

4.8 VEGETATION AND WILDLIFE

4.8.1 INTRODUCTION

This section describes the effects that the Proposed Project could have on vegetation, wildlife, and wetland resources in the region. All data used in this section were obtained from field visits to the Amoruso Ranch Specific Plan (ARSP or Proposed Project) Area (project site). ECORP Consulting, Inc. (ECORP) has been conducting botanical and wetland surveys in the project site since 2008. Field surveys were conducted in 2003, 2007, 2008, 2009, 2011, 2014, and 2015. The surveys for special status plants and wildlife were conducted on April 24 and 27, 2009; June 16 to 17, 2009; and June 8, 9, and 16, 2011 for the Plan Area, and March 1, April 18, and June 19, 2014, for the off-site Al Johnson Wildlife Area improvements area. Additional information for this section is based on aerial photographs and from review of the following documents:

- *City of Roseville General Plan 2025*, as amended June 2015 (City of Roseville, 2015a)
- *Placer County General Plan*, as amended in May 2013 (Placer County, 2013a)
- *Creekview Specific Plan Final Environmental Impact Report (EIR)*, April 2011 (City of Roseville, 2011a)
- *Draft ARSP*, February 2016 (City of Roseville, 2016)
- 2007 – 2008 Wet Season 90-Day Report of Findings Regarding Federally Listed Branchiopods: Amoruso Property, August 4, 2008 (ECORP, 2008a)
- 2008 – 2009 Wet Season 90-Day Report of Findings Regarding Federally Listed Branchiopods: Amoruso Property, September 23, 2009 (ECORP, 2009).
- *Wetland Delineation for Amoruso Property*, April 30, 2010 (ECORP, 2010)
- *Amoruso Ranch, Placer County, California – Revised Wetland Delineation*, March 23, 2011 (ECORP, 2011a)
- *Amoruso Ranch, Placer County, California – Western Spadefoot Toad Survey*, April 7, 2011 (ECORP, 2011b)
- *Amoruso Ranch – Raptor Survey 2011*, June 23, 2011 (ECORP, 2011c)
- *Late Season Special-Status Plant Survey: Amoruso Property*, January 28, 2013 (ECORP, 2013a)
- *Special-Status Plant Survey for Amoruso Ranch*, January 28, 2013 (ECORP, 2013b)
- *Special-Status Plant Survey for Amoruso Ranch*, September 2, 2015 (ECORP, 2015a)
- *Arborist Survey Report: Amoruso Ranch*, February 7, 2013 (ECORP, 2013c)
- *Valley Elderberry Longhorn Beetle (VELB) Survey: Amoruso Ranch*, February 7, 2014 (ECORP, 2013d)
- *U.S. Fish and Wildlife Service (USFWS) Biological Assessment to Support Federal Endangered Species Act (FESA) – Section 7 Consultation: Amoruso Ranch Project*, April 10, 2014 (ECORP, 2014a)
- *Special-Status Plants Survey: Al Johnson Wildlife Area Improvements Area*, September 26, 2014 (ECORP, 2014b)
- *VELB Survey: Al Johnson Wildlife Area Improvements Area*, September 26, 2014 (ECORP, 2014c)
- *Delineation of Waters of the U.S.: Al Johnson Wildlife Area Improvements Area*, September 26, 2014 (ECORP, 2014d)

- *California Natural Diversity Database (CNDDDB), Rarefind Database Version 3.1.1*, January 22, 2014 (CDFW, 2014)
- *California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants*, January 22, 2014 (CNPS, 2014)
- *USFWS Federal Endangered and Threatened Species Lists*, February 3, 2014 (USFWS, 2014)
- *Technical Memorandum RE: Swainson's Hawk Impacts and Mitigation Requirements within Amoruso Ranch, Placer County, California* (ECORP, 2015b)
- *Biological Resources Assessment (BRA): Amoruso Ranch Project*, October 30, 2015 (ECORP, 2015c)

The documents listed above are available for review during normal business hours (Monday through Friday 8 a.m. to 5 p.m.) at:

City of Roseville Permit Center
311 Vernon Street
Roseville, CA 95678

During the circulation of the Notice of Preparation (NOP), the City received comments from the neighboring Toad Hill Ranches residents regarding the potential of displacement of native wildlife due to project development. Refer to **Appendix C** of this EIR to view the comments received on the project during circulation of the NOP.

4.8.2 ENVIRONMENTAL SETTING

For the purposes of this section, the project site refers to the 694.4-acre project site, the approximately 17-acre Al Johnson Wildlife Area off-site improvements area, the approximately 5-acre right-of-way (ROW) of Sunset Boulevard West north of the project site, and three mitigation properties as discussed in the BRA (ECORP, 2015c), included as **Appendix P**. The off-site improvement areas are described in **Section 2.9** and below:

- **Project site:** Refers to the approximately 694.4-acre area within the boundaries of the proposed Specific Plan that is also proposed for annexation to the City of Roseville (City).
- **Offsite Improvement Areas:** Refers to the following areas located off-site where project-related improvements would occur:
 - **Al Johnson Wildlife Area property:** 17.2 acres in the adjacent city-owned Al Johnson Wildlife Area property (formerly known as the Reason Farms Stormwater Detention Facilities property), on which drainage improvements to serve the Proposed Project will be constructed; and
 - **Sunset Boulevard West ROW:** approximately 5-acre ROW of Sunset Boulevard West north of the project site.

The project site is located in rural southwest Placer County in the eastern Central Valley at elevations of approximately 75 to 100 feet above mean sea level (msl). The project site supports non-native annual grassland, with flat to gently rolling topography. Although most of the project site is currently uncultivated,

the land has been used for pastureland and other agricultural uses. It is currently used for cattle grazing. This area is characterized by Mediterranean climate typical of the Great Valley of California. The annual precipitation at the Represa monitoring station (approximately 13 miles to the southeast) is 22.89 inches (with the wettest period during December through March), and average maximum temperatures ranging from 53.3°F in January to 89.5°F in July (WRCC, 2012).

One occupied rural residence and a dilapidated barn are located within the northeastern portion of the project site. The Al Johnson Wildlife Area property consists of leveled agricultural fields separated by earthen berms, many of which are used also as access roads.

Hydrology

Hydrology within the project site is influenced by two factors: precipitation and stream flow. Most of the precipitation on the project site is captured in upland and wetland swales, which flow into University Creek (a tributary of Pleasant Grove Creek). Direct rainfall and sheet flows result in inundation of wetland features. Several of the seasonal wetland swales convey water to University Creek during and immediately after significant precipitation events. University Creek conveys flows from east to west across the southern portion of the project site, eventually draining into Pleasant Grove Creek approximately 0.75 mile west of the property boundary.

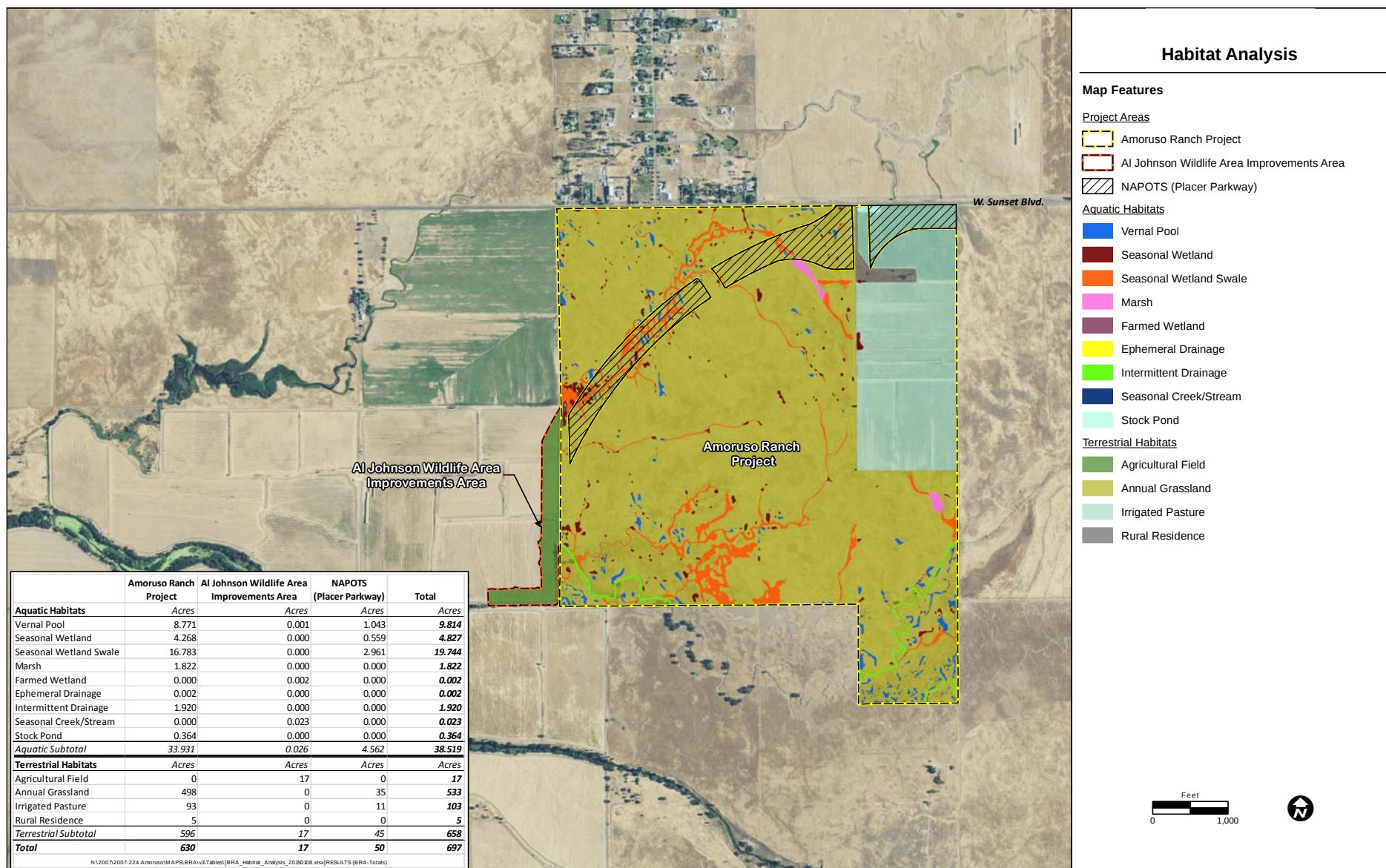
Pleasant Grove Creek drains the area between Auburn Ravine to the north and Dry Creek to the south as it flows west through Rocklin, Roseville, and unincorporated lands in western Placer County before entering the Pleasant Grove Creek Canal in Sutter County. Pleasant Grove Creek Canal joins with the Natomas Cross Canal and the Natomas East Canal in the American Basin, both of which discharge into the Sacramento River, a navigable water.

Biological (Vegetation) Communities

There are four types of vegetation communities within the project site: non-native annual grassland, irrigated pasture, agricultural field, and rural residence. Habitat types are depicted in **Figure 4.8-1** and the acreages are shown in **Table 4.8-1**.

TABLE 4.8-1
TERRESTRIAL HABITAT ACREAGES PRESENT WITHIN THE PROJECT SITE

Biological Community	Amoruso Ranch Project Acreage ¹	Al Johnson Wildlife Improvements Area	NAPOTS (Placer Parkway)	Total
Agricultural Lands	0	17	0	17
Non-Native Annual Grassland	498	0	35	533
Irrigated Pasture	93	0	11	103
Rural Residence	5	0	0	5
Total	596	17	45	658



Agricultural Lands

The off-site improvements area in the Al Johnson Wildlife Area consists of 17 acres of leveled agricultural fields planted with wheat (*Triticum aestivum*) and Italian rye grass (*Festuca perennis*), interspersed with cut-leaved geranium and filaree. Ruderal weedy vegetation occurs along the upper edges of the fields, berms, and roadsides, including Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), filaree, cut-leaved geranium, and pineapple weed (*Matricaria discoidea*). The portion of University Creek within the Al Johnson Wildlife Area was realigned during historic farming practices into a linear ditch and supports maturing riparian vegetation such as Valley oak, Goodding's black willow (*Salix gooddingii*), and Fremont's cottonwood, and wetland species such as broad-leaf water plantain (*Alisma triviale*) and fringed water-plantain (*Damasonium californicum*).

Non-Native Annual Grassland

The annual grassland community within the project site is comprised primarily of non-native, naturalized grasses of Mediterranean origin including: soft brome (*Bromus hordeaceus*), perennial ryegrass (*Festuca perennis*), wild oat (*Avena fatua*), barbed goatgrass (*Aegilops triuncialis*), little quaking grass (*Briza minor*), medusahead grass (*Elymus caput-medusae*), and Oldfield's three-awn (*Aristida oligantha*) (ECORP, 2015c). Other herbaceous species in this community include rose clover (*Trifolium hirtum*), little hop clover (*Trifolium dubium*), clustered clover (*Trifolium glomeratum*), yellow star-thistle (*Centaurea solstitialis*), filaree (*Erodium botrys*), winter vetch (*Vicia villosa*), sticky tarweed (*Holocarpha virgata*), chicory (*Cichorium intybus*), common dandelion (*Taraxacum officinale*), cat's ear (*Hypochaeris* sp.), vinegarweed (*Trichostema lanceolatum*), soft geranium (*Geranium molle*) and cut-leaved geranium (*Geranium dissectum*). Scattered valley oak (*Quercus lobata*) trees and Fremont's cottonwood (*Populus fremontii*) occur along the intermittent drainage on the southern portion of the site. Wetland features including vernal pools, seasonal wetlands, seasonal wetland swales, and seasonal marshes occur throughout the non-native grassland community (ECORP, 2015c).

Irrigated Pasture

The irrigated pasture occupying the northeastern portion of the project site is dominated by forage grass species including Bermuda grass (*Cynodon dactylon*), tall flatsedge (*Cyperus eragrostis*), and Kentucky fescue (*Festuca arundinaceae*).

Rural Residence

Ruderal vegetation in the vicinity of the residence and barn is comprised of non-native species including yellow star-thistle, filaree, wild oats, chicory, cat's ear, dallis grass, cheeseweed, and prickly lettuce.

Waters of the US

Waters of the U.S. are defined as:

- All waters which are currently used or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands; or

- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use degradation of which could affect interstate or foreign commerce including any such waters (40 Code of Federal Regulations [CFR] 230.3).

Wetlands are defined as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (40 CFR 230.41). Wetlands that meet these criteria during only a portion of the growing season are classified as seasonal wetlands.

Approximately 38.519 acres of wetlands and other waters are found within the project site, as shown on **Figure 4.8-1** and in **Table 4.8-2**.

TABLE 4.8-2
WATERS AND WETLANDS ACREAGES PRESENT WITHIN THE PROJECT SITE

Waters of the U.S.	Amoruso Ranch Project Acreage¹	Al Johnson Wildlife Improvements Area	NAPOTS (Placer Parkway)	Total
Vernal Pool	8.771	0.001	1.043	9.814
Seasonal Wetland	4.268	0.000	0.559	4.827
Seasonal Wetland Swales	16.783	0.000	2.961	19.744
Marsh	1.822	0.000	0.000	1.822
Farmed Wetland	0.000	0.002	0.000	0.002
Ephemeral Drainage	0.002	0.000	0.000	0.002
Intermittent Drainage	1.920	0.000	0.000	1.920
Seasonal Creek/Stream	0.000	0.023	0.000	0.023
Stock Pond	0.364	0.000	0.000	0.364
Total	33.931	0.026	4.562	38.519

ECORP completed a wetland delineation of the project site and adjacent Sunset Boulevard West ROW in August 2008 (ECORP, 2008a). ECORP completed a wetland delineation of the Al Johnson Wildlife Area in the spring of 2014 (ECORP, 2014d). The wetland delineations were conducted in accordance with the United States Army Corps of Engineers (USACE) *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Region Supplement)* (USACE, 2006). The wetland delineation was verified by USACE in a letter dated 30 March 2011 (Regulatory # SPK-2004-00888). A total of 38.519 acres of potential waters of the U.S. have been mapped within the project site, including the approximately 694.4-acre project site, Sunset Boulevard West ROW, and off-site Al Johnson Wildlife Area improvements area.

Vernal Pool

Vernal pools are depressions in the ground that are filled with shallow water for variable periods during the winter and spring, but are dry during the summer or fall. A bedrock or hard clay layer lies beneath the vernal pool. They often occur in hydrologically-connected complexes in low-lying grassland habitat, although they may also be found as isolated depressions. Direct rainfall and surface runoff inundate the pools during the wet season. The pools remain inundated and/or the soil maintains saturation through spring and is dry by late spring through the following wet season. Vernal pools are scattered throughout the project site. Vegetation found within vernal pools is adapted to the annual inundation cycles, and there are a number of plant species endemic to vernal pool habitat.

A total of 9.814 acres of vernal pools were mapped within the project site. Dominant plants within the vernal pools include creeping spikerush (*Eleocharis macrostachya*), Vasey's coyote-thistle (*Eryngium vaseyi*), slender popcorn flower (*Plagiobothrys stipitatus*), Carter's buttercup (*Ranunculus bonariensis*), smooth goldfields (*Lasthenia glaberrima*), and mannagrass. Other species found within the vernal pools include annual rabbitsfoot grass (*Polypogon monspeliensis*), Fitch's pikeweed (*Centromadia fitchii*), brook spike primrose (*Epilobium torreyi*), Mediterranean barley, green foxtail (*Alopecurus saccatus*), perennial ryegrass, and downingia (*Downingia cuspidata*).

Seasonal Wetland

Seasonal wetlands are ephemerally wet areas where runoff and precipitation accumulate within low-lying depressions and/or adjacent to watercourses. Seasonal wetlands typically have shorter inundation periods than vernal pools. Vegetation found within these features tend to differ from that found in vernal pools, and is often comprised of non-native species that are not as well adapted to extended inundation cycles.

A total of 4.827 acres of seasonal wetlands were mapped within the project site. Dominant vegetation within the seasonal wetlands included annual hairgrass (*Deschampsia danthonioides*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), Italian ryegrass (*Festuca perennis*), slender popcorn flower, white-head navarretia (*Navarretia leucocephalus*), hairy hawkbit (*Leontodon saxatilis*), tidy tips (*Layia fremontii*), Fitch's spikeweed (*Centromadia fitchii*), and hop clover.

Seasonal Wetland Swales

Seasonal wetland swales are linear wetland features that do not exhibit an ordinary high water mark (OHWM). They carry runoff to larger drainages and creeks and may serve as hydrological connections within vernal pool complexes. Seasonal wetland swales have a vegetative community consisting of native and nonnative wetland generalist plants.

A total of 19.744 acres of seasonal wetland swales were mapped within the project site. Dominant vegetation within the seasonal wetland swales included creeping spikerush, Italian ryegrass, annual rabbitsfoot grass (*Polypogon monspeliensis*), spiny-fruited buttercup (*Ranunculus muricatus*), Mediterranean barley, Vasey's coyote-thistle, Bermuda grass (*Cynodon dactylon*), and annual hairgrass.

Marsh

Seasonal marshes are typically shallow basins that are inundated or saturated year-around. They often occur in the vicinity of drainages or creeks and receive water during flooding or overtopping events. Emergent vegetation such as cattails (*Typha* spp.) and bullrush (*Bolboschoenus robustus*) is characteristic of seasonal marshes. The two marshes on the project site are fed by runoff from the on-site irrigated pastures located within the northeastern corner of the site. These features were ponds when the site was actively used for cattle grazing. As a majority of the cattle have been removed from the site, less water is needed for the livestock. Due to the decrease in water held in the ponds, emergent vegetation has established and these features have been mapped as marshes rather than ponds.

Two marshes totaling 1.822 acres were mapped within the project site. Dominant vegetation within the marshes includes sprangletop (*Leptochloa fascicularis*), Bermuda grass, dotted smartweed (*Polygonum punctatum*), barnyard grass, cut-leaved geranium, and clover (*Trifolium* species) (ECORP, 2015c).

Farmed Wetlands

Farmed wetlands were mapped within the agricultural fields of the Al Johnson Wildlife Area improvements area where accumulations of surface runoff and rainwater were observed within low-lying portions of the fields. The fields were at one time used for rice production, but have not been in rice since the City purchased the property in 2003. Since then, the fields have been dry farmed with crops such as wheat or perennial ryegrass.

A total of 0.002 acres of farmed wetlands were mapped on the off-site Al Johnson Wildlife Area improvements area. Wetland plants found within the farmed wetlands included mangrass, hyssop loosestrife (*Lythrum hyssopifolia*), Mediterranean barley, and Mediterranean rabbitsfoot grass (*Polypogon maritimus*).

Ephemeral Drainage

Ephemeral drainages are linear features that exhibit an OHWM. These are features that typically convey runoff for short periods of time immediately following rainfall events, and are not influenced by groundwater.

One ephemeral drainage totaling 0.002 acre was mapped within the project site. The limits of the ephemeral drainage were delineated at the OHWM, which was identified based on water marks. Plants species observed near the OHWM on the upper limits of the drainage included medusahead grass, cut-leaved geranium, and Mediterranean barley.

Intermittent Drainage – University Creek

Intermittent drainages are linear features that exhibit an OHWM. These features typically lack vegetation due to scouring during high flow events. For the purposes of the delineations, intermittent drainages/intermittent creeks were identified by the apparent influence of groundwater to a given drainage or by the depiction of a broken blue-line feature on the "Pleasant Grove, California" 7.5-minute quadrangle (USGS, 1981). University Creek represents the primary intermittent drainage feature on the

project site and the off-site improvements areas. This feature is tributary to Pleasant Grove Creek. Hydrophytic vegetation was present along the upper edges of the drainage and in areas where sediment accumulation provides a substrate suitable for plant establishment and growth. The limits of this feature were delineated at the OHWM, which was identified in the field by water marks and vegetation breaks.

One intermittent drainage (University Creek) totaling of 1.920 acres was mapped within the project site. Plants species observed near the OHWM on the upper limits of the drainage included barnyard grass, cut-leaved geranium, and clover.

Stock Pond

Stock ponds are man-made features that are typically created by the ponding of water behind an earthen dam. The banks may be vegetated or barren, depending on the intensity of livestock grazing, and emergent vegetation may present or absent, depending on the duration of inundation. Approximately 0.364 acres of stock pond were mapped within the project site.

Wildlife Occurrence and Use

The region surrounding the project site is becoming increasingly urbanized with residential development. The project site is in an area adjacent to this urban expansion, with existing development to the north and south and proposed development to the east and southeast.

The project site and surrounding undeveloped landscapes provide suitable habitat for many wildlife species. During the winter and spring months when vernal pools, swales, and other seasonal wetlands are inundated, these habitats support a variety of aquatic invertebrates including several special status species, and are key habitats for wintering waterfowl, wading birds, and several amphibian species such as Pacific chorus frog (ECORP, 2015c).

The non-native annual grasslands within the project site provide suitable habitat for many wildlife species. Mammals including pocket gopher, meadow vole, California ground squirrel, black-tailed jackrabbit, and coyote are common within this habitat. Numerous bird species forage within grassland habitat, including raptors such as Swainson's hawk, red-tailed hawk, white-tailed kite, northern harrier, great-horned owl, barn owl, and American kestrel. Winter migrants such as ferruginous hawk, rough-legged hawk, prairie falcon, and short-eared owl also forage within non-native annual grassland habitats. Wading birds including long billed curlew and snipe may also forage in annual grasslands as foraging habitat. Ground and near-ground nesting birds including western meadowlark, horned lark and red-winged blackbird construct nests in non-native annual grassland habitat. Amphibian and reptile species such as Pacific chorus frog, Western toad, gopher snake, valley garter snake, and western fence lizard live and forage in non-native annual grassland habitat (ECORP, 2015c).

Wetland features including vernal pools, swales, seasonal wetlands and marshes support a variety of aquatic invertebrates including several special status branchiopod species, and serve as breeding habitat for amphibian species such as Pacific chorus frog, Western spadefoot, and Western toad. These wetland features are also key foraging habitats for wintering waterfowl, and wading birds. The flowing and pooled

water on the project site provide an important source of drinking water for many birds and mammals (ECORP, 2015c).

The scattered valley oaks and cottonwoods along the intermittent drainage provide nesting habitat for raptor and songbird species including Swainson's hawk, red-tailed hawk, white-tailed kite, great-horned owl, American kestrel; and acorn woodpecker, western bluebird, and western kingbird (ECORP, 2015c). Pleasant Grove Creek and University Creek are not known to support anadromous salmonids such as Chinook salmon or steelhead (NMFS, 2008; DWR, 2005). Therefore, the waters of the U.S. within the project site are expected to support only resident warm-water fish species.

Special Status Plant and Wildlife Species

For the purposes of this EIR, special-status has been defined to include those species that meet the definitions of rare or endangered plants or animals under the California Environmental Quality Act (CEQA) including species that are:

- Listed as endangered or threatened (or formally proposed for, or candidates for, listing) under FESA (50 CFR §17.11 and §17.12);
- Listed as endangered or threatened (or proposed for listing) under the California Endangered Species Act (CESA; California Fish and Game Code §2050, *et seq.*);
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, §5050, or §5515);
- Designated as species of special concern (SSC) to the California Department of Fish and Wildlife (CDFW);
- Meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;
- Are considered by the CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2); or
- Are listed as rare under the California Native Plant Protection Act (Fish and Game Code of California, Section 1900 *et seq.*).

A list of federally listed, proposed and/or candidate species and designated critical habitat was created to assess potential presence on the project site and vicinity based on the following sources:

- The USFWS official species list (USFWS, 2014) for the "Pleasant Grove, California," 7.5-minute quadrangle (USGS, 1981);
- CDFW CNDDDB record search for "Pleasant Grove, California," 7.5-minute quadrangle and a 10-mile radius surrounding the project site (CDFW, 2014); and
- CNPS Inventory of Rare and Endangered Plants record search for the "Pleasant Grove, California," and nine surrounding quadrangles (CNPS, 2014).

Table 4.8-3 presents the list of all special status species generated from queries of the above databases with the potential to occur within the specified areas specified in the query parameters; their federal, State, or other status; and their habitat requirements. There are 11 plant species and 39 species of

TABLE 4.8-3
SPECIAL STATUS SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Common Name	Scientific Name	Federal	State	CPNS	Other	Habitat	Potential for Occurrence
Plants							
Big-scale balsamroot	<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	-	-	1B.2		Chaparral, cismontane woodland, and valley and foothill grassland; sometimes on serpentine soils; elevation range 295 to 5,102 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys
Hispid bird's beak	<i>Chloropyron molle</i> ssp. <i>hispidum</i>	-	-	1B.1		Alkaline meadows and seeps, playas, and valley and foothill grassland; elevation range 3 to 509 ft	Absent; habitat not present
Dwarf downingia	<i>Downingia pusilla</i>	-	-	2B.2		Vernal pools and mesic areas in valley and foothill grassland; elevation range 3 to 1,460 ft	Occurs onsite; found during 2015 surveys; also located in off-site Al Johnson Wildlife Area improvements area
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	-	CE	1B.1		Clay soils in vernal pools and in marshes and swamps on lake margins; elevation range 33 to 7,792 ft	Low potential to occur; not found during 2009, 2011 or 2015 surveys
Ahart's dwarf rush	<i>Juncus leiospermus</i> ar. <i>ahartii</i>	-	-	1B.1		Mesic areas in valley and foothill grassland; elevation range 98 to 751 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys
Red Bluff dwarf rush	<i>Juncus leiospermus</i> var. <i>leiospermus</i>	-	-	1B.1		Vernally mesic areas in chaparral, cismontane woodland, valley and foothill grassland; meadows and seeps, and vernal pools; elevation range 115 to 3,346 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys
Legenere	<i>Legenere limosa</i>	-	-	1B.1		Vernal pools; elevation range 3 to 2,887 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys
Pincushion Navarretia	<i>Navarretia myersii</i> ssp. <i>myersii</i>	-	-	1B.1		Vernal pools, often on acidic soils; elevation range 66 to 1,083 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys
Slender Orcutt grass	<i>Orcuttia viscida</i>	FT	CE	1B.1		Often gravelly vernal pools; elevation range 115 to 5,77 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys; no occurrences documented from Placer County
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	FE	CE	1B.1		vernal pools; elevation range 98 to 328 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys; no occurrences documented from Placer County

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Common Name	Scientific Name	Federal	State	CPNS	Other	Habitat	Potential for Occurrence
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	-	-	1B.2		Shallow freshwater marshes, swamps, sloughs, small low gradient valley streams; elevation range 0 to 2,133 ft	Low potential to occur; not found during 2009, 2011, or 2015 surveys
Invertebrates							
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE	-	-		Typically large deep, turbid vernal pools and playa pools with long inundation periods	Absent; not observed during 2007-2008 and 2008-2009 protocol-level wet season survey; marginally suitable habitat present on-site
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	-	-		Vernal pools, seasonal wetland swales, seasonal wetlands	Present; observed during 2007-2008 and 2008-2009 protocol-level wet season surveys
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	-	-		Vernal pools seasonal wetlands, sock ponds	Absent; not observed during 2007-2008 and 2008-2009 protocol-level wet season survey.
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	-	-	-	Elderberry shrubs	Occurs onsite but within Placer Parkway alignment and would not be impacted by the Proposed Project.
Fish							
Chinook salmon (Central Valley spring-run ESU)	<i>Oncorhynchus tshawytscha</i>	FT	CT	-		Adults live and forage in ocean; returning to spawn in freshwater habitats in large creeks and rivers with cool summer water temperatures for adult holding and maturation, spawning, and juvenile rearing; suitable spawning gravels; present distribution mostly limited to the Feather River, Butte Creek, and Battle Creek	Absent; suitable habitat not present on-site or in the vicinity
Steelhead (Central Valley ESU)	<i>Oncorhynchus mykiss</i>	FT	-	-		Adults live and forage in ocean; returning to spawn in freshwater ; typically in farthest accessible reaches of rivers and streams within the Sacramento and San Joaquin River basins; requires suitable spawning gravels and cool summer water temperatures for juvenile rearing	Absent; suitable habitat not present on-site or in the vicinity
Delta smelt	<i>Hypomesus transpacificus</i>	FT	CE	-		Sacramento-San Joaquin Delta	Absent; suitable habitat not present on-site or in the vicinity

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Common Name	Scientific Name	Federal	State	CPNS	Other	Habitat	Potential for Occurrence
Amphibians							
California tiger salamander (Central California DPS)	<i>Ambystoma californiense</i>	FT	CT	-	CSC	Breeding: vernal pools, wetlands, stock ponds; Upland: adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and gopher burrows).	Absent; project site is outside the known distribution range of this species
California red-legged frog	<i>Rana aurora draytonii</i>	FT	-	-	CSC	Found in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation; elevation range from sea level to 1,600 meters.	Absent; project site is outside the known current distribution range of this species
Western spadefoot	<i>Spea hammondi</i>	-	-	-	CSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	Low potential; not found during 2011 survey or during 2007-2008 and 2008-2009 wet season branchiopod surveys
Reptiles							
Northwestern pond turtle	<i>Actinemys armorata</i>	-	-	-	CSC	Occurs in ponds, streams, detention basins, ditches, and deepwater marshes; requires basking sites and upland habitat up to 0.5 km from water for egg laying.	Absent; suitable habitat not present on-site
Giant garter snake	<i>Thamnophis gigas</i>	FT	CT	-	-	Occurs in freshwater ditches, sloughs, marshes, and rice fields in the Central Valley; almost extirpated from the southern parts of its range.	Absent; project site is outside the known current distribution range of this species
Birds							
Tri-colored blackbird nesting colonies	<i>Agelaius tricolor</i>	-	-	-	CC	Nesting colonies in dense vegetation of marshes, blackberry or shrub thickets in or near grasslands with nearby water	Absent; found foraging on-site but appropriate nesting habitat not present; not nesting during 2011 surveys
Grasshopper sparrow	<i>Ammodramus savannarum</i>	-	-	-	CSC	Grasslands	Potential; not found during 2011 surveys
Burrowing owl	<i>Athene cunicularia</i>	-	-	-	BCC, CSC	Grazed grasslands, deserts, chaparrals with sparse vegetation, ruderal areas	Present; observed on site and likely as nesting pair
Oak titmouse	<i>Baeolophus inornatus</i>	-	-	-	BCC	Oak woodlands, riparian corridors; cavity nester	Potential; found on-site but not nesting during 2011 surveys
Swainson's hawk (nesting)	<i>Buteo swainsoni</i>	-	CT	-	BCC	Forages in grasslands and agricultural fields; nests in trees within riparian corridors and in trees bordering grassland habitat and agricultural fields	Potential; found foraging but not nesting during 2011 surveys

4.8 Vegetation and Wildlife

Common Name	Scientific Name	Federal	State	CPNS	Other	Habitat	Potential for Occurrence
Northern harrier (nesting)	<i>Circus cyaneus</i>	-	-	-	CSC	Forages in grasslands, marshes and agricultural fields; nests on ground in marshes and grassland habitats	Potential; found foraging but not nesting during 2011 surveys
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT	CE	-	BCC	Dense riparian corridors	Absent; suitable habitat not present on-site
White-tailed kite (nesting)	<i>Elanus leucurus</i>	-	-	-	CFP	Forages in grasslands and agricultural fields; nests in trees within riparian corridors and in trees bordering grassland habitat and agricultural fields	Potential; found foraging but not nesting during 2011 surveys
Greater sandhill crane	<i>Grus Canadensis tabida</i>	-	CT	-		Forages and overwinters within large seasonal wetlands, irrigated pastures, alfalfa and corn fields	Low potential; not observed during 2011 surveys
Loggerhead shrike	<i>Lanius Ludovicianus</i>	-		-	BCC, CSC	Forages in grasslands and agricultural fields; nests in trees within riparian corridors and in trees bordering grassland habitat and agricultural fields	Potential; found foraging but not nesting during 2011 surveys
California black rail	<i>Laterallus jamaicensis coturniculus</i>	-	CT	-	BCC, CSC	Marshes, wetlands with dense vegetation, rice field borders	Absent; suitable habitat not present on-site
Yellow-billed magpie (nesting)	<i>Pica nuttallii</i>	-			BCC	Oak woodland, grasslands, rural developments, parks	Potential; found foraging but not nesting during 2011 surveys
Nuttall's woodpecker	<i>Picoides nuttallii</i>	-	-	-	BCC	Oak woodlands and riparian; cavity nester	Potential; found foraging but not nesting during 2011 surveys
Purple martin	<i>Progne subis</i>	-	-	-	CSC	riparian woodland, oak woodland, cavity nester	Low potential; not observed during 2011 surveys
Great egret (rookery)	<i>Ardea alba</i>	-	-	-	*	rookery sites in stand of trees typically near marsh or riparian habitat	Low potential; not observed during 2011 surveys
Great blue heron (rookery)	<i>Ardea herodias</i>	-	-	-	*	rookery sites in stand of trees typically near marsh or riparian habitat	Low potential; not observed during 2011 surveys
Snowy egret	<i>Egretta thula</i>	-	-	-	*	rookery sites in stand of trees typically near marsh or riparian habitat	Low potential; not observed during 2011 surveys
Black crowned night heron (rookery)	<i>Nycticorax nycticorax</i>	-	-	-	*	rookery sites in stand of trees typically near marsh or riparian habitat	Low potential; not observed during 2011 surveys

4.8 Vegetation and Wildlife

Common Name	Scientific Name	Federal	State	CPNS	Other	Habitat	Potential for Occurrence
Golden eagle (nesting and wintering)	<i>Aquila chrysaetos</i>	-	-	-	BCC, CFP	Nests on cliffs; forages in open areas including grasslands	Potential; foraging habitat present; but does not nest in the region; observed foraging during 2011 survey
Short-eared owl (nesting)	<i>Asio flammeus</i>	-	-	-	CSC	Nests and forages in grassland, marshes, and other open habitats	Potential; foraging habitat present but does not nest in the region; not observed during 2011 survey
Ferruginous hawk (wintering)	<i>Buteo regalis</i>	-	-	-	CSC	Nests in trees in open areas or near forest edges, forages in open areas including grasslands	Potential; foraging habitat present but does not nest in the region; observed foraging during 2011 survey
Prairie falcon (nesting)	<i>Falco mexicanus</i>	-	-	-	BCC	Nests on cliffs, forages in grasslands, shrub-steppe, deserts, and other open areas; often winters in cultivated fields, near lakeshores, and feedlots	Potential; foraging habitat present but does not nest in the region; not observed during 2011 survey
Long-billed curlew (nesting)	<i>Numenius americanus</i>	-	-	-	BCC	Nests on ground in open areas with low, sparse vegetation	Potential; foraging habitat present but does not nest in the region; not observed during 2011 survey
Mammals							
American badger	<i>Taxidea taxus</i>	-	-	-	CSC	Occurs in drier open stages of most shrub, forest, and herbaceous habitats with friable soils	Low potential; not observed during 2011 surveys
Pallid bat	<i>Antrozous pallidus</i>	-	-	-	CSC	Roosts in mines, man-made structures, and rock outcrops, and occasionally trees; forages in open areas including grasslands	Roosting – low potential, roosting not observed during 2001 survey; Foraging – potential
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>			CC	CSC	Roosts in caves, mines, buildings, rock crevices, trees; forages in a wide range of habitats including grasslands	Roosting – low potential, roosting not observed during 2001 survey; Foraging – potential
American beaver	<i>Castor Canadensis</i>	-	-	-	CRBP	Perennial aquatic habitats including streams, rivers, ponds, canals; requires a fairly well-developed riparian corridor for foraging	Absent – no perennial aquatic habitat present
Status Codes: FE = Federal ESA listed, Endangered. CE = California ESA or Native Plant Protection Act listed, Endangered. FT = Federal ESA listed, Threatened. CT = California ESA or Native Plant Protection Act listed, Threatened. FPD = Listed under Federal ESA, but formally proposed for delisting. CC = Candidate for California ESA listing as Endangered or Threatened.							

4.8 Vegetation and Wildlife

Common Name	Scientific Name	Federal	State	CPNS	Other	Habitat	Potential for Occurrence
FC = Candidate for federal ESA listing as Threatened or Endangered. CFP = Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050- reptiles/amphibians). BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern (USFWS, 2008). CSC = California Department of Fish and Game Species of Special Concern (CDFW, 2015). * Rookeries are tracked and are of special interest to CDFW. CRBP = City of Roseville Beaver Management Policy. 1B.1 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat). 1B.2 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat). 1B.2 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat). 2B.2 = California Rare Plant Rank/Rare or Endangered in California, more common elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat). Potential Occurrence Codes: Present-Species was observed during the site visit or is known to occur within the project boundary based on documented occurrences within the CNDDB. Potential-Habitat (including soils and elevation requirements) for the species occurs within the project boundary. Low Potential-Marginal or limited amounts of habitat occur and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation. Absent-No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation. Source: ECorp 2015c.							

animals that either occur or have some potential to occur within the project site because of the presence of suitable habitat. In general, vernal pool and seasonal wetland habitats that meet the general definition of habitat are considered suitable habitat by these species. Each of the species on the generated list was assessed for their potential to occur within the project site or be affected by the Proposed Project using the following criteria:

- **Present:** Species was observed during the site visit or is known to occur within the site boundary based on documented occurrences within the CNDDDB.
- **Potential to Occur:** Habitat (including soils and elevation requirements) for the species occurs within the site boundary.
- **Low Potential to Occur:** Marginal or limited amounts of habitat occur and/or the species is not known to occur in the vicinity based on CNDDDB records and other available documentation.
- **Absent:** No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDDB records and other available documentation.

Special-status species that are present, have a potential to occur, or have a low potential to occur within the project site or be affected by project-related activities are addressed in greater detail in the text section below.

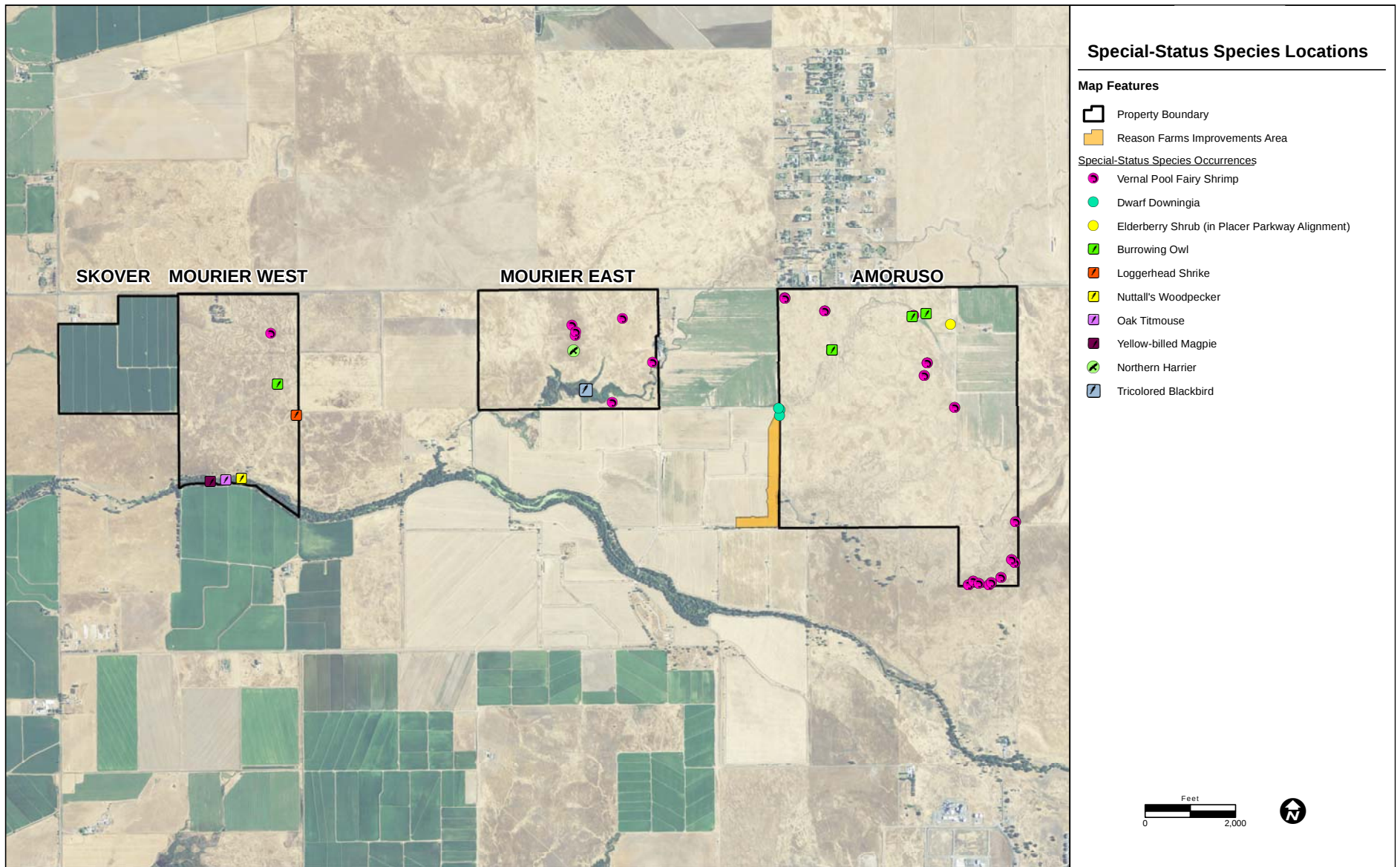
Figure 4.8-2 provides a map of the locations where special status species were mapped on the project site and the three off-site mitigation properties.

Special Status Plant Species

A number of special-status plants have the potential to occur within the project site, including: big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*), dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* ssp. *ahartii*), Red Bluff dwarf rush (*Juncus leiospermus* ssp. *leiospermus*), legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii* ssp. *myersii*), slender Orcutt grass (*Orcuttia tenuis*), Sacramento Orcutt grass (*Orcuttia viscida*), and Sanford's arrowhead (*Sagittaria sanfordii*). According to the CNDDDB, some of these special-status species have been documented to occur within five miles of the project site (CDFW, 2014). Protocol-level special-status plant surveys of project site were conducted during the 2009, 2011, and 2015 bloom seasons (ECORP, 2013a; 2013b; and 2015a). Protocol-level special-status plant surveys for the Al Johnson Wildlife Area portion of the Off-site Improvement Area were conducted in 2014 (ECORP, 2014b). Only one special-status plant, dwarf downingia, was found within the project site and the off-site Al Johnson Wildlife Area improvement area. Potentially suitable habitats for the species listed above are present within the annual grassland and wetland habitats on the project site.

Big-Scale Balsamroot

Big-scale balsamroot is not listed pursuant to either FESA or CEQA, but is designated as a California Rare Plant Rank (CRPR) 1B.2 species by CNPS. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grasslands, and occasionally on serpentine soils (CNPS, 2014). The big-scale balsamroot blooms from March through June, and is known to occur at



elevations ranging from 295 to 5,100 feet above msl (CNPS, 2014). Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (CNPS, 2014).

The nearest documented occurrence of big-scale balsamroot (CNDDB Occurrence No. 9) is located approximately 3.7 miles southeast of the project site (CDFW, 2014). This population is located along the railroad and U.S. Highway 99, approximately 3.2 miles north of Roseville. The population is presumed extant; however, this record is based on a herbarium specimen from 1957 that was originally labeled as *Balsamorhiza hookeri*.

The annual grasslands within the project site, the off-site Al Johnson Wildlife Area improvements area, and the three off-site Mitigation Properties represent potentially suitable habitat for this species. The big-scale balsamroot was not found on the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Hispid Bird's-Beak

The hispid bird's-beak is not listed pursuant to FESA or CESA, but is designated as a CRPR 1B.1 species. This species is an herbaceous, hemiparasite annual that occurs on alkaline soils in meadows and seeps, playas, and valley and foothill grasslands. The hispid bird's-beak blooms from June through September and is known to occur at elevations ranging from 3 to 508 feet above msl (CNPS, 2014). The hispid bird's-beak is endemic to California; the current range of this species includes Alameda, Fresno, Kern, Merced, Placer, and Solano counties (CNPS, 2014).

There are no alkaline wetlands within the project site; therefore, this species is not expected to occur on the sites. Further, it was not located within the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Dwarf Downingia

The dwarf downingia is not listed pursuant to either FESA or CESA, but is designated as a CRPR 2B.2 species. This species is a small herbaceous annual that occurs in vernal pools and mesic areas in valley and foothill grasslands (CNPS, 2014). This species also appears to have an affinity for slight disturbance since it has been found in man-made features such as tire ruts, scraped depressions, stock ponds, and roadside ditches (USFWS, 2005). This species blooms from March through May, and is known to occur at elevations ranging from three feet to 1,460 feet above msl (CNPS, 2014). The current range of this species in California includes Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS, 2014).

There are several documented occurrences of dwarf downingia within a five-mile radius of the project site (CDFW, 2014). The nearest documented occurrence of dwarf downingia (CNDDB Occurrence No. 130) is located approximately 0.22 miles south of the project site. This population is located north of Pleasant Grove Creek, about 1.5 miles northwest of Fiddymont Ranch (CDFW, 2014). This population is presumed to be extant.

The drainages, seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands present within the project site and the off-site Al Johnson Wildlife Area improvements area represent potentially suitable habitat for this species. Dwarf downingia was found on the project site in vernal pools VP-5 and VP-239, and was also found on the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015a, 2015c).

Boggs Lake Hedge-Hyssop

Boggs Lake hedge-hyssop is not listed pursuant to FESA, but is listed as endangered pursuant to CESA. It is also designated as a CRPR 1B.2 species. This species is a small, semi-aquatic, herbaceous annual that occurs on clay soils in vernal pools, marshes, and swamps of lake margins (CNPS, 2014; CDFW, 2014). Boggs Lake hedge-hyssop blooms from April through August and is known to occur at elevations ranging from 32 to 7,792 feet above msl (CNPS, 2014). The current range of this species in California includes Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama counties (CNPS, 2014; CDFW, 2014).

The nearest documented occurrence of Boggs Lake hedge-hyssop (CNDDDB Occurrence No. 96) is located approximately 0.28 miles south of the project site (CDFW, 2014). This population is located north of Pleasant Grove Creek and northwest of the City of Roseville and is presumed to be extant (CDFW, 2014).

The seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the project site and the off-site Al Johnson Wildlife Area improvements area provide potentially suitable habitat for this species. Boggs Lake hedge-hyssop was not found on the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Ahart's Dwarf Rush

Ahart's dwarf rush is not listed pursuant to either FESA or CESA, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in mesic areas in valley and foothill grasslands (CNPS, 2014). This species also appears to have an affinity for slight disturbance since it has been found on farmed fields and gopher turnings (USFWS, 2005). Ahart's dwarf rush blooms from March through May and is known to occur at elevations ranging from 98 to 751 feet above msl (CNPS, 2014; USFWS, 2005). Ahart's dwarf rush is endemic to California; the current range of this species includes Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties (CNPS, 2014).

The nearest documented occurrence of Ahart's dwarf rush (CNDDDB Occurrence No. 3) is located approximately 6.6 miles northeast of the project site in the City of Lincoln (CDFW, 2014). The population was mapped 0.85 miles north of Nicholas Road and 0.3 mile south of Highway 65 (CDFW, 2014), and is presumed to be extant.

The seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the project site and the off-site Al Johnson Wildlife Area improvements area represent potentially suitable habitat for this species. Ahart's dwarf rush was not found on the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Red Bluff Dwarf Rush

Red Bluff dwarf rush is not listed pursuant to either FESA or CESA, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal mesic areas in chaparral, cismontane woodland, meadows, seeps, valley and foothill grasslands, and vernal pools (CNPS, 2014). Red Bluff dwarf rush blooms from March through June and is known to occur at elevations ranging from 114 to 4001 feet above msl (CNPS, 2014). Red Bluff dwarf rush is endemic to California; the current range of this species includes Butte, Placer, Shasta, and Tehama counties (CNPS, 2014).

The nearest documented occurrence of Red Bluff dwarf rush (CNDDDB Occurrence No. 10) is located approximately three miles east of the project site in the City of Roseville (CDFW, 2014). The population was mapped approximately 0.5 miles north of Scow Road Industrial Boulevard, Roseville and is presumed to be extant; however, according to the notes on this occurrence "Witham considers this site to be erroneous" (CDFW, 2014).

The seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the project site and the off-site Al Johnson Wildlife Area improvements area represent potentially suitable habitat for this species. Red Bluff dwarf rush was not found on the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Legenere

Legenere is not listed pursuant to either FESA or CESA, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (CNPS, 2014; USFWS, 2005). Legenere blooms from April through June and is known to occur at elevations ranging from 3 to 2,624 feet above msl (CNPS, 2014). Legenere is endemic to California; the current range of this species includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS, 2014). However, the species is believed to be extirpated from Stanislaus County (CNPS, 2014).

The nearest documented occurrence of legenere (CNDDDB Occurrence No. 58) is located approximately 3.2 miles east of the project site (CDFW, 2014). This population is located on the north side of Orchard Creek, 1.4 miles northwest of the intersection of Industrial and Athens Avenue, and is presumed to be extant (CDFW, 2014).

The drainages, seasonal wetlands, seasonal wetland swales, vernal pools, farmed wetlands, pond, and marsh within the project site and the off-site Al Johnson Wildlife Area improvements area represent potentially suitable habitat for this species. Legenere was not found on the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Pincushion Navarretia

Pincushion navarretia is not listed pursuant to either FESA or CESA, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools that are often acidic (CNPS, 2014). Pincushion navarretia blooms in April through May and is known to occur at elevations ranging

from 65 to 1,082 feet above msl (CNPS, 2014). Pincushion navarretia is endemic to California; the current range of this species includes Amador, Calaveras, Merced, Placer, and Sacramento counties (CNPS, 2014).

The nearest documented occurrence of pincushion navarretia (CNDDB Occurrence No. 12) is located approximately 6.5 miles northeast of the project site (CDFW, 2014). The exact location of this population is unknown; however, it is located within the northern limits of the City of Lincoln, Placer County (County; CDFW, 2014). It is presumed to be extant.

The seasonal wetlands, seasonal wetland swales, pond, vernal pools, and farmed wetlands within the project site and the off-site Al Johnson Wildlife Area improvement area represent potentially suitable habitat for this species. Pincushion navarretia was not found within the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Slender Orcutt Grass

Slender Orcutt grass is listed as threatened and endangered pursuant to FESA and CESA, respectively, and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools (CNPS, 2014) primarily on substrates of volcanic origin (Crampton, 1959; Corbin and Schoolcraft, 1989; as cited in USFWS, 2003). This species is known to occur in the same type of vernal pool complexes as Sacramento Orcutt grass in Sacramento County; however, these species have not been observed coexisting in the same vernal pool (USFWS, 2003). The median area of pools occupied by populations studied by Stone et al. (1988, as cited in USFWS, 2003) was 1.6 acres and ranged from 0.2 acre to 111.0 acres (USFWS, 2003). Slender Orcutt grass blooms from May through October and is known to occur at elevations ranging from 115 to 5,775 feet above msl (CNPS, 2014). Slender Orcutt grass is endemic to California; the current range for this species includes Butte, Lake, Lassen, Modoc, Plumas, Sacramento, Shasta, Siskiyou, and Tehama counties (CNPS, 2014).

The nearest documented occurrence of slender Orcutt grass (CNDDB Occurrence No. 71) is located approximately 19 miles southeast of the project site in Sacramento County (CDFW, 2014). This population of slender Orcutt grass was documented east of Mather Air Force Base, near the intersection of Sunrise Boulevard and Douglas Road (CDFW, 2014). This population is presumed to be extant.

While this species is not known to occur within the vicinity of the project site, it was included as a target species because the seasonal wetlands, seasonal wetland swales, vernal pools, farmed wetlands, and pond within the project site and the off-site Al Johnson Wildlife Area improvements area represent potentially suitable habitat for this species. Slender Orcutt grass was not found during surveys on the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Sacramento Orcutt Grass

Sacramento Orcutt grass is listed as endangered pursuant to both FESA and CESA and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools (CNPS, 2014). The median area of occupied pools discovered prior to 1988 was 0.69 acre and ranged from 0.25 acre to 2.03 acres (USFWS, 2003). Sacramento Orcutt grass blooms from April through September and is

known to occur at elevations ranging from 98 to 328 feet above msl (CNPS, 2014). Sacramento Orcutt grass is endemic to California and to the southeastern Sacramento Valley (Keeler-Wolf et al. 1998, as cited in USFWS, 2003), with all known occurrences restricted to Sacramento County. Known occurrences of this species within the general region are limited to a small area east of Mather Field, Phoenix Field Ecological Reserve, Phoenix Park (introduced population), and an area near Rancho Seco Lake (USFWS, 2003).

The nearest documented occurrence of Sacramento Orcutt grass (CNDDDB Occurrence No. 4) is located approximately 13.2 miles southeast of the project site (CDFW, 2014). This population was located 0.4 mile of the Main Avenue and Greenback Lane junction, about two miles east of Orangevale, and it is now extirpated.

The seasonal wetlands, seasonal wetland swales, pond, vernal pools, and farmed wetlands within the project site and the off-site Al Johnson Wildlife Area improvement area represent potentially suitable habitat for this species. Sacramento Orcutt grass was not found on the project site or the off-site Al Johnson Wildlife Area improvement area during surveys (ECORP 2013b, 2013c, 2015c).

Sanford's Arrowhead

Sanford's arrowhead is not listed pursuant to FESA or CESA, but is designated as a CRPR 1B.2 species. This species is a rhizomatous, herbaceous perennial that occurs in shallow marshes and freshwater swamps (CNPS, 2014). Sanford's arrowhead blooms from May through October and is known to occur at elevations ranging from sea level to 2,132 feet above msl (CNPS, 2014). Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Orange, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Tehama, and Ventura counties (CNPS, 2014). However, this species is believed to be extirpated from Orange and Ventura counties (CNPS 2014).

The nearest documented occurrence of Sanford's arrowhead (CNDDDB Occurrence No. 72) is located approximately seven miles south of the project site (CDFW, 2014). This occurrence is located in an unnamed stream north of U Street near 28th Street in North Highlands, Sacramento County (CDFW, 2014). The population is presumed to be extant.

Pleasant Grove Creek, drainages, marsh, and ponds within the project site and the off-site Al Johnson Wildlife Area improvements area represent potentially suitable habitat for this species. This species was not found on the project site or the off-site Al Johnson Wildlife Area improvements area during surveys (ECORP 2013b, 2013c, 2015c).

Arborist Survey

While not special-status plants, as defined, the project site may support trees that are subject to protection and/or mitigation under the City's Tree Preservation Ordinance (City of Roseville Municipal Code/Title 19 Zoning/Chapter 19.66-Tree Preservation). An arborist survey of the project site was performed in 2011 (ECORP, 2013c). A total of 28 Valley oak trees (*Quercus lobata*) were found on-site that meet the requirements for protection or mitigation under the City's Tree Preservation Ordinance. The diameter at breast height (DBH) of the Valley oaks ranged from 6 to 62 inches. Most of the oaks were of

good to fair health and good to fair structure. Only five oaks had either poor health or structure. All 28 Valley oak trees were located in the southwest corner of the project site within the proposed open space preserve of the project site.

An arborist survey of the off-site Al Johnson Wildlife Area improvements area was performed in 2014 (ECORP, 2015c). A total of 39 Valley oak trees were found on-site that meet the jurisdictional requirements of protection/mitigation under the City's Tree Preservation Ordinance. The DBH of the Valley oaks ranged from 6 to 16.6 inches. All of the oaks were of good to fair health and most of the oaks had good to fair structure. Only three oaks had poor structure. All 39 of these Valley oak trees may be removed during the implementation of the off-site Al Johnson Wildlife Area improvements, and therefore may be subject to protection/mitigation under the City's Tree Preservation Ordinance as part of the Proposed Project.

Special Status Wildlife Species – Invertebrates

Several special status invertebrates have the potential to occur in vernal pools and seasonal wetland habitats in the broader project region, including vernal pool tadpole shrimp (*Lepidurus packardii*) and conservancy fairy shrimp (*Branchinecta conservatio*), both federally listed endangered species, and vernal pool fairy shrimp (*Branchinecta conservatio*), a federally listed threatened species. Each of these species occurs in vernal pools and other seasonal wetland habitats throughout the Central Valley, and each is known to occur in western Placer County.

Collectively these species occur within a range of specific environmental conditions that includes soil type, vegetation characteristics, water depth, water temperature, inundation duration, and water quality, and detection of these invertebrates can be difficult. In general, therefore, vernal pool and seasonal wetland habitats that meet the definition of habitat suitability are considered potentially occupied by these species. To confirm absence of these species requires adherence to standard USFWS two-year survey protocol.

ECORP conducted two wet season surveys of the project site during the 2007 to 2008 and 2008 to 2009 wet seasons in accordance with the April 19, 1996 *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (Guidelines; USFWS 1996a; ECORP 2008a, 2009). Twelve wet season site visits were conducted between December 12, 2007, and April 28, 2008, which resulted in the identification of vernal pool fairy shrimp in 6 vernal pools; in addition, California fairy shrimp was observed in 13 vernal pools, 1 seasonal wetland, and 2 seasonal wetland swales. Fifteen wet season site visits were conducted between November 20, 2008 and May 28, 2009, which resulted in the identification of vernal pool fairy shrimp in 14 vernal pools and 1 seasonal wetland; in addition, California fairy shrimp were observed in 13 vernal pools and 1 seasonal wetland onsite.

ECORP also conducted surveys for listed large branchiopods for the off-site Al Johnson Wildlife Area improvements area during the 2014 wet season followed by a dry season survey in 2014 in accordance with the Guidelines. Pursuant to the Guidelines, a guideline-level listed large branchiopod survey consists of two wet season surveys done within a five year period, or two consecutive seasons of one full wet season survey and one dry season survey (or one dry season survey and one full wet season

survey). No listed large branchiopods were found within the off-site Al Johnson Wildlife Area improvements area during the wet and dry season surveys (ECORP, 2015c).

Therefore, the wet season surveys conducted by ECORP in 2007 to 2008 and 2008 to 2009 and the wet and dry season surveys conducted by ECORP in 2014 provide guideline-level survey results for listed large branchiopods at the project site and the off-site Al Johnson Wildlife Area improvements area. As a result of these surveys, only the listed vernal pool fairy shrimp was identified and is discussed further here; more details on the other listed branchiopods can be found in the BRA (**Appendix P**).

Protocol-level surveys for the federally threatened VELB (*Desmocerus californicus dimorphus*) were conducted within the project site by ECORP in 2011 and within the off-site Al Johnson Wildlife Area improvements area in 2014 (ECORP 2013d, 2014c). During these surveys, one elderberry shrub (*Sambucus nigra* ssp. *caerulea*), the exclusive host plant for the federally-threatened VELB, was located within the project site. However, the shrub is located within the Placer Parkway alignment (not within the proposed Amoruso Ranch Development), so it would not be impacted as a result of the Proposed Project. No elderberry shrubs were located within the off-site Al Johnson Wildlife Area improvements area.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp is federally listed as threatened under FESA. The vernal pool fairy shrimp is a small (less than one inch) freshwater crustacean within the class Branchiopoda belonging to the order Anostraca. The common name “fairy shrimp” was obtained from their graceful swimming appearance. Males tend to swim low in the water column awaiting passing females. Fairy shrimp are ephemeral crustaceans. When the temporary water bodies that they inhabit dry up, the population remains in the dry basin as cysts (embryonic eggs). These cysts can withstand harsh conditions (e.g., summer heat, freezing, desiccation) while they await winter rains to fill their basin. After the appropriate conditions (e.g., water temperature, water depth) are present, the cysts hatch instars (immature fairy shrimp), that quickly mature and then mate to ensure the next generation (ECORP, 2015c; **Appendix P**).

This species has a short average maturation period (18 days), and a short average number of days to reproduction (39 days), which explains its ability to survive in some of the most ephemeral wetland habitats (Helm, 1998). This species generally cannot withstand warm water (24°C), which may explain why it is typically observed during the cooler months (i.e., January, February, and early March) (Helm, 1998).

Vernal pool fairy shrimp are most often observed in vernal pools (79 percent of observations). However they have also been observed in other natural and artificial habitats, including seasonal wetlands, alkali pools, ephemeral drainages, stock ponds, roadside ditches, railroad ditches, vernal swales, and rock outcrop vernal pools (Helm, 1998). The species occurs on many geologic formations and landforms. This species is most often found in small (less than 200 meters square) and shallow (five centimeters deep) habitats, although it also can occur in large and deep vernal pools (Helm 1998, Helm and Vollmar 2002).

Vernal pool fairy shrimp have one of the broadest distributions of the California endemic fairy shrimp species. It occurs most of the length of the Central Valley, from the Millville Plains and Stillwater Plains in Shasta County south to Pixley in Tulare County, and the eastern margin of the central Coast Range from

San Benito County south to Ventura County (ECORP, 2015c). Disjunct populations occur on the Santa Rosa Plateau and near Rancho Santa Rosa, California in Riverside County (Eriksen and Belk, 1999). The species also occurs within the Medford area of southern Oregon (Helm and Fields, 1998).

Many of the seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the project site provide potential habitat for this species. Wet season surveys conducted by ECORP in 2007 to 2008 and 2009 on the project site documented this species within the project site (ECORP 2008a, 2009), and there are several other documented occurrences of this species within the vicinity of the project site (ECORP, 2015c; **Appendix P**; CDFW, 2014). Guideline-level surveys for listed large branchiopods on the off-site Al Johnson Wildlife Area improvements area did not detect this species so it is considered absent from the site (ECORP, 2015c).

Valley Elderberry Longhorn Beetle

VELB is listed as threatened in accordance with the FESA. The VELB is completely dependent on its host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland and scrub communities (USFWS, 1999). Elderberry plants, located within the range of the beetle, with one or more stems measuring 1.0 inch or greater in diameter at ground level are considered to be habitat for the species (USFWS, 1999).

The adult flight season extends from late March through June. During that time, the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants (Barr, 1991). The first instar larvae bore into live elderberry stems, where they develop for one to two years feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (Talley et al., 2007). The beetle's current distribution is patchy throughout California's Central Valley, from Shasta County to Kern County, and associated foothills up to an elevation of approximately 3,000 feet (USFWS, 1999).

One elderberry shrub was found within the project site (ECORP, 2014c). This elderberry shrub is located within the proposed alignment of the Placer Parkway regional transportation improvement project and is outside of the project site. No elderberry shrubs were found within the off-site Al Johnson Wildlife Area improvements area (ECORP, 2014c).

Special Status Wildlife Species – Amphibians and Reptiles

The project site may support potentially suitable habitat for one special status amphibian species and one special status reptilian species, specifically the Western spadefoot (*Spea hammondi*) and the northwestern pond turtle (*Actinemys marmorata*). The Western spadefoot was not found within the project site during a field survey conducted in 2011 (ECORP, 2011b), and surveys for this species have not occurred within the off-site Al Johnson Wildlife Area improvements area. Surveys for the northwestern pond turtle have not been performed within the project site.

The project site is not within the current known range of the California tiger salamander (*Ambystoma californiense*), the California red-legged frog (*Rana draytonii*), and giant garter snake (*Thamnophis gigas*). As such, these species are considered absent from the project site and are not discussed further.

Western Spadefoot

The Western spadefoot is not listed pursuant to either CESA or FESA, but is designated as a CDFW SSC. Necessary habitat components of the Western spadefoot include suitable underground retreats and breeding ponds. 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). Western spadefoots spend most of their adult life within underground burrows or other suitable refugia, such as rodent burrows. In California, Western spadefoots are known to occur from the Redding area in Shasta County southward to northwestern Baja California, at elevations below 4,475 feet (Jennings and Hayes, 1994).

The nearest documented occurrence of Western spadefoot (CNDDDB Occurrence No. 174) is located approximately one mile south of the project site (CDFW, 2014). This occurrence included one adult crossing Phillip Road at a bend, approximately 1.5 miles west of the junction of Fiddymont Road and 0.3 miles west of where Phillip Road parallels Pleasant Grove Creek. The population is presumed to be extant.

This species was not found within the project site during a field survey conducted in 2011 (ECORP, 2011b). Surveys for this species have not been performed for the off-site Al Johnson Wildlife Area improvements area, but wetlands within or immediately adjacent to these sites may provide potentially suitable habitat.

Northwestern Pond Turtle

The northwestern pond turtle is not listed pursuant to either CESA or FESA, but is designated as a CDFW SSC. Northwestern pond turtles occur in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow moving streams (Jennings and Hayes, 1994). This species is primarily aquatic; however, they typically leave aquatic habitats in the fall to reproduce and to overwinter (Jennings and Hayes, 1994). Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops is optimal for basking and thermoregulation. Although adults are habitat generalists, hatchlings and juveniles require specialized habitat for survival through the first few years. Hatchlings require shallow water habitat with relatively dense submergent or short emergent vegetation in which to forage.

Northwestern pond turtles are typically active between March and November. Mating generally occurs during late April and early May and eggs are deposited between late April and early August (Jennings and Hayes, 1994). Eggs are deposited within excavated nests in upland areas, with substrates that typically have high clay or silt fractions, usually in the vicinity of aquatic habitats (Jennings and Hayes, 1994). The majority of nesting sites are located within 650 feet (200 meters) of the aquatic habitat; however, sites have been documented as far as 1,310 feet (400 meters) from the aquatic habitat.

There are no documented occurrences of northwestern pond turtle within five miles of the project site (CDFW, 2014). Surveys for this species have not been performed within the project site.

Special-Status Wildlife Species – Birds

Special-status birds that have been observed foraging or roosting within the project site include white-tailed kite (*Elanus leucurus*), Northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), ferruginous hawk (*Buteo regalis*), burrowing owl (*Athene cunicularia*), Nuttall's woodpecker (*Picoides nuttallii*), yellow-billed magpie (*Pica nuttalli*), loggerhead shrike (*Lanius ludovicianus*), and tricolored blackbird (*Agelaius tricolor*; ECORP, 2015c; **Appendix P**). In addition, a number of other special status bird species have the potential to occur within the project site, as shown in **Table 4.8-3**. Of these, only burrowing owl was found nesting on-site during field surveys conducted in 2011 (ECORP, 2015c). To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Tri-Colored Blackbird

The tricolored blackbird is not listed pursuant to FESA, but is designated as a candidate species for listing under CESA by the CDFW. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Beedy and Hamilton, 2014). Tricolored blackbird nests in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. This nomadic species typically nests in emergent marsh, riparian thickets, and blackberry brambles, usually with some nearby standing water or ground saturation. Open grassland and agricultural fields are typical foraging areas, with nesting generally occurring from April through June. Tricolored blackbird has been found foraging within the project site during surveys (ECORP, 2015c). However, there is no suitable nesting habitat within the project site, and it is unlikely to be found nesting within the off-site Al Johnson Wildlife Area improvements area. Tricolored blackbird surveys or habitat assessments have not been performed for the off-site Al Johnson Wildlife Area improvements area.

Grasshopper Sparrow

The grasshopper sparrow (*Ammodramus savannarum*) is not listed pursuant to either CESA or FESA, but is designated as a SSC by the CDFW. The grasshopper sparrow is an uncommon and local summer resident and breeder along the western edge of the Sierra Nevada and most coastal counties south to Baja California (where resident) (Small, 1994). This species generally inhabits moderately open grasslands and prairies with patchy bare ground and scattered shrubs (Vickery, 1996). Grasshopper sparrow is more likely to occupy large tracts of habitat than small fragments (Vickery, 1996). Breeding generally occurs from early April to mid-July, with a peak in May and June. Grasshopper sparrow was not found on the project site during surveys (ECORP, 2015c). Potential nesting habitat includes the annual grassland community within the project site and the off-site Al Johnson Wildlife Area improvements area. Grasshopper sparrow surveys or habitat assessments have not been performed for the off-site Al Johnson Wildlife Area improvements area.

Burrowing Owl

The burrowing owl is not listed pursuant to either CESA or FESA, but is designated as a bird of conservation concern by the USFWS and a SSC by the CDFW. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds (Haug et al., 2011). This species typically uses

burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures such as cement culverts or pipes, cement, asphalt, or wood debris piles, or openings beneath cement or asphalt pavement (CDFW, 2012). The breeding season typically occurs February 1 through August 31 (CDFW, 2012). Burrowing owls have been found within the project site, presumably nesting (ECORP, 2015c). Burrowing owl surveys or habitat assessments have not been performed for the Al Johnson Wildlife Area improvements area. The annual grasslands within the project site represent potential habitat for burrowing owl.

Oak Titmouse

The oak titmouse (*Baeolophus inornatus*) is not listed pursuant to either CESA or FESA, but is considered a USFWS bird of conservation concern. The oak titmouse is usually found in association with oak trees, but may also be found in conifers (Cicero, 2000). Nesting occurs during March through July. The oak titmouse was observed within the project site during surveys, but was not nesting (ECORP, 2011c, 2015c). Potential nesting habitat includes the trees in the southern portion of the project site and along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1). To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Swainson's Hawk

The Swainson's hawk is listed as a threatened species and is protected pursuant to CESA. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al., 2010). In California, the nesting season for Swainson's hawk ranges from mid-March to late August.

Swainson's hawk nests within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole, California ground squirrel (*Spermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanoplus* spp.). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, discing, and irrigating (Estep, 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

Swainson's hawk has been observed foraging but not nesting within the project site (ECORP, 2011c). Nesting is presumed to have occurred in the Creekview Specific Plan (CSP) Area to the south of the project site (City of Roseville, 2011a). In addition, a nest was observed in 2015 directly east of the project site in the Placer Ranch area (ECORP, 2015b). Potential nesting habitat within the project site includes the larger trees in the southern portion of the project site and the Al Johnson Wildlife Area improvements area along University Creek, while the annual grasslands and agricultural lands within the entire project site represent potential foraging habitat. To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements areas.

Northern Harrier

The northern harrier is not listed pursuant to either CESA or FESA, but is considered to be a SSC by the CDFW. This species is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. The northern harrier is a ground-nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah communities usually in areas with dense vegetation (Macwhirter and Bildstein, 2011). Foraging occurs within a variety of open environments such as marshes, agricultural fields, and grasslands. Nesting occurs during April to September. Northern harrier has been found within the project site, but was not nesting during surveys (ECORP, 2011c). Potential nesting and foraging habitat for Northern harrier include the annual grasslands within the project site and the off-site Al Johnson Wildlife Area improvements area. To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Western Yellow-billed Cuckoo

The Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is listed as an endangered species pursuant to CESA and as a threatened species under FESA. Typical nesting habitat includes dense riparian thicket/woodland. This migratory species arrives from its wintering grounds in South America during June and departs from California during September (Small, 1994). In northern California, current nesting populations occur along the upper Sacramento River (Tehama, Butte, Colusa, Glenn and Sutter Counties), Feather River, and the Butte Sink (Sutter and Butte Counties) (Small, 1994). There is no suitable nesting habitat for Western yellow-billed cuckoo on the project site. However, a habitat assessment or surveys have not been conducted for the riparian corridors along University Creek within the Al Johnson Wildlife Area improvement area. This location is not likely a potential nesting site, as none are known from Placer County, but this does not preclude the potential for the rare occurrence of a migrant Western yellow-billed cuckoo.

White-tailed Kite

The white-tailed kite is not listed pursuant to either CESA or FESA, but is fully protected under Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast (Dunk, 1995). In northern California, white-tailed kite typically nests from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands. The white-tailed kite has been found within the project site but was not nesting during surveys (ECORP, 2015c). Potential nesting habitat includes the trees along University Creek on the project site and the Al Johnson Wildlife Area improvements area, and the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1), while the annual grassland on the project site represents potential foraging habitat. To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Greater Sandhill Crane

The greater sandhill crane (*Grus canadensis tabida*) is listed as a threatened species by CDFW, is protected pursuant to CESA, but has no federal special-status. In addition, the greater sandhill crane is fully protected pursuant to the California Fish and Game Code. This subspecies nests in northeastern California (Modoc, Siskiyou, Lassen, and Shasta Counties and formerly in the Sierra Valley, Sierra and

Plumas counties) (Small, 1994) and winters in the Central Valley. It prefers to winter in treeless grasslands, partially flooded croplands, and wetlands. The greater sandhill crane was not observed within the project site during surveys (ECORP, 2015c), and has a low potential to occur within the project site as foraging habitat is marginal. To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Loggerhead Shrike

The loggerhead shrike is not listed pursuant to either CESA or FESA, but is considered a bird of conservation concern by the USFWS and a SSC by the CDFW. Loggerhead shrikes nest throughout California, except the northwestern corner, montane forests, and high deserts (Small, 1994). Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef, 1996). The nesting season extends from March through June. The loggerhead shrike has been found within the project site during surveys but was not nesting (ECORP, 2015c). Potential nesting habitat includes the smaller trees along University Creek on the project site and the Al Johnson Wildlife Area improvements area, and along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1). To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

California Black Rail

The California black rail (*Laterallus jamaicensis coturniculus*) is listed as a threatened species and protected pursuant to CESA, is fully protected pursuant to California Fish and Game Code Section 3511, and is a USFWS bird of conservation concern. Typical habitat for black rails includes coastal saltmarsh, delta emergent marsh, and interior freshwater emergent marsh. The California black rail is a year-round resident in the San Francisco Bay region and a discontinuous resident breeding population in the Sierra Nevada foothills, within Placer, Yuba, Butte, and Nevada counties (CDFW, 2014). Nesting typically occurs during March through July (Eddleman et al., 1994). The California black rail was not observed on the project site during previous surveys (ECORP, 2015c). There is no suitable breeding or foraging habitat for California black rail within the project site. California black rail habitat assessments or surveys have not been performed for the off-site Al Johnson Wildlife Area improvements area.

Yellow-billed Magpie

The yellow-billed magpie is not listed pursuant to either CESA or FESA, but is considered a USFWS bird of conservation concern. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpie builds large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures, or cropland. Nest building begins in late-January to mid-February, and may take up to six to eight weeks to complete (Koenig and Reynolds, 2009). The young leave the nest at about 30 days after hatching (Koenig and Reynolds, 2009). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004 to 2006 (Koenig and Reynolds, 2009). Yellow-billed magpie was observed within the project site during surveys, but was not nesting (ECORP, 2015c). Potential nesting habitat includes the trees along University Creek in the project site and the Al Johnson Wildlife Area improvements area, and along the rural residential development north of Sunset Boulevard

West (Toad Hill Ranches #1). To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Nuttall's Woodpecker

The Nuttall's woodpecker is not listed and protected under either CESA or FESA, but is considered a USFWS bird of conservation concern. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther, 2000). Breeding occurs from March through June. Potential nesting habitat includes the trees along University Creek on the project site and the Al Johnson Wildlife Area improvements area, and along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1). Nuttall's woodpeckers were observed on the project site during surveys but were not nesting (ECORP, 2015c). To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Purple Martin

The purple martin (*Progne subis*) is a CDFW SSC but has no federal special status. It occurs within the foothills of the Sierra Nevada and the Coast Range to the Pacific Coast, with several small sub-populations occurring within the city limits of Sacramento. The purple martin typically nests in woodlands where tree cavities are utilized to raise broods. Potential marginal habitat includes the trees along University Creek on the project site and the Al Johnson Wildlife Area improvements area and along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1). This species was not observed on the project site during surveys (ECORP, 2015c). To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements area.

Heron/Great Rookeries

The great egret (*Ardea alba*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), and black-crowned night heron (*Nycticorax nycticorax*) are colonial nesting birds that typically nest in trees and/or riparian areas. While these species are not formally listed and protected pursuant to either CESA or FESA, their rookeries are of interest to CDFW and are subject to CEQA review. No rookery sites were found within the project site during 2011 surveys. No bird surveys have been performed for the riparian area along University Creek within the off-site Al Johnson Wildlife Area improvements area.

Special Status Winter Resident Bird Species

Several special-status birds may forage within the project site and/or the Al Johnson Wildlife Area improvements area during the non-nesting season. These include golden eagle (*Aquila chrysaetos*), short-eared owl (*Asio flammeus*), ferruginous hawk, prairie falcon (*Falco mexicanus*), and long-billed curlew (*Numenius americanus*). These species do not nest in the Central Valley but may occur as post-breeding dispersers, migrants, or winter residents. The ferruginous hawk was observed on the project site during previous surveys (ECORP, 2015c). To date, no bird surveys have been performed for the off-site Al Johnson Wildlife Area improvements areas.

Special-Status Wildlife Species – Mammals

The annual grassland community found within the project site represents marginally suitable habitat for regionally occurring special-status mammals, including American badger (*Taxidea taxus*) and two bat species: pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*).

American Badger

The American badger is not listed pursuant to either CESA or FESA, but is designated as a SSC by CDFW. In California, American badgers ranged throughout the state except for the humid coastal forests of northwestern California in Del Norte County and the northwestern portion of Humboldt County (ECORP, 2015c). No current data exist on the status of American badger populations in California, but they have declined or disappeared in large sections of the state (Zeiner et al., 1990). American badgers occupy diverse habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground, and they prefer grasslands, savannas, and mountain meadows near timberline. Badgers prey primarily on burrowing rodents (Zeiner et al., 1990). American badgers dig burrows in friable soil for cover and frequently reuse old burrows, although some may dig a new den each night, especially in summer (Messick and Hornocker, 1981).

The nearest documented occurrence of the American badger (CNDDDB Occurrence No. 304) is located approximately 17.5 miles south of the project site (CDFW, 2014). This occurrence involved a male specimen that was collected on an unknown date for the U.S. Davis Museum of Zoology at Polk, 21st Avenue at Power Inn Road, Sacramento (CDFW, 2014).

This species has a low potential to occur within the project site. No potential American badger burrows were found during raptor survey transects within the project site while searching for nesting burrowing owls (ECORP, 2015c). To date, no surveys for this species or its burrows have been performed for the off-site Al Johnson Wildlife Area improvements area.

Pallid Bat

The pallid bat is not listed pursuant to either CESA or FESA, but is designated as a SSC by CDFW. Pallid bats are widely distributed in the low and mid-elevations of California in a wide range of habitats including grasslands, shrublands, and forests and are most common in dry, open areas. This species roosts in rock crevices, mines, tree hollows, and occasionally buildings (Hermanson and O'Shea, 1983). The pallid bat feeds on various large insects and other invertebrates, and takes most of its prey from the ground.

Pallid bats were not observed roosting in trees within the project site during raptor nesting surveys (ECORP, 2015c). Potential roosting habitat occurs as Valley oak and Fremont's cottonwood trees in the southern portion of the project site along University Creek and the dilapidated barn on the northeastern portion of the project site. Therefore; the pallid bat has a potential to occur within the project site. Potential roosting habitat exists within the off-site Al Johnson Wildlife Area improvements area in the trees along University Creek.

Townsend's Big-eared Bat

Townsend's big-eared bat is both a CDFW SSC and a candidate species proposed for listing under CESA. Townsend's big-eared bat is found throughout California in a wide range of habitats, although it prefers foraging for small moths and beetles along riparian corridors. Seasonal movement patterns are not well understood and may be localized. Distribution is strongly correlated with availability of caves and cave-like roosting habitat (e.g., abandoned mines, bridges and culverts). However, the species has also been reported roosting in buildings, bridges, rock crevices, and hollow trees. These bats roost during the day and from October to April when hibernating. Maternity colonies are comprised of groups of females and their young, which roost in relatively warm sites in caves, tunnels, mines, and occasionally in abandoned buildings. These colonies form in May or June when the young are born and remain in the roost until August, by which time the young have been weaned and fledged (Williams, 1986). This species has begun to decline due to loss of roosting habitat, and is extremely sensitive to human disturbance.

The Townsend's big-eared bat was not observed roosting in trees within the project site during raptor nesting surveys (ECORP, 2015c). Large Valley oaks and Fremont's cottonwood trees in the southern portion and the dilapidated barn on the northeastern portion of the project site provide potential roosting habitat. However, the Townsend's big-eared bat has a low potential to occur within the project site.

Surveys have not been conducted for Townsend's big-eared bat within the off-site Al Johnson Wildlife Area improvement area. However, the Valley oaks, Fremont's cottonwoods, and Gooding's willows bordering the seasonal creek within the Al Johnson Wildlife Area represent potential roosting habitat for Townsend's big-eared bat.

4.8.3 REGULATORY SETTING

Federal

Endangered Species Act

The USFWS administers the FESA except as applied to anadromous fish species and other salt water species. Projects that would result in "take" of any federally listed threatened or endangered species are required to obtain authorization from the USFWS through either Section 7 (Interagency Consultation) or Section 10 (a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the Proposed Project. The authorization process, be it through Section 10 or Section 7, is used to determine whether a project would jeopardize the continued existence of a listed species or cause the destruction or adverse modification of designated critical habitat for the species, and what mitigation measures would be required to avoid jeopardizing the listed species and/or minimize incidental take of the listed species.

"Take" under the federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Incidental take is defined as a take of listed fish or wildlife that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by a federal agency or private party. Section 10(a)(1)(B) requires an applicant for an incidental take permit to submit a "conservation plan that specifies, among other things, the impacts that are likely to result from the taking and the measures the permit applicant will undertake to minimize and mitigate such

impacts.” Where Section 7 is involved, incidental take authorization is provided by the incidental take statement included in the Biological Opinion.

City/U.S. Fish and Wildlife Service Memorandum of Understanding (MOU)

In August 2000, the City and the USFWS entered into a Memorandum of Understanding (MOU) to prepare a Habitat Conservation Plan (HCP) or equivalent permit process to minimize the indirect impact and incidental take of vernal pool species from future City growth resulting from operation of the Pleasant Grove Wastewater Treatment Plant (PGWWTP). Consistent with this agreement, the City, the ARSP Landowners, and the USFWS, the USACE, and the United States Environmental Protection Agency (EPA) conducted an extensive early consultation process. The group met on 11 different occasions between June 2011 and November 2013 with the following objective: to reach basic agreement on a land use plan and mitigation strategy that could be permitted under Section 404 of the Clean Water Act (CWA) utilizing a Section 7 Consultation process for FESA compliance. A large part of the discussion included determining the best alignment for the proposed Placer Parkway ROW. Although not a part of the Proposed Project, Placer Parkway is proposed to transect the project site. A federal Tier I document identified a 1,000-foot corridor through the project site. Through the City’s Early Consultation process, a 312-foot alignment was determined within the project site that appears to reduce wetland impacts to the extent possible.

Modifications were incorporated into the design and configuration of the Proposed Project’s open space preserve based on feedback received. Changes to the Proposed Project as a result of the early consultation process included reconfiguring the preserve to 1) capture additional swale (clay flat) connections, and 2) change from two smaller preserves into one larger contiguous preserve along the southern boundary of the project site (bisected only by Westbrook Boulevard), therefore providing connectivity to other regional open space preserves.

Vernal Pool Recovery Plan

The project site is located within the area covered by the “Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon” (December 15, 2005), also referred to as the Vernal Pool Recovery Plan. According to the preface, such plans are voluntary guidance documents, not regulatory documents, which broadly address conservation needs of the species. Recovery plans are necessarily expansive, identifying many options and strategies that may contribute to recovery.

According to the Vernal Pool Recovery Plan, “no agency or other entity is required by the Endangered Species Act to implement the recovery strategy or specific recommended action in a recovery plan” (page J-2), and recovery plans also are “not land use plans and cannot restrict activities proposed by other agencies or the public” (Page J-4).

A recovery plan neither expands nor diminishes any obligations under the FESA. Whether or not the USFWS has adopted a recovery plan, all persons are subject to the prohibitions against take of a listed species in Section 9 of the FESA, and all federal agencies must comply with the requirement under Section 7 of the FESA to ensure that its actions do not jeopardize the continued existence of a listed species or adversely modify designated critical habitat.

Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) makes it “unlawful to take any migratory bird listed in 50 CFR Part 10, including nests, eggs, or products.” This regulation is pertinent to any shrub or tree removal required for a Proposed Project, or project-related disturbance that could affect nesting migratory birds. The MBTA could require that elements of the Proposed Project (particularly vegetation removal) to be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered “taking.”

Clean Water Act

The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Waters of the United States. Section 401 prohibits the discharge of any pollutant into waters of the U.S. without certification that the discharge would not violate applicable water quality standards, and Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit program, which regulates “point sources” of water pollution. Section 404 of the CWA requires a USACE permit for discharges of dredged or fill materials into waters of the United States (as defined in 33 CFR Section 328.3 [a] and 40 CFR Section 230.3 [s]). Section 404 of the CWA is administered by the USACE.

State

Sections 2081.1 et seq., 3503, and 3511 of the Fish and Game Code

CDFW derives its authority from the Fish and Game Code of California. Species listed under CESA cannot be “taken” without authorization by the CDFW.

CESA and SSC

CESA regulates the listing and take of State endangered and State threatened species. CESA establishes that it is the policy of the State of California to conserve, protect, restore, and enhance endangered species and their habitats.

Species listed under CESA cannot be taken without adequate mitigation and compensation. The definition of take under CESA is narrower than that described under FESA, because the State definition does not include “harm” or “harass.” Rather, Fish and Game Code Section 86 defines “take” to mean “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Typically, CDFW implements endangered species protection and take determinations through the issuance of incidental take permits pursuant to Fish and Game Code Section 2081. Species listed under CESA cannot be “taken” without mitigation and compensation.

California candidate species are given protection that is equal to that provided to listed species. In addition, separate and apart from CESA, CDFW also identifies SSC based on limited distribution, declining populations, diminishing habitat, and/or unusual scientific, recreational, or educational value. These species are not afforded the same legal protection as listed species, but may be added to official lists in the future. The designation of SSC is intended by CDFW as a management tool for consideration

in future land use decisions. As a consequence, CDFW typically requests that CEQA lead agencies give consideration to minimization of impacts to SSC species when approving projects.

Burrowing Owl Mitigation

As discussed above, CDFW designates certain species as SSC when their population viability and survival is adversely affected by risk factors including population declines or other vulnerability factors. Burrowing owl has been designated as SSC, and as such, CDFW has produced the *Staff Report on Burrowing Owl Mitigation* (CDFW, 2012) that details the conservation goals, project impact evaluation, and mitigation methods for projects that may affect burrowing owls in California. The project impact evaluation provides specific methodology for data collection and surveys, as well as biologist qualifications and reporting requirements. In addition, the report provides best practices for site-specific avoidance and mitigation based on current scientific literature and experts (CDFW, 2012).

Natural Community Conservation Planning Act

Sections 2800–2835 of the California Fish and Game Code detail the State's policies on the conservation, protection, restoration, and enhancement of the State's natural resources and ecosystems. The intent of the legislation is to provide for conservation planning as an officially recognized policy that can be used as a tool to eliminate conflicts between the protection of the State's natural resources and the need for growth and development. In addition, the legislation promotes conservation planning as a means of coordination and cooperation among private interests, agencies, and landowners, and as a mechanism for multi-species and multi-habitat management and conservation. A Natural Community Conservation Plan (NCCP) can be an alternative to an incidental take permit issued under CESA as a source of take authorization for State listed species.

Fully Protected Species

Four sections of the California Fish and Game Code list 37 fully protected animal species (Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). CESA prohibits take or possession at any time of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. CDFW has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

Protection of Bird Nests and Raptors

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

Sections 1600-1607 of the Fish and Game Code

Under Section 1600-1607 of the California Fish and Game Code, CDFW regulates activities that would substantially alter the flow, bed, channel, or bank of streams and lakes. The lateral limits of CDFW's

jurisdiction are defined in the statute as the bed, channel, or bank of any river, stream, or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit...” In practice, CDFW usually determines its lateral limit of jurisdiction to be the top of bank or the outer edge of the riparian vegetation, whichever is farther from the middle of the water body in question.

State Water Resources Control Board (SWRCB)

The State Water Resources Control Board (SWRCB) administers Section 401 of the CWA. Section 401 of the CWA requires that an applicant for a Section 404 permit must first obtain a certification, or a waiver thereof, that the Proposed Project will not violate applicable state water quality standards. In California, the authority to either grant certification or waive the requirement for certification has been delegated by the SWRCB to the nine regional boards, including the Central Valley Regional Water Quality Control Board (CVRWQCB) in the Roseville area. A request for certification or waiver is typically, but is not required to be submitted to the Regional Board at the same time that the Section 404 application is filed with the USACE. The Regional Board has 60 days from receipt of a complete application to review and take action on the application. Because no USACE permit is valid under the CWA unless “certified” by the State, the regional boards may effectively veto or add conditions to any USACE permit.

Additionally, implementation of the SWRCB NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (“General Permit”) would reduce impacts associated with erosion and runoff from construction sites. As described in detail within **Section 4.13, Hydrology and Water Quality**, any construction activity that will disturb one or more acres of land requires the “discharger” to obtain coverage under the General Permit. To obtain coverage under the General Permit, the discharger must undertake a risk assessment, develop a Storm Water Pollution Prevention Plan (SWPPP), implement Best Management Practices (BMPs) in accordance with the SWPPP, and comply with monitoring and reporting requirements and other management practices to prevent or reduce pollution.

Local

Placer County

Placer County Conservation Plan (PCCP)

For the past several years, the County has been working with regulatory agencies and stakeholders to prepare a NCCP and HCP to address the conservation of natural communities, endangered species and other less sensitive species of native wildlife that could be affected by actions in the County and other participating agencies such as the Placer County Water Agency (PCWA) and the City of Lincoln. As part of the process, the County intends to apply for a CWA Section 404 Programmatic General Permit (PGP), CDFW Master Streambed Alteration Agreement (MSAA) and CWA Section 401 Water Quality Certification. Collectively, the NCCP, HCP, PGP, MSAA, and Water Quality Certification application have been termed the Placer County Conservation Plan (PCCP). As currently being discussed, the PCCP would cover approximately 201,000 acres of western Placer County and would seek to establish a conservation reserve program made up of existing reserve areas, desired acquisitions, and areas for future development. This conservation reserve system would preserve many acres of vernal pool habitat (approximately 50 percent of the County’s remaining vernal pool ecosystems). These areas occur in the

unincorporated County, the City of Lincoln, and other jurisdictions in the region. At this time, the County is focusing on Phase 1, which addresses lands within western Placer County (lands west of Auburn to the western County line). Listed species that are presumed to be covered by such a plan include but are not limited to: Swainson's hawk, California black rail, Western burrowing owl, tricolored blackbird, giant garter snake, northwestern pond turtle, foothill yellow-legged frog, California red-legged frog, vernal pool fairy shrimp, vernal pool tadpole shrimp, Conservancy fairy shrimp, VELB, Central Valley Steelhead, and Chinook salmon. As currently drafted, the PCCP would include a County Aquatic Resources Program (CARP) that would support the issuance of permits under the federal CWA and the California Fish and Game Code.

The City is currently not participating in the PCCP due to the City's existing MOU with the USFWS. However, uses and mitigation proposed as part of the Proposed Project are designed to be compatible with the PCCP. The Proposed Project has been considered in the draft PCCP's development footprint, and the off-site parcels proposed for use in the Proposed Project's mitigation strategy have been included in the reserve areas in the draft PCCP.

Placer Legacy Open Space and Agricultural Conservation Program

The Placer Legacy program, in conjunction with resource agencies and local stakeholders, is intended to protect and conserve open space and agricultural lands in the County. A key element of the program is to enable the County to make itself a willing buyer to persons wishing to sell interest in lands having value for conservation purposes.

City of Roseville

City of Roseville Design and Construction Standards

Implementation of Section 111 of the City's Construction Standards would reduce impacts associated with erosion and runoff from construction sites containing soil or other materials that could degrade water quality if discharged to local streams and changes in surface water or groundwater quality from storm water runoff by requiring the development of an Erosion Control Plan. The erosion control plan would include a description of the site, time restrictions, erosion and sediment controls to be used, means of waste disposal, control of post-construction sediment, erosion control measures, maintenance responsibilities, landscaping during and after grading, and non-storm water management controls.

Section 111.6 of the Construction Standards contains the following specifications for grading adjacent to wetlands. Grading activities adjacent to sensitive wetland or creek areas shall be conducted under the conditions set forth under the Grading Permit. These conditions shall also include:

- Prior to construction within any phase of the Proposed Project, high visibility temporary construction fencing shall be installed along the parcel adjacent to the preserve or creek. Fencing shall be maintained daily until permanent fencing is installed, at which time the temporary fencing shall be removed from the project site.
- With the exception of access required for maintenance and/or emergency vehicles, the project shall be designed to prevent vehicle access into the Open Space Preserve. Post and cable fencing or other improvements shall be utilized to meet this requirement.

- Landscaping adjacent to the Open Space Preserve shall be California native, drought tolerant groundcover, shrubs, plants, and trees.
- The Pre-Construction meeting shall address the presence of the Open Space Preserve, the sensitive habitats present and minimization of disturbance to the Open Space Preserve. During grading and construction the preserve area shall be avoided and shall not be used for parking, storage, or project staging. The contractor shall remove all trash blown into the preserve from adjacent construction on a daily basis. After construction is complete, the temporary fencing shall be removed from the preserve, along with all temporary erosion control measures.

City of Roseville Zoning Ordinance-Tree Preservation (Chapter 19.66)

The City's Tree Preservation Ordinance protects native oak trees six inches or more in DBH and specific landmark trees. As specified below, the ordinance requires a permit for any activity that would harm, destroy, kill, or remove any protected tree. In addition to removal, grading (cut or fill) and trenching within the dripline are subject to permit approval.

As stated in Section 19.66.030 of the City's Tree Preservation Ordinance, no person shall conduct any regulated activities within the protected zone of any protected tree; or harm, destroy, kill or remove any protected tree unless authorized by a tree permit. The two types of Tree Permits are:

1. **Administrative Tree Permit.** An administrative tree permit is required for any regulated activity affecting one or more protected trees, when the regulated activity is not associated with a discretionary project, does not include the removal of a protected tree, and the requested encroachment does not exceed 20 percent of the projected zone of any individual protected tree.
2. **Project-related Tree Permit.** A tree permit is required for any regulated activity within the protected zone of a protected tree where the encroachment exceeds 20 percent of the protected zone, or where the regulated activity is related to a discretionary project. In addition, a tree permit is required for the removal of any protected tree, unless otherwise exempted by this section.

Tree permits may be conditioned to include replacement of trees in kind. The replacement requirement shall be calculated based upon an inch for an inch replacement of the removed trees (an inch being equivalent to a 15-gallon tree). The total of replacement trees shall equal the combined diameter of the trees removed. A minimum of 50 percent of replacement trees shall be native. The preferred replacement alternative is onsite.

The tree ordinance specifies requirements for Arborist's Reports as specified in 19.66.050 (Minimum Information). The arborists report shall include the following information:

1. Identification of each protected tree by number;
2. Botanical name of tree(s) by tree number;
3. Common name of tree(s) by tree number;
4. Location by tree(s) number;
5. Diameter at breast height (DBH) by tree number;
6. Height by tree number (optional);
7. Dripline radius by tree number;
8. Condition by tree number; and

9. Recommendations for each protected tree by number.

City of Roseville Preserve Area Overarching Management Plan

As an outgrowth of the August 2000 City/USFWS MOU, the City in coordination with the USFWS and USACE prepared a Preserve Area Overarching Management Plan (Overarching Plan). The Overarching Plan replaced various existing operation and management plans for open space preserves established by 404 Permit that are located within the City limits. The Overarching Plan consolidated preserve management under a single plan allowing for more consistent management across preserves. The Overarching Plan adapts and reallocates monitoring resources to collect more comprehensive and meaningful monitoring data, and combines reporting requirements under a single cover increasing report preparation and review efficiencies for both the City and the federal reviewing agencies. It is anticipated that following dedication to the City, project site Open Space Preserve areas will be managed by the City in accordance with the City's Overarching Plan.

City of Roseville Floodplain Development Regulations

Implementation of Chapter 9.80 of the Municipal Code (Flood Damage Prevention) would control the alteration of natural flood plains, stream channels, and natural protective barriers which help accommodate or channel flood waters. In addition, regulations would control fill, grading, dredging, and other development which may increase flood damage. Specifically, Chapter 9.80.30 includes:

- Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- Controlling fill, grading dredging and other development which may increase flood damage: and
- Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

City of Roseville General Plan

The City of Roseville General Plan establishes goals and policies for the preservation of the value of biological resources in the community. These policies are specific to vegetation and wildlife. However, other policies intended to preserve water quality, air quality, and other features also benefit and protect biological resources.

Open Space and Conservation Element – Vegetation and Wildlife Goals

- Goal 1** Preserve, protect and enhance a significant system of interconnected natural habitat areas, including creek and riparian corridors, oak woodlands, wetlands, and adjacent grassland areas.
- Goal 2** Maintain healthy and well-managed habitat areas in conjunction with one another, maximizing the potential for compatible open space, recreation, and visual experiences.

Goal 3 Protect special status species and other species that are sensitive to human activities.

Open Space and Conservation Element – Vegetation and Wildlife Policies

- Policy 1** Incorporate existing trees into development projects, and where preservation is not feasible, continue to require mitigation for the loss of removed trees. Particular emphasis shall be placed on avoiding the removal of groupings or groves of trees.
- Policy 2** Preserve and rehabilitate continuous riparian corridors and adjacent habitat along the city's creeks and waterways.
- Policy 3** Require dedication of the 100-year flood plain or comparable mechanism to protect habitat and wildlife values in perpetuity.
- Policy 4** Require preservation of contiguous areas in excess of the 100-year flood plain as merited by special resources or circumstances. Special circumstances may include but are not limited to, sensitive wildlife or vegetation, wetland habitat, oak woodland areas, grassland connections in association with other habitat areas, slope or topographical considerations, recreation opportunities, and maintenance access requirements.
- Policy 5** Limit recreation activities within the 100-year flood plain and require additional setback areas for trails and other public recreation uses so that natural resource areas are not adversely impacted.
- Policy 6** Provide for the protection and enhancement of native fishery resources, including continued coordination with the CDFW to release water into Linda Creek.
- Policy 7** Require cumulative mitigation plans for wetlands, where feasible, in association with specific plans.
- Policy 8** Consider substitute site mitigation for federally non-regulated wetlands, provided that such mitigation will provide comparable habitat values.
- Policy 9** Limit the access of pedestrians and cyclists to vernal pool and wetland areas so that access is compatible with long-term protection of these natural resource areas.
- Policy 10** Manage public lands with special status species to encourage propagation of the species and discourage non-indigenous, invasive species.
- Policy 11** Habitat preservation and mitigation for woodlands, creeks, riparian and seasonal wetland areas should occur within the defined boundaries of the impacting projects where long-term resource viability is feasible and desirable.
- Policy 13** Work with adjacent jurisdictions, regulatory agencies, and community organizations to explore opportunities for regional mitigation banking.

The Wetland Mitigation Guidelines in the General Plan provide that “[i]n conjunction with required environmental review per CEQA,” the City shall “regulate the preservation, mitigation, monitoring and maintenance of wetland areas in coordination with the CDFW, USACE, USFWS, and EPA. For federally non-regulated wetlands, the City may require compensation or mitigation based on the value of the resource and reserves the right to consider not-in-kind compensation”. Wetland preservation, mitigation, monitoring and maintenance efforts in Roseville shall, where feasible, comply with the following principles:

- Avoidance of resources as a first priority, with compensation or mitigation implemented when avoidance is determined not to be feasible or desirable;
- No net loss of wetland acreage, values or function, or habitat of comparable value is provided;
- Comprehensive rather than incremental preservation, compensation or mitigation programs;
- Preservation, compensation or mitigation efforts focused on enhancing and expanding existing resource areas rather than creating isolated resource pockets;
- Preserves, compensation or mitigation areas created that are large enough to be self-sustaining and ensure the long-term preservation of wetland resources and required watersheds, provide an adequate buffer, and have a sufficient number of wetlands to support adequate species populations and range; and
- Preserves and compensation or mitigation areas selected on their representative habitat quality, watershed integrity, defensibility, buffer, size, plant species, variety, and presence of special status species.

When avoidance is determined not to be feasible or desirable, compensation or mitigation shall occur based on the following priorities:

- On-site within the identified project or specific plan area when long-term resource viability is feasible;
- Off-site, but within the City of Roseville, when on-site compensation or mitigation is determined not to be feasible or desirable; or
- Off-site outside the City, only when the above two options are determined not to be feasible or desirable. Compensation or mitigation efforts outside the City should be in proximity and accessible to Roseville residents and should be coordinated with regional preservation and banking efforts. Proposals to provide wetland compensation or mitigation outside the City shall be accompanied by documentation indicating how the compensation or mitigation proposal benefits the resource and the City and how the loss of open space resources in the City will be mitigated.

All wetland preserve, compensation, or mitigation areas shall be designated as permanent open space and maintained as specified in implementation measures Open Space and Conservation Element 8 and 10 of the General Plan.¹ City property may be used for preservation or mitigation if such efforts do not

¹ **Implementation Measure 8 Land Use Designation** - Designate all areas identified for open space use and/or preservation with the appropriate open space land use designation as defined in the Land use Element. Open Space land use shall be applied to primary water courses and may be considered for significant recharge areas.

Implementation Measure 10 Preservation Mechanisms - Explore and utilize a variety of mechanisms to promote and ensure the preservation of designated open space resources. Such mechanisms may include, but are not limited to, dedication, fee-title purchase, donations, transfer or purchase of development rights, and credits against park

conflict with existing resources, recreational opportunities or other City goals, policies and programs. Pedestrian and cyclist access to preservation and compensation or mitigation areas shall be well-defined and limited to minimize impacts upon the resources. Areas identified as having special status species shall be monitored and managed to encourage the continued viability of the species and discourage non-indigenous invasive species.

City of Roseville Beaver Management Policy

The Beaver Management Policy was created as a General Plan implementation measure. The policy provides the criteria and process for beaver management actions. This includes identifying the circumstances or criteria that would trigger a management response. Issues that could trigger a management response include public health and safety, potential impacts to public utilities or public improvements, and potential impacts to preserves, resource mitigation areas and/or other significant natural resources. In general the policy is built on a progressive management strategy that initially calls for the least invasive techniques to discourage problem beaver dams. This may involve partially breaching the dam or installing devices to prevent excessive ponding behind the dam if site conditions allow and the action would alleviate the initial concern. Depending on site conditions, tree wraps and scent deterrents could also be used in an attempt to discourage tree and vegetation removal and therefore limit available resources that can be used by beaver for dam reconstruction. It should be noted that the policy allows for the sequence of progressive management actions leading to dam removal to be bypassed, and the beaver dam removed, if circumstances warrant as determined by the Public Works or Environmental Utilities Director.

4.8.4 IMPACTS

Method of Analysis

This analysis of impacts resulting from the Proposed Project to biological resources (wildlife and vegetation) is based on background and historic record searches, review of previous field investigations and reconnaissance level visits to the site, and the BRA (ECORP, 2015c) prepared for the Proposed Project. Background research included reviewing the CNDDDB and CNPS Electronic Inventory to determine the potential for occurrence of special status plant or wildlife species in the vicinity of the Proposed Project.

A series of natural resource investigations were conducted for the project site. Reports detailing the results were reviewed for this EIR to determine which species have been observed in the project site (refer to **Table 4.8-3**). Botanical and wildlife surveys of the site occurred in 2003, 2007, 2008, 2009, 2011, and 2014. A complete list of biological resources surveys and database query dates is provided within the BRA, provided as **Appendix L**.

dedication requirements. If it is determined by the City that an open space resources is not desired for public ownership, the City may designate the preservations of such resource in private ownership. A decision not to seek public ownership may occur when the resource is not desired for public access and where public management and maintenance could not be efficiently accommodated. In such cases, the permanent preservation of the resources shall be ensured through land use and zoning, recorded map, deed restriction, conservation easement, or other City-approved mechanism. Where feasible, and desirable, the acquisition and preservation of open space resources may be facilitated by working with non-profit land trusts and conservation organizations.

Thresholds of Significance

For purposes of this EIR, a significant impact is assumed to occur if development proposed in the ARSP would do any of the following:

- Have a substantial adverse effect, either directly through habitat modifications or indirectly, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological modification, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinance protecting biological resources such as a tree preservation ordinance.
- Conflict with the provisions of an adopted HCP, Natural Conservation Community Plan, or other approved local, regional, or State HCP.

Table 4.8-4 provides a summary of potential habitat impacts in acres from both the Proposed Project development area and the offsite improvements area.

TABLE 4.8-4
POTENTIAL HABITAT IMPACTS

Habitat	Existing Acres	ARSP Impacts*	Al Johnson Off-Site Impacts	Total Impacts
Upland Habitats				
Agricultural Lands	17	0	17	17
Non-Native Annual Grassland	533	407	0	407
Irrigated Pasture	103	93	0	93
Rural Residence	5	5	0	5
<i>Subtotal</i>	<i>658</i>	<i>504</i>	<i>17</i>	<i>521</i>
Wetland Habitats				
Vernal Pool	9.814	3.011	0.001	3.012
Seasonal Wetland	4.827	2.906	0.000	2.906
Seasonal Wetland Swales	19.744	10.449	0.000	10.449
Marsh	1.822	1.822	0.000	1.822
Farmed Wetland	0.002	0.000	0.002	0.002
Ephemeral Drainage	0.002	0.000	0.000	0.002
Intermittent Drainage	1.920	0.084	0.000	0.084
Seasonal Creek/Stream	0.023	0.000	0.023	0.023
Stock Pond	0.364	0.364	0.000	0.364
<i>Subtotal</i>	<i>38.519</i>	<i>18.637</i>	<i>0.026</i>	<i>18.663</i>
Total	716.519	522.891	17.190	540.080
*Note: Includes adjacent Sunset Boulevard West ROW, but does not include NAPOTS and Urban Reserve areas Source: ECORP, 2015c.				

Impacts

IMPACT 4.8-1	LOSS OF FEDERALLY PROTECTED WETLANDS AND “OTHER WATERS” OF THE UNITED STATES
Applicable Policies and Regulations	Section 404 and 401 of the Clean Water Act City/USFWS MOU City of Roseville General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-1 (a) Ensure No Net Loss of Wetlands MM 4.8-1 (b) Wetland Avoidance/Mitigation Plan
Significance After Mitigation	Less than Significant

Hydrology on the site is driven by two forces: precipitation and stream flow. Most of the precipitation onto the property is captured in upland and wetland swales and in ephemeral streams. These eventually flow into an intermittent creek (University Creek) which is tributary to the perennial stream Pleasant Grove Creek.

The project site supports waters of the U.S. that have been verified in a preliminary wetland delineation by the USACE. A total of 38.519 acres of wetlands or “other waters” of the U.S. have been identified in the project site and off-site improvements area. These wetlands consist of several types of wetlands as described earlier. All wetlands identified in the project site were determined to be jurisdictional. No non-jurisdictional wetlands are present. The acreages of impacted and preserved wetlands are shown in

Table 4.8-5.

TABLE 4.8-5
TOTAL DIRECT IMPACTS TO WATERS OF THE U.S. IN THE PROJECT SITE

Wetland Type	Impacted¹	Avoided²	Preserved³	Project Site Total
Vernal Pool	3.012	0.194	5.566	8.772
Seasonal Wetland	2.906	0.203	1.159	4.268
Seasonal Wetland Swale	10.449	1.313	5.021	16.783
Farmed Wetland	0.002	--	--	0.002
Ephemeral Drainage	--	--	0.002	0.002
Intermittent Drainage	0.084	--	1.836	1.920
Marsh	1.822	--	--	1.822
Seasonal Creek	0.023	--	--	0.023
Stock Pond	0.364	--	--	0.364
Total All Wetlands	18.640	1.710	13.584	33.957

1 - The total impacts include both temporary and direct impacts within the project site, Sunset Boulevard West right-of-way, and Al Johnson Wildlife Area improvements area. These acreages do not include the Future Placer Parkway (NAPOTS) area or Urban Reserve parcel.

2 - The avoided area falls within the alignment of the future Placer Parkway regional transportation improvement project.

3 - The total preserved acreage is onsite.

Source: ECORP, 2014e.

The open space preservation areas proposed in the ARSP are aligned along drainage courses and include moderate concentrations of both vernal pools and seasonal wetlands located in proximity to these drainage courses. Implementation of the Proposed Project is anticipated to result in the total loss of approximately 18.640 acres of wetlands and “other waters” of the U.S. Approximately 15.294 acres would be avoided and/or preserved as part of the ARSP. The majority of impacts from the Proposed Project will be to seasonal wetland swales, seasonal wetlands, and vernal pools.

The applicants have indicated that offsite mitigation areas could be secured such as acquiring offsite property, providing conservation easements, and/or participating in approved mitigation/conservation banks, to satisfy the off-site mitigation. While mitigation banks have not been identified, the potential location of offsite mitigation properties are shown in **Figure 4.8-3**. The mitigation banks would be approved by the USACE and USFWS, and the Proposed Project would have to be within the banks’ approved service area.

Approximately 13.584 acres would be preserved as part of the Proposed Project within areas designated as open space preserve and 1.710 acres of wetlands are avoided by project development; wetlands in other areas are assumed to be filled by development of the Proposed Project. Loss of wetlands would occur as a result of grading in preparation for development, construction of roads and utility corridors, creation of storm water detention basins along stream corridors, and other ground-disturbing activities related to construction. The loss of 18.640 acres of wetlands would have a **significant** impact to wetlands and waters of the U.S.

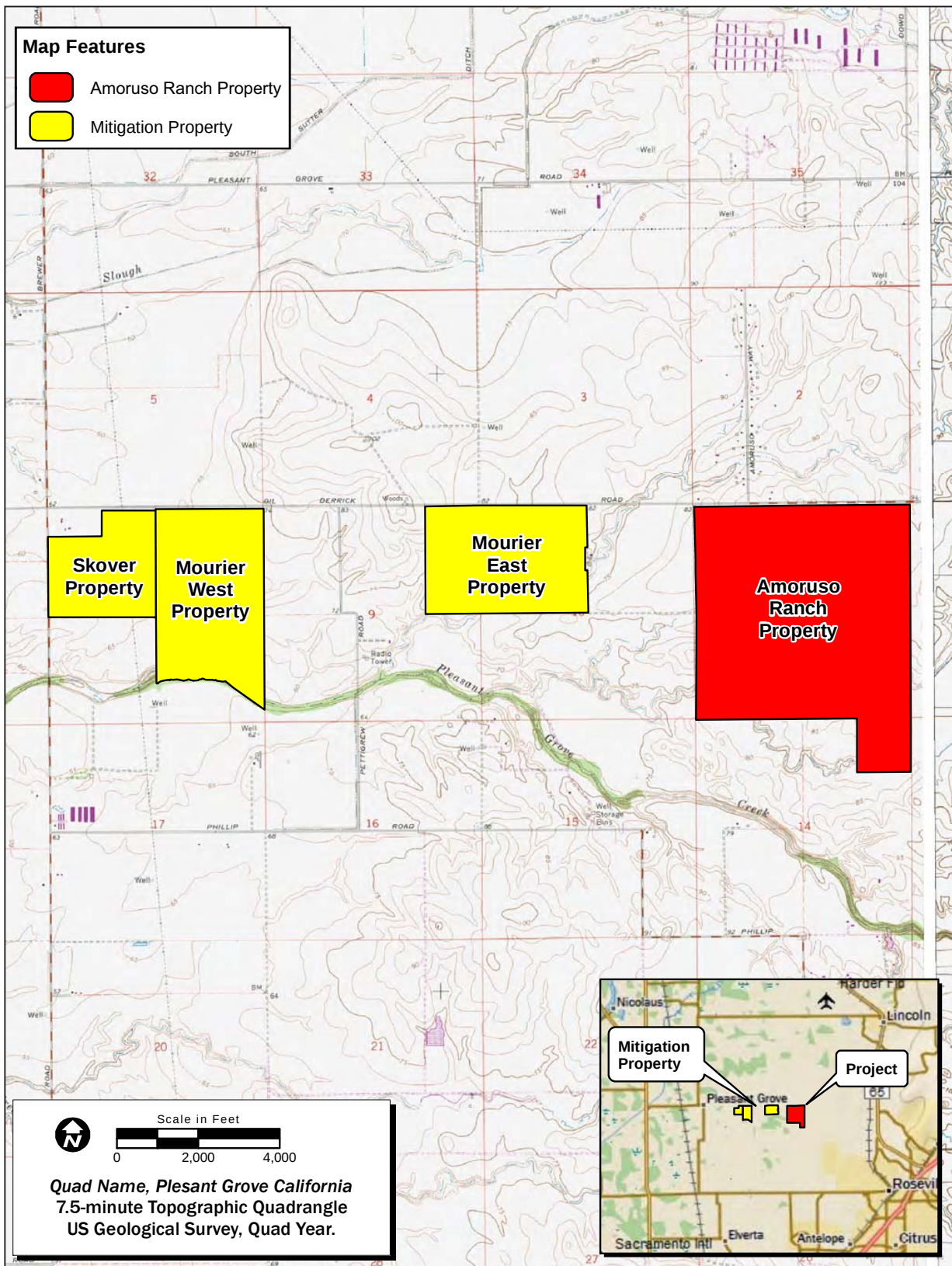
Mitigation is proposed to reduce the impacts to waters of the U.S., including vernal pool habitat. The mitigation proposed is typical of minimum requirements of the USACE and USFWS. **Mitigation Measure 4.8-1(a)**, discussed in more detail below, requires vernal pool restoration to be completed in accordance with the “no net loss” performance standard, current USACE and USFWS guidelines, and City General Plan policy as set forth in the Wetlands Mitigation Guidelines. **Mitigation Measure 4.8-1 (b)** requires the developer to prepare and submit a Wetland Avoidance/Mitigation Plan for any wetlands to be restored or created outside of an approved mitigation bank.

The overall proposed restoration/creation mitigation would be at a minimum ratio of 1:1 which meets or exceeds the City’s standards for no net loss. The goal of the ARSP conservation strategy is to achieve no net loss of wetlands through a combination of onsite avoidance and preservation, offsite acquisition, restoration and preservation of existing vernal pool complexes, and purchase of vernal pool credits at an agency-approved mitigation bank. These wetlands, both onsite and offsite, would be preserved and managed in perpetuity to provide for the long-term viability of the protected wetlands.

The components that make up the wetland mitigation include:

Onsite Avoidance and Preservation

The 15.294 acres of on-site avoidance and preservation includes 1.710 acres wetlands and “other waters” of the U.S. within the ARSP Avoidance Area and 13.584 acres of wetlands and “other waters” of the U.S. within the ARSP Open Space Preserve. The wetlands within the preservation areas that are considered to be occupied by vernal pool fairy shrimp shall be located a minimum of 250 feet from all project development. The onsite preservation areas were



identified during early discussions with the USFWS, USACE, and CDFW, and these areas were selected to preserve the highest quality wetland resources present within the project site. The preserved areas will be preserved with a Conservation Easement and resources would be managed according to the City's Preserve Area Overarching Management Plan.

Off-site Compensatory Mitigation

As detailed in the Preliminary Wetland Mitigation Proposal for the ARSP (ECORP, 2014e), mitigation for impacts to waters of the U.S. is proposed to occur at three off-site mitigation properties. These three properties include Mourier East, Mourier West, and Skover (collectively, "Mitigation Properties;" **Figure 4.8-3**). The Mitigation Properties were selected for the following reasons: close proximity to the impact sites (within three miles); identical watershed Hydrologic Unit Code as the project site; appropriate soils characteristics; wetland restoration potential; similar habitat function as the project site; the presence of vernal pool fairy shrimp; and the landscape connectivity and proximity to other regional conservation areas. Additionally, the proposed mitigation is consistent with the draft PCCP regional open space planning goals, which strives to make 50,000 to 60,000 acres within the proposed PCCP plan area part of a reserve system to preserve approximately 50 percent of County's remaining vernal pool habitat.

Because the USACE has a no-net loss policy for wetlands subject to its jurisdiction, satisfaction of the "no net loss" performance standard in **Mitigation Measure 4.8-1 (a)** can be achieved through the 404 permit process. The Section 404 Individual Permit Application has been submitted by the ARSP applicants to the USACE for review. The basic premise of the 404 permit program is that no discharge of material can be permitted into the waters of the U.S. if a practicable alternative exists that is less damaging to the aquatic environment, or if the nation's waters would be significantly degraded. Therefore, applicants for Section 404 permits must show that they have:

- Taken steps to avoid wetland impacts where practicable;
- Minimize potential impacts to wetlands; and
- Provide compensation for any remaining unavoidable impacts through activities to restore or create wetlands.

Regulated activities discharges are controlled by a 404 permit review process, which includes a period designated for public and agency comments. An individual permit is required for those projects that would not meet the terms and conditions of nationwide or other general permits and/or would have more than minimal impacts on the environment. This application includes an analysis of impacts on wetlands and provides a detailed mitigation and monitoring plan for the ARSP. As described in the application, the ARSP has been designed to incorporate habitat preservation.

Under the USACE mitigation policy, restoration of wetland habitats is normally preferred over wetland creation. This approach is consistent with the City/USFWS MOU. The USACE will determine the adequacy of the proposed wetland mitigation, and will require modification of the mitigation plan if it is deemed inadequate. The applicants must obtain a 404 permit prior to discharging any dredged or fill material into any waters of the U.S. Because the 404 permit, in addition to **Mitigation Measures 4.8-1 (a) and 4.8-1**, would ensure no net loss of wetlands, impacts would be **less than significant**.

IMPACT 4.8-2	LOSS OF FEDERALLY LISTED VERNAL POOL CRUSTACEANS AND THEIR HABITAT
Applicable Policies and Regulations	Federal Endangered Species Act City/USFWS MOU City of Roseville General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-1 (a) Ensure No Net Loss of Wetlands MM 4.8-1 (b) Wetland Avoidance/Mitigation Plan MM 4.8-2 Vernal Pool Fairy Shrimp Measures
Significance After Mitigation	Less than Significant

Suitable habitat for vernal pool crustaceans, such as vernal pool fairy shrimp and vernal pool tadpole shrimp, is present in the project site as shown in **Figure 4.8-1** and detailed in **Table 4.8-6**. Vernal pool fairy shrimp have been observed within the project site. Loss of wetland habitat would occur as a result of grading and other ground disturbing activities related to the development of the Proposed Project. As shown in **Table 4.8-6**, approximately 14.461 acres of vernal pools and wetlands that provide habitat for vernal pool crustaceans would be directly impacted by the Proposed Project. Indirect impacts to on-site habitat could impact 8.151 acres, and off-site indirect impacts could impact 1.820 impacts of vernal pool fairy shrimp habitat. Potential impacts to avoided vernal pool habitat include possible disturbance resulting from passive recreation, changes to hydrological conditions, or erosion of adjacent uplands that could result in the deposition of sediment within the wetlands. Additionally, after project construction, vernal pool habitat that is avoided could be subject to further indirect impacts resulting from urban runoff, increased human access (i.e., proximity to development, trails, etc.), vandalism or other human disturbances, and an increase in exotic weed species. Maintenance activities such as fire break maintenance, weed abatement, and construction and maintenance of trails and utilities could also degrade habitat.

TABLE 4.8-6
VERNAL POOL FAIRY SHRIMP HABITAT PRESERVATION/IMPACT ACREAGES¹

Wetland Type	Direct Impact (On-Site)	Indirect Impact (On-Site)	Indirect Impact (Off-Site)	Temporary Impact (On-Site)	Preserved (On-Site)²
Vernal Pool	3.011	2.302	0.007	--	3.458
Seasonal Wetland	2.630	0.758	0.149	--	0.604
Seasonal Wetland Swale	8.820	5.091	1.663	--	1.231
Total Vernal Pool Fairy Shrimp Habitat	14.461	8.151	1.820	--	5.292
¹ - The total impacts include both temporary and direct impacts within the project site, Sunset Boulevard West right-of-way, and Al Johnson Wildlife Area improvements area. These acreages do not include the Future Placer Parkway (NAPOTS) area or Urban Reserve parcel. ² - The total preserved acreages are onsite. Source: ECORP, 2014e.					

For purposes of this analysis, it was assumed that vernal pools and depressional seasonal wetlands that are within occupied watersheds and located within 250 feet of development and/or construction activities could be indirectly impacted. Of the 18.640 acres of direct impacts to wetlands and waters of the U.S. proposed by the ARSP, 14.461 acres are potential habitat for the federally listed vernal pool fairy shrimp (*Branchinecta lynchi*). An additional 9.9725 acres of potential habitat for the federally listed vernal pool fairy shrimp may also be indirectly impacted during project implementation. Direct loss and indirect degradation of habitat for federally listed vernal pool crustaceans is considered to be a **significant** impact.

The 14.461 acres of vernal pool fairy shrimp habitat that will be directly impacted will be mitigated at a 2:1 ratio for preservation (28.922 acres) and 1:1 ratio for creation (14.461 acres). The 9.972 acres of vernal pool fairy shrimp that may be indirectly impacted will be mitigated at a 1:1 ratio for preservation (9.972 acres). This equates to a total of 38.894 acres of preservation and 18.640 acres of creation.

Mitigation is proposed to reduce the impacts to vernal pool habitat. As discussed above, **Mitigation Measure 4.8-1** requires vernal pool restoration to be completed in accordance with the “no net loss” performance standard, current USACE and USFWS guidelines, and City General Plan Policy as set forth in the *Wetland Mitigation Guidelines*. **Mitigation Measure 4.8-2** will ensure preservation and creation of vernal pool fairy shrimp habitat at 2:1 and 1:1 ratios, respectively. After mitigation these impacts would be **less than significant**.

IMPACT 4.8-3	LOSS OF RARE PLANT POPULATIONS
Applicable Policies and Regulations	Federal Endangered Species Act California Endangered Species Act Native Plant Protection Act City of Roseville General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-3 Special Status Plant Measures
Significance After Mitigation	Less than Significant

The project site contains 9.814 acres of vernal pool habitat. Vernal pools represent potential habitat for dwarf doweringia, legenera, Pincushion navarretia, Sacramento Orcutt grass, and other special status plants (see **Table 4.8-3**). Dwarf doweringia was observed within two vernal pools within the project site and on the off-site Al Johnson Wildlife Area improvements area. No other special status plants were observed within the project site. The floristic surveys of the project site and Al Johnson Wildlife Area were done at the appropriate times of the year according to the guidelines issued by CDFW and USFWS. At present, dwarf doweringia is the only special status plant species known to occur within the impact area, and would be impacted by the Proposed Project. It is not State or federally listed, but is on the CNPS List 2B.2. Although this plant species is relatively common in the project vicinity, removal of these populations would constitute a significant impact due to the cumulative nature of development in the area. Therefore,

Mitigation Measure 4.8-3 requires that soil inoculum be collected from the dwarf downingia population and placed at the offsite created and/or restored wetlands to ensure long-term viability of this sensitive plant species.

Potential habitat for other special status species, including Bogg's Lake hedge hyssop, slender orcutt grass, and Sanford's arrowhead, and upland species such as bigscale balsamroot is present within the project site. Focused special status plant surveys of the project site were conducted during the bloom period for these species, and none of these species were observed in the project site.

Impacts to special status plant species could result from grading and other ground disturbing activities related to development of the Proposed Project. Implementation of the ARSP is anticipated to result in the direct loss of vernal pool wetlands. Additionally, some of the remaining vernal pools may be indirectly impacted due to erosion of adjacent uplands, changes in hydrological conditions from grading, or other topographic changes such that precipitation runoff supplies are interrupted and prevent the pools from filling properly. Loss of special status plants would be considered a **significant** impact.

Compliance with FESA would reduce impacts associated with the loss of federally listed vernal pool crustaceans and their habitat and the loss and degradation of rare plant populations by requiring any project that would result in the take of any federally listed threatened or endangered species to obtain authorization from the USFWS. Protection, preservation, and replacement of habitat for special status plants can be achieved through implementation of **Mitigation Measure 4.8-1**, which ensure no net loss of wetlands. In addition, **Mitigation Measure 4.8-3** would require additional special status plant surveys for the off-site improvement areas that may contain listed plant species, and provides protective measures should any special status plants be identified. After implementation of **Mitigation Measures 4.8-1** and **4.8-3** this impact would be **less than significant**.

IMPACT 4.8-4	LOSS OR DEGRADATION OF HABITAT FOR WESTERN SPADEFOOT
Applicable Policies and Regulations	California Endangered Species Act California Fish and Game Code
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-4 Relocate Western Spadefoot
Significance After Mitigation	Less than Significant

Within the project site, potential habitat for the western spadefoot includes vernal pools, seasonal wetlands, and adjacent grassland habitat. Impacts on this species would occur as a result of the loss of vernal pools, seasonal wetlands, and grassland habitat due to grading or other ground disturbance related to development of the Proposed Project. This species is a State species of concern.

Targeted surveys conducted within the project site in 2011 and guideline level wet-season surveys for listed large branchiopods conducted during the 2007 to 2008 and 2008 to 2009 wet seasons were negative for western spadefoot. Nevertheless, the project site contains potential habitat for this species and pre-construction surveys should be performed prior to the start of construction. This species was not observed during wet season branchiopod surveys conducted from 2013 to 2014 on the off-site Al Johnson Wildlife Area improvement area. However, spadefoots have been detected in the past in the vicinity of the project site. Development on vernal pools, seasonal wetlands, and the adjacent habitat could result in the destruction of individual western spadefoot and/or its habitat. This would be a **significant** impact.

Prior to grading or other earth moving activities, **Mitigation Measure 4.8-4** would be implemented to capture any adult or larval western spadefoots or western spadefoot egg masses, and relocate them to suitable habitat. This mitigation measure would greatly enhance the survival rates of western spadefoots that are displaced during construction by relocating them to protected areas of suitable habitat. Additionally, implementation of **Mitigation Measures 4.8-1(a)** and **4.8-1(b)**, which require preservation and protection of existing vernal pools, would protect individual western spadefoots by avoiding impacts on areas that are designated open space. Ensuring no net loss of wetlands would provide protection of potential habitat for western spadefoot by preserving or enhancing and protecting habitat that is capable of supporting this species. After implementation of mitigation this impact would be **less than significant**.

IMPACT 4.8-5	LOSS OR DEGRADATION OF HABITAT FOR WESTERN POND TURTLE
Applicable Policies and Regulations	California Endangered Species Act California Fish and Game Code
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-5 Relocate Northwestern Pond Turtle
Significance After Mitigation	Less than Significant

No northwestern pond turtles were found during surveys, and University Creek and the wetlands are considered marginal habitat for this species. The Proposed Project will not have a substantial adverse effect on western pond turtles through habitat modification because University Creek will remain as open space as part of the ARSP. After development, no long-term impacts to northwestern pond turtle will occur. However, construction may impact any turtles if they are located within an area designated for development, and the impact from the Proposed Project is assumed to be **significant**. To prevent turtle mortality, **Mitigation Measure 4.8-5** ensures that any turtles present in the development footprint are relocated to a protected area of suitable habitat outside the area of disturbance. Therefore, after mitigation, impacts from the Proposed Project are **less than significant**.

IMPACT 4.8-6	DISRUPTION OF SWAINSON'S HAWK, BURROWING OWL, AND OTHER LEGALLY PROTECTED RAPTORS' NESTING AND FORAGING HABITAT
Applicable Policies and Regulations	Federal Endangered Species Act California Endangered Species Act California Fish and Game Code Migratory Bird Treaty Act
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-6 Avoid Nesting Sites for Protected Bird Species MM 4.8-7 Off-site and On-site Preservation of Grassland Habitat
Significance After Mitigation	Less than Significant

Grassland and trees within the project site provide suitable foraging habitat and nesting sites for legally protected bird and raptor species including: Swainson's hawk, burrowing owl, Cooper's hawk, white-tailed kite, northern harrier, and ferruginous hawk, among others. Disturbance resulting in active nest abandonment or removal of an active nest or otherwise injuring, pursuing, or killing a protected raptor is prohibited under the FESA, CESA, and/or the California Fish and Game Code.

Special status species surveys in the project site documented the presence of several legally protected bird and raptor species. As discussed above, the following special status or protected bird species were observed foraging on the project site or within the project site during surveys: tricolored blackbird, oak titmouse, Swainson's hawk, northern harrier, white-tailed kite, loggerhead shrike, yellow-billed magpie, Nuttall's woodpecker, and ferruginous hawk. Only the burrowing owl was observed nesting within the project site. The State-listed threatened Swainson's hawk is known to nest in the CSP Area immediately south of the project site (City of Roseville, 2011a) and in the Placer Ranch area to the east of the project site (ECORP, 2015b).

Construction disturbance as part of project development could result in active nest abandonment, removal of an active nest, or other injury to a protected bird or raptor species. This is considered a **significant** impact. Compliance with the MBTA and CESA would reduce impacts by prohibiting the take of any migratory bird listed, including nests, eggs or products, or the removal of any pertinent shrub or tree that could affect nesting. To ensure that legally protected birds of prey are not taken during project construction, **Mitigation Measure 4.8-6** requires that, when feasible, tree removals or excavations near potential burrowing owl burrows occur during the period when these species are not nesting (September through February). In addition, other protected birds and raptors are protected from take through completion of pre-construction surveys and avoidance buffers, if necessary. After mitigation, impacts to protected birds and raptors due to construction of the Proposed Project are **less than significant**.

Development of the Proposed Project would eliminate approximately 595.7 acres of foraging habitat (grassland, vernal pool, wetland, and cultivated habitat suitable for foraging). CDFW recommends that projects that result in the loss of potential habitat for Swainson's hawk (which includes grasslands) within

10- miles of an active nest site provide mitigation for that loss. CDFW requires various mitigation ratios for impacted foraging habitat based on distance from active nests, which is shown in **Table 4.8-7** below. Mitigation for Swainson's hawk would be provided by implementation of **Mitigation Measure 4.8-7**, which requires mitigation for loss of grassland habitat in accordance with the ratios set forth in **Table 4.8-7**. As shown below, 499.9 acres of foraging habitat are required to be placed in permanent protect to mitigate for impacts, in addition to the 91.4 acres of undisturbed grassland and agricultural land that will remain in open space onsite. Therefore, **Mitigation Measure 4.8-7** requires that a total of 591.3 acres of suitable grassland habitat are permanently preserved.

TABLE 4.8-7
SWAINSON'S HAWK FORAGING HABITAT IMPACTS AND MITIGATION

Distance from Nest (miles)	Potential Onsite Foraging Habitat Impacted*	On-Site Open Space Preservation*	Net Impacted Foraging Habitat*	Mitigation Ratio	Required Mitigation Habitat*
0 – 1	578.3	91.4	486.9	1:1	486.9
1 – 5	17.4	0	17.4	0.75:1	13.0
TOTAL	595.7	91.4	504.2	--	499.9
* measured in acres Source: ECORP, 2015b.					

Compliance with the MBTA and CESA (for Swainson's Hawks), as well as implementation of **Mitigation Measure 4.8-6**, would reduce impacts on the nesting by preventing disturbance that would cause nest abandonment and subsequent loss of their young. **Mitigation Measure 4.8-7** requires onsite and offsite grassland preservation that also would reduce impacts to foraging habitat for Swainson's hawk and other protected bird species. After implementation of these mitigation measures, this impact would be **less than significant**.

IMPACT 4.8-7	LOSS OF GRASSLAND HABITAT
Applicable Policies and Regulations	City of Roseville General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-7 Off-site and On-site Preservation of Grassland Habitat
Significance After Mitigation	Less than Significant

Non-native annual grassland is the dominant vegetation community throughout the project site. Grassland is important for foraging for special status and other legal protected raptors, including the State threatened Swainson's hawk and a wider variety of other wildlife species such as burrowing owls and long-billed curlew. CDFW considers the loss of foraging habitat for Swainson's hawk within 10 miles of an active Swainson's hawk nest site to be detrimental to the breeding success of this species. In

addition, grassland habitat is also used by a number of other bird species such as red-tailed hawk, white-tailed kite, loggerhead shrike, tricolored blackbird, and a wide variety of other wildlife species.

Implementation of the Proposed Project would result in the loss of an estimated 407 acres of grassland and agricultural foraging habitat through grading and conversion to various urban uses. This represents approximately 76.4 percent of the grasslands in the 694.4-acre project site. Due to the potential negative effects that loss of foraging habitat could have on wildlife species, this is a **significant** impact.

Implementation of **Mitigation Measure 4.8-7** would reduce the impacts from loss of grassland to a less-than-significant level by protecting 591.3 acres of similar habitat in southwestern Placer County in perpetuity (499.9 acres will be off-site), according to a CDFW-established mitigation formula for loss of Swainson's hawk foraging habitat, and by ensuring that 91.4 acres of on-site preserved grasslands are managed as raptor and migratory bird foraging habitat. The off-site mitigation properties support foraging habitat for raptors and other migratory birds and include known populations of burrowing owls and nesting sites for Tri-colored blackbirds (refer to **Appendix P** for more detail). Protection of on- and off-site grasslands will reduce this impact to a **less-than-significant** level.

IMPACT 4.8-8	SUBSTANTIAL INTERFERENCE WITH THE MOVEMENT OF RESIDENT AND MIGRATORY WILDLIFE SPECIES
Applicable Policies and Regulations	Section 1600 of the California Fish and Game Code City Floodplain Development Regulations City Improvement Standards NPDES Requirements
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-8 Wildlife Movement Protection Policies MM 4.14-3 Avoid Light Spill Over into University Creek and Open Space Areas
Significance After Mitigation	Less than Significant

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by changes in vegetation or human disturbance. The fragmentation of open space areas by urbanization creates isolated islands of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, would not likely persist over time because fragmentation prohibits the infusion of new individuals and genetic information. Corridors mitigate the effects of this fragmentation by: 1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; 2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events; and 3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, and other needs.

Wildlife movement activities generally fall into one of three movement categories: 1) dispersal (e.g., of juvenile animals from natal areas or individuals extending range distributions); 2) seasonal migration; and 3) movement related to home range activities (foraging for food or water, defending territories, or searching for mates, breeding areas, or cover).

Development of the project site could impede the movement of wildlife by disturbing and/or blocking local movement corridors. Additionally, many of those species that would normally use the grasslands as a foraging area would not as easily move across the future urbanized landscapes proposed for development. With development of the Proposed Project, wildlife would be naturally restricted to the remaining areas of designated open space such as the University Creek open space area. Thus, this will become the primary wildlife corridor through the urbanized landscape. Construction of stream crossings and other activities, as well as the introduction of artificial light, would alter the corridors and disturb the wildlife using them. The potential loss of local travel routes and the potential future restriction of movement through the site due to obstructions to the stream/riparian open space corridor are discussed below.

Wildlife species that are adapted to live in grasslands or that move between isolated pockets of water would not easily move across the future urbanized landscapes, would be displaced, and may concentrate their movements within the remaining open space. The ARSP provides for an open space corridor along University Creek which would allow relatively free access through the site. However, the construction of a road crossing for Westbrook Boulevard could create a barrier that would prevent wildlife passage along this corridor.

Erosion and runoff during construction of project facilities would be controlled by BMPs as required by the City's Improvement Standards and NPDES General Permit. Nonetheless, alterations to the flow, bed, channel, or bank of University Creek within the project site as a result of project improvements would affect the ability of the corridor to provide habitat for the wildlife species that depend upon it for feeding, cover, and nesting, and thus could result in a loss of that habitat.

Outdoor lighting can also have a negative effect on wildlife by interfering with nocturnal movement and causing disorientation, making individuals more vulnerable to predation or making it more difficult for them to capture prey. Passive recreational use along nature or bicycle trails may also have indirect impacts such as interfering with foraging, breeding, or movement. These impacts are **significant**.

The City's Floodplain Development Regulations, Improvement Standards, and NPDES permit requirements would reduce impacts associated with floodplains, stream channels, and natural protective barriers. Floodplain and the University Creek stream channel would remain as open space, which would preserve movement corridors on the project site. In addition, the project applicant is required to obtain a Section 1600 Streambed Alteration Agreement from CDFW prior to any construction activities that could affect stream corridors. Specific measures would be developed during discussions with CDFW, but may include use of erosion control and bank stabilization measures, and restoration of stream corridor habitat that has been damaged during the construction of the Proposed Project.

Implementation of **Mitigation Measure 4.8-8** requires the use of either a bridge or culvert that is large enough that wildlife has enough space to pass through the road crossing without having to travel over the

road surface. **Mitigation Measure 4.14-3** requires that outdoor lighting be placed, designed, and directed to avoid spillover light into the University Creek and open space preserve areas (refer to **Section 4.14, Aesthetics and Visual Resources** for a detailed discussion). After implementation of these mitigation measures, this impact would be **less than significant**.

IMPACT 4.8-9	LOSS OF OAK TREES GREATER THAN 6 INCHES IN DIAMETER
Applicable Policies and Regulations	City of Roseville Tree Preservation Ordinance (Chapter 19.66)
Significance with Policies and Regulations	Less than Significant
Mitigation Measures	None Required
Significance After Mitigation	Less than Significant

Oak trees can be found along the University Creek drainage area within the southwest corner of the project site. An arborist survey conducted by ECORP found that 28 valley oak trees that may be protected under the City's Tree Preservation Ordinance (Chapter 19.66) exist within the project site, with DBH ranging from 6 to 62 inches (ECORP, 2013c). However, these trees are located within the ARSP open space preserve area and will not be impacted by construction. As discussed further in **Section 2.5.2**, the open space areas are intended to serve a variety of functions, including habitat preservation along the University Creek corridor. Therefore, there will be no impact to trees protected under the Tree Preservation Ordinance within the project site and the overall impact is **less than significant**.

In addition, there are 39 valley oak trees within the off-site Al Johnson Wildlife Area improvements area that may be removed during project construction (ECORP, 2015c). Compliance with the City's Tree Preservation Chapter of the Zoning Ordinance will ensure that removal of the oaks would be adequately replaced. If protected trees will be impacted, the applicant is required to obtain a tree permit from the City and comply with all permit terms therein, including the specific construction practices required by Chapter 19.66.060 for work conducted in the vicinity of protected trees. Mitigation consistent with the tree permit will be required, either on an inch-per-inch replacement ratio at a City-approved site or through payment of the City's in-lieu fee pursuant to Resolution No.03-546 (currently \$118 per inch DBH). This impact is **less than significant** in accordance with City of Roseville regulations.

IMPACT 4.8-10	LOSS OF RIPARIAN HABITAT
Applicable Policies and Regulations	Section 1600 of the California Fish and Game Code City Floodplain Development Regulations City Improvement Standards NPDES Requirements General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-8 Wildlife Movement Protection Policies MM 4.14-3 Avoid Light Spill Over into University Creek and Open Space Areas
Significance After Mitigation	Less than Significant

Implementation of the Proposed Project would result in development that would occur in proximity to the riparian habitat and stream corridor along University Creek. As discussed in **Section 2.5.2**, approximately 98 acres has been designated as permanent on-site open space preserve; this 98-acre area was designed so that all preserved wetland basins (e.g., vernal pools and seasonal wetlands) are located at least 50 feet from the edge of development. Most of the preserved wetlands will be greater than 50 feet from the edge of development. These buffers will help protect preserved/avoided wetlands from adjacent development. Additionally, 30-foot transition areas will be provided between the 98-acre open space preserve and the adjacent development. However, the extension of Westbrook Boulevard may include a culvert or bridge crossing that would impact University Creek and its riparian habitat.

Deterioration of the creek channel could result from construction activities, intrusion of artificial lighting, non-native invasive plant species, domestic animals, or human activity (i.e., jogging, walking, and biking) in or along the creek channel. Trampling of stream banks could occur when people descend or climb the banks, which would remove vegetation directly or indirectly by causing soil compaction or erosion. Increased human recreational and residential uses could result in an increase in domestic animals, which could impact native wildlife by reducing habitat and by increasing wildlife mortality. These impacts could also occur during construction of the Proposed Project. This impact is **significant**.

Implementation of Sections 1600-1607 of the Fish and Game Code would reduce impacts associated with the blocking or degradation of stream corridors by regulating activities that would alter the flow, bed, channel, or bank of streams. Implementation of Chapter 9.80 of the Municipal Code (Flood Damage Protection) would control the alteration of natural floodplains stream channels, and natural protective barriers, which help accommodate or channel flood waters. In addition, the City's Improvement Standards and Floodplain Development Regulations would control fill, grading, dredging, and other development, which may increase flood damage. The Proposed Project would be required to obtain a USACE 404 permit and adhere to any permit requirements included therein.

Mitigation Measure 4.8-8 and **Mitigation Measure 4.14-3** would reduce this impact to a less-than-significant level along University Creek by installing fences and signage to keep trail users within

designated trail corridors and limiting lighting within the riparian area. After mitigation, impacts to riparian habitat would be **less than significant**.

IMPACT 4.8-11	POTENTIAL IMPACTS TO BATS
Applicable Policies and Regulations	California Endangered Species Act California Fish and Game Code
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-9 Pre-Construction Surveys for Special Status Bats
Significance After Mitigation	Less than Significant

Two special status bats potentially occur in the project site: pallid bat and Townsend's big-eared bat, which are both State SSCs. In addition, Townsend's big-eared bat is a candidate species for listing under the ESA as endangered or threatened, and therefore receives full protection as a candidate species until a final determination is made. Pallid bats occur primarily in shrubland, woodlands, and forested habitats, but can also occur in grasslands. Townsend's bat occurs in a variety of woodland and open habitats. Both of these species roost in mines, caves, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited. The project site may support suitable foraging habitat, and the dilapidated barn/residences and several trees may support roosting or maternity sites. Development impacts to the foraging and roosting habitats of these special status bat species would be **significant**.

Implementation of **Mitigation Measure 4.8-7** to protect grassland habitat will mitigate potential impacts to bat foraging habitat to less-than-significant levels. **Mitigation Measure 4.8-9** ensures that a qualified biologist conduct preconstruction surveys at dusk and dawn for potential bat roosting habitat and provides avoidance measures should any special status bats be identified. With implementation of mitigation, this impact would be **less than significant**.

IMPACT 4.8-12	POTENTIAL IMPACTS TO AMERICAN BADGER
Applicable Policies and Regulations	California Endangered Species Act California Fish and Game Code
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-7 Off-Site and On-Site Preservation of Grassland Habitat MM 4.8-10 Pre-construction Surveys for American Badger
Significance After Mitigation	Less than Significant

Although no American badgers were identified during biological surveys, the annual grasslands within the project site provides marginal habitat to support the American badger (ECORP, 2015c; **Appendix P**). Any impacts from construction or operation of the Proposed Project to this State species of concern would be **significant**.

Construction may impact any badgers should they occur within an area designated for development. To prevent badger mortality, **Mitigation Measure 4.8-10** ensures that any badger burrows present in the development footprint are avoided in consultation with CDFW. Long-term impacts to American badger habitat would occur from conversion of grasslands to urban uses. With implementation of **Mitigation Measure 4.8-7** for off-site and on-site preservation of grassland, impacts to badger habitat are reduced to less-than-significant levels. Therefore, after mitigation, impacts from the Proposed Project would be **less than significant**.

IMPACT 4.8-13	IMPACTS TO FISH HABITAT
Applicable Policies and Regulations	Federal Endangered Species Act California Endangered Species Act General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Less than Significant
Mitigation Measures	None Required
Significance After Mitigation	Less than Significant

Anadromous fish species, such as Central Valley spring and winter-run Chinook salmon and steelhead, do not occur within University Creek. University Creek within the project site does not contain sufficient depths of water to support fish for most of the year. It historically has been dry during the summer months. Therefore, direct and indirect impacts on fish species are less than significant. The portion of University Creek located within the project site is expected to support only resident warm water fish species. This impact is **less than significant**.

IMPACT 4.8-14	IMPACTS TO BEAVERS
Applicable Policies and Regulations	City of Roseville Beaver Policy
Significance with Policies and Regulations	No Impact
Mitigation Measures	None Required
Significance After Mitigation	No Impact

The beaver is a widely distributed animal that inhabits most of the U. S. They are found throughout the U.S., except southern California, most of Florida and Nevada, and parts of Alaska. While their numbers diminished in the late 1800's and early 1900's due to trapping, they have made a comeback over the years. Populations of beavers are known to occur throughout the Roseville area. They are not federally or state protected.

While beavers may be present in Pleasant Grove Creek downstream from the project site, the Proposed Project would not substantially reduce the habitat of the beaver. University Creek will remain as open space as part of the Proposed Project. Beavers are not a protected species, and the Proposed Project would not significantly reduce a protected or threatened species as outlined in the significance thresholds above. Therefore, there would be **no impact**.

IMPACT 4.8-15	LOSS OF BIOLOGICAL RESOURCES DUE TO CONSTRUCTION OF OFF-SITE INFRASTRUCTURE
Applicable Policies and Regulations	Federal Endangered Species Act California Endangered Species Act Sections 404 and 401 of the Clean Water Act City of Roseville General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-1 (a) Ensure No Net Loss of Wetlands MM 4.8-1 (b) Wetland Avoidance/Mitigation Plan MM 4.8-2 Vernal Pool Fairy Shrimp Measures MM 4.8-3 Special Status Plant Measures MM 4.8-4 Relocate Western Spadefoot MM 4.8-5 Relocate Northwestern Pond Turtle MM 4.8-6 Avoid Nesting Sites for Protected Bird Species MM 4.8-7 Off-Site and On-Site Preservation of Grassland Habitat MM 4.8-8 Wildlife Movement Protection Policies MM 4.8-9 Pre-Construction Surveys for Special Status Bats MM 4.8-10 Pre-Construction Surveys for American Badger MM 4.8-11 Additional Surveys for Off-Site Improvement Areas
Significance After Mitigation	Less than Significant

Development of the Proposed Project would require infrastructure improvements outside of the project site, such as extension of roadways; extension of water, wastewater, and recycled water infrastructure; and the extension of electric and natural gas lines. Potential impacts from these activities include both direct and indirect impacts to:

- Special status species, including State and federally threatened endangered species;
- Wetland and vernal pool habitat;
- Oak trees; and
- Stream and Riparian Habitat.

No formal focused surveys or wetland delineation have been performed within the offsite infrastructure areas (with the exception of the off-site Al Johnson Wildlife Area improvement area) as part of the BRA (**Appendix P**). Most offsite improvements would be constructed within street ROWs. Because infrastructure for the Proposed Project would be located in road ROWs or undeveloped land similar to the project site, the biological resources that would be expected to occur would not differ substantially from those identified in this EIR. Nonetheless, offsite improvements would result in potentially **significant** impacts to biological resources.

Mitigation Measure 4.8-11 requires that surveys be conducted by qualified biologists prior to construction of the offsite infrastructure facilities. The purpose of these surveys will be to determine the

presence or absence of sensitive biological resources in the areas that would be disturbed. If such resources are discovered, then appropriate mitigation measures as described in this EIR shall be implemented in the offsite infrastructure areas as explained in **Mitigation Measure 4.8-11**. These measures will ensure that impacts on special status species or their habitat that occur within the offsite infrastructure areas would be **less than significant**.

IMPACT 4.8-16	LOSS OF BIOLOGICAL RESOURCES DUE TO DEVELOPMENT OF URBAN RESERVE PARCEL
Applicable Policies and Regulations	Federal Endangered Species Act California Endangered Species Act Sections 404 and 401 of the Clean Water Act City of Roseville General Plan Open Space and Conservation Element
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-1 (a) Ensure No Net Loss of Wetlands MM 4.8-1 (b) Wetland Avoidance/Mitigation Plan MM 4.8-2 Vernal Pool Fairy Shrimp Measures MM 4.8-3 Special Status Plant Measures MM 4.8-4 Relocate Western Spadefoot MM 4.8-5 Relocate Northwestern Pond Turtle MM 4.8-6 Avoid Nesting Sites for Protected Bird Species MM 4.8-7 Off-Site and On-Site Preservation of Grassland Habitat MM 4.8-8 Wildlife Movement Protection Policies MM 4.8-9 Pre-Construction Surveys for Special Status Bats MM 4.8-10 Pre-Construction Surveys for American Badger MM 4.8-12 Conduct Biological Surveys of the Urban Reserve Parcel
Significance After Mitigation	Less than Significant

Development of the Urban Reserve parcel with a single residential unit could result in both direct and indirect impacts to:

- Special status species, including State and federally threatened endangered species;
- Wetland and vernal pool habitat;
- Oak trees; and
- Stream and Riparian Habitat.

No formal focused surveys or wetland delineations have been performed within the Urban Reserve parcel as part of the BRA (**Appendix P**). However, University Creek flows through the southern portion of the parcel and habitat types are expected to be substantially similar to those found within the project site. Therefore, construction activities within the Urban Reserve parcel would result in potentially **significant** impacts to biological resources.

Mitigation Measure 4.8-12 requires that surveys be conducted by qualified biologists prior to construction within the Urban Reserve parcel. The purpose of these surveys will be to determine the presence or absence of sensitive biological resources. If such resources are discovered, then appropriate mitigation measures as described in this EIR shall be implemented as explained in **Mitigation Measure 4.8-12**. These measures will ensure that impacts on special status species or their habitat that occur within the Urban Reserve parcel would be **less than significant**.

IMPACT 4.8-17	CONFLICT WITH THE PROVISIONS OF AN ADOPTED HABITAT CONSERVATION PLAN, NATURAL CONSERVATION COMMUNITY PLAN, OR OTHER APPROVED CONSERVATION PLAN
Applicable Policies and Regulations	Federal Endangered Species Act California Endangered Species Act California Fish and Game Code City/USFWS MOU
Significance with Policies and Regulations	Less than Significant
Mitigation Measures	None Required
Significance After Mitigation	Less than Significant

Conservation plans allow a cooperative effort between regulatory agencies, local agencies, and private and public partners. The goal is to apply a broad-based ecosystem approach to planning for the protection of biological diversity in an effort to protect habitat and species. In California, the Natural Community Conservation Planning Act was enacted in 1991 to protect individual species that have declined significantly. The primary objective of the NCCP program is to preserve natural communities while accommodating compatible land use. The federal equivalent to this program is the HCP. The HCP requirement resulted from 1982 amendments to FESA which provide that, as a condition to obtaining an “incidental take” permit (which allows the “take” of endangered species), the applicant must prepare a HCP that specifies, among other things, the actions the applicant will take to minimize and mitigate any adverse impacts to the species and available funding to implement these measures. The permit will be issued if the Secretary of Commerce or the Interior finds that the impacts to the species have been minimized and mitigated to the “maximum extent practicable”, that the anticipated take will not jeopardize the species’ continued existence, and that funding will be sufficient to implement the HCP.

There is no adopted HCP, NCCP, or other approved local, regional, or State HCP that applies to the project site. The County is currently preparing the PCCP described in **Section 4.8.3**; however, this plan is in draft form and has not been adopted. The biological resource mitigation and management strategies outlined in **Section 4.8.5** are designed to be compatible with the proposed PCCP. Additionally, if/when the County's PCCP is adopted, the Proposed Project may participate and may be included in the PCCP as a special entity.

In May 2000, the City and USFWS entered into an MOU to prepare a HCP or equivalent, as discussed in **Section 4.8.3**. The purpose of the MOU is to minimize the indirect impact of incidental take of vernal pool species resulting from future City growth served by the PGWWTP, which was then under construction. To accomplish this purpose, the MOU commits the City to development of an “interim conservation strategy” to address City development that would be served by Phase I of the treatment plant operation (12 million gallons per day) and an HCP or equivalent for future City development served by Phase II operations (expansion beyond the initial 12 million gallons per day). At the time the MOU was signed, the planning area was restricted to existing City boundaries. However, Section 2.1 of the MOU recognizes that the City boundaries may change in the foreseeable future to include lands annexed through an agreement with the County, in which case those annexed areas are intended to be incorporated into the “planning area” covered by the City/County MOU. This includes the project site, should it be annexed into the City.

As part of advancing the development of an interim strategy consistent with the MOU, the City worked with USFWS to assess the status of remaining vernal pool resources within the City. This included several mapping efforts to identify current development trends and remaining vernal pool resources. The USFWS concurred that nearly all remaining undeveloped land containing vernal pools within the City limits had received federal permits for development through the CWA 404 process; therefore, preparation of an HCP or equivalent to address remaining development would not be necessary. The USFWS further determined that the conservation strategy could be developed and approved through the Section 7 consultation process in the context of permitting, pursuant to Section 404 of the CWA.

The City is committed to developing a vernal pool conservation strategy that is consistent with the direction provided by the USFWS. This includes a commitment to coordinate on-site avoidance and off-site mitigation strategies in a manner that would not prejudice or conflict with the County’s proposed larger scale conservation effort. The Preserve Area Overarching Management Plan pulls all of the city’s existing preserve areas under one umbrella program. Management, monitoring, and reporting for on-site open space preserve areas established as part of the ARSP would be conducted consistent with the City’s Preserve Area Overarching Management Plan.

Through the 404 permit process, the landowners and City have completed an early consultation process regarding the Proposed Project with the USFWS, USACE, and EPA. The project applicant has prepared a 404 permit application and will obtain the 404 permit prior to impacting vernal pools, wetlands, or waters of the U.S. Therefore, the City has complied with the spirit of the City/USFWS MOU and determined that the Proposed Project would have a **less-than-significant** impact regarding conflicts with a conservation plan.

IMPACT 4.8-18	CUMULATIVE IMPACTS TO BIOLOGICAL RESOURCES
Applicable Policies and Regulations	Federal Endangered Species Act California Endangered Species Act California Fish and Game Code City/USFWS MOU
Significance with Policies and Regulations	Significant
Mitigation Measures	MM 4.8-1 (a) Ensure No Net Loss of Wetlands MM 4.8-1 (b) Wetland Avoidance/Mitigation Plan MM 4.8-2 Vernal Pool Fairy Shrimp Measures MM 4.8-3 Special Status Plant Measures MM 4.8-4 Relocate Western Spadefoot MM 4.8-5 Relocate Northwestern Pond Turtle MM 4.8-6 Avoid Nesting Sites for Protected Bird Species MM 4.8-7 Off-Site and On-Site Preservation of Grassland Habitat MM 4.8-8 Wildlife Movement Protection Policies MM 4.8-9 Pre-Construction Surveys for Special Status Bats MM 4.8-10 Pre-Construction Surveys for American Badger MM 4.8-11 Additional Surveys for Off-Site Improvement Areas MM 4.8-12 Conduct Biological Surveys of the Urban Reserve Parcel
Significance After Mitigation	Significant and Unavoidable

The cumulative context for the evaluation of impacts on biological resources is regional development, particularly western Placer County, which contains habitat very similar to the project site.

Over the past few decades, tens of thousands of acres of grasslands have been developed or designated for development in western Placer County. Development has occurred in and around the cities of Roseville, Lincoln, and Rocklin. Development has also occurred further north in the grasslands of Sacramento County. Future development would result in the further decline of native plant communities, including vernal pool habitat. The proximity of urban development also would contribute to the distribution of non-native plant and wildlife species, which would further degrade the habitat and available niches for native species in the surrounding region. This impact is **significant and cumulative**.

The full build out of the ARSP would significantly contribute to the urbanization of western Placer County.

Vernal Pool Wetlands/Rare Plants

According to the USFWS, Placer County contains almost 35 percent of all vernal pools within the southeastern Sacramento vernal pool region (City of Roseville, 2011a). In 1999, Jeff Glazner, a biologist with North Fork Associates, produced the Placer County Vernal Pool and Grassland Maps for Placer County that indicated there were 20,676 acres of vernal pool grasslands remaining in western Placer County. The Proposed Project would result in the loss of

approximately 558.7 acres of grasslands that contain scattered vernal pools. Implementation of the ARSP is anticipated to result in the loss of approximately 18.640 acres of wetlands and waters of the U.S.

Within the project site, the Placer Parkway regional transportation project would convert an additional 4.562 acres of wetlands, resulting in a cumulative loss of wetlands within the project site of 23.202 acres. Other development that would convert vernal pool grasslands to urban development includes Placer Vineyards, Regional University, Creekview, Brookfield, and Curry Creek. Cumulative loss of vernal pools is a **significant** impact. The Proposed Project's incremental contribution to the cumulative impact is considerable.

Raptor Species

Based on information from other environmental documents and the CNDDB, potential habitat for Swainson's hawk, burrowing owl, and other species are widely distributed within Placer and adjacent counties. Other projects in the vicinity will convert grassland and cropland, both of which provide foraging habitat. This impact is **significant and cumulative**. The ARSP would result in the permanent loss of habitat for these species, which are present within the development boundaries. This is a cumulatively considerable contribution to the **significant** impact.

Mitigation measures required in **Section 4.8.5** of this EIR reduce the severity of significant project related impacts to a **less-than-significant** level. However, even with these mitigation measures, a substantial change in habitat conditions would result as a consequence of cumulative development in the region, transitioning from a rural to an urban environment. The amount of undeveloped habitat available for wildlife use will decrease as development occurs and as the amount of habitat decreases, wildlife species that are incompatible with urban development will be displaced.

Cumulative development within the region would result in the loss of grasslands, wetlands, and vernal pool habitat. The loss of this habitat would also result in impacts to special status plant and animal species. These regional impacts would be considered **significant and unavoidable**. The Proposed Project's incremental contribution to the impact on loss of grasslands, wetlands, and vernal pool habitat is considered **significant** even after mitigation.

4.8.5 MITIGATION MEASURES

MM 4.8-1 (a) Ensure No Net Loss of Wetlands (Impacts 4.8-1, 4.8-2, 4.8-15, 4.8-16, 4.8-18)

The City shall not issue a grading permit for the ARSP unless a CWA Section 404 permit is first obtained from the USACE, or an equivalent approval for waters of the State is obtained from the RWQCB. The CWA Section 404 permit process (including Section 7 Consultation under FESA) is the standard method for developing mitigation for projects that affect wetlands and vernal pool species such as special-status plants, vernal pool crustaceans, and Western spadefoot. Through this process, project applicants shall be required to obtain the necessary permits and approvals to implement their Proposed

Project while remaining in compliance with CWA and FESA. If a 404 permit is not obtained, the City shall not issue a grading permit for the Proposed Project. The obligation to obtain the 404 permit shall ensure no net loss to federally protected wetlands. After obtaining such a permit, however, the applicant shall demonstrate to the City's Planning Director that they have also achieved no net loss of wetlands. Mitigation shall consist of a combination of the preservation of on-site vernal pool and other wetland habitat and the acquisition of off-site property with existing vernal pool and other wetland habitat for preservation.

Mitigation shall include off-site creation and/or restoration of vernal pool and other wetland habitat, and/or participation in a mitigation credit program from a wetlands mitigation bank approved by the USACE and USFWS. These banks charge fees in exchange for credits that are based upon the mitigation obligation of the applicant. If the applicant chooses to buy mitigation credits, the applicant shall pay fees that shall be used to restore, create, enhance, and/or preserve wetlands at an established mitigation bank. The credits shall be in direct proportion to the wetland impacts resulting from the Proposed Project.

The project applicants have identified appropriate off-site mitigation in the form of preservation, as shown in **Figure 4.8-3**. This off-site mitigation, coupled with on-site preservation and avoidance, shall be a component of the required compensation for the Proposed Project. All wetland restoration and creation shall be conducted in a manner consistent with applicable USACE and USFWS mitigation guidelines and policies.

MM 4.8-1 (b) Wetland Avoidance/Mitigation Plan (Impacts 4.8-1, 4.8-2, 4.8-15, 4.8-16, 4.8-18)

For any wetlands to be restored or created outside of an approved mitigation bank, the Applicant shall submit a Wetland Mitigation Plan to the USACE and USFWS that describes the specific method(s) to be implemented to mitigate for all on-site or off-site project-related impacts. This detailed Wetland Mitigation Plan shall be prepared in accordance with applicable USACE and USFWS policies and regulations, and the City's Grading and Erosion Control Ordinance. A copy of the 404 permit, the biological opinion, and the Wetland Mitigation Plan shall be provided to the City at the time of specific entitlements (grading permit, tentative map, etc), and the Wetland Mitigation Plan shall ensure the following to the satisfaction of the City:

- a) Describe the location of the proposed wetland mitigation site(s), including a detailed map showing the acreage, distribution, and type of wetlands to be restored/created to ensure no net loss in wetland habitat acreage, values and functions. The compensation wetlands shall be designed, at a minimum, to meet or exceed the functions of the existing wetlands to be impacted.
- b) Include a monitoring plan to assess whether the compensation wetlands are functioning as intended. Specific performance standards for hydrologic, floral, and faunal parameters shall be proposed to determine success of the created

wetlands. The monitoring plan shall specify the corrective measures/modifications to be implemented in the event that monitoring indicates that the performance standards are not being met.

- c) Include a long-term maintenance plan for the wetland preservation/mitigation areas describing the measures implemented to assure that they are maintained as wetland habitat in perpetuity.
- d) Require that fencing be installed around all existing wetlands that are within 50 feet of any haul route, spoil zone, stockpile zone, creation zone, or other construction area. The fencing shall be of high visibility material. Fencing shall be placed no closer than 10 feet to the delineated, verified perimeter of wetlands. This fencing shall be maintained until all adjacent construction activities are completed.
- e) A qualified biological resources monitor, approved by the City, shall be on the site(s) at all times when working in the open space corridor or other sensitive areas to ensure compliance with identified mitigation for the duration of all the proposed activities. The biological resources monitor shall submit bi-annual compliance reports to City monitor for review for a period of five years after completion of construction or until all performance standards have been satisfied.
- f) The wetland mitigation site(s) shall be surveyed by a qualified biologist, no more than 30 days prior to the start of construction, for the presence of raptor and federal and state listed bird nesting sites, unless it is determined that construction will occur outside of the breeding season for all species likely to occur on site or observed present. If active nesting sites are observed, all state and federal guidelines pertaining to active nesting sites shall be strictly adhered to in consultation with a qualified biologist.
- g) Applicant shall grant full access to the wetland mitigation site(s) to the City for the monitoring of construction activities and mitigation compliance. Access shall be granted during all construction activities and the City monitor may issue stop work orders if mitigation non-compliance is identified.
- h) Applicant shall specify measures for reuse or disposal of excavated material that is suitable for use in the project site. The plan should minimize the elapsed time between excavation and reuse and provide adequate stockpile coverage and protection from wind and water erosion during the entire storage period. If excavated material is unsuitable for reuse at the project site, the plan shall include specific information regarding the eventual reuse or disposal site, transportation method(s), disposal reuse management, and schedule.
- i) The Wetland Avoidance Mitigation Plan shall include a spill prevention and response plan to the satisfaction of the City.
- j) All disturbed areas shall be re-vegetated by the following methods: hydro seeding, drill seeding, or spreading of upland seed bearing soil. The method of re-vegetation shall be approved by a qualified wetland specialist and the City.
- k) The applicant shall apply non-toxic soil stabilizers according to manufacturer's specifications to all inactive construction areas. Non-toxic binders shall be applied to exposed areas after cut and fill operations and hydro seeded areas. The wetland mitigation site shall be watered as directed by the City of Roseville

Public Works Department. The frequency shall be based on the type of operation, and soil and wind exposure.

- l) To reduce air emissions, idling time for all construction vehicles shall be limited to a maximum of 10 minutes. The City may curtail construction during high ambient pollutant concentrations, including but not limited to, ceasing construction during peak-hour vehicular traffic on adjacent or nearby roadways. All land clearing, grading, earth moving or excavation activities shall be suspended when winds exceed 15 mph.
- m) The applicants shall ensure that all inactive storage/stock piles are adequately covered, and that all trucks hauling dirt, sand, soil, or other loose materials also are adequately covered or maintain at least two feet of freeboard (i.e., minimum vertical distance between the top of the load and top of the trailer) in accordance with the requirements of the California Vehicle Code (CVC) section 23114.

MM 4.8-2 Vernal Pool Fairy Shrimp Measures (Impacts 4.8-2, 4.8-15, 4.8-16, 4.8-18)

The project applicant shall mitigate the 14.461 acres of vernal pool fairy shrimp habitat that will be directly impacted at a 2:1 ratio for preservation (28.922 acres preserved) and 1:1 ratio for creation (14.461 acres created). The 9.972 acres of vernal pool fairy shrimp that may be indirectly impacted will be mitigated at a 1:1 ratio for preservation (9.972 acres). This equates to a total of 38.894 acres of preservation and 18.640 acres of creation.

The locations of the preserved and created vernal pool fairy shrimp (*Branchinecta lynchi*) habitat shall be disclosed in the Wetland Avoidance/Mitigation Plan required in **Mitigation Measure 4.8-1 (b)**.

MM 4.8-3 Special Status Plant Measures (Impacts 4.8-3, 4.8-15, 4.8-16, 4.8-18)

The following mitigation measures shall be implemented to reduce impacts to special status plant species:

- a) A qualified botanist or biologist shall collect source pool inoculum from the two vernal pools containing dwarf downingia and shall transfer the soil inoculum to the created and/or restored wetlands within the proposed off-site Mitigation Properties. A botanist or qualified biologist shall determine which created pools will provide the best suitable habitat. Created and/or restored wetlands will require monitoring according to Section 404 permit guidelines and therefore transferred inoculum would be covered under such efforts.
- b) Perform focused special-status plant surveys according to CDFW, CNPS, and USFWS protocols (CDFW, 2000; CNPS, 2001; Cypher, 2002; USFWS, 1996b) for the three off-site Mitigation Properties. Surveys shall be timed according to the blooming period for target species and known reference populations will be visited prior to surveys to confirm the species is blooming where known to occur.

- c) The USFWS generally considers survey results valid for approximately three years. Therefore, follow-up surveys may be necessary within the project site to avoid take of any special status plant species. This shall be determined during consultation with USFWS. The presence or absence of special-status plant species shall be determined through rare plant surveys conducted according to CDFW, CNPS and USFWS protocols (CDFW, 2000; CNPS, 2001; Cypher, 2002; USFWS, 1996b). Surveys shall be timed according to the blooming period for target species and known reference populations will be visited prior to surveys to confirm the species is blooming where known to occur.
- d) If no special-status plants are found, no further measures pertaining to special-status plants are necessary.
- e) If special-status plant species are found within the project site, avoidance zones shall be established around plant populations to clearly demarcate areas for avoidance. Avoidance measures and buffer distances may vary between species and the specific avoidance zone distance will be determined in coordination with appropriate resource agencies (CDFW and USFWS).
- f) If special-status plant species are found within the project site and avoidance of the species is not possible, then additional measures such as seed collection and/or transplantation shall be developed in consultation with the appropriate agencies (CDFW and USFWS).

MM 4.8-4 Relocate Western Spadefoot (Impacts 4.8-4, 4.8-15, 4.8-16, 4.8-18)

The following mitigation measures shall be implemented to reduce impacts to Western spadefoot (*Spea hammondi*):

- a) A qualified biologist shall perform preconstruction surveys for Western spadefoot within the construction area in the appropriate season (generally February) to detect adults, larvae, and/or egg masses, within 14 days prior to the start of construction.
- b) If no Western spadefoots are found, no further measures pertaining to this species are necessary.
- c) Pools that are found to support Western spadefoot shall be avoided if feasible. If avoidance is not feasible, then the CDFW shall be consulted for its recommendation with respect to relocation of adults, larvae, tadpoles, or egg masses. Although there is no set protocol for the relocation of Western spadefoot, the capture and relocation of reptile and amphibian species from habitat that will be impacted to similar areas of protected suitable habitat is a standard part of both USFWS and CDFW procedures and recommendations for mitigating impacts. When done in combination with habitat restoration and preservation, the procedure is known to be successful in reducing potential impacts to special-status amphibian and reptile populations.

MM 4.8-5 Relocate Northwestern Pond Turtle (Impacts 4.8-5, 4.8-15, 4.8-16, 4.8-18)

The following mitigation measures shall be implemented to reduce impacts to northwestern pond turtle (*Actinemys armorata*):

- a) A qualified biologist shall perform preconstruction surveys for northwestern pond turtle within the construction area for each phase of the Proposed Project within 24 hours prior to the start of construction.
- b) If no northwestern pond turtles are found, no further measures pertaining to this species are necessary.
- c) If northwestern pond turtles are found within an area proposed for impact, a qualified biologist shall relocate the northwestern pond turtle to a suitable location away from the proposed construction, in consultation with CDFW.

MM 4.8-6 Avoid Nesting Sites for Protected Bird Species (Impacts 4.8-6, 4.8-15, 4.8-16, 4.8-18)

To ensure that raptor and other bird species protected under the MBTA are not injured or disturbed by construction in the vicinity of nesting habitat, the project applicant shall implement the following measures:

- a) **Nesting Raptors:** All raptors and their active nests are protected under the California Fish and Game Code and federal MBTA. To ensure that there are no impacts to protected active nests, the following mitigation measures shall be implemented:
 - A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction of the project site and all accessible areas within 300 feet of the limits of construction activity. The preconstruction surveys shall occur within 3 days of the initiation of construction activity during the nesting season (February 1 through August 31). If there is a break in construction activity of more than 2 weeks then subsequent surveys should be conducted; however no additional surveys are required for ongoing construction activities.
 - If no active raptor nests are found, no further measures pertaining to raptors nests are necessary.
 - If active nests are found, the active nests shall be monitored by a qualified biologist for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations for buffer distances relative to the species identified. The exclusionary buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.

- Once construction activities commence within the project site, all nests shall be monitored by a qualified biologist to detect any behavioral changes as a result of construction. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Should construction activities cause observed stress to nesting birds, the exclusionary buffer shall be adjusted (e.g. increased) based on findings of a qualified biologist.
 - Pre-construction nest surveys are not required for construction activity outside the nesting season.
- b) **Burrowing Owl:** Burrowing owls were detected within the project site during surveys. To minimize impacts to protected burrowing owls and their burrows, the following mitigation measures shall be implemented:
- If possible, initiate construction activities during the non-breeding season, September 1 through January 31.
 - A qualified biologist shall conduct a take avoidance (pre-construction) burrowing owl survey of all suitable habitats within the limits of construction of the project site and all accessible areas within 150 meters (492 feet) of the limits of construction within 14 days of the initiation of construction activity, according to the Staff Report on Burrowing Owl Mitigation (CDFW, 2012). If no burrowing owls or sign are observed, construction may proceed.
 - If burrowing owls or sign are found, avoidance setbacks shall be implemented in accordance with CDFW Burrowing Owl Mitigation (CDFW, 2012).
 - If avoidance setbacks are infeasible, the qualified biologist shall coordinate with CDFW, and prepare and implement a Burrowing Owl Exclusion Plan that will include passive relocation according to protocol outlined in the Staff Report on Burrowing Owl Mitigation (CDFW, 2012). If passive relocation methods are employed, the project impact site shall be rendered inhospitable for further burrowing owl re-occupation in accordance with the Exclusion Plan.
- c) **Swainson's Hawk:** Swainson's hawks have been found nesting on the adjacent CSP Area to the south of the project site (City of Roseville, 2011a). To minimize impacts to protected Swainson's hawks and their nests, the following mitigation measures shall be implemented:
- If possible, initiate site construction activities during the non-breeding season, September 1 through February 28.
 - A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction of the project site

and all accessible areas within 0.5 mile of the limits of construction within 14 days of the initiation of construction activity during the nesting season (March 1 through August 31).

- If no active Swainson's hawk nests are found, no further measures pertaining to Swainson's hawk nests are necessary.
- If active nests are found, the qualified biologist shall monitor the active nests for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations.
- Once construction activities commence on-site, all nests shall be monitored by a qualified biologist to detect any behavioral changes as a result of construction within the project site. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures.
- Pre-construction Swainson's hawk nesting surveys are not required for construction activity outside the nesting season.

d) **California Black Rail:** There is no potential California black rail habitat with the project site. However, surveys or habitat assessments for this species have not been performed within the off-site Al Johnson Wildlife Area improvements area. To ensure that there are no impacts to California black rail, the following mitigation measures shall be implemented:

- A qualified biologist shall conduct a habitat assessment of the off-site Al Johnson Wildlife Area improvements area to identify suitable California black rail habitat. The qualified biologist shall prepare a map identifying areas that support suitable habitat.
- If suitable habitat is within areas proposed for construction during the breeding season (February 1 through July 31), the qualified biologist shall conduct a pre-construction survey for the California black rail. Three surveys shall be conducted at least seven days apart during peak calling times (one half hour before dawn until three hours after, and three hours before sunset until one half hour after) using playback of taped breeding calls. The last survey shall occur within 14 days of the start of construction.
- If no California black rail is detected, no further measures pertaining to this species are necessary.
- If a California black rail is detected, impacts shall be avoided by establishing an appropriate buffer, as determined by the qualified biologist in consultation with CDFW. No project activity shall commence within the buffer area until a qualified biologist confirms that the rail has evacuated the area. The size of the buffer shall be determined by the

biologist and confirmed by CDFW; buffer size may vary, depending on the nest location, nest stage, and construction activity.

- e) **Western Yellow-billed Cuckoo:** There is no Western yellow-billed cuckoo habitat with the project site. However, surveys or habitat assessments have not been performed within the off-site Al Johnson Wildlife Area improvements area. To ensure that there are no impacts to Western yellow-billed cuckoo, the following mitigation measures shall be implemented:
- A qualified biologist shall conduct a habitat assessment of the off-site Al Johnson Wildlife Area improvements area and the three off-site Mitigation Properties to identify suitable Western yellow-billed cuckoo habitat. The qualified biologist shall prepare a map identifying areas that support suitable habitat.
 - If suitable habitat is proposed for construction during the breeding season (June 15 to August 31), prior to construction, the qualified biologist shall conduct a pre-construction survey for Western yellow-billed cuckoo.
 - The survey shall include three visits at least 10 days apart. Each survey shall be conducted during peak activity times (6:30 a.m. to 12:00 noon) by using playback of taped “kowlp” calls. Five taped calls (each at least 30 seconds apart) shall be played every 100 meters of linear habitat.
 - If a Western yellow-billed cuckoo is detected, impacts shall be avoided by establishing an appropriate buffer, as determined by the qualified biologist in consultation with CDFW. No project activity shall commence within the buffer area until a qualified biologist confirms that the cuckoo has evacuated the area. The size of the buffer shall be determined by the biologist and confirmed by CDFW; buffer size may vary, depending on the nest location, nest stage, and construction activity.
 - If no Western yellow-billed cuckoos are detected, no further measures pertaining to Western yellow-billed cuckoos are necessary.
- f) **Nuttall’s Woodpecker, Loggerhead Shrike, Yellow-billed Magpie, Oak Titmouse, and Grasshopper Sparrow:** The project site support potential nesting habitat for one special-status woodpecker and five special status passerine bird species: Nuttall’s woodpecker (USFWS conservation concern), loggerhead shrike (USFWS conservation concern and CDFW SSC), yellow-billed magpie (USFWS conservation concern), oak titmouse (USFWS conservation concern), and grasshopper sparrow (CDFW SSC). To ensure that there are no impacts to protected active nests of these species, the following mitigation measures shall be implemented:
- A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction within the project site and all accessible areas within 50 feet of the limits of construction

within 14 days of the initiation of construction activity during the nesting season (Nuttall's woodpecker, March-July; loggerhead shrike, March-May; yellow-billed magpie, late February-mid-July; oak titmouse, March-July; grasshopper sparrow, May-July).

- If no active special-status bird nests are found, no further measures pertaining to special-status birds are necessary.
- If active nests are found, the active nests will be monitored by a qualified biologist prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW.
- Once construction activities commence on-site, all nests shall be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures.
- Pre-construction bird nesting surveys are not required for construction activity outside the nesting season.

g) **Migratory Bird Treaty Act Birds:** Many birds, including commonly occurring species, are protected under the California Fish and Game Code and the Federal MBTA. To ensure that there are no impacts to protected birds or their active nests, the following mitigation measures shall be implemented:

- A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction within the project site and all accessible areas within 50 feet of the limits of construction within 3 days of the initiation of construction activity during the nesting season (February 1 to August 31). If there is a break in construction activity of more than 2 weeks then subsequent surveys should be conducted; however no additional surveys are required for ongoing construction activities.
- If no protected birds are found, no further measures pertaining to protected birds are necessary.
- If active nests are found, a qualified biologist shall monitor the active nests prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The exclusionary buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.
- Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a

result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Should construction activities cause observed stress to nesting birds, the exclusionary buffer shall be adjusted (e.g. increased) based on findings of a qualified biologist.

- Pre-construction bird nesting surveys are not required for construction activity outside the nesting season.

MM 4.8-7 Off-Site and On-Site Preservation of Grassland Habitat (Impacts 4.8-7, 4.8-8, 4.8-12, 4.8-15, 4.8-16, 4.8-18)

CDFW recommends that projects that result in the loss of potential foraging habitat for Swainson's hawk (which includes grasslands) within 10-miles of an active nest site provide mitigation for that loss. To the extent feasible, strategies for preserving on-site grasslands as raptor and migratory bird foraging habitat shall be addressed in the Operations and Maintenance Plan prepared pursuant to the Section 404 Permit. Some of these strategies could include; but are not necessarily limited to, grazing for grassland management, monitoring for biological values, and adaptive management. Mitigation for Swainson's hawk foraging habitat would concurrently mitigate for loss of habitat for a number of other bird species in the region such as burrowing owl, red-tailed hawk, white-tailed kite, northern harrier, Ferruginous hawk, and loggerhead shrike among others.

A Swainson's Hawk Grassland Habitat Mitigation Plan shall be developed to mitigate for the loss of foraging habitat. Therefore, the project applicant shall preserve no less than 595.7 acres of grassland and agricultural foraging habitat for Swainson's hawk. Approximately 91.4 acres of Swainson's hawk foraging habitat shall be maintained and preserved onsite. The remainder of the mitigation shall be accomplished via the preservation of 499.9 acres of grassland communities within the three off-site Mitigation Properties, which will offset the loss of foraging habitat pursuant to the CDFW-established formula for Swainson's hawk foraging habitat replacement and burrowing owl.

MM 4.8-8 Wildlife Movement Protection Policies (Impacts 4.8-8, 4.8-10, 4.8-15, 4.8-16, 4.8-18)

To protect the long term habitat of the University Creek stream channel and associated riparian corridor as for use as wildlife movement and migration corridors, the project applicants shall ensure that movement corridors are not obstructed. Through compliance with Section 1600 of the CDFW Code, the applicant(s) shall enter into a Streambed Alteration Agreement prior to conducting any construction activities within the stream corridor, which sets forth mitigation measures that the applicant must implement. These measures shall include, but not be limited to, the use of a bridge and/or culvert for the road crossing that is large enough that wildlife have enough space to pass without having

to travel over the road surface, the implementation of bank stabilization measures, and/or restoration and revegetation of stream corridor habitat that has been damaged due to the project's construction. The road crossing feature shall be constructed in a configuration as to provide wildlife with unimpeded passage. Furthermore, recreational use trails shall be lined by post and rail fence and signage shall be posted to direct trail users to stay within the designated trail corridor. The trails shall be closed to use one-half hour after sunset to one-half hour before sunrise and shall not be illuminated.

MM 4.8-9 Pre-Construction Surveys for Special Status Bats (Impacts 4.8-9, 4.8-15, 4.8-16, 4.8-18)

To ensure that there are no impacts to active bat roosts, the following mitigation measures are recommended:

- a) A qualified biologist shall conduct a dusk emergence survey (start one hour before sunset and last three hours), followed by a pre-dawn re-entry survey (start one hour before sunrise and last for two hours), in addition a daytime visual inspection of all potential bat roosting habitat within the limits of construction within the project site included as part of the pre-construction clearance survey. If no active bat roosts or sign are observed, construction may proceed.
- b) If no active special-species bat roosts are found, no further measures pertaining to special-species bats are necessary.
- c) If roosting special-species bats are found on-site during the surveys, avoid direct and indirect impacts to roosting sites by establishing a no-disturbance buffer of 100 feet around roost sites, in consultation with CDFW.
- d) Clearing and grubbing adjacent to the roost site and lighting use near the roost site where it would shine on the roost or interfere with bats entering or leaving the roost shall be prohibited.
- e) Operation of internal combustion equipment, such as generators, pumps, and vehicles within 100 feet of the roost site shall be prohibited.

MM 4.8-10 Pre-Construction Surveys for American Badger (Impacts 4.8-12, 4.8-15, 4.8-16, 4.8-18)

The annual grasslands within the project site have a low potential to support habitat for American badger. To ensure that there are no impacts to American badgers and their burrows, the following mitigation measures are required:

- a) In conjunction with pre-construction burrowing owl surveys (**Mitigation Measure 4.8-6**), a qualified biologist shall conduct pre-construction surveys for American badgers, including burrows. If no American badgers or signs are observed, construction may proceed.
- b) If no American badgers/active burrows are found, no further measures pertaining to this species are necessary.

- c) If American badgers are found on-site during the surveys, the qualified biologist shall avoid direct and indirect impacts to burrows by establishing a no-disturbance buffer of 100 feet around burrows, in consultation with CDFW.

MM 4.8-11 Additional Surveys for Off-Site Improvement Areas (Impacts 4.8-15 and 4.8-18)

Prior to construction of any off-site infrastructure, a qualified biologist shall perform detailed, and if necessary, focused biological surveys of any undisturbed areas that would be affected by infrastructure development. If it is determined that wetland resources or sensitive species would be impacted, **Mitigation Measure 4.8-1 (a) and (b)**, **Mitigation Measure 4.8-2**, or **Mitigation Measure 4.8-3** shall be implemented, as appropriate to the resource. If it is determined that impacts to western spadefoot or northwestern pond turtle may occur due to off-site constructions, **Mitigation Measures 4.8-4** and **4.8-5** shall be implemented, respectively. If it is determined that active nests exist within the off-site improvement location, **Mitigation Measure 4.8-6** shall be implemented as appropriate to the species. If it is determined the offsite improvement is located within or adjacent to a wildlife movement corridor, **Mitigation Measure 4.8-8** shall be implemented. If any bat roosts are identified, **Mitigation Measure 4.8-9** shall be implemented. If any badger burrows are located, **Mitigation Measure 4.8-10** shall be implemented.

MM 4.8-12 Conduct Biological Surveys of Urban Reserve Parcel (Impacts 4.8-16 and 4.8-18)

Prior to construction activities within the Urban Reserve parcel, a qualified biologist shall perform detailed, and if necessary, focused biological surveys of any undisturbed areas that would be affected by development. If it is determined that wetland resources or sensitive species would be impacted, **Mitigation Measure 4.8-1 (a) and (b)**, **Mitigation Measure 4.8-2**, or **Mitigation Measure 4.8-3** shall be implemented, as appropriate to the resource. If it is determined that impacts to western spadefoot or northwestern pond turtle may occur, **Mitigation Measures 4.8-4** and **4.8-5** shall be implemented, respectively. If it is determined that active nests exist, **Mitigation Measure 4.8-6** shall be implemented as appropriate to the species. If development is proposed within or adjacent to a wildlife movement corridor, **Mitigation Measure 4.8-8** shall be implemented. If any bat roosts are identified, **Mitigation Measure 4.8-9** shall be implemented. If any badger burrows are located, **Mitigation Measure 4.8-10** shall be implemented.