the documents noted above to identify potential inadequacies for consideration in preparation of the EIR.

Project-Specific Impacts and Mitigation Measures

4.8I-1 Impacts related to loss of oak trees on the project site due to project implementation.

The approval of the proposed Clover Valley LSLTSM project would directly result in the loss of a portion of the oak woodland habitat due to the construction of the major roadways. In addition, the ultimate buildout of the site would be expected to result in further losses of the existing oak woodland environment.

In 1997, a Development Agreement, executed between the City of Rocklin and the developer, specifically addressed oak tree preservation. According to the Development Agreement, the developer shall:

1) grant to the City open space and conservation easements for an Oak Tree Preserve and an Open Space Trail System; and

2) construct a bicycle/pedestrian trail to the satisfaction of the City within the central portion of the site and along the southern side of the east-west connector road, from the west boundary of the project to the west side of the commercial parcel at Sierra College Boulevard.

The proposed creation of the Oak Tree Preserve and Open Space Trail System along with improvements of the trail system were deemed acceptable "as full mitigation for oak tree removals under Rocklin Municipal Code Chapter 17.77 so long as the number of oak trees which may be removed by [the] Developer does not exceed the greater of 25-percent of the Project's total oak tree diameter at breast height (DBH) or 25-percent of the total number of trees in the Project."[12]

Based on calculations of the potential tree loss, of the existing 28,246 total trees on the project site, the construction of the major roadways would result in the removal of approximately 1,632 trees. The anticipated development of the minor streets and the small lots would result in the loss of an estimated 5,790 trees, for a total estimated loss of 7,422 trees. The Development Agreement specifies that trees removed as a result of General Plan project roadways are not counted towards the 25 percent cap. Therefore, although the total loss of trees is approximately 26.3 percent, for the purposes of the Development Agreement, the number of trees removed as a result of the project equates to 20.5 percent and is therefore in compliance with the Development Agreement. The *Tree Removal Summary* prepared by Stantec did not include the tree loss for commercial areas because the Oak Tree Ordinance does not typically apply to commercial land; therefore, trees in the commercial area are not included in the final calculations for tree removal. It should also be noted that the tree inventory summary and removal analysis assumes that all trees within each residential pad would be removed during grading. However, some trees may not be removed, so this assumption is conservative.

The oak tree preserve would provide beneficial habitat and is considered an effective method of mitigating the loss of trees because more natural habitat would be allowed to grow and survive. Although the option exists to replant trees in the newly urbanized environment, replanting measures are not considered as effective as tree preservation.

A significant amount of oak trees exist in the area designated for the proposed off-site sewer line installation. The construction could result in the removal of a substantial numbers of oak trees, as well as other native and mature trees, both within individual lots and on the Sunset Whitney Country Club grounds. Although the 1997 Development Agreement assumes that the creation of the

woodland preserve would fully mitigate for the trees removed by the construction of future site buildout, the 1997 Development Agreement did not address the removal of trees located within the major roadways associated with the off-site sewer alignment. Therefore, the loss of trees resulting from the ultimate anticipated development of the project and associated infrastructure would be considered to be a ***significant*** impact.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the magnitude of impact; however, the impact would remain *significant and unavoidable.*

4.8MM-1(a) *The project applicant shall establish the oak tree preserve as described in the 1997 Development Agreement.*

4.8MM-1(b) *The oak tree mitigation strategy shall be developed for impacts to oak trees from the off-site sewer line. Prior to the recording of final map, the applicant shall develop an oak tree mitigation strategy pursuant to the City of Rocklin Oak Tree Ordinance, for the review and approval of the Community Development Department.*

4.8I-2 Construction-related disturbance to oak trees not anticipated for removal.

During construction and implementation of the proposed project and off-site sewer line, damage to oak trees not anticipated for removal could occur. Impacts could include die-off of the existing oak trees from damage to the roots during grading, storage of materials, placement of fill within drip line zones, or landscaping activities. Therefore, a ***potentially significant*** impact would occur associated with unanticipated damage or loss of oak trees during grading or construction activities.

Mitigation Measure(s)
The following mitigation measure would reduce unanticipated impacts to remaining oak trees to a *less-than-significant* level.

4.8MM-2 *The project developer shall prepare an oak tree preservation plan to minimize damage to on-site oak trees and off-site oak trees associated with the off-site sewer alignment during the construction of the project, replace any oak trees damaged or killed by development of the project or off-site improvements, and plant additional trees or otherwise compensate for tree loss as determined by the Community Development Director. The plan shall be reviewed and approved by the Community Development Director prior to issuance of a grading permit.*

The tree preservation plan shall be in compliance with the City of Rocklin Oak Tree Preservation Guidelines, as outlined in Section IV, Protection of Oaks Trees During Construction, which includes fencing at least 3 feet outside the dripline of the trees, fencing and signage to be installed by the developer around trees which could damaged during construction, and avoidance of excessive grading around the preserved trees.

4.8I-3 Impacts to special-status grassland plant species.

Implementation of the proposed project would potentially affect the grassland habitat and the related foraging environment which provides for a number of species in Clover Valley. The grasslands cover approximately 30 percent of the project site, and characterize the majority of the existing level ground in the valley. The current biological evaluation by ECORP Consulting, Inc. notes that both native and non-native grasslands provide habitat value (foraging, nesting opportunity, overwintering area). However, special-status plant species are not associated with the on-site grassland habitat. Only one special-status plant species was identified as potentially occurring on-site, Sanford's arrowhead, and this species is address under Impact 4.8-I-4 below. Therefore, because special-status grassland plants do not occur on-site, the project would have a ***less-than-significant*** impact.

Mitigation Measure(s)
None required.

4.8I-4 Construction-related impacts to riparian and seasonal wetland habitat due to intrusion.

The proposed project would replace or convert a portion of the riparian and seasonal wetlands on the project site due to proposed construction, including the proposed recreational course and the proposed detention ponds. Riparian and seasonal wetlands constitute approximately six percent of the project site along the banks of the Clover Valley Creek, and are protected by the Corps. Additionally, the potential exists for impacts to riparian areas located in or adjacent to any of the sewer line alignments, especially in areas along Antelope Creek and the Sunset Whitney Country Club golf course.

The total loss of wetlands due to project construction is approximately 2.56 acres. The original delineation was verified on December 20, 1990, and expired on December 20, 1992. On December 19, 1997, a request was submitted to the Corps to re-verify the original delineation. Sid Davis conducted a field with the Corps on February 27, 1998. As a result of that field visit, the Corps requested that the wetland acreage be increased to approximately 42 acres of stream, riparian wetland, and seasonal wetland. ECORP has indicated that it is unknown if a re-verification letter was received

for the project in 1998. Mr. Davis has indicated that he recently performed a ground-truthing of the current wetland delineation and determined that the wetland delineation map sufficiently represents current conditions; he will be requesting that the Corps re-verify the delineation.

The City has received several public comments in regards to the proposed buffer distance off of the edge of riparian and seasonal wetland areas. The Biological Opinion received from NOAA Fisheries recommended that the road would not be closer to the creek than a minimum of 75 feet from the edge of the riparian zone to "protect the aquatic habitat." The City of Rocklin's General Plan Open Space/Conservation Action Plan states, "The City will apply open space designations to all lands located within 50 feet from the edge of the bank of all perennial and intermittent streams and creeks providing natural drainage, and to areas consisting of riparian habitat. The City will designate a buffer area greater than 50 feet for perennial streams when it is determined that such a buffer area is necessary to adequately protect drainage and habitat areas. In designating these areas as open space, the City is preserving natural resources and protecting these areas from development."

One special-status plant species (Sanford's Arrowhead) has the potential to occur in the riparian areas. Additionally, riparian areas could be affected by the construction of the off-site sewer line. Therefore, ***potentially significant*** impacts to the riparian and seasonal wetlands could occur during construction activities as a result of trampling of vegetation, staging of equipment, placement of materials, and/or dumping of debris.

Mitigation Measure(s)

The following mitigation measures would reduce the impact from the proposed project to a *less-than-significant* level.

4.8MM-4(a) *The appropriate CWA Section 404 permit shall be acquired by the developer for the construction of the proposed project and the filling of Clover Valley Creek, Antelope Creek, and the riparian areas, if applicable. An individual permit under Section 404 of the Clean Water Act is required for impacts to waters of the U.S., including wetlands greater than 0.5 acres. As part of the individual permit, National Environmental Protection Act (NEPA) compliance and a Section 404(b) (1) Alternatives Analysis must be completed. A copy of the approved Section 404 permit shall be provided to the Community Development Department prior to issuance of a grading permit. CWA Section 401 water quality certification or waiver will also be required in order to obtain an individual permit.*

4.8MM-4(b) Prior to issuance of a grading permit, the developer shall submit to the CDFG a formal verified wetland delineation based on current regulations of the Corps. The delineation shall include but not be limited to a determination of the nature of the jurisdiction of Clover Valley Creek, Antelope Creek, and the riparian areas within the project site and at off-site sewer line locations. If the CDFG determines that jurisdictional waters on or off the project site would not be impacted by the proposed project, no further mitigation is necessary.

If CDFG determines that jurisdictional waters would be impacted by the proposed project or the off-site sewer line extension, a Streambed Alteration Agreement shall be obtained from CDFG, pursuant to Section 1600 of the California Fish and Game Code, for any activities affecting the bed, bank, or associated riparian vegetation. If required, the project developer shall coordinate with CDFG in developing appropriate mitigation, and shall abide by the conditions of any executed permits for any work related to Clover Valley Creek, Antelope Creek, or the riparian areas.

4.8MM-4(c) The acreage of jurisdictional habitat removed on the project site and at off-site sewer line extension locations shall be replaced on a "no-net-loss" basis in accordance with Corps and CDFG regulations. The following process shall be used in planning for replacement:

- *A conceptual on-site wetlands mitigation plan shall be arranged for by the developer, including an agreed-upon replacement ratio of wetlands with the Corps. The mitigation plan shall quantify the total jurisdictional acreage lost, describe creation/replacement ratio for acres filled, annual success criteria, potential mitigation-sites, and monitoring and maintenance requirements.*
- *The plan shall be prepared by a qualified biologist pursuant to, and through consultation with, the Corps. The plan may include funding mechanisms for future maintenance of the wetland and riparian habitat, which may include an endowment or other funding from the project developer.*

It should be noted that the applicant has obtained a permit from the U.S. Army Corps of Engineers. Prior to issuance of a grading permit, the applicant shall provide verification to the City Engineer that the permit from the U.S. Army Corps of Engineers is valid and reflects the current project design.

4.8MM-4(d) For areas within 200 feet of riparian habitat, temporary high visibility fencing shall be used for the duration of construction activities, on or off the project site. To prevent inadvertent impacts from encroachment into this area, fencing shall be placed 75 feet away from the outside edge of riparian vegetation and/or the dripline of riparian trees (except where project improvement plans require construction within that 75-foot buffer). Where project improvement plans require construction activities to occur within that 75-foot buffer, fencing should be placed at the limits of the required construction activity. Placement of the fencing should be determined by a qualified biologist prior to construction. The fencing shall be monitored by the Community Development Department during the construction period to assure the success of this action.

4.8MM-4(e) A determinate survey for Sanford's arrowhead shall be performed by a qualified biologist within one year prior to construction and within the appropriate blooming season for the species (May through October). If, as a result of the survey(s), Sanford's arrowhead is determined not to occur on the sites, further action shall not be required. If Sanford's arrowhead is detected on site, locations of these occurrences shall be mapped with GPS and consultation with CDFG shall be initiated, and a mitigation plan shall be prepared based on the consultation. The plan shall detail the various mitigation approaches to ensure no net loss of plant species.

4.8I-5 Long-term operational impacts to riparian and seasonal wetland habitat due to intrusion.

As noted above, the total loss of wetlands due to project construction is approximately 2.56 acres. The Biological Opinion received from NOAA Fisheries recommends that the minimum buffer distance from the edge of a riparian area should be 75 feet from project roadways to "protect the aquatic habitat." In addition, the City of Rocklin *General Plan Open Space, Conservation and Recreation Action Plan, Item 1*, states that the City will apply open space designations to all lands located within 50 feet from the edge of the bank of all perennial and intermittent streams and creeks providing natural drainage, and to areas consisting of riparian habitat (p. 60). As it is currently proposed, development would occur in a few locations along Nature Trail Way within 50 feet of Clover Valley Creek, but the buffer would be a minimum of 50 feet elsewhere.

Project development could result in trampling of vegetation by pedestrians accessing the areas near Clover Valley Creek. The proposed project currently

incorporates an undeveloped setback of a minimum of 50 feet from the edge of Clover Valley Creek in most places to prevent disturbance to wetland areas. Although the project applicant has proposed fencing around residential units adjacent to the creek, this fencing occurs within 50 feet of the riparian area in a few locations along Nature Trail Way; additionally, project roadways occur within 50 feet of the riparian area, not outside the 75-foot buffer recommended by NOAA Fisheries.

Specifically, the BO provided by NOAA Fisheries states in part:

> [. . .]
>
> III. Conservation Recommendations
>
> Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.
>
> NOAA Fisheries believes the following conservation recommendations are consistent with these obligations, and therefore should be implemented by the Corps.
>
> [. . .]
>
> 2. The Corps shall encourage the applicant to consider redesigning the layout of the road system within the development whereby the road would not be closer to the creek than a minimum of 75' from the edge of the riparian zone to protect the aquatic habitat.

It should be noted that the conservation recommendations are discretionary recommendations, not mandatory conditions. The title of the section in which the recommendations appear is "Conservation Recommendations." The explanatory sentence below the title notes that the recommendation is discretionary, not mandatory. Further, the recommendation of the 75-foot buffer itself is couched in discretionary language. That is, the Corps "should" implement the recommendation, which is to "encourage" the applicant to "consider" redesigning the road with a 75' buffer.

It should also be noted that the establishment of an appropriately sized buffer is a balancing act between protecting biological resources and allowing development to occur. For the majority of the length of Clover Valley Creek that runs through the project site, the buffer provided by the proposed project is greater than 50 feet, and is 75 feet in some instances. The buffer is less than 50 feet only in limited instances, and those instances are due to the "balancing act" between protection of the natural resources and allowing development.

The BO also recommends a 50-foot buffer for the bike trail, but again it is set forth as a recommendation, not a requirement. The only place in which the 50-foot buffer is not maintained is along Nature Trail Way with the bike trail as an integrated portion of the road.

Additionally, operational impacts to riparian areas from the off-site sewer line improvements are not expected to occur because sewer line would be underground, revegetation would occur per Mitigation Measure 4.8MM-8, and the sewer line would not be regularly accessed.

Therefore, a ***less-than-significant*** impact would occur related to operational impacts on the riparian areas on and off the project site.

Mitigation Measure(s)
None required.

4.8I-6 Conversion of grassland habitat.

In the site's grassland areas, the project is expected to eliminate various prey species such as voles, deer mice, pocket gophers, ground squirrels and other small mammals, consequently impacting foraging habitat for raptors and other predators. Habitat loss is one of the most significant threats to the remaining populations of several special-status bird species. Some loss of suitable foraging habitat would also occur. Special-status raptors (including ground nesting species) have the potential to occur on-site, and are therefore special-status species that could be impacted by the loss of non-native grassland habitat. Northwestern pond turtles may also lay eggs in adjacent uplands/grassland and often over-winter in these areas. Impacts that would result from conversion of grassland habitat to specific species are mitigated for in Mitigation Measures 4.8MM-10 and 4.8MM-12.

The grassland habitat of the project site is considered unique because of its relative isolation and connectivity to large undeveloped areas. The conversion of 30 percent of the site's unique grassland habitat, a natural landscape, into an area characterized by residential development, roadway infrastructure, and increased human presence would therefore eliminate a substantial area of cover and a portion of the prey base of many wildlife species.

Furthermore, the Rocklin General Plan Final EIR (p. 18) found the loss of wildlife habitat to be a significant and unavoidable impact of General Plan buildout in combination with all South Placer development, and adopted findings of overriding consideration for the impact. Because the grasslands of Clover Valley are considered unique due to the isolated nature of the area and adjacency to large undeveloped areas, a ***significant*** impact could occur as a result of the conversion of grassland wildlife habitat.

Mitigation Measure(s)
Mitigation measures are not available to reduce the impact of conversion of grassland wildlife habitat. Therefore, this impact would remain *significant and unavoidable.*

4.8I-7 Construction impacts to riparian and aquatic habitats.

The proposed project would directly impact wetlands and/or waters on-site due to culvert and outfall construction. Decreased water quality due to contaminated and or sediment laden runoff originating from construction areas on and off-site may impact fish and aquatic animals associated with wetlands and the riparian habitats. Furthermore, a small area of riparian forest would be lost from proposed bridge and park construction.

Development of the off-site sewer line extension would affect existing waterways within and adjacent to the project site, by increasing the potential for erodible soil/siltation and impinging upon existing riparian vegetation and wetlands. The construction within Clover Valley Creek, Antelope Creek, and associated riparian areas would unavoidably loosen soil particles and therefore result in a temporary increase in siltation of the creek and downstream waterways. Likewise, the construction within the golf course would also loosen soil particles, some of which would be carried into the creek from the disturbed areas. Development within Rawhide Road would leave a residue of soil that would be carried into the storm drains and, from there, into the natural drainages (both Clover Valley Creek and Antelope Creek). Within Antelope Creek, the construction would result in considerable disturbance within the main channel, also resulting in a temporary increase in siltation of this waterway.

Discharge by pollutants from construction activities into local waterways or drains that flow into local waterways would potentially cause an indirect impact as well. Options 1A, 2A, 2B and 3B of the off-site sewer line (see Chapter 4.12) propose crossing Clover Valley Creek and Antelope Creek (possibly several times). The construction of creek-crossings in an area distinguished by vegetation and used as a habitat for raptors and fish would potentially damage the existing environment. In addition, construction of Options 1A, 2A, 2B, 3A and 3B would result in the direct impacts to waters of the United States, including wetlands. Therefore, considering the potential effects on existing waterways, the impact of proposed development would be considered ***potentially significant***.

Mitigation Measure(s)
Implementation of the Mitigation Measures 4.8MM-4(a) through (c), 4.9MM-7 and 4.11MM-3(a) and (b) would reduce the magnitude of potential impacts related to riparian and aquatic habitats. In addition, implementation of the following mitigation measures would reduce impacts to a *less-than-significant* level.

4.8MM-7 *Final alignments of the creek crossings and construction techniques shall be implemented as required by Corps, CDFG, and Sacramento Valley Regional Water Quality Control Board.*

Consideration of the alignments and construction techniques would include the following measures:

- *Construction shall occur during non-breeding times for raptors and fish;*
- *The creek-crossing area shall be restored at the time of the completion of the construction activities, including replanting with native grasses, shrubs and trees;*
- *Conditions of state and federal permits for impacts on waters of United States shall be obtained and implemented;*
- *Wetlands shall be protected during construction by use of orange mesh fencing to denote their boundaries. Once the location of any creek crossing is determined, the construction zone (corridor) shall be flagged to allow easy identification. Heavy equipment shall be operated only within this designated corridor;*
- *The project applicant shall design and implement a siltation and erosion control program for stream crossing areas prior to construction to the satisfaction of the City Engineer; and*
- *Erosion and sediment control measures shall be monitored by the contractor. The contractor shall keep records of the monitoring to be made available to the City Engineering Department for ensuring compliance with the erosion control program.*

4.8I-8 Long-term operational impacts to riparian and aquatic habitat.

Long-term operational impacts to riparian and aquatic habitat as a result of off-site sewer improvements are not expected to occur due to the temporary nature of the disturbance associated with sewer line construction. After construction, the sewer line would be located underground and would therefore not result in long-term operational impacts.

However, the removal of seasonal wetland on the project site would entail (a) the loss of foraging habitat for browsers such as deer and rabbits, (b) the loss of breeding habitat for amphibians and wetland nesting birds, (c) the loss of food sources for insectivorous and other species, and (d) the loss of resting and foraging sites for waterfowl and shorebirds. The ponds proposed to replace the seasonal wetlands on-site would not provide an adequate replacement habitat if they would be characterized by excessive maintenance, permanent standing water, widely fluctuating water levels, or a high degree of human presence. Furthermore, a small area of riparian forest would be impacted due to trail construction, maintenance and use, creek maintenance, and human presence.

In addition, the proposed Clover Valley project would involve the installation of culverts and outfalls into the riparian wetlands and Clover Valley Creek. Although a buffer would surround the wetland areas, some impacts to riparian and aquatic habitat are anticipated to result from decreased water quality due to contaminated runoff originating from the residential development. Therefore, a ***significant*** impact would occur.

Mitigation Measure(s)

The following mitigation measures, in combination with Mitigation Measure 4.11MM-3 in the Hydrology and Water Quality chapter of this EIR (Chapter 4.11) would reduce impacts associated with decreased water quality, but would not reduce the magnitude of the overall impact to riparian habitat, resulting in a *significant and unavoidable* impact.

4.8MM-8 *Prior to the approval of final maps, the project applicant shall incorporate a management plan into the project SWPPP and implement plan measures. The plan shall contain specific maintenance procedures designed to minimize both the production of site runoff due to reclaimed water in wet years (i.e., when antecedent soil moisture is high and urban requirements generate small volumes of surface runoff) and residual contaminants in applied chemical amendments. The plan shall implement source control BMPs to eliminate water quality contaminants originating from proposed development of the project site. BMPs may include fiber rolls for erosion control, temporary gravel bags around drainage inlets, temporary cross-slope drains along roads, and revegetation in areas of cut or fill slopes. The RWQCB would inspect the project site over the construction period and at unspecified intervals after project completion, until the site is fully revegetated. This inspection regime normally continues for two or three years following the cessation of construction. If violations of the permit conditions are revealed during the agency inspections, the RWQCB would alert the applicant and the applicant would be required to correct the violations to the satisfaction of the Board.*

4.8I-9 Loss of oak woodland habitat.

Oak trees support a diverse community of insects and wildlife in both their overstory (branches and leaves) and in their understory (grasses, brush, and limbs on the ground under the tree). California's oak woodlands are the most biologically diverse broad habitat in the state. Oak woodlands have been reduced in California to such an extent that the loss of any oak trees must be considered a substantial loss of habitat for many native species. The project site is heavily wooded and contains a significant number of native oak trees

and other mature tree species that provide habitat, food, and winter cover for a number of different species.

Oak woodlands are not only composed of trees, but also of shrubs, leaf litter, grasses, forbs, and downed woody debris – all of which are interrelated and are used to support a diverse ecosystem. Removing trees reduces canopy closure that in turn changes the light regime, microclimate, shrub density, downed woody debris, litter layer, and other factors. The animals associated with the loss of this habitat react differently to such changes and their reactions cannot necessarily be predicted, but it should be noted that along with urbanization comes the introduction of exotic species such as house sparrows, and domestic dogs and cats which compete with or prey upon native wildlife. An interdependency exists between oak woodlands and the wildlife found there, especially in terms of oak reproduction.

Oak woodlands also protect soil from erosion and landslides. The oaks regulate water flow and maintain water quality in streams and rivers. Concentrations of major nutrients in the soil beneath an oak canopy are significantly higher than in soil found in adjacent grasslands, indicating a more nutrient rich soil environment beneath the tree canopy. Soils beneath an oak canopy are characterized by having higher organic matter concentrations due to annual contribution of leaves and other organic debris. In addition to providing nutrients, higher organic matter concentrations lead to lower soil bulk density and greater porosity, which increases infiltration rates for rainfall and reduces surface runoff and erosion. Because the project site contains a significant number of native oak woodlands that provide habitat, food, and winter cover for a number of different species, potential impacts to oak woodland habitat would likely occur.

A loss of oak woodlands could significantly affect the food, shelter, and nesting habitat they provide. The loss of this habitat from the project could contribute to the overall impacts to wildlife.

However, the removal of 7,422 oak trees, which is approximately 26.3 percent of the oaks located on-site, would not be considered a significant impact due to the preservation of almost 75 percent of the oak woodland within the project site. Impacts to oak woodlands from the off-site sewer line are also not considered substantial due to the minimal amount of habitat that would be removed as a result of the sewer line. In addition, the most contiguous stands of oak trees on the project site would largely be retained as Figures 4.8-2(a) through (f) illustrate. Most of the oak trees proposed for removal are isolated from, or at the edges of the stands of oak trees that would be preserved. Therefore, the impacts to oak woodland habitat from anticipated development and the proposed project would be considered ***less-than-significant***.

Figure 4.8-2(a)
Oak Tree Inventory

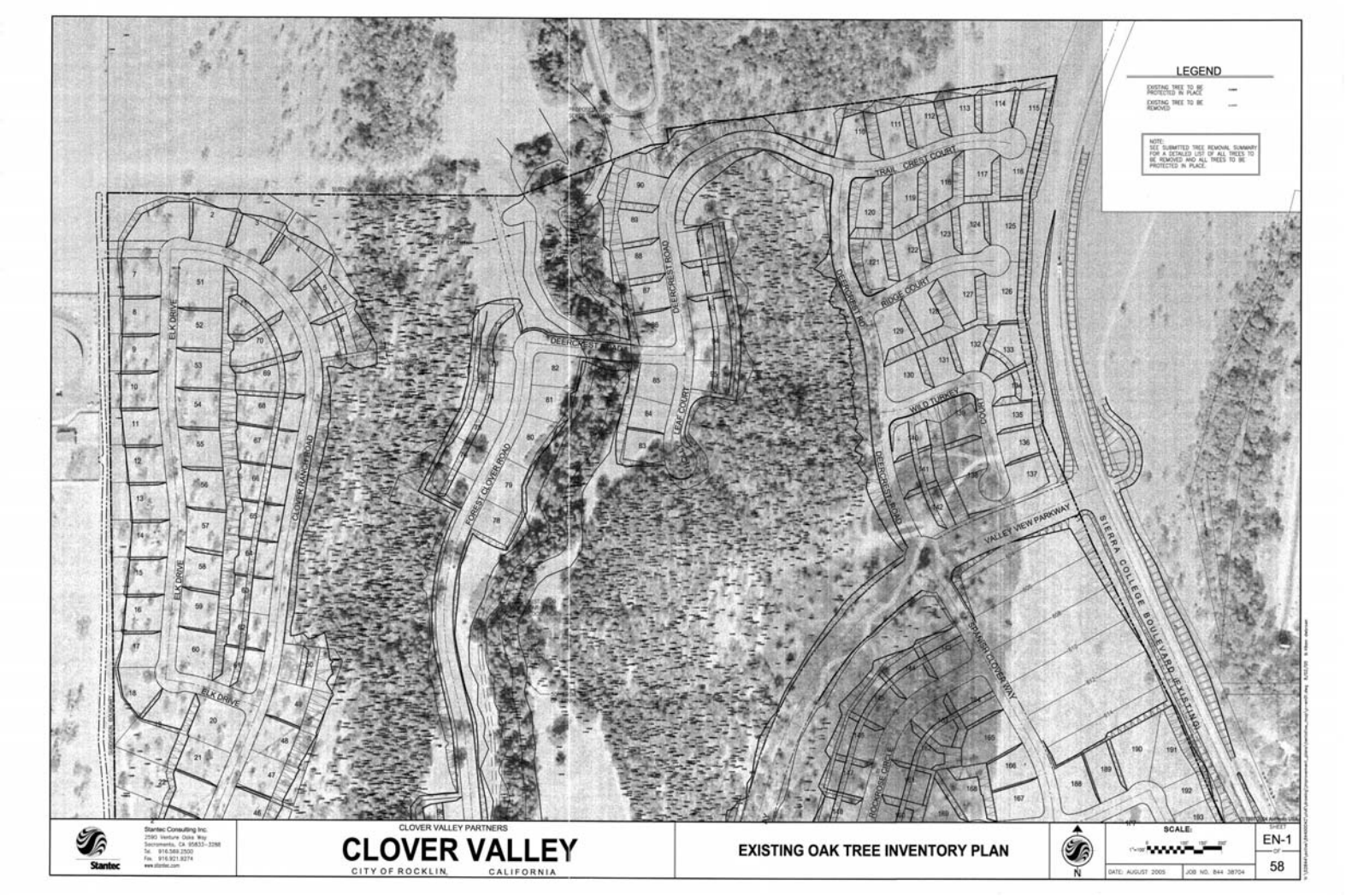


Figure 4.8-2(b)
Oak Tree Inventory

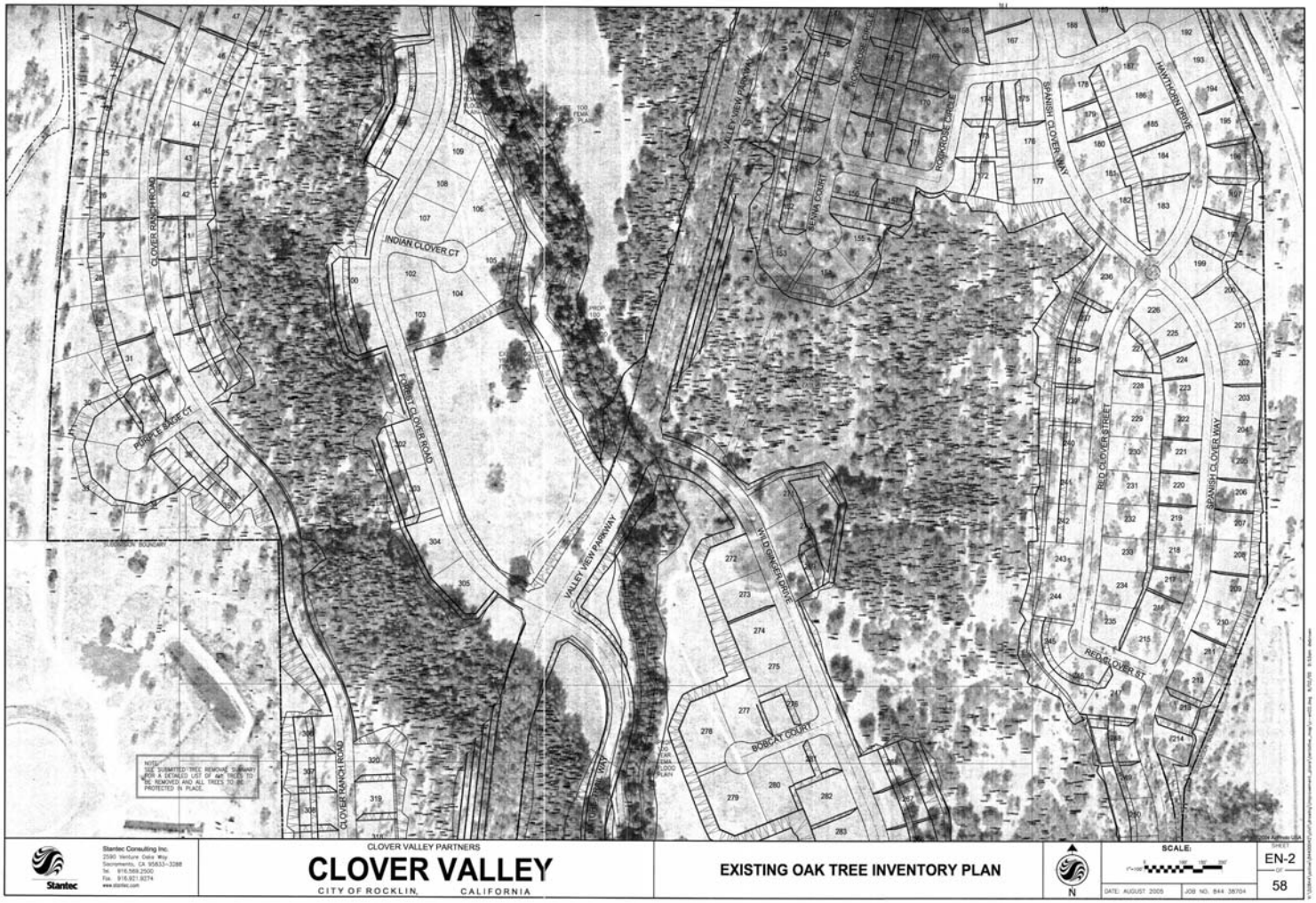


Figure 4.8-2(c)
Oak Tree Inventory

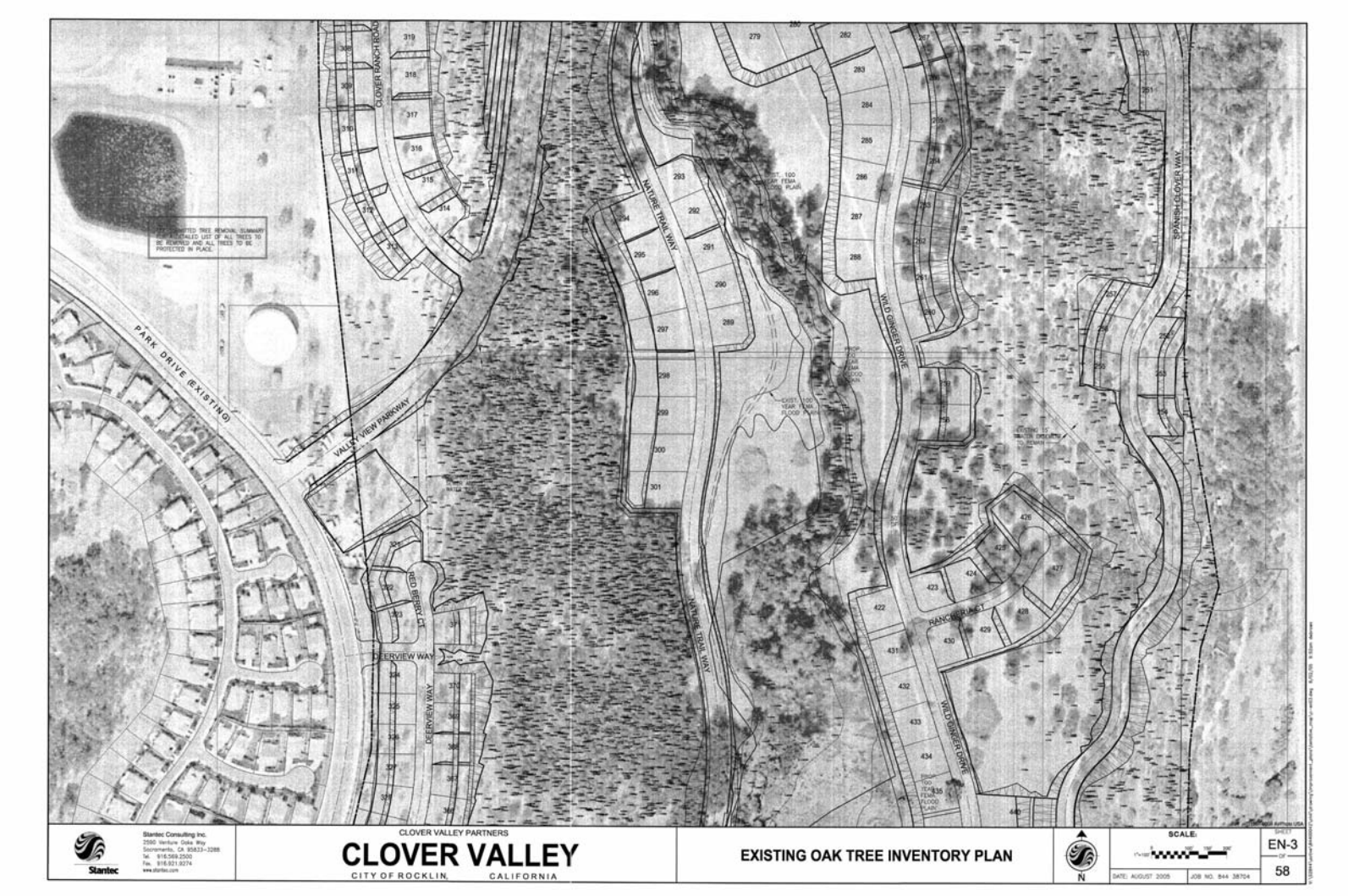


Figure 4.8-2(d)
Oak Tree Inventory

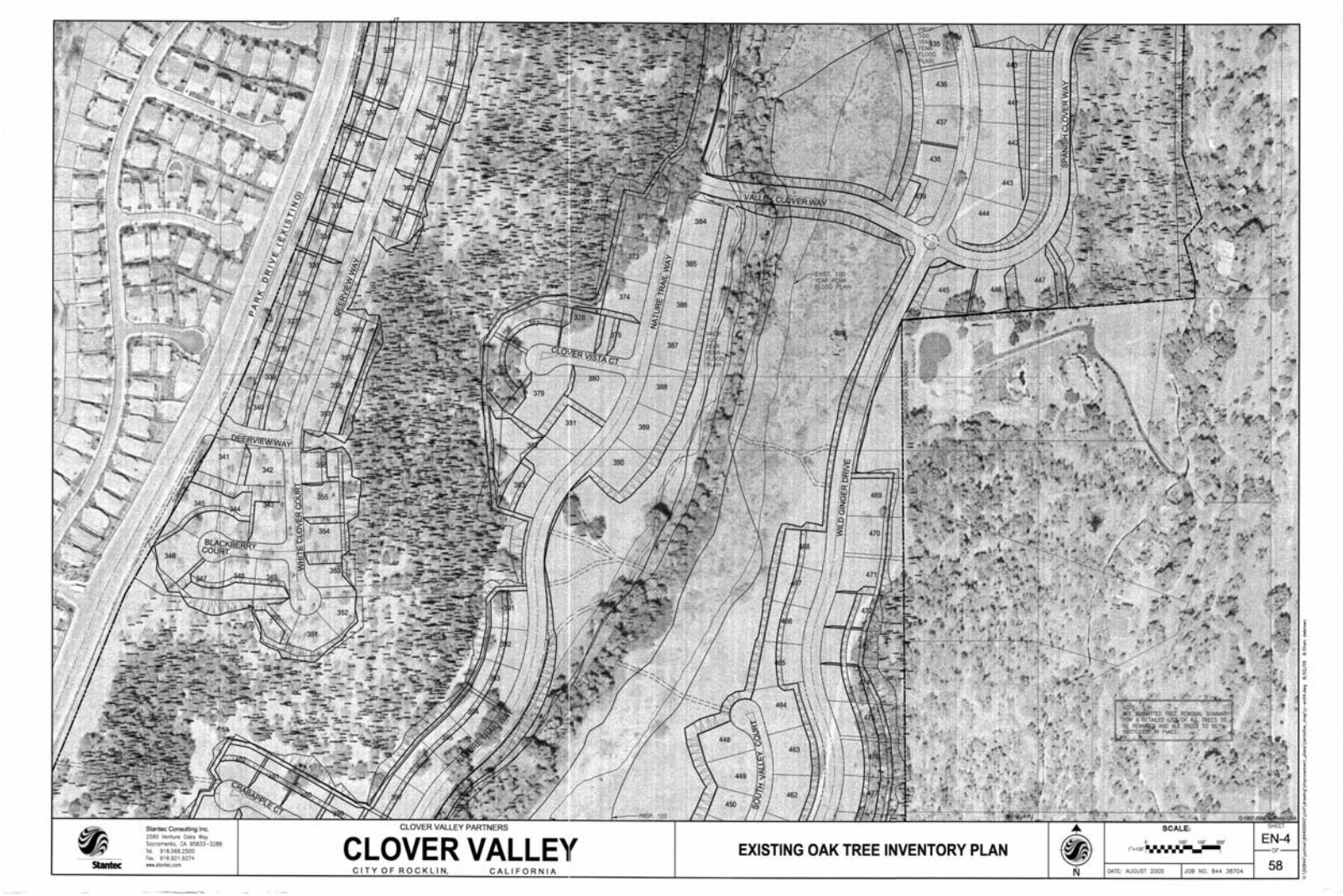


Figure 4.8-2(e)
Oak Tree Inventory

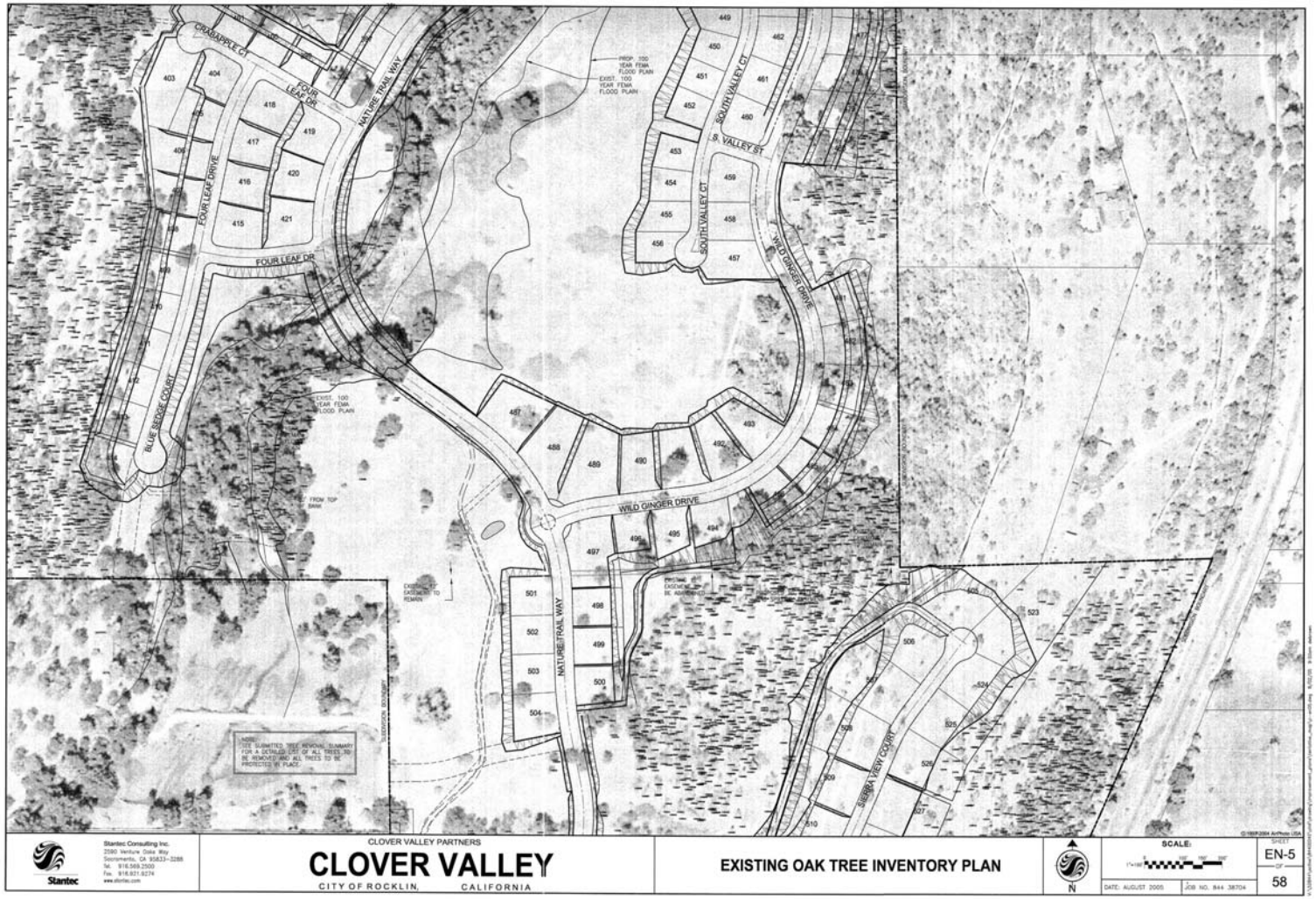
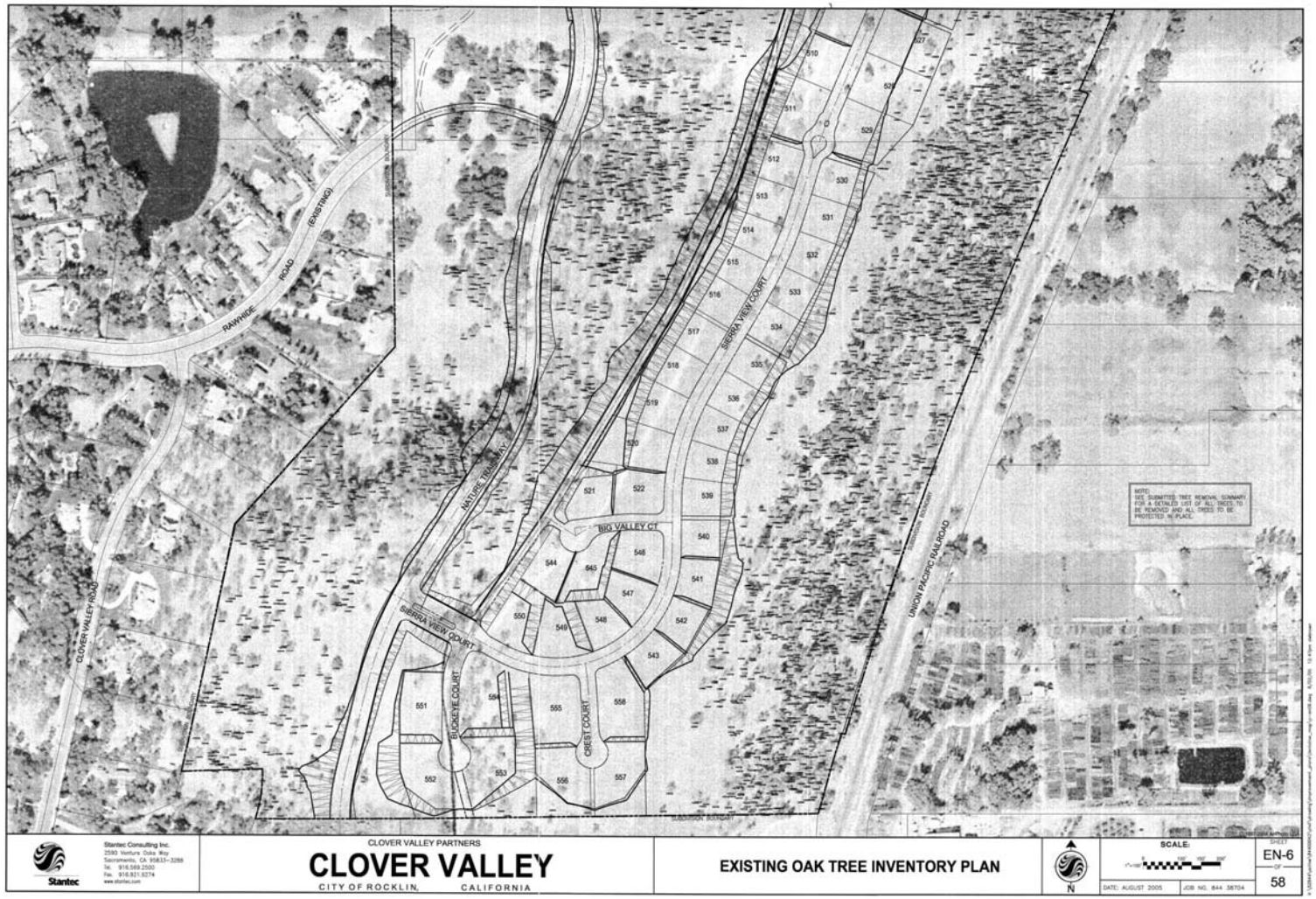


Figure 4.8-2(f)
Oak Tree Inventory



Mitigation Measure(s)
None required.

4.8I-10 Impacts to raptors and migratory birds.

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Migratory birds are also protected in California's Fish and Game Code §3513. In addition to the MBTA, birds of prey are specifically protected in California under State Fish and Game Code section 3503.5 (1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

The potential exists for migrating raptors to nest in oak and riparian trees located in or adjacent to any of the sewer line alignments, especially in areas along Antelope Creek and the Sunset Whitney Country Club golf course. If construction activities occur within 500 feet of an active raptor nest, these birds may abandon the nest(s), which would cause nesting failure. Disturbing an active raptor nest would also violate the federal Migratory Bird Treaty Act, and Sections 3503 and 3503.5 of the California Fish and Game Code.

In addition, the development of the on-site residential, commercial, park, and infrastructure improvements would result in the conversion of a largely undeveloped site to urban uses. Because raptors and migratory birds have the potential to occur on the project site and at off-site locations where the sewer line is proposed, a ***potentially significant*** impact to these species would result from project implementation.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce impacts to raptors and migratory birds to a *less-than-significant* level.

4.8MM-10(a) Prior to issuance of a grading permit, the project applicant, in consultation with the City of Rocklin and CDFG, shall conduct a pre-construction breeding-season raptor survey (approximately February 15 through August 1) of the project site during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified raptor biologist to determine if any birds-of-prey are nesting on the site, directly adjacent to the proposed project site, or at off-site locations where the off-site sewer line is proposed.

If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted.

A report shall be submitted to the City of Rocklin following the completion of the survey that includes, at the minimum, the following information:

- *A description of methodology including dates of field visits;*
- *The names of survey personnel with resume;*
- *A list of references cited and persons contacted; and*
- *A map showing the location(s) of any raptor nests observed on the project site.*

If the above survey does not identify any nesting raptor species on-site, adjacent to the site, or at off-site proposed sewer line locations, further mitigation would not be required. However, should any raptor species be found nesting at any of the surveyed locations, the following mitigation measures shall be implemented.

4.8MM-10(b) Prior to issuance of a grading permit, the following mitigation measures shall be completed for the review and approval by the City Engineer. The project applicant, in consultation with the City of Rocklin and CDFG, shall avoid all birds of prey nest sites located at any on- or off-site project locations during the breeding season while the nest is occupied with adults and/or eggs or young. The occupied nest shall be monitored by a qualified raptor biologist to determine when the nest is no longer used. Avoidance shall include the establishment of a nondisturbance buffer zone around the nest site. The size of the buffer zone would be determined in consultation with the City and CDFG. Highly visible temporary construction fencing shall delineate the buffer zone.

4.8MM-10(c) If the nest of any legally-protected species is located in a tree designated for removal, the removal shall be deferred until after August 30th, or until the adults and young are no longer dependent on the nest site, as determined by a qualified biologist.

4.8MM-10(d) If construction is proposed by the developer during the breeding season (February to August) of special-status migratory bird species, the project applicant, in consultation with the City of Rocklin and CDFG, shall conduct a pre-construction migratory bird survey of the on- or off-site project

location during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist in order to identify active nests of any special-status bird species on the project site. The results of the survey shall be submitted to the Community Development Department. If active nests are not found during the pre-construction survey, further mitigation is not required. If active nests are found, an adequately sized buffer zone, to be determined based on CDFG consultation, shall be established around the active nest. Intensive new disturbances (e.g., heavy equipment activities associated with construction) that may cause nest abandonment or forced fledging shall not be initiated within this buffer zone between February 1 and September 1. Any trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September to January).

4.8I-11 Impacts to Valley elderberry longhorn beetle.

Although elderberry shrubs themselves do not have special legal status, elderberry bushes provide the sole habitat for the federally protected Valley elderberry longhorn beetle (VELB). VELB populations have declined due to habitat loss, as their sole host plant, the elderberry shrub, has increasingly been destroyed to make way for urban and agricultural land uses. The USFWS has adopted a standard mitigation protocol for VELB. If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on, or adjacent to, a project site, or are otherwise located where they may be directly or indirectly affected by the proposed action, mitigation is required.

The Biological Opinion on the VELB from the USFWS dated October 27, 2005 indicates that the project site supports suitable habitat for the beetle. Five elderberry shrubs, all of which have stems greater than one-inch in diameter, are scattered across the project site. Foothill Associates' survey of the shrubs in 2004 did not reveal beetle exit holes on these shrubs. VELB is known to occur in seven instances in Placer County, and none of these occurrences are on the project site. The site, nonetheless, contains components that can be used by the beetle for breeding, resting, mating, a movement corridor, and other essential behaviors. Therefore, the USFWS has indicated that they believe that VELB is "reasonably certain to occur within the action area because of the biology and ecology of the animal, the presence of suitable habitat in and adjacent to the proposed project site, as well as the recent observations of this listed species. Thus, the proposed project is likely to adversely affect the beetle through permanent loss of habitat." One elderberry shrub would be removed as a result of the proposed construction of a road through the project site. The project applicant has proposed to transplant this

shrub to another location within a 1,800-square-foot "conservation area" located on the project site. Four elderberry seedlings and four associated native plantings would be planted within this area, a conservation easement would be placed on this area, and a performance bond or an endowment would be established to fund maintenance and monitoring activities on this conservation area in perpetuity. The other four on-site elderberry shrubs would have a 100-foot buffer established around each of them.

Additionally, the off-site sewer improvements could result in impacts to VELB because the improvements would occur, in part, in riparian areas near Antelope Creek. Because surveys have not been conducted for VELB at the off-site sewer improvement locations, and per the Programmatic Consultation by the USFWS, impacts to VELB would be ***potentially significant***

Mitigation Measure(s)
Impacts to VELB would be reduced to a *less-than-significant* level with implementation of the following mitigation measures.

4.8MM-11(a) This mitigation measure is identified for the on-site development. The terms, conditions, and measures as outlined in the USFWS Biological Opinion shall be implemented by the applicant. Conservation measures are listed below for reference, although it should be noted that the applicant shall be responsible for all the terms of the Biological Opinion:

- *Prior to issuance of a grading permit, the one affected elderberry shrub shall be transplanted to an on-site conservation area. Transplanting shall occur while the plant is dormant, between November and the first two weeks of February, after it has lost its leaves. USFWS shall be consulted prior to transplantation and a USFWS-approved biologist shall monitor the transplanting activities. This shrub shall be transplanted according to the USFWS's Beetle Conservation Guidelines.*
- *Prior to issuance of a grading permit, to compensate for adverse effects to beetles inhabiting the one elderberry shrub that shall be transplanted or directly affected as a result of construction activities associated with the proposed project, the applicant shall plant four (4) elderberry seedlings and four (4) associated native plants within the on-site conservation area.*
- *The conservation area shall be managed and monitored in perpetuity as outlined in the Beetle Conservation Guidelines, including the management and monitoring of the conservation area for either ten (10) consecutive years or seven (7) years over a 15-year period, with monitoring*

reports submitted for each monitoring year.

- *The Valley Elderberry Longhorn Beetle Mitigation Monitoring Plan [for the] 622-Acre Clover Valley Project, Placer County, California (MMP; Foothill Associates 2004), which describes the long-term protection of this conservation area in order to protect the area in perpetuity as habitat for the beetle, shall be adhered to.*
- *The contractors and all construction personnel shall be briefed on the need to avoid damaging the elderberry plants and on the possible penalties for not complying with these requirements. This program shall provide workers with information on their responsibilities with regard to the VELB, an overview of the life-history of this species, information on take prohibitions, protections afforded this animal under the Act, and an explanation of the relevant terms and conditions of the Biological Opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within 30 days of completion of the training.*
- *A USFWS-approved biologist shall inspect construction-related activities at the proposed project site to ensure that no unauthorized take of federally-listed species or destruction of their habitat occurs. The biologist shall be available for monitoring throughout all phases of construction that may result in adverse affects to the VELB.*
- *Prior to issuance of a grading permit, high visibility fencing shall be erected around the habitats of the VELB to identify and protect these Environmentally Sensitive Areas (ESAs) from encroachment of construction personnel and equipment. Fencing shall be established at a minimum setback of 100 feet from the dripline of each of the four elderberry shrubs on the project site which will not be removed or transplanted. Physical alteration of any type shall not occur within the area enclosed by the fencing. The fencing shall be inspected before the start of each work day and maintained by the project applicants until completion of the project. The fencing shall be removed only when the construction of the project is completed. Signs shall be posted every 50 feet along the edge of the ESAs, with the following information: "This area is habitat of federally-threatened and/or endangered species, and must not be disturbed. These species are protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be clearly readable from a distance of 20 feet, and shall be maintained for the duration of construction. Project*

construction within 100 feet of the on-site elderberry shrubs shall be prohibited during the beetle emergence and mating period (March 15 through June 15) to eliminate any indirect effects of construction on the beetle or its eggs.

- *A post-construction walkthrough shall be conducted to assess whether any damage occurred to vegetation within the buffer area. Damage may include accidental cutting of vegetation or visible physical damage to roots, stems, and leaves. If damage is observed, vegetation within the buffer areas shall be restored with appropriate native plant species. Erosion control measures and exotic weed abatement measures shall be implemented. If unanticipated damage is done to elderberry shrubs, the USFWS shall be notified and appropriate compensation shall be implemented.*

4.8MM-11(b) This mitigation measure is identified for the off-site sewer line improvements. A qualified biologist shall conduct a pre-construction survey of the project site for elderberry shrubs in accordance with USFWS protocol. A letter report documenting the results of the survey shall be submitted to the Community Development Department. If no elderberry shrubs are located, no further mitigation is required.

If elderberry shrubs are located on the project site and if impacts to individual elderberry bushes cannot be avoided, a program of transplantation and/or replacement for the elderberry bushes shall be developed in accordance with the requirements of USFWS. Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) must be replaced with elderberry seedlings or cuttings at a ratio ranging from 2:1 to 5:1 (new plantings to effected stems) dependent on the presence/absence and density of beetle exit holes in the effected bush. The exact ratio and specific conditions related to the transplantation or replacement requirement would be determined through consultation with the USFWS.

4.8I-12 Impacts to northwestern pond turtle.

The northwestern pond turtle (*Clemmys marmorata marmorata*) is currently not listed and protected pursuant to either the California or federal Endangered Species Act, but it is considered a CDFG Species of Special Concern and USFWS Species of Concern. Because pond turtles are typically found in ponds, marshes, and still or slow moving creeks and streams, the marshes and Clover Valley Creek represent potentially suitable habitat for

northwestern pond turtles. Removal of habitat for the northwestern pond turtle could occur on the project site. Although buffers would be established from the top of bank of Clover Valley Creek, some impacts to riparian and wetland habitat would occur during culvert and outfall installation. Additionally, the off-site sewer improvements would occur, in part, in riparian areas near Antelope Creek. Therefore, a ***potentially significant*** impact to northwestern pond turtle would occur.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce impacts to northwestern pond turtle to a *less-than-significant* level.

4.8MM-12 *A pre-construction survey for western pond turtle shall be conducted by a qualified biologist prior to and within 30 days of start of any grading or construction activities, to determine presence or absence of this species on the project site and at off-site locations where the sewer line would be constructed. This survey shall include looking for turtle nests within the construction area. If northwestern pond turtles are not found at surveyed locations on or off the project site, no further mitigation is required. If juvenile or adult turtles are found within the proposed construction areas, the individuals shall be moved out of the construction sites with technical assistance from CDFG. If a nest is found within the construction areas, construction shall not take place within 30 meters (100 feet) of the nest until the turtles have hatched.*

If a turtle is observed on the sites, construction crews shall be alerted to the possible presence of aquatic species and work shall cease in the area until the turtle can be moved to a safe location consistent with CDFG regulations. The above shall be completed for the review and approval by the City Engineer. If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted.

4.81-13 Impacts to freshwater marsh-occupying birds.

Some special-status bird species are potentially associated with the freshwater marsh community *(e.g.*, California black rail and tricolored blackbird). Although permanent impacts to the freshwater marsh areas associated with the riparian wetland are not expected due to the incorporation of a buffer adjacent to these areas, freshwater marsh-occupying bird species could be temporarily impacted by culvert/outfall installation. Additionally, the construction of the off-site sewer line, which would occur in part near Antelope Creek, could also

impact freshwater marsh-occupying birds. Therefore, a ***potentially significant*** impact would occur.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce impacts to freshwater marsh-occupying birds to a *less-than-significant* level.

4.8MM-13 *Pre-construction freshwater marsh-occupying bird surveys shall be conducted on the project site and at off-site sewer improvement locations, no more than 30 days prior to the start of ground disturbing activities, per consultation with CDFG, during the appropriate activity period for each species. If no freshwater marsh-occupying birds are identified, no further mitigation is required.*

Where a non-listed species is identified in the impact areas, construction activities shall be scheduled to occur outside of the breeding season and/or individual(s) shall be relocated away from the impact area according to agency protocols (if any). If monitoring of construction activities is required (by those agency protocols) it shall be conducted by a qualified biologist and reported to the appropriate agency (i.e., that agency with expressed interest in the subject species).

Where a listed species would be affected, appropriate permitting would be pursued with the agency (or agencies) having regulatory authority over it. Mitigation measures stipulated in the appropriate permitting instrument (i.e., a Management Agreement with the CDFG) would be imposed. If monitoring of construction activities is required (by a permitting instrument) it shall be conducted by a qualified biologist and reported to the appropriate agency (i.e., that agency with expressed interest in or regulatory authority over the subject species).

4.8I-14 Disturbance to active bat maternity roosts.

Yuma myotis (Myotis yumanensis) is not formally listed and protected pursuant to either the California or federal Endangered Species Acts, but is considered a Species of Concern by the USFWS. Maternity colonies and roosting habitat are typically found in caves, mines, buildings, and under bridges (CDFG 1990).

Townsend's big-eared bat is not formally listed and protected pursuant to either the California or federal Endangered Species Act but is considered a Species of Concern by the USFWS and a Species of Special Concern by the

CDFG. Although they will occasionally use a tree as a roost, Townsend's big-eared bat prefers caves, mines, bridges, or buildings for roost sites. They feed primarily on moths and prefer to forage along the edge of clumps of native vegetation.

Pallid bat (*Antrozous pallidus*) is not formally listed and protected pursuant to either the California or federal Endangered Species Act but is considered a Species of Special Concern by the CDFG. Typical day roosts can be found in rock crevices, tree hollows, caves, mines, and buildings, and night roosts may include porches and buildings (CDFG 1990).

The rich soils and abundant water of creek's floodplain produce lush vegetative growth, supporting an abundant supply of insects for bats, potentially including yuma myotis, Townsend's big-eared bat, and pallid bat. The site supports potential habitat for bats in the form of snags and structures. Although bats were not observed on-site, these species have the potential to occur on the project site. Additionally, removal of snags and structures as a result of the off-site sewer improvements could potentially impact special-status bats.

The removal of snags and structures on the project site and as a result of the off-site improvements is a ***potentially significant*** impact to potentially occurring special-status bats.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce impacts to bat maternity roosts to a *less-than-significant* level.

4.8MM-14 *The applicant shall avoid removing on-site and off-site snags and structures during the maternity season for special-status bats, which is June through August. If removal of snags and structures occurs September through May, no further mitigation is required. If removal of snags and structures must be conducted during the maternity season for bats, pre-construction surveys shall be conducted by a qualified biologist in consultation with the appropriate agency (i.e., that agency with expressed interest in or regulatory authority over the subject species) to determine the presence or absence of these species. If determined to be present, the bats shall be removed utilizing standard non-invasive exclusion methods, implemented by a qualified biologist, with permit approval, and in consultation with CDFG.*

4.8I-15 Impacts to special-status fish.

Because of existing constraints in the Clover Valley Creek Channel downstream of the project site, the portion of Clover Valley Creek in the project area is not considered as migratory habitat for state and federally listed fish species. In February 2001, ECORP Consulting, Inc. conducted a survey[13] on the Clover Valley Creek channel from its confluence with Antelope Creek to observe any passage of anadromous fish such as steelhead and fall-run Chinook salmon. ECORP concluded that barriers are present that would preclude both use of upstream habitat by spawning or rearing steelhead and salmon, and designation of upstream habitat as critical habitat for steelhead as determined by the National Marine Fisheries Service. ECORP's observations and conclusions are set forth in the following paragraphs.

Argonaut Bridge Crossing

At the Argonaut Bridge crossing over Clover Valley Creek, immediately upstream from its confluence with Antelope Creek, the Clover Valley Creek passes beneath the bridge for a distance of about 30 feet through a culvert approximately 1.5 to 2 feet in height and about 3 feet in width. On the downstream side, the culvert hangs over the stream channel with an approximate 2-foot drop. Under the conditions present (creek level and flow) when the stream channel survey was conducted, adult steelhead and salmon would not be able to negotiate the flow through the culvert because of its relatively small aperture and the fact that the flow velocity through the culvert causes the streamflow to "jet" from the culvert (that is, velocity and force of the flowing water falls out of the culvert, describing a moderate trajectory). During flood conditions, the creek can top its banks and spill into an overflow channel, which is the golf course cart path that also passes under the Argonaut Drive Bridge. According to ECORP, total stream volume and velocities that would occur during such an event would create unsuitable conditions for upstream passage.

Cimarron Court Area

Cimarron Court approaches Clover Valley Creek from the west. Upstream from the court (adjacent to the stream channel) the stream channel bifurcates. At the upper end of the bifurcation, water is impounded instream through the use of control devices on each of the two channels, forming a large, ponded area within an existing residential development. The western outflow channel is gated with no provision for fish passage. In addition, the channel downstream is narrow and is heavily vegetated with willows, blackberries and other encroaching vegetation. Upstream fish passage through this channel would be arduous, at best. The eastern outflow channel is wide and shallow, with little encroaching riparian vegetation. At the point of outflow, there is a slot dam, where flashboards can be readily installed or removed to regulate

the impoundment level. When flashboards are installed, upstream passage of fish is blocked. Even with the boards removed, most of the creek appears to flow down the western channel. Upstream passage of fish through this arrangement of gates and dams appears to be impossible.

Other Impoundments

An additional instream impoundment occurs just upstream of the Rawhide Drive Bridge, creating a further barrier to upstream passage of fish, and yet another instream impoundment occurs further downstream along Midas Way. All of the impoundments described above are located downstream from the proposed project site. Given the existing constraints to the creek system, upstream passage of adult salmonids, such as steelhead and fall-run Chinook salmon, was determined by ECORP to be impossible adjacent to the proposed project site, and in the opinion of ECORP this section of stream should be excluded as designated Central Valley steelhead ESU (Ecologically Significant Unit) Critical Habitat. ECORP further determined that anadromous fish habitat is not present, and impacts to the species in question would not occur. In addition, the U.S. Army Corps of Engineers permit issued for the construction in-and-around the streams indicates that the project would have no effect on fisheries.

However, the BO and the Essential Fish Habitat Consultation document that NOAA Fisheries issued on May 9, 2002, included terms and conditions to minimize incidental take of Central Valley steelhead and EFH of fall-run Chinook in the Dry Creek watershed. It should be noted that the BO recommends a 50-foot buffer for the bike trail, but that this measure is set forth as a recommendation rather than a requirement by using language such as "design *should* include maintaining a setback from riparian vegetation of 50 feet" and "bike trail layout and construction activities *should* avoid disturbance and removal of riparian vegetation to the maximum extent possible" [emphasis added]. Additionally, the only place in which the 50-foot buffer is not maintained is along Nature Trail Way with the bike trail as an integrated portion of the road.

However, because the BO and the Essential Fish Habitat Consultation document that NOAA Fisheries issued on May 9, 2002, included terms and conditions to minimize incidental take of Central Valley steelhead and EFH of fall-run Chinook in the Dry Creek watershed and the off-site sewer improvements would include a creek crossing of Antelope Creek and could also potentially affect special-status fish, a ***potentially significant*** impact to downstream habitat could occur.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce impacts to special-status fish to a *less-than-significant* level.

4.8MM-15(a) The project applicant shall comply with the following terms and conditions outlined in the Biological Opinion for the on-site development and in the Biological Opinion for the off-site sewer improvements, if one is required.

- *All in-channel work shall occur only between June 1 and October 15;*
- *Best management practices shall be employed during all phases of construction to minimize soil erosion, removal of wetland and riparian vegetation, siltation, and introduction of pollutants to the creek;*
- *When practical, during construction of the stream crossings, workers shall perform work from the top of the creek banks for the purposes of avoiding work and heavy equipment in flowing water, disturbing creekbank vegetation, and instream habitat. All riparian vegetation that is removed or destroyed shall be replaced on-site at a 3:1 ratio;*
- *If cofferdams are used, water pumped out of the dam, which may be turbid or that contacts wet concrete shall be pumped out and disposed of outside the creek channel in a location, such as a detention pond, where it will not re-enter the flow of the creek; and*
- *Culverts not intended to be used as flood control devices shall be designed so they do not impede fish migration or alter channel characteristics, such as by using bottomless arches and being sized to accommodate the active channel width, as described in NOAA Fisheries Fish Passage Guidelines.*

4.8MM-15(b) The Corps shall ensure that impacts resulting from habitat loss or reduction in water quality are minimized, by utilizing the following terms and conditions as consistent with the Biological Opinion:

- *The Corps shall ensure the Vortechnics™ filtration system is maintained in perpetuity to ensure they are functioning properly to remove pollutants and protect water quality. A copy of the maintenance contract shall be submitted to NOAA Fisheries within 90 days following completion of installation;*

- *The applicant shall send a report at project construction completion with a written description of instream construction activities and implementation of proposed minimization measures. The report shall include photographs of all the stream crossings before, during, and immediately after the project is completed for the purpose of developing a reference library of instream and riparian habitat characteristics; and*
- *Water quality shall be monitored before construction as a baseline and during the first rainy season after project completion to ensure the filtration systems are functioning properly. Samples shall be taken from below at least five stormwater outlets and shall capture the "first flush" storm. NOAA Fisheries must review and approve of the final design of the monitoring plan prior to implementation. A monitoring report shall be submitted to NOAA Fisheries within 90 days following completion of sampling.*

Cumulative Impacts and Mitigation Measures

4.8I-16 Cumulative biological impacts to vegetation and wildlife, in combination with other projects in the Rocklin area.

The City of Rocklin General Plan EIR[14] states that development could directly and indirectly affect biological resources. The development of natural area could cause loss of important wildlife habitats or uncommon plant communities. The General Plan EIR finds cumulative impacts on biological resources resulting from urbanization of the City of Rocklin under the General Plan to be significant and unavoidable.[15]

The proposed project would contribute incrementally to the cumulative loss of native plant communities, wildlife habitat values, special status species and their potential habitat, and wetland resources in the south Placer County region. Growth and urbanization of the City of Rocklin, and other areas in Placer County cumulatively contribute to the loss of these resources. As demonstrated in the Environmental Setting section, the proposed project supports a rich and diverse flora and fauna. Construction of the on-site and off-site infrastructure improvements associated with the project and ultimate construction of single-family homes due to a small lot tentative subdivision map would contribute to the cumulative loss of biological resources in the region. The cumulative biological affect on vegetation and wildlife would be considered a ***significant impact.***

Mitigation Measure(s)

While implementation of Mitigation Measures 4.8MM-1 through 4.8MM-15 would reduce the magnitude of the cumulative impacts to biological resources, the impacts would remain *significant and unavoidable*.

Endnotes:

[1] Acorn Environmental. *Clover Valley Ranch Botanic Survey*. Georgetown, CA. 1991.
[2] Davis2 Consulting Earth Scientists. *Clover Valley Plant and Animal Impact Analysis.* Georgetown, CA. 2001.
[3] ECORP Consulting, Inc. *Clover Valley Creek Stream Channel and Fish Passage Investigation.* Roseville, CA. 2001.
[4] Foothill Associates. *Valley Elderberry Longhorn Beetle Mitigation Monitoring Plan, 622-acre Clover Valley Project, Placer County, CA.* Roseville, CA. 2004.
[5] Holland, Robert F, Ph.D. *Vegetation Survey Report* (letter). July 1992.
[6] Sierra Nevada Arborists. *Clover Valley Lakes Oak Tree Impact/Removal Inventory.* Truckee, CA. 2001.
[7] Stantec Consulting, Inc. 2005. *Clover Valley Tree Removal Summary*. Sacramento, CA. November 2005.
[8] ECORP Consulting, Inc. 2005. *Biological Impact Evaluation.* December 2005.
[9] 1995 Clover Valley Lakes Annexation EIR, Chapter Z Plant Life.
[10] Vegetation Survey Report provided by Robert F. Holland, 1992, as cited in the 1995 Clover Valley Lakes Annexation EIR.
[11] 1995 Clover Valley Lakes Annexation EIR, Chapter AA Wildlife.
[12] Development Agreement by and Between the City of Rocklin and "Clover Valley Lakes," Exhibit 1 (p. 8).
[13] Survey conducted by ECORP Consulting, February 20, 2001 as identified by Thomas P. Keegan, ECORP Senior Fisheries Scientist in correspondence (Feb. 27, 2001).
[14] City of Rocklin General Plan EIR (p. 103).
[15] Resolution No. 91-114, Resolution of the City Council of the City of Rocklin Certifying the Final Environmental Impact Report, Making Findings of Overriding Considerations, and Directing the Environmental Coordinator to file a Notice of Determination.