

3.4 BIOLOGICAL RESOURCES

This section addresses biological resources known or with potential to occur in the project vicinity, and describes potential effects of project implementation on those resources. Biological resources include common vegetation and habitat types, sensitive plant communities, and special-status plant and animal species. The analysis includes a description of the existing environmental conditions, the methods used for assessment, the potential direct and indirect impacts of project implementation, and mitigation measures recommended to address impacts determined to be significant or potentially significant.

Comments were received from the Environmental Council of Sacramento, Friends of Stone Lakes National Wildlife Refuge, Habitat 2020, and the County of Sacramento in response to the notice of preparation regarding biological resources of concern that could be adversely affected by the project (e.g., Swainson's hawk).

3.4.1 Environmental Setting

This section describes the presence or absence and quality of common and sensitive terrestrial biological resources on the project site, provides a summary of applicable regulations, and identifies potential effects because of project implementation. The following analysis considers effects on terrestrial communities, special-status species, and sensitive habitats. The data reviewed in preparation of this analysis included: a records search of the California Natural Diversity Database (CNDDDB) (2017); a records search of the California and California Native Plant Society (CNPS) (2017) online database of plants in California; and the eBird online database of bird observations. Additionally, a limited reconnaissance-level site visit by an Ascent biologist was conducted on April 10, 2017.

PROJECT AREA

The land area surrounding the project site consist of developed urban land uses of the City of Elk Grove to the north and west and agricultural land areas to the east and south.

Stone Lakes National Wildlife Refuge is located approximately three miles northwest of the project site. The refuge consists of two large permanent lakes in a network of vernal pool grassland, seasonally flooded agricultural lands, and managed wetlands that provide feeding and resting habitat for thousands of migrating birds along the Pacific Flyway, as well as habitat for several special-status plant and animal species.

The Cosumnes River Preserve (Preserve), located approximately seven miles south of the SOIA, consists of approximately 45,859 acres of wildlife habitat and agricultural lands owned by seven land-owning partners. The Cosumnes River is one of the last large rivers in the Central Valley with relatively natural and unregulated stream flows that vary from winter-spring flood flows to reduced summer flows. The Preserve supports migratory waterfowl and waterbirds, wintering population of greater sandhill cranes, and Swainson's hawks.

PROJECT SITE

Vegetation and Wildlife

The project site (or "SOIA area") contains approximately 480 acres of primarily agricultural land. Most non-agricultural vegetation within the project site appears to be associated with irrigation ditches, roadsides, developed residential areas, and the edges of agricultural fields. Isolated trees, including non-native species such as blue gum (*Eucalyptus globulus*), and small groves of trees are present along field edges and near developed areas. Ruderal vegetation such as blackberry (*Rubus* sp.), non-native thistle (*Carduus* sp.), and mustard (*Brassica* sp.) are present along roadsides, and within irrigation ditches near surrounding roads. These irrigation ditches may provide foraging habitat for birds such as great egret (*Ardea alba*) and great

blue heron (*Ardea herodias*), which are often associated with agricultural land. Common urban wildlife species, such as house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*) likely frequent the project site because of its proximity to a developed residential area. The project site is also part of the larger agricultural landscape of the region, which provides foraging habitat for raptors, such as Swainson's hawk (*Buteo swainsoni*) and red-tailed hawk (*Buteo jamaicensis*).

SENSITIVE BIOLOGICAL RESOURCES

Special-Status Species

Special-status species are plants and animals in the following categories:

- ▲ listed or proposed for listing as threatened or endangered under federal Endangered Species Act (ESA) or candidates for possible future listing;
- ▲ listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA);
- ▲ listed as Fully Protected under the California Fish and Game Code;
- ▲ animals identified by California Department of Fish and Wildlife (CDFW) as species of special concern;
- ▲ plants considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere; and 2, considered rare or endangered in California but more common elsewhere);
- ▲ considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or
- ▲ otherwise meets the definition of rare or endangered under CEQA Section 15380(b) and (d).

Special-Status Plants

Table 3.4-1 provides a list of the special-status plant species documented in the CNDDDB within five miles of the project site and describes their regulatory status, habitat, and potential for occurrence on the project site.

No special-status plant species have been documented on the project site. However, protocol-level surveys for special-status plants to confirm their presence or absence have not been conducted. Based on the results of the CNDDDB search, it was determined that eight special-status plant species could occur. The potential for occurrence of special-status plants was based on the types, extent, and quality of habitats on the project site; the proximity or connectivity of the project site to known occurrences of the species; and the regional distribution and abundance of the species. Special-status plant species that could occur on the project site include: watershield (*Brasenia schreberi*), bristly sedge (*Carex comosa*), dwarf downingia (*Downingia pusilla*), wooly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), legenere (*Legenere limosa*), Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*), Sanford's arrowhead (*Sagittaria sanfordii*), and saline clover (*Trifolium hydrophilum*).

Table 3.4-1 Special-Status Plant Species Known to Occur in the Project Region and their Potential for Occurrence on the Project Site

| Species | Regulatory Status ¹ | | | Habitat | Potential for Occurrence ² |
|--|--------------------------------|-------|------|--|---|
| | Federal | State | CRPR | | |
| watershield <i>Brasenia schreberi</i> | - | - | 2B.3 | Wetland. Freshwater marshes and swamps. Aquatic from water bodies both natural and artificial in California. 98 to 7,218 ft in elevation. Blooms June-September. | Could occur. The nearest known occurrence is approximately 3 miles southwest of the project site, within Stone Lakes National Wildlife Refuge (CNDDDB 2017, CNPS 2017). Potentially suitable habitat on the project site includes irrigation ditches. |
| bristly sedge <i>Carex comosa</i> | - | - | 2B.1 | Wetland. Marshes and swamps, coastal prairie, valley and foothill grassland. Lake margins, wet places; site below sea level is on a Delta island. -16 to 5,315 ft in elevation. Blooms May-September. | Could occur. Potentially suitable wetland habitat may be present on the project site. The nearest known occurrence is approximately 2.5 miles southwest of the project site within Stone Lakes National Wildlife Refuge (CNDDDB 2017, CNPS 2017). |
| Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> | - | - | 2B.2 | Wetland. Marshes and swamps (freshwater). Freshwater marsh. 49 to 919 ft in elevation. Blooms July-October. | Not expected to occur. Marsh or swamp habitat is not present on the project site. Additionally, the project site is outside of the optimal elevation range of this species. |
| dwarf downingia <i>Downingia pusilla</i> | - | - | 2B.2 | Wetland. Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 3 to 1,608 ft in elevation. Blooms March-May. | Could occur. Potentially suitable wetland habitat is present on the project site. The nearest known occurrence is approximately 3 miles northwest of the project site, within similar agricultural habitat (CNDDDB 2017, CNPS 2017). |
| woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> | - | - | 1B.2 | Wetland. Marshes and swamps (freshwater). Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. 0 to 509 ft in elevation. Blooms June-September. | Could occur. The project site contains potentially suitable habitat within irrigation ditches. The nearest known occurrence is approximately 4 miles northwest of the project site within Stone Lakes National Wildlife Refuge (CNDDDB 2017, CNPS 2017). |
| Northern California black walnut <i>Juglans hindsii</i> | - | - | 1B.1 | Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized. Deep alluvial soil, associated with a creek or stream. 0 to 2,100 ft in elevation. Blooms April-May. | Not expected to occur. The project site is mostly developed agricultural land, and native riparian forest habitat is not present. The nearest known occurrence is approximately 8 miles southwest of the project site near the Sacramento River (CNDDDB 2017, CNPS 2017). |
| legenere <i>Legenere limosa</i> | - | - | 1B.1 | Vernal pools, wetland. In beds of vernal pools. 3 to 2,887 ft in elevation. Blooms April-June. | Could occur. Potentially suitable vernal pool habitat may be present on the project site. The nearest known occurrence is approximately 1.7 miles northwest of the project site within nearby vernal pool habitat (CNDDDB 2017, CNPS 2017). |
| Heckard's pepper-grass <i>Lepidium latipes</i> var. <i>heckardii</i> | - | - | 1B.2 | Valley and foothill grassland, vernal pools. Grassland, and sometimes vernal pool edges. Alkaline soils. 3 to 98 ft in elevation. Blooms March-May. | Could occur. The project site may contain potentially suitable vernal pool habitat. The nearest known occurrence is approximately 3 miles west of the project site along vernal pool habitat (CNDDDB 2017, CNPS 2017). |
| Sanford's arrowhead <i>Sagittaria sanfordii</i> | - | - | 1B.2 | Wetland. Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0 to | Could occur. The project site contains potentially suitable habitat within irrigation ditches. The nearest known occurrence is approximately 3.3 |

Table 3.4-1 Special-Status Plant Species Known to Occur in the Project Region and their Potential for Occurrence on the Project Site

| Species | Regulatory Status ¹ | | | Habitat | Potential for Occurrence ² |
|---|--------------------------------|-------|------|---|---|
| | Federal | State | CRPR | | |
| | | | | 2,133 ft in elevation. Blooms May-November. | miles east of the project site within similar habitat (CNDDDB 2017, CNPS 2017). |
| saline clover <i>Trifolium hydrophilum</i> | - | - | 1B.2 | Wetland. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0 to 984 ft in elevation. Blooms April-June. | Could occur. The project site may contain potentially suitable wetland or vernal pool habitat. The nearest known occurrence is approximately 2.5 miles west of the project site (CNDDDB 2017, CNPS 2017). |

Notes: CRPR = California Rare Plant Rank; CNDDDB = California Natural Diversity Database

¹ Legal Status Definitions

Federal:

- E Endangered (legally protected by ESA)
- T Threatened (legally protected by ESA)

State:

- E Endangered (legally protected by CESA)
- R Rare (legally protected by CNPPA)

California Rare Plant Ranks:

- 1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
- 2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks

- 0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
- 0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)

² Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present on the project site due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

Could occur: Suitable habitat is available at the project site; however, there are little to no other indicators that the species might be present.

Likely to occur: The species, or evidence of its presence, was observed at the project site during reconnaissance surveys, or was reported by others.

Sources: CNDDDB 2017; CNPS 2017; Calflora 2017

Special-Status Animals

Table 3.4-2 provides a list of the special-status wildlife species documented in the CNDDDB within five miles of the project site and describes their regulatory status, habitat, and potential for occurrence on the project site.

Northern harrier (*Circus cyaneus*) was observed foraging on the project site during the reconnaissance site visit conducted in April 10, 2017. Based on the results of the CNDDDB search, it was determined that 11 other special-status wildlife species could occur on the project site. The potential for occurrence of these species was based on the types, extent, and quality of habitats on the project site; the proximity or connectivity of the project area to known occurrences of the species; and the regional distribution and abundance of the species. Special-status wildlife species that could occur within the project site include: giant gartersnake (*Thamnophis gigas*), western pond turtle (*Actinemys marmorata*), burrowing owl (*Athene cunicularia*), greater sandhill crane (*Antigone canadensis tabida*), song sparrow (“Modesto” population; *Melospiza melodia*), Swainson’s hawk, tricolored blackbird (*Agelaius tricolor*), white-tailed kite (*Elanus leucurus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and American badger (*Taxidea taxus*). However, protocol-level surveys for special-status animals to confirm their presence or absence have not been conducted for the project.

Table 3.4-2 Special-Status Wildlife Species Known to Occur in the Project Region and their Potential for Occurrence on the Project Site

| Species | Regulatory Status ¹ | | Habitat | Potential for Occurrence ² |
|---|--------------------------------|----------|--|--|
| | Federal | State | | |
| Amphibians and Reptiles | | | | |
| giant gartersnake <i>Thamnophis gigas</i> | FT | ST | Marsh and swamp, riparian scrub, wetland. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California. | Could occur. The project site contains potentially suitable aquatic habitat within irrigation ditches. The nearest known occurrence is less than 1 mile southwest of the project site (CNDDDB 2017). |
| western pond turtle <i>Emys marmorata</i> | - | SSC | Aquatic, artificial flowing waters, Klamath/north coast flowing waters, Klamath/north coast standing waters, marsh and swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing and standing waters. A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.3 mile from water for egg-laying. | Could occur. The project site contains potentially suitable aquatic habitat within irrigation ditches. The nearest known occurrence is approximately 1 mile northwest of the project site within an irrigation ditch (CNDDDB 2017). |
| Birds | | | | |
| burrowing owl <i>Athene cucularia</i> | - | SSC | Coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel. | Could occur. The project site contains potentially suitable breeding habitat within earthen berms along irrigation ditches between agricultural fields. The nearest known occurrence is approximately 1 mile northwest of the project site, associated with grazed grassland habitat (CNDDDB 2017). |
| greater sandhill crane <i>Antigone canadensis tabida</i> | - | ST FP | Marsh and swamp, meadow and seep, wetland. Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites. | Could occur. The project site contains potentially suitable overwintering habitat within grain fields. There have been several recent occurrences within approximately 1 mile of the project site (eBird 2017), and the nearby Cosumnes River Preserve is an important overwintering location for the species. |
| northern harrier <i>Circus cyaneus</i> | - | SSC | Coastal scrub, Great Basin grassland, marsh and swamp, riparian scrub, valley and foothill grassland, and wetlands. Coastal salt and fresh-water marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. | Known to occur. The project site contains suitable foraging habitat, and northern harrier was observed foraging on the project site during the reconnaissance site visit on April 10, 2017. Additionally, there have been several recent occurrences within approximately 1 mile of the project site (eBird 2017). |
| song sparrow ("Modesto" population) <i>Melospiza melodia</i> | - | SSC | Marsh and swamp, wetlands. Emergent freshwater marshes, riparian willow thickets, riparian forests of valley oak (<i>Quercus lobata</i>), and vegetated irrigation canals and levees. | Likely to occur. The project site contains potentially suitable habitat within vegetated irrigation ditches. The nearest known occurrence is approximately 2.3 |

Table 3.4-2 Special-Status Wildlife Species Known to Occur in the Project Region and their Potential for Occurrence on the Project Site

| Species | Regulatory Status ¹ | | Habitat | Potential for Occurrence ² |
|--|--------------------------------|-----------|--|---|
| | Federal | State | | |
| | | | | miles west of the project site within Stone Lakes National Wildlife Refuge (CNDDB 2017). Song sparrows within the vicinity of the project site are assumed to be part of the "Modesto" population based on location. |
| Swainson's hawk <i>Buteo swainsoni</i> | - | ST | Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. | Likely to occur. The project site contains suitable foraging habitat (agricultural fields), and potentially suitable nesting habitat within isolated trees. The nearest known nesting occurrence is within a walnut (<i>Juglans</i> sp.) tree near the intersection of Bruceville and Bilby Roads (CNDDB 2017). |
| tricolored blackbird <i>Agelaius tricolor</i> | - | CE SSC | Freshwater marsh, marsh and swamp, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few miles of the colony. | Likely to occur. The project site contains potentially suitable nesting habitat, including grain fields, blackberry (<i>Rubus</i> sp.), and other vegetation along irrigation ditches. A historic occurrence (1981, CNDDB 2017) was located on the project site within blackberry plants at the intersection of Kammerer and Bruceville Roads. A more recent breeding colony is located approximately 2 miles southeast of the project site (CNDDB 2017, UC Davis 2017). |
| white-tailed kite <i>Elanus leucurus</i> | - | FP | Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. | Could occur. The project site contains potentially suitable foraging habitat (agricultural fields) and nesting habitat (isolated trees) for this species. Additionally, there have been several recent occurrences within approximately 1 mile of the project site (eBird 2017). |
| Fish | | | | |
| longfin smelt <i>Spirinchus thaleichthys</i> | FC | SSC | Aquatic, estuary. Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 parts per thousand, but can be found in completely freshwater to almost pure seawater. | Not expected to occur. The project site does not contain suitable aquatic habitat for this species. The nearest suitable habitat is within the Cosumnes and Sacramento Rivers (CNDDB 2017). |
| Sacramento splittail <i>Pogonichthys macrolepidotus</i> | - | SSC | Aquatic, estuary, freshwater marsh, Sacramento/San Joaquin flowing waters. Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young. | Not expected to occur. The project site does not contain suitable aquatic habitat for this species. The nearest suitable habitat is within the Cosumnes and Sacramento Rivers (CNDDB 2017). |

Table 3.4-2 Special-Status Wildlife Species Known to Occur in the Project Region and their Potential for Occurrence on the Project Site

| Species | Regulatory Status ¹ | | Habitat | Potential for Occurrence ² |
|--|--------------------------------|-------|--|---|
| | Federal | State | | |
| steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus</i> | FT | - | Aquatic, Sacramento/San Joaquin flowing waters. Populations in the Sacramento and San Joaquin rivers and their tributaries. | Not expected to occur. The project site does not contain suitable aquatic habitat for this species. The nearest suitable habitat is within the Cosumnes and Sacramento Rivers (CNDDDB 2017). |
| Invertebrates | | | | |
| vernal pool fairy shrimp <i>Branchinecta lynchi</i> | FT | - | Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. | Could occur. Potentially suitable vernal pool or wetland habitat may be present on the project site. The nearest known recent occurrence is approximately 4 miles north of the project site within a grassy-bottomed depression that was once an undisturbed natural vernal pool (CNDDDB 2017). |
| vernal pool tadpole shrimp <i>Lepidurus packardii</i> | FE | - | Valley and foothill grassland, vernal pool, wetland. Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid. | Could occur. Potentially suitable vernal pool or wetland habitat may be present on the project site. The nearest known recent occurrence is approximately 4.7 miles north of the project site within a deep depression along a railroad track (CNDDDB 2017). |
| Mammals | | | | |
| American badger <i>Taxidea taxus</i> | - | SSC | Alkali marsh, alkali playa, alpine, alpine dwarf scrub, bog a fen, brackish marsh, broadleaved upland forest, chaparral, chenopod scrub, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows. | Could occur. Optimal habitat is not present on the project site; however, agricultural fields could provide suboptimal habitat for badger. The closest known occurrence is approximately 3.8 miles west of the project site near Hood, CA (CNDDDB 2017). |

Note: CNDDDB = California Natural Diversity Database

¹ Legal Status Definitions

Federal:

- E Endangered (legally protected)
- T Threatened (legally protected)
- D Delisted
- PT Proposed Threatened

State:

- D Delisted
- FP Fully protected (legally protected)
- SC Species of special concern (no formal protection other than CEQA consideration)
- E Endangered (legally protected)
- T Threatened (legally protected)
- CT Candidate Threatened

² Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present on the project site due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

Could occur: Suitable habitat is available on the project site; however, there are little to no other indicators that the species might be present.

Likely to occur: The species, or evidence of its presence, was observed on the project site during reconnaissance surveys, or was reported by others.

Known to occur: The species, or evidence of its presence, was observed in the project area during reconnaissance surveys, or was reported by others.

Source: CNDDDB 2017; eBird 2017

Sensitive Natural Communities

Sensitive habitat types include those that are of special concern to CDFW, or that are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, the Porter-Cologne Act, and Section 404 of the CWA, as discussed in Section 3.4.2, “Regulatory Framework,” below. Sensitive habitats may be of special concern to regulatory agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species.

CDFW maintains a list of plant communities that are native to California. Within that list, CDFW identifies special-status plant communities (i.e., sensitive natural communities), which it defines as communities that are of limited distribution statewide or within a county or region, and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status species or their habitat. Special-status plant communities are tracked in the CNDDDB.

Many wetland and riparian plant communities are included on CDFW’s list of special-status plant communities, and the importance of protecting and preserving riparian and oak woodland habitats is recognized in the County’s general plan policies. The project site contains mostly agricultural land and developed residential areas, and does not contain any riparian woodland or oak woodland. Additionally, no occurrences of sensitive communities within 5 miles of the project site have been documented in the CNDDDB. However, the project site may support wetlands, including vernal pools, and other waters of the United States and waters of the state. These resources are considered sensitive habitats and are discussed below.

Waters of the United States and Waters of the State

The main hydrological feature on the project site is approximately 2.7 miles of irrigation ditches, which are not likely to qualify as jurisdictional waters of the United States under Section 404 of the Clean Water Act. While the project site contains mostly agricultural and developed land, a review of aerial imagery and a site visit on April 10, 2017 suggest the northwest portion the project site may contain wetland habitat (Exhibit 3.4-1). A jurisdictional wetland delineation has not been conducted because the project site is currently privately owned, so it is possible that additional potential wetland habitat could be present in other portions of the project site. Vernal pool habitat is present within the vicinity of the project site, including within Stone Lakes National Wildlife Refuge west of the project site. The soil types on the project site are the same as those within areas supporting vernal pool habitat, and it is likely that the project site contained vernal pool habitat prior to conversion to agricultural uses (NRCS 2017).

3.4.2 Regulatory Framework

FEDERAL

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) regulate the taking of terrestrial and inland species, as well as anadromous and marine species listed as threatened or endangered under the ESA. In general, persons subject to ESA (including private parties) are prohibited from “taking” endangered or threatened fish and wildlife species on private property, and from “taking” endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under ESA, the definition of “take” is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has also interpreted the definition of “harm” to include significant habitat modification that could result in take. If a project would result in take of a federally-listed species, either the project applicant must acquire an incidental-take permit, under Section 10(a) of ESA, or if a federal discretionary action is involved, the project applicant will consult with USFWS or NMFS under Section 7 of the ESA.



Exhibit 3.4-1

Wetlands



Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act declares it is illegal to take bald eagles, including their parts, nests, or eggs unless authorized. “Take” is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause injury to an eagle, or a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all migratory birds native to the United States.

Section 404 of the Clean Water Act

Section 404 of the Federal Clean Water Act (CWA) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land, or changing the bottom elevation of any portion of a water of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters, and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of CWA pending US Army Corps of Engineers (USACE) verification.

Section 401 Water Quality Certification

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state’s water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the regional water quality control boards (RWQCB).

STATE

California Endangered Species Act

The CESA prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing. Project proponents may obtain a Section 2081 incidental take permit if the impacts of the take are minimized and fully mitigated, and the take would not jeopardize the continued existence of the species. A “take” of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include “harm” or “harass” as is included in the federal ESA. As a result, the threshold for a take under CESA may be higher than under ESA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater, and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the United States, as well as areas that meet the definition of "waters of the state." Waters of the state is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under Section 404 of the CWA provided they meet the definition of waters of the state. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required by the RWQCB.

Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species unless the take is covered under a Natural Community Conservation Plan that is approved by CDFW.

Protection for Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. Section 3513 of the California Fish and Game Code codifies the federal MBTA.

LOCAL

The project site lies within the jurisdictional boundaries of Sacramento County; therefore, the County's policies, as well as the Sacramento LAFCo's policies, would apply. Furthermore, if the SOIA is approved, it would likely lead to annexation to the City of Elk Grove. Thus, applicable policies of the City of Elk Grove's General Plan are described below.

Sacramento County General Plan

The following goals and policies of the Conservation Element of the *Sacramento County 2030 General Plan* (Sacramento County 2011) are applicable to the terrestrial biological resources that may be affected by the project:

- ▲ **Policy CO-58:** Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
- ▲ **Policy CO-59:** Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function:
 - ▶ vernal pools,
 - ▶ wetlands,
 - ▶ riparian,
 - ▶ native vegetative habitat, and
 - ▶ special-status species habitat.
- ▲ **Policy CO-60:** Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element of the 2030 General Plan).
- ▲ **Policy CO-62:** Permanently protect land required as mitigation.

- ▲ **Policy CO-66:** Mitigation sites shall have a monitoring and management program, including an adaptive management component, and an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.
- ▲ **Policy CO-138.** Protect and preserve non-oak native trees along riparian areas if used by Swainson's hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.
- ▲ **Policy CO-139.** Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.
- ▲ **Policy CO-140.** For projects involving native oak woodlands, oak savannah or mixed riparian areas, ensure mitigation through either of the following methods:
 - An adopted habitat conservation plan.
 - Ensure no net loss of canopy area through a combination of the following: (1) preserving the main, central portions of consolidated and isolated groves constituting the existing canopy and (2) provide an area onsite to mitigate any canopy lost. Native oak mitigation area must be a contiguous area onsite which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration.
 - Removal of native oaks shall be compensated with native oak species with a minimum of a one to one diameter at breast height (DBH) replacement.
 - A provision for a comparable onsite area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary.
- ▲ **Policy CO-141.** In 15 years, the native oak canopy within onsite mitigation areas shall be 50 percent canopy coverage for valley oak and 30 percent canopy coverage for blue oak and other native oaks.
- ▲ **Policy CO-145.** Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.

Sacramento County Swainson's Hawk Ordinance

Chapter 16.130 of Title 16 of the Sacramento County Code addresses the reduction in Swainson's hawk foraging habitat within unincorporated Sacramento County. Participating in the County's Swainson's Hawk Mitigation Program, which is voluntary, is one option for mitigating the loss of foraging habitat within unincorporated areas of the County. Under this program, mitigation for impacts less than 40 acres can be achieved by paying a mitigation fee or providing replacement habitat (title or easement to suitable Swainson's hawk mitigation lands on a per-acre basis); mitigation for impacts of 40 acres or greater can be achieved only by providing replacement habitat under this program. Other mitigation options usually involve working on an individual basis with CDFW. For example, participation in a CDFW-approved conservation bank with available credits for Swainson's hawk foraging habitat could meet mitigation requirements.

Sacramento County Tree Preservation Ordinance

The Sacramento County Tree Preservation Ordinance provides protection for trees within the designated urban area of the unincorporated area of Sacramento County. The Tree Preservation Ordinance applies only to the designated urban area, except for projects that require a discretionary land use entitlement, such as a parcel map. The project site is not within this designated urban area.

Draft South Sacramento Habitat Conservation Plan

The draft South Sacramento Habitat Conservation Plan (SSHCP) is a regional, comprehensive plan that establishes a framework for Permit Applicants to comply with state and federal endangered species regulations and with aquatic resource regulations, while accommodating future land use and development included in the general plans of Sacramento County, Galt, and Rancho Cordova. The City of Elk Grove is not a SSHCP plan partner.

The SSHCP identifies “Covered Activities,” which are specific types of projects and activities within the Planning Area that may result in the take of SSHCP Covered Species or loss of aquatic resources. SSHCP Covered Activities implemented within the “Urban Development Area” (UDA) would include, but are not limited to:

- ▲ activities and projects related to urban development and associated infrastructure including buildout of the Sacramento County Urban Services Boundary (USB);
- ▲ the Capital Southeast Connector Project and other planned transportation projects;
- ▲ planned water and wastewater development projects; and
- ▲ maintenance of stream channels in the UDA such as vegetation and sediment removal.

The SSHCP Conservation Strategy is designed to allow streamlining of Covered Activity compliance with of ESA, CESA, CWA, and Fish and Game Code, and other applicable environmental regulations. The SSHCP conservation strategy identifies Biological Goals for Planning Area land covers, natural communities, aquatic resources, and Covered Species, including specific measurable Biological Objectives to achieve each Biological Goals. The SSHCP’s conservation strategy would include habitat restoration, enhancement and management actions, and adaptive management and monitoring activities. The SSHCP conservation strategy would establish and implement a consolidated and interconnected Preserve System in the Planning Area that would preserve ecologically important resources using a landscape or watershed perspective. Habitat losses within the USB would be offset primarily through the establishment of Preserve System, but core and satellite preserves may be established within the USB. As currently conceived, land developers that convert habitat within the USB would pay a defined per-acre fee to mitigate impacts. These fees would be used to protect, restore, maintain, and monitor habitat. The SSHCP also includes a preserve monitoring and management program and an adaptive management plan.

The Permit Applicants are requesting ESA and CESA Incidental Take Permits (ITPs) with 50-year permit terms. Under the Proposed Action/Proposed Project Alternative, federal and state ITPs would be issued to the Permit Applicants by the USFWS and CDFW, and the USACE would develop and approve a multilevel CWA 404 permit strategy for the Permit applicants.

A public draft of the SSHCP and its Draft EIS/EIR was released on June 2, 2017, and the comment period ended on September 5, 2017. Approval of the final SSHCP, final EIS/EIR, final Aquatic Resources Program, and final Implementation Agreement is anticipated to occur in the fall and winter of 2017/2018. Issuance of the ITP is anticipated in the spring of 2018.

City of Elk Grove General Plan

The City of Elk Grove General Plan Conservation Element (City of Elk Grove 2016) includes policies and actions aimed at reducing development impacts on native and nonnative habitats, plants, and animals. The Parks, Trails, and Open Space Element ensures that the City’s desires and needs for parks, recreation, and open space are addressed. The following General Plan policies are relevant to biological resources.

- ▲ **Policy CAQ-8:** Large trees (both native and nonnative) are an important aesthetic (and, in some cases, biological) resource. Trees that function as an important part of the City’s or neighborhood’s aesthetic character or natural habitat should be retained to the extent possible during the development of new

structures, roadways (public and private, including roadway widening), parks, drainage channels, and other uses and structures.

- If trees cannot be preserved onsite, offsite mitigation or payment of in-lieu fee may be required by the City. Where possible, trees planted for mitigation should be located in the same watershed as the trees that were removed.
- Trees that cannot be protected shall be replaced either onsite or offsite as required by the City.
- ▲ **Policy CAQ-9:** Wetlands, vernal pools, marshland and riparian (streamside) areas are considered important resources. Impacts to these resources shall be avoided unless shown to be technically infeasible. The City shall seek to ensure that no net loss of wetland areas occurs, which may be accomplished by avoidance, revegetation, and restoration onsite or creation of riparian habitat corridors.
 - **CAQ-9-Action 1** As part of the development review process, ensure that all potentially affected wetland areas are identified, and provide mitigation to ensure that no net loss occurs. Mitigation should occur within the same watershed as the impact, where feasible.
 - **CAQ-9-Action 2** Coordinate with the California Department of Fish and Game and the U.S. Fish and Wildlife Service in the review of development projects.
- ▲ **Policy CAQ-11:** The City shall seek to preserve areas, where feasible, where special-status plant and animal species and critical habitat areas are known to be present or potentially occur, based on City biological resource mapping and data provided in the General Plan EIR or other technical material, and may be adversely affected by public or private development projects. Where preservation is not possible, appropriate mitigation shall be included in the public or private project. “Special-status” species are generally defined as species considered to be rare, threatened, or endangered, or otherwise protected under local, state, and/or federal policies, regulations, or laws.
 - **CAQ-11 Action 1** The City shall require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain special-status plant and animal species based on City biological resource mapping and data provided in the General Plan EIR or other technical material. The biological resources evaluation shall determine the presence/absence of these special-status plant and animal species on the site. The surveys associated with the evaluation shall be conducted during the appropriate seasons for proper identification of the species. Such evaluation will consider the potential for significant impact on special-status plant and animal species, and will identify feasible mitigation measures to mitigate such impacts to the satisfaction of the City and appropriate governmental agencies (e.g., U.S. Fish and Wildlife Service, California Department of Fish and Game and U.S. Army Corps of Engineers) where necessary (e.g., species listed under the State and/or Federal Endangered Species Act). Mitigation measures may include, but are not limited to, the following:
 - For special-status plant species: On- or off-site preservation of existing populations from direct and indirect impacts, seed and soil collection or plant transplant that ensures that the plant population is maintained.
 - For special-status animal species: avoidance of the species and its habitat as well as the potential provision of habitat buffers, avoidance of the species during nesting or breeding seasons, replacement or restoration of habitat on- or off-site, relocation of the species to another suitable habitat area, payment of mitigation credit fees.
 - Participation in a habitat conservation plan.

- ▲ **Policy PTO-15:** The City views open space lands of all types as important resource which should be preserved in the region, and supports the establishment of multipurpose open space areas to address a variety of needs, including, but not limited to:
 - Maintenance of agricultural uses
 - Wildlife habitat
 - Recreational open space
 - Aesthetic benefits
 - Flood control

To the extent possible, lands protected in accordance with this policy should be in proximity to Elk Grove, to facilitate use of these areas by Elk Grove residents, assist in mitigation of habitat loss within the city, and provide an open space resource close to the urbanized areas of Elk Grove.

- ▲ **Policy PTO-18:** To the extent possible, retain natural drainage courses in all cases where preservation of natural drainage is physically feasible and consistent with the need to provide flood protection.

City of Elk Grove Municipal Code Chapter 19.12: Tree Preservation and Protection

Chapter 19.12 of the City's Municipal Code provides regulations for tree preservation and protection.

Regulations apply to four types of trees as follows:

- ▲ Landmark trees, which are trees specifically identifies for protection by the City Council;
- ▲ Trees of local importance, which are trees of specific varieties greater than six inches in diameter;
- ▲ Secured trees, which are trees that were protected as part of the development process for residential subdivisions and commercial developments; and
- ▲ Trees on City property or in the public right-of-way.

Work on or removal of any of these four types of trees requires prior approval in the form of a Tree Permit from the City of Elk Grove. Project applicants shall contact the City of Elk Grove Planning Department to determine if their tree requires a Tree Permit prior to completing work.

Arborist Review

Prior to the consideration of a request for tree removal by the designated approving authority, the City Arborist shall prepare an arborist report paid for by the project applicant. The report shall identify the basis, if any, for supporting the removal of the tree(s). The arborist report shall include an analysis of the following factors:

- ▲ The condition of the tree with respect to disease, general health, damage, structural integrity, and whether or not the tree acts as a host for an organism which is parasitic to another species of tree which is in danger of being exterminated by the parasite;
- ▲ The number of existing trees on the subject property, on adjacent property, and immediately proximate to the subject tree(s) as deemed relevant by the City Arborist, and the effect of the tree removal upon public health, safety, prosperity of surrounding trees, visual impact, and general welfare of the area;
- ▲ Age of tree, specifically with regard to whether or not removal of the tree would encourage healthier, more vigorous growth of other trees in the area;
- ▲ The number of healthy trees that a given parcel of land will support, with and without the proposed development;

- ▲ The effect of tree removal on soil stability/erosion, particularly near water courses, drainage ditches, or on steep slopes, or the effect on runoff interception;
- ▲ The potential for the tree to be a public nuisance, or interfere with utility service, as well as its proximity to existing buildings and structures;
- ▲ Present and future shade potential with regard to solar heating and cooling;
- ▲ Identification of alternatives that would allow for the preservation of the tree(s) proposed for removal; and
- ▲ Any other information the City Arborist finds pertinent (e.g., site conditions, other vegetation).

Design Criteria and Findings

- ▲ Review by Designated Approving Authority. The approving authority shall determine, after preparation of the arborist report and a recommendation by the City Arborist, whether or not the tree(s) cannot or should not be retained. The determination of the approving authority in granting or denying a tree permit for tree removal shall, at a minimum, be based upon the factors analyzed in the arborist report.
- ▲ Findings for Permit Issuance. The designated approving authority shall make at least two (2) of the following findings as part of the approval of a tree permit for tree removal:
 - For development projects, every effort has been made to integrate the existing tree(s) into project design, including the use of minor deviations.
 - The effect of the removal of the tree will not negatively impact the health, safety, and prosperity of surrounding trees, or the aesthetics and general welfare of the area.
 - The tree presents a threat to public health and safety and must be removed.
- ▲ Findings for Permit Denial. The designated approving authority shall make all of the following findings as part of the denial of a tree permit for tree removal:
 - Removal of the tree is inconsistent with the standards for tree removal as provided in this section; and
 - The denial of the permit for tree removal will not unreasonably compromise the owner's rights to enjoy and develop the property.

Mitigation for Tree Loss

As part of the approval of a tree permit for removal of a tree, the designated approving authority shall require mitigation for the loss of the tree consistent with Article IV (Mitigation for Tree Loss). The requirement for mitigation may be waived under those circumstances provided in Section 19.12.180 (Alternative mitigation requirements). Mitigation for tree loss shall be provided at a ratio of one new inch DBH of tree for each inch DBH lost (1:1 ratio), unless an alternative mitigation is approved by the City.

City of Elk Grove Municipal Code Chapter 16.130: Swainson's Hawk Impact Mitigation Fees

The City of Elk Grove City Council determined that the continued expansion of urban uses into the agricultural lands within the City that are identified through the CEQA process to provide suitable foraging habitat for Swainson's hawk, a listed threatened species under CESA, will, absent mitigation, result in a significant reduction of such foraging habitat. The reduction in foraging habitat can occur through requests for zoning changes of agriculturally zoned lands to land use designations that enable land to be reduced to parcel sizes too small to support Swainson's hawk foraging habitat or through requests for land use entitlements for nonagricultural uses that are incompatible with the maintenance of Swainson's hawk foraging habitat. The City of Elk Grove Swainson's Hawk Impact Mitigation Fees (City of Elk Grove Municipal

Code Chapter 16.130) provides the means for projects to mitigate loss of Swainson's hawk foraging habitat through the purchase of conservation easements (if the project will affect greater than 40 acres of habitat) or by paying a mitigation fee (if the project will affect less than 40 acres of habitat).

3.4.3 Environmental Impacts and Mitigation Measures

ANALYSIS METHODOLOGY

The analysis of potential impacts to biological resources resulting from implementation of the project is based on the data review and reconnaissance site visit described previously in Section 3.4.1, "Environmental Setting." In this program-level analysis, the project scope is limited to the SOIA and does not include land use or zoning designations/changes, specific development projects, or other physical disturbances. However, potential future development/urbanization of the project site is considered an indirect effect of the proposed SOIA and addressed in this analysis at a conceptual or general level, based on the land use and development capacities identified for the site as described in Chapter 2, "Project Description." Future urbanization and development of the project site would be subject to more detailed project-level CEQA review of specific projects.

THRESHOLDS OF SIGNIFICANCE

The following standards of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, the proposed project would have a significant impact with regard to biological resources if it would:

- ▲ result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species (as defined above) in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- ▲ result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- ▲ result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA or state protected wetlands as defined by the Porter-Cologne Act (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means;
- ▲ interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- ▲ conflict with any local applicable policies protecting biological resources; or
- ▲ conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

ISSUES NOT EVALUATED FURTHER

Riparian Habitat or Oak Woodlands

The project site does not contain riparian habitat or oak woodlands; therefore, project implementation would have no impact on these sensitive natural communities. This issue is not discussed further. (The project site could contain wetlands, including vernal pools, which are considered sensitive habitats and analyzed in this EIR.)

Wildlife Movement Corridors or Nursery Sites

The main wildlife movement corridors within the vicinity of the project site are the Cosumnes River to the southeast and the Sacramento River to the west. Stone Lakes National Wildlife Refuge, located west of the

SOIA area, also provides habitat connectivity between the Sacramento River and smaller tributaries. The SOIA area has been previously developed for agricultural uses, and is not expected to provide significant connectivity for wildlife movement between important habitats or core areas within the region, or contain any portion of a major or local wildlife corridor. This determination is supported by the fact that wildlife movement through the SOIA is limited from current and planned suburban development to the north, east, and west of the SOIA area. Additionally, the project site does not contain any known wildlife nursery sites. Therefore, the project is not expected to affect important wildlife corridors or nursery sites, and this issue is not discussed further.

Consistency with Local Policies or Ordinances

The Sacramento County General Plan (Sacramento County 2011) and City of Elk Grove General Plan (City of Elk Grove 2016) contain several policies that focus on preservation of special-status plants and wildlife, and sensitive natural communities (e.g., wetlands and vernal pools). Mitigation measures for potential impacts to special-status plants (Mitigation Measure 3.4-1), special-status wildlife (Mitigation Measures 3.4-2a through 3.4-2g), and jurisdictional wetlands and other waters (Mitigation Measure 3.4-3) are included in the impact analysis, below. With implementation of these mitigation measures, potential impacts would be reduced to a less-than-significant level, and the project would not conflict with Sacramento County General Plan or City of Elk Gove General Plan policies protecting special-status species and sensitive habitats. Therefore, this issue is not discussed further in this EIR.

The Sacramento County Tree Preservation Ordinance (see Section 3.4.2, “Regulatory Framework”) requires the preservation of native oak trees within the designated urban area of the unincorporated area of Sacramento County. The establishment of the SOIA would not change Sacramento County General Plan agricultural land use designations or zoning and would not allow any urban development to occur. Thus, the project would not conflict with Sacramento County tree protection requirements.

Chapter 19.12 of the City’s Municipal Code provides regulations for tree preservation and protection. Future development of the SOIA would occur after annexation to the City of Elk Grove and would be required to demonstrate compliance with its tree protection and mitigation requirements. Thus, the SOIA area would not conflict with City tree protection provisions.

IMPACT ANALYSIS

Impact 3.4-1: Disturbance to or loss of special-status plant species and habitat.

Potential land uses and development projects that may be approved and implemented in the future in the proposed SOIA area could result in disturbance or loss of several special-status plant species. Because the loss of special-status plants can substantially affect the abundance, distribution, and viability of local and regional populations of these species, this would be a **potentially significant** impact.

Eight special-status plant species were determined to have potential to occur on the project site, including: watershield, bristly sedge, dwarf downingia, wooly rose-mallow, legenere, Heckard’s pepper-grass, Sanford’s arrowhead, and saline clover. Suitable habitat for all eight of these plant species primarily includes wetlands and vernal pools. While the project site contains mostly agricultural and developed land, potential wetland habitat is present within the northwest portion of the project site, and possibly elsewhere on the project site.

While no physical changes to the site would occur as a result of approval of the SOIA, the project would remove an obstacle to the future annexation and development of the site. Land use changes associated with the conceptual land use plan would result in low density residential, commercial, public schools, and public parks uses. Construction activities such as ground disturbance and vegetation removal, and the conversion of potential wetland habitat to urban uses, associated with potential future development and land uses on the project site could result in disturbance or removal of special-status plants and their habitat, if they are present. The loss of special-status plants and their habitat can substantially affect the abundance,

distribution, and viability of local and regional populations of these species. Therefore, project-related loss of special-status plant species would be a **potentially significant** impact.

Mitigation Measure 3.4-1: Protection and mitigation of special-status plants.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

- ▲ Prior to construction and during the blooming period for the special-status plant species with potential to occur in the project site and in areas of any required off-site improvements, a qualified botanist shall conduct protocol-level surveys for special-status plants following the most recent CDFW rare plant survey protocols in areas where potentially suitable habitat would be removed or disturbed by project activities. Table 3.4-3 summarizes the normal blooming periods for special-status plant species with potential to occur on the project site, which generally indicates the optimal survey periods when the species are most identifiable.
- ▲ If no special-status plants are found, the botanist shall document the findings in a letter report to USFWS, CDFW, and the project applicant and no further mitigation shall be required.

Table 3.4-3 Normal Blooming Period for Special-Status Plants with Potential to Occur on the Project Site

| Species | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| watershield <i>Brasenia schreberi</i> | | | | | | | | | | |
| bristly sedge <i>Carex comosa</i> | | | | | | | | | | |
| dwarf downingia <i>Downingia pusilla</i> | | | | | | | | | | |
| Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> | | | | | | | | | | |
| legenere <i>Legenere limosa</i> | | | | | | | | | | |
| Heckard's pepper-grass <i>Lepidium latipes</i> var. <i>heckardii</i> | | | | | | | | | | |
| Sanford's arrowhead <i>Sagittaria sanfordii</i> | | | | | | | | | | |
| Saline clover <i>Trifolium hydrophilum</i> | | | | | | | | | | |

Source: Data compiled by Ascent Environmental in 2017

- ▲ If special-status plant species are found that cannot be avoided during construction, the applicant shall consult with CDFW and/or USFWS, as appropriate depending on species status, to determine the appropriate mitigation measures for direct and indirect impacts that could occur as a result of project construction and shall implement the agreed-upon mitigation measures to achieve no net loss of occupied habitat or individuals. Mitigation measures may include preserving and enhancing existing populations, creation of off-site populations on mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals. A mitigation and monitoring plan shall be developed describing how unavoidable losses of special-status plants will be compensated.

- ▲ If relocation efforts are part of the mitigation plan, the plan shall include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements.
- ▲ Success criteria for preserved and compensatory populations shall include:
 - The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat.
 - Compensatory and preserved populations shall be self-producing. Populations shall be considered self-producing when:
 - plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and
 - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.
 - If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable populations.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1 would reduce significant impacts on special-status plants to a **less-than-significant** level because it would require future project applicants to identify and avoid special-status plants or provide compensation for loss of special-status plants through enhancement of existing populations, creation and management of off-site populations, conservation easements, or other appropriate measures.

Impact 3.4-2: Disturbance to or loss of special-status wildlife species and habitat.

Potential land uses and development projects that may be approved and implemented in the future under the proposed SOIA area could adversely affect several special-status wildlife species, including reptiles, nesting birds, invertebrates, and mammals. Future development construction activities such as ground disturbance and vegetation removal, as well as overall conversion of habitat to urban uses, could result in the disturbance or loss of individuals and reduced breeding productivity of these species. Special-status wildlife species are protected under ESA, CESA, California Fish and Game Code, CEQA, or other regulations. The loss of special-status wildlife species and their habitat would be a **potentially significant** impact.

One special-status species (northern harrier) has been observed foraging on the project site. Eleven other special-status wildlife species were determined to have potential to occur on the project site: giant gartersnake, western pond turtle, burrowing owl, greater sandhill crane, song sparrow ("Modesto" population), Swainson's hawk, tricolored blackbird, white-tailed kite, vernal pool fairy shrimp, vernal pool tadpole shrimp, and American badger. Land use changes and development projects on the project site may be approved and implemented in the future as a result of approval of the SOIA and future annexation to the City. The conceptual land use plan and capacities for the project site identify low density residential, commercial, public schools, and public parks as future uses. Construction activities (such as ground disturbance and vegetation removal), and the conversion of suitable habitat to urban uses associated with potential future development and land uses on the project site could result in disturbance or loss of special-status animals, if they are present. Potential effects of future annexation and development of the SOIA area on the special-status animal species known or with potential to occur on the project site are discussed below.

Aquatic reptiles

Giant gartersnake

Giant gartersnake is listed as threatened under ESA and CESA, and the wide historic range of the species is currently limited to several fragmented population clusters. As much of the species' native wetland habitat has been converted to urban and agricultural uses, the species has adapted to drainage canals and irrigation ditches. The project site contains potentially suitable aquatic habitat within irrigation ditches and the nearest known occurrence is less than 1 mile southwest of the project site (CNDDDB 2017). Future land use changes and development related to the SOIA could result in the loss of giant gartersnake individuals and occupied habitat, if the species occurs on the project site, through construction-related disturbances, conversion of agricultural land to urban uses, and destruction of irrigation ditches and other suitable habitat elements. This would be a **potentially significant** impact.

Western pond turtle

Western pond turtle is a CDFW species of special concern. This species can be found in many different aquatic habitats, including ponds, marshes, rivers, and irrigation ditches. Western pond turtle uses upland habitat for basking and egg-laying. The nearest known occurrence is approximately 1 mile northwest of the project site within an irrigation ditch (CNDDDB 2017). Future land use changes and development subsequent to the SOIA could result in the loss of western pond turtles, if the species occurs on the project site, through construction-related disturbances, conversion of agricultural land to urban uses, and destruction of irrigation ditches and other suitable habitat elements. This would be a **potentially significant** impact.

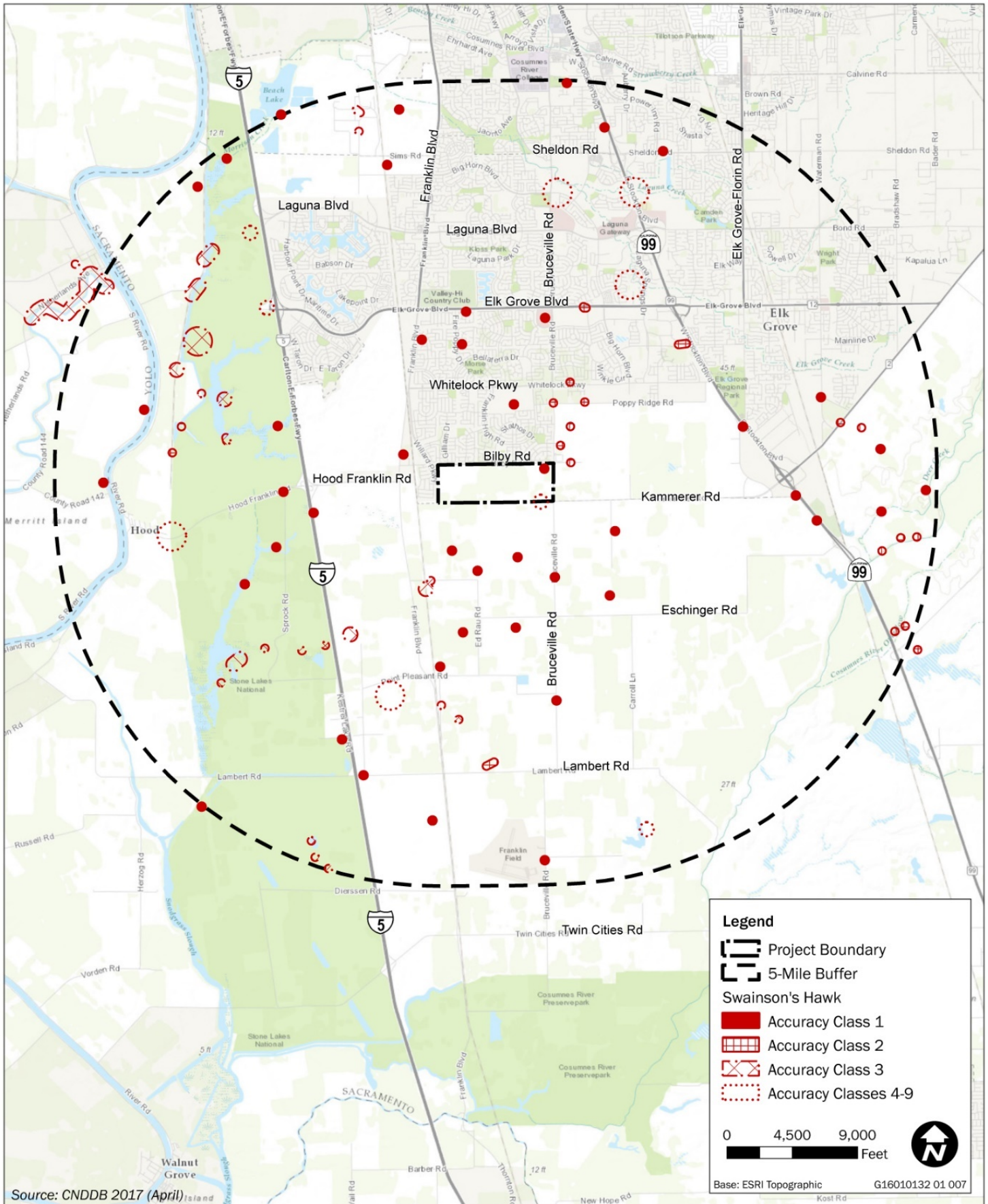
Burrowing owl

Burrowing owl is a CDFW species of special concern. The project site contains potentially suitable breeding habitat within earthen berms along irrigation ditches and between agricultural fields. The nearest known occurrence is approximately 1 mile northwest of the project site, associated with grazed grassland habitat (CNDDDB 2017). Future land use changes and development related to the SOIA could result in destruction of active burrows or direct mortality of burrowing owls, if they are present on the project site, through conversion of agricultural land to urban uses and construction-related ground disturbance. This would be a **potentially significant** impact.

Swainson's hawk and other nesting raptors

The project site contains isolated trees and tree groves that could be used for nesting by Swainson's hawk and white-tailed kite. The agricultural fields on the project site also provide potential foraging habitat for these species, and for northern harrier. Swainson's hawks have historically nested on the project site (CNDDDB 2017, Exhibit 3.4-2), and Swainson's hawks, white-tailed kites, and northern harriers are frequently observed in the area (eBird 2017). The nearest known nesting occurrence of Swainson's hawk is within a walnut (*Juglans* sp.) tree near the intersection of Bruceville and Bilby Roads (CNDDDB 2017). Several Swainson's hawks and northern harriers were observed during the April 10, 2017 site visit.

Project construction activities associated with potential future land uses and development on the project site, such as ground disturbance, construction vehicles, and presence of construction crews, could disturb nesting Swainson's hawks, northern harriers, and white-tailed kites if they are present, potentially resulting in nest abandonment, nest failure, or mortality of chicks or eggs. At full buildout, the conceptual land use plan also includes the potential conversion of approximately 480 acres of agricultural land to urban uses, including low-density residential, commercial, public schools, and public parks. Conversion of agricultural land would result in the permanent loss of suitable foraging habitat for Swainson's hawk. The potential loss of Swainson's hawk and other raptor nests, or the permanent loss of Swainson's hawk foraging habitat, would be a **significant** impact.



Source: CNDDDB 2017 (April)

Exhibit 3.4-2

CNDDDB Occurrences



Other special-status bird species

Several additional special-status bird species could potentially occur on the project site, including greater sandhill crane, song sparrow (“Modesto” population), and tricolored blackbird. Greater sandhill crane is listed as threatened under CESA, and is also fully protected under California Fish and Game Code. The “Modesto” population of song sparrow is a CDFW species of special concern, and tricolored blackbird is a candidate species under CESA and a CDFW species of special concern. Tricolored blackbird is also currently protected under an emergency listing by the California Fish and Game Commission while the petition for state listing is considered.

Potentially suitable overwintering habitat for greater sandhill crane is present in the agricultural land on the project site. Several recent occurrences have been documented within approximately 1 mile of the project site (eBird 2017), and the nearby Cosumnes River Preserve is an important overwintering location for the species. The Cosumnes River Preserve contains approximately 50,000 acres of wildlife habitat, and provides connectivity between adjacent agricultural land and undeveloped land in the region. The potential future conversion of approximately 480 acres of agricultural habitat to urban uses on the project site as a result of the proposed SOIA would reduce available overwintering habitat for greater sandhill crane. However, this loss is not expected to substantially diminish the overall quality and availability of the habitat for sandhill crane within the region and its proximity to existing and planned urban uses. The SSHCP greater sandhill crane modeled habitat identifies the site as not providing high value foraging habitat (SSHCP Figure 3-22). Project impacts to greater sandhill crane would be **less than significant**.

Potentially suitable nesting habitat for song sparrow (“Modesto” population) and tricolored blackbird is present on the project site, primarily within ruderal vegetation (e.g., blackberry) along irrigation ditches. The nearest known occurrence of song sparrow is 2.3 miles west of the project site within Stone Lakes National Wildlife Refuge, and the nearest known occurrence of tricolored blackbird is approximately 2 miles southeast of the project site (CNDDDB 2017). Tricolored blackbirds have historically nested on the project site within blackberry plants at the intersection of Kammerer and Bruceville Roads (1981, CNDDDB 2017). Habitat on the project site for both of these species is not optimal; however, it is possible that nests or nesting colonies could be present. Project construction activities associated with potential future land uses and development on the project site, such as ground disturbance and vegetation removal, could disturb nesting song sparrows and tricolored blackbirds if they are present, potentially resulting in nest abandonment, nest failure, or mortality of chicks or eggs. This would be a **potentially significant** impact.

Aquatic invertebrates

Two aquatic invertebrate species, vernal pool fairy shrimp and vernal pool tadpole shrimp, could potentially occur on the project site. Vernal pool fairy shrimp is listed as threatened under ESA, and vernal pool tadpole shrimp is listed as endangered under ESA. The nearest known occurrences of both species are approximately 4 to 5 miles north of the project site, within disturbed aquatic habitat (a grassy-bottomed depression and a depression next to a railroad track, respectively; CNDDDB 2017). These species are typically associated with vernal pools, which are abundant within the region of the project site – including within Stone Lakes National Wildlife Refuge. Much of the region has undergone urban and agricultural development, and vernal pool and wetland habitat has been lost or fragmented over time. While the project site contains mostly agricultural and developed land, potential wetland habitat is present within the northwest portion of the project site, and potentially elsewhere on the project site. Project construction activities associated with potential future land uses and development on the project site, such as conversion of potential wetland habitat to urban uses, ground disturbance, and vegetation removal, could result in disturbance or removal of vernal pool fairy shrimp, vernal pool tadpole shrimp, and their habitat if they are present. This would be a **potentially significant** impact.

American badger

Optimal habitat for American badger is not present on the project site; however, agricultural fields could provide suboptimal habitat for badger. The nearest known occurrence of American badger is 3.8 miles west of the SOIA area near Hood, CA (CNDDDB 2017). Potential future land uses and development activities in the SOIA, including conversion of agricultural land to urban uses and associated ground disturbance, could

result in the direct loss or injury of American badger if the species is present on the project site. This would be a **potentially significant** impact.

Mitigation Measure 3.4-2a: Protection of giant gartersnake.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

- ▲ For projects or ground-disturbing activities with potential to disturb suitable aquatic or adjacent upland habitat for giant gartersnake, the following measures will be implemented.
 - The applicant shall retain a qualified biologist to conduct a field investigation to delineate giant gartersnake aquatic habitat within the project and any required off-site improvements and adjacent areas within 300 feet of the construction footprint. Giant gartersnake aquatic habitat includes agricultural ditches.
 - During construction, an approved biologist experienced with giant gartersnake identification and behavior shall be on-site daily when construction activities within aquatic habitat or within 300 feet of aquatic habitat are taking place. The biologist shall inspect the project site daily for giant gartersnake prior to construction activities. The biologist will also conduct environmental awareness training for all construction personnel on required avoidance procedures and protocols if a giant gartersnake enters an active construction zone.
 - All construction activity within giant garter snake aquatic and upland habitat in and around the site shall be conducted between May 1 and September 15, the active period for giant gartersnakes. This would reduce direct impacts on the species because the snakes would be active and respond to construction activities by moving out of the way.
 - If construction activities occur in giant gartersnake aquatic habitat, aquatic habitat shall be dewatered and then remain dry and absent of aquatic prey (e.g., fish and tadpoles) for 15 days prior to initiation of construction activities. If complete dewatering is not possible, the project applicant shall consult with CDFW and USFWS to determine what additional measures may be necessary to minimize effects to giant gartersnake. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing shall be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing shall be erected 36 inches above ground and buried at least 6 inches below the ground to prevent snakes from attempting to move under the fence into the construction area. In addition, high-visibility fencing shall be erected to identify the construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Giant gartersnake habitat outside construction fencing shall be avoided by all construction personnel. The fencing and the work area shall be inspected by the approved biologist to ensure that the fencing is intact and that no snakes have entered the work area before the start of each work day. The fencing shall be maintained by the contractor until completion of the project.
 - If a giant gartersnake is observed, the biologist shall notify CDFW and USFWS immediately. Construction activities will be suspended in a 100-foot radius of the gartersnake until the snake leaves the site on its own volition. If necessary, the biologist shall consult with CDFW and USFWS regarding appropriate procedures for relocation. If the animal is handled, a report shall be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect giant gartersnake within 1 business day to CDFW and USFWS. The biologist shall report any take of listed species to USFWS immediately. Any worker who inadvertently injures or kills a giant gartersnake or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.

- All excavated steep-walled holes and trenches more than 6 inches deep shall be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches shall be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within giant gartersnake modeled habitat shall be inspected for giant gartersnake by the approved biologist prior to being moved.
- If erosion control is implemented on the project site, non-entangling erosion control material shall be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure snakes are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.
- The applicant shall ensure that there is no-net-loss of giant gartersnake habitat by compensating for loss of habitat at a ratio of 1:1, by purchasing credits from a USFWS-approved conservation bank.
- Prior to construction, USFWS shall be consulted pursuant to Section 7 of the ESA. The activities may qualify to use the “Programmatic Formal Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California” (USFWS 1999). The Habitat Replacement & Restoration Guidelines (Appendix A), Items Necessary for Formal Consultation (Appendix B), Avoidance & Minimization Measures During Construction (Appendix C), and Monitoring Requirements (Appendix D) shall be followed.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2a would reduce impacts on giant gartersnake to a **less-than-significant** level because giant gartersnakes and habitat would be avoided and protected from construction activities, and the project applicant would compensate for loss of suitable occupied habitat because of construction activities.

Mitigation Measure 3.4-2b: Avoidance of western pond turtle.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

For projects or ground-disturbing activities (including any required off-site improvements) with potential to disturb suitable aquatic or adjacent upland habitat for western pond turtle, the following measures shall be implemented.

- ▲ Within 24 hours before beginning construction activities within 200 feet of suitable aquatic habitat for western pond turtle, a qualified biologist shall survey areas of anticipated disturbance for the presence of western pond turtle. The construction area shall be re-inspected whenever a lapse in construction activity of two weeks or more has occurred. If pond turtles are found during the survey or observed within the construction area at any other time, they shall be relocated by a qualified biologist to upstream or adjacent aquatic habitat that would not be disturbed by construction activity.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2b would reduce potential impacts on western pond turtle to a **less-than-significant** level by requiring preconstruction surveys and the protection of western pond turtles from construction-related injury, mortality, or other disturbance.

Mitigation Measure 3.4-2c: Protection of burrowing owl.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

For projects or ground-disturbing activities with potential to disturb suitable habitat for burrowing owl, the following measures shall be implemented.

- ▲ The applicant shall retain a qualified biologist to conduct focused breeding and nonbreeding season surveys for burrowing owls in areas of suitable habitat on and within 1,500 feet of the project site and any required off-site improvements. Surveys shall be conducted prior to the start of construction activities and in accordance with Appendix D of CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) or the most recent CDFW protocols.
- ▲ If no occupied burrows are found, a letter report documenting the survey methods and results shall be submitted to CDFW and no further mitigation will be required.
- ▲ If an active burrow is found during the nonbreeding season (September 1 through January 31), the applicant shall consult with CDFW regarding protection buffers to be established around the occupied burrow and maintained throughout construction. If occupied burrows are present that cannot be avoided or adequately protected with a no-disturbance buffer, a burrowing owl exclusion plan shall be developed, as described in Appendix E of CDFW's 2012 Staff Report. Burrowing owls shall not be excluded from occupied burrows until the project's burrowing owl exclusion plan is approved by CDFW. The exclusion plan shall include a plan for creation, maintenance, and monitoring of artificial burrows in suitable habitat proximate to the burrows to be destroyed, that provide substitute burrows for displaced owls.
- ▲ If an active burrow is found during the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and will be provided with a 150- to 1,500-foot protective buffer unless a qualified biologist verifies through noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer shall depend on the time of year and level disturbance as outlined in the CDFW Staff Report (CDFW 2012) or the most recent CDFW protocols. The size of the buffer may be reduced if a broad-scale, long-term, monitoring program acceptable to CDFW is implemented to ensure burrowing owls are not detrimentally affected. Once the fledglings are capable of independent survival, the owls can be evicted and the burrow can be destroyed per the terms of a CDFW-approved burrowing owl exclusion plan developed in accordance with Appendix E of CDFW's 2012 Staff Report or the most recent CDFW protocols.
- ▲ If active burrowing owl nests are found on the site and are destroyed by project implementation, the project applicant shall mitigate the loss of occupied habitat in accordance with guidance provided in the CDFW 2012 Staff Report or the most recent CDFW protocols, which states that permanent impacts to nesting, occupied and satellite burrows, and burrowing owl habitat shall be mitigated such that habitat acreage, number of burrows, and burrowing owls impacted are replaced through permanent conservation of comparable or better habitat with similar vegetation communities and burrowing mammals (e.g., ground squirrels) present to provide for nesting, foraging, wintering, and dispersal. The applicant shall retain a qualified biologist to develop a burrowing owl mitigation and management plan that incorporates the following goals and standards:
 - ▲ Mitigation lands shall be selected based on comparison of the habitat lost to the compensatory habitat, including type and structure of habitat, disturbance levels, potential for conflicts with humans, pets, and other wildlife, density of burrowing owls, and relative importance of the habitat to the species range wide.
 - ▲ If feasible, mitigation lands shall be provided adjacent or proximate to the site so that displaced owls can relocate with reduced risk of take. Feasibility of providing mitigation adjacent or proximate to the

project site depends on availability of sufficient suitable habitat to support displaced owls that may be preserved in perpetuity.

- ▲ If suitable habitat is not available for conservation adjacent or proximate to the project site, mitigation lands shall be focused on consolidating and enlarging conservation areas outside of urban and planned growth areas and within foraging distance of other conservation lands. Mitigation may be accomplished through purchase of mitigation credits at a CDFW-approved mitigation bank, if available. If mitigation credits are not available from an approved bank and mitigation lands are not available adjacent to other conservation lands, alternative mitigation sites and acreage shall be determined in consultation with CDFW.
- ▲ If mitigation is not available through an approved mitigation bank and will be completed through permittee-responsible conservation lands, the mitigation plan shall include mitigation objectives, site selection factors, site management roles and responsibilities, vegetation management goals, financial assurances and funding mechanisms, performance standards and success criteria, monitoring and reporting protocols, and adaptive management measures. Success shall be based on the number of adult burrowing owls and pairs using the site and if the numbers are maintained over time. Measures of success, as suggested in the 2012 Staff Report, shall include site tenacity, number of adult owls present and reproducing, colonization by burrowing owls from elsewhere, changes in distribution, and trends in stressors.

Significance after Mitigation

Implementing Mitigation Measure 3.4-2c would reduce potential impacts on burrowing owl to a **less-than-significant** level because burrowing owls would be avoided and protected from construction activities, or the project applicant would compensate for project-related loss of suitable occupied habitat.

Mitigation Measure 3.4-2d: Protection measures for Swainson's hawk and other nesting raptors.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

For projects or ground-disturbing activities (including any required off-site improvements) with potential to affect Swainson's hawk and other raptor nests, or remove Swainson's hawk foraging habitat, the project applicant shall consult with CDFW with respect to the following measures proposed to mitigate for habitat removal and potential nest disturbance. As part of the consultation, the project applicant may seek take authorization under Section 2081 of the Fish and Game Code. The following measures will be implemented and are intended to avoid, minimize, and fully mitigate impacts to Swainson's hawk, as well as other raptors:

- ▲ For construction activities that would occur within 0.25 mile of a known or likely Swainson's hawk nest site (identified based on previous years' use by Swainson's hawk), the project applicant shall attempt to initiate construction activities prior to nest initiation phase (i.e., before March 1). Depending on the timing, regularity, and intensity of construction activity, construction in the area prior to nest initiation may discourage a Swainson's hawk pair from using that site and eliminate the need to implement further nest-protection measures, such as buffers and limited construction operating periods around active nests. Other measures to deter establishment of nests (e.g., reflective striping or decoys) may be used prior to the breeding season in areas planned for active construction. However, if breeding raptors establish an active nest site, as evidenced by nest building, egg laying, incubation, or other nesting behavior, near the construction area, they shall not be harassed or deterred from continuing with their normal breeding activities.
- ▲ For project activities, including tree removal, that begin between March 1 and September 15, qualified biologists shall conduct preconstruction surveys for Swainson's hawk and other nesting raptors and to identify active nests on and within 0.5 mile of the project site. The surveys shall be conducted before the beginning of any construction activities between March 1 and September 15, following the Recommended

Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000).

- ▲ Impacts to nesting Swainson's hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. Project activity shall not commence within the buffer areas until a qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of 0.25-mile-wide buffer for Swainson's hawk and 500-feet for other raptors, but the size of the buffer may be adjusted if a qualified biologist and the project applicant, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities shall be required if the activity has potential to adversely affect the nest.
- ▲ Trees shall not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree.
- ▲ Mitigation for loss of Swainson's hawk foraging habitat will follow the provisions of City of Elk Grove's Municipal Code, Chapter 16.130, which requires projects to mitigate loss of Swainson's hawk foraging habitat through the purchase of conservation easements (if the project will impact greater than 40 acres of habitat) or by paying a mitigation fee (if the project will impact less than 40 acres of habitat). The amount of land preserved shall be governed by a one-to-one (1:1) mitigation ratio for each acre developed as set forth in Chapter 16.130.

Significance after Mitigation

Implementing Mitigation Measure 3.4-2d would reduce impacts on Swainson's hawk and other raptors, but not to a less-than-significant level. Although active Swainson's hawk and other raptor nests would be avoided and protected from construction activities, approximately 480 acres of potentially suitable foraging habitat would be converted to urban uses. Development within the region surrounding the project site has resulted in widespread loss of foraging habitat for Swainson's hawk because of conversion of grassland and agricultural habitats. While loss of foraging habitat within the project site would be mitigated at a 1:1 ratio, any loss of foraging habitat would result in **significant and unavoidable** impacts to local nesting Swainson's hawks.

Mitigation Measure 3.4-2e: Protection measures for tricolored blackbird and song sparrow ("Modesto" population).

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

For projects or ground-disturbing activities that could affect tricolored blackbird and song sparrow nesting habitat (primarily within ruderal vegetation (e.g., blackberry) along irrigation ditches), the following measures shall be implemented to avoid or minimize loss of active tricolored blackbird or song sparrow nests:

- ▲ To minimize the potential for loss of tricolored blackbird nesting colonies, song sparrow nests, or other bird nests, structure and vegetation removal activities shall commence during the nonbreeding season (September 1-January 31). If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required.
- ▲ Prior to removal of any structure or vegetation, or any ground-disturbing activities between February 1 and August 31, a qualified biologist shall conduct preconstruction surveys for nests on any structure or vegetation slated for removal, as well as for potential tricolored blackbird nesting habitat. The surveys shall be conducted no more than 14 days before construction commences. If no active nests or tricolored blackbird colonies are found during focused surveys, no further action under this measure will be required. If active nests are located during the preconstruction surveys, the biologist shall notify CDFW. If necessary, modifications to the project design to avoid removal of occupied habitat while still achieving project

objectives shall be evaluated, and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, construction shall be prohibited within a minimum of 100 feet of the nest to avoid disturbance until the nest colony is no longer active. These recommended buffer areas may be reduced or expanded through consultation with CDFW. Monitoring of all occupied nests shall be conducted by a qualified biologist during construction activities to adjust the 100-foot buffer if agitated behavior by the nesting bird is observed.

Significance Conclusion

Implementation of Mitigation Measure 3.4-2e would reduce impacts to a **less-than-significant** level because tricolored blackbird, song sparrow, and other bird nests would be avoided and protected from construction activities.

Mitigation Measure 3.4-2f: Mitigation for aquatic invertebrates; vernal pool fairy shrimp and vernal pool tadpole shrimp.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

This mitigation measure applies to projects or ground-disturbing activities with potential to disturb habitat for vernal pool crustaceans; it incorporates the conservation measures from the USFWS Programmatic Biological Opinion (USFWS 1996) that provide for both habitat preservation and habitat creation for vernal pool fairy shrimp and vernal pool tadpole shrimp.

If suitable wetland or vernal pool habitat is determined to be present on the project site (see Mitigation Measure 3.4-3), the project applicant shall implement the following measures to minimize and compensate for loss of vernal pool fairy shrimp and vernal pool tadpole shrimp.

- ▲ **Habitat Preservation:** The applicant, in consultation with USFWS, shall compensate for direct effects of the project on potential habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp at a ratio of 2:1, by purchasing vernal pool preservation credits from a USFWS-approved conservation bank. Compensation credits shall be purchased prior to any ground-disturbing activities.
- ▲ **Habitat Creation:** The applicant shall compensate for the direct effects of the project on potential habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp at a ratio of 1:1, by purchasing vernal pool creation credits from a USFWS-approved conservation bank.
- ▲ Mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat.
- ▲ For seasonal wetlands and drainages that shall be retained on the site (i.e., those not proposed to be filled), a minimum setback of at least 50 feet from these features will be avoided on the project site. The buffer area shall be fenced with high visibility construction fencing prior to commencement of ground-disturbing activities, and shall be maintained for the duration of construction activities.
- ▲ A worker environmental awareness training shall be conducted to inform on-site construction personnel regarding the potential presence of listed species and the importance of avoiding impacts to these species and their habitat.
- ▲ The applicant shall secure any necessary take authorization prior to project construction through formal consultation between USACE and USFWS pursuant to Section 7 of the ESA, and shall implement all measures included in the Biological Opinion issued by USFWS.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2f would reduce significant impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp and suitable habitat to a **less-than-significant** level because it would offset the impact through preserving vernal pool habitat at a ratio of 2:1 and the creation of vernal pool habitat at a ratio of 1:1 within a USFWS-approved mitigation bank or on-site habitat enhancement and protection subject to USFWS approval.

Mitigation 3.4-2g: Protection measures for American badger.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

This mitigation measure applies to projects or ground-disturbing activities with potential to disturb suitable habitat for American badger.

- ▲ Prior to construction activities within suitable habitat for American badger (e.g., ruderal grassland, gain fields), a qualified wildlife biologist shall conduct surveys to identify any American badger burrows/dens. These surveys shall be conducted not more than 15 days prior to the start of construction. If occupied burrows are not found, further mitigation will be not required. If occupied burrows are found, impacts to active badger dens shall be avoided by establishing exclusion zones around all active badger dens, within which construction-related activities shall be prohibited until denning activities are complete or the den is abandoned. A qualified biologist shall monitor each den once per week to track the status of the den and to determine when a den area has been cleared for construction.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2g would reduce impacts on American badger to a **less-than-significant** level because preconstruction surveys would be conducted and active badger dens would be protected from construction activities.

Impact 3.4-3: Disturbance and loss of wetlands, other waters of the United States, and waters of the state.

Wetlands, including vernal pools, and other waters of the United States and waters of the state may be present in the SOIA. Future land use changes and development related to the proposed establishment of the SOIA and future annexation could result in conversion of wetland habitat to urban uses. Loss or degradation of wetland habitat would be a **potentially significant** impact.

The main hydrological feature on the project site is approximately 2.7 miles of irrigation ditches, which are not likely to qualify as jurisdictional waters of the United States under Section 404 of the Clean Water Act. While the project site contains mostly agricultural and developed land, a review of aerial imagery and a site visit on April 10, 2017 suggest the northwest portion the project site may contain wetland habitat. A jurisdictional wetland delineation has not been conducted because the project site is currently privately owned, so it is possible that additional potential wetland habitat could be present in other portions of the project site. Vernal pool habitat is present within the vicinity of the project site, including within Stone Lakes National Wildlife Refuge west of the project site. The soil types on the project site are the same as those within areas supporting vernal pool habitat, and it is likely that the project site contained vernal pool habitat prior to conversion to agricultural uses.

Future land use changes and development related to the proposed SOIA could result in the conversion of wetland habitat to urban uses on the project site. Project construction activities associated with these potential uses on the project site, including vegetation removal and other ground disturbance, could result in the loss or degradation wetlands, other waters of the United States, or waters of the state through fill, hydrologic changes, or other disturbances. This would be a **potentially significant** impact.

Mitigation Measure 3.4-3: Wetlands, other waters of the U.S., and waters of the state.

At the time of submittal of any application to annex territory with the Bilby Ridge SOIA area, the City of Elk Grove shall impose the following conditions on all discretionary projects. Evidence of compliance with this mitigation measure shall be provided in the annexation application to LAFCo.

For projects that could disturb wetlands, other waters of the United States, or waters of the state, the project applicant shall retain a qualified biologist to survey the project site for sensitive natural communities, including wetland and vernal pool habitats. Wetlands and vernal pools are of special concern to resource agencies and are afforded specific consideration, based on Section 404 of the CWA and other applicable regulations. If wetlands or vernal pool habitats are determined to be present, a delineation of waters of the United States, including wetlands that would be affected by the project, shall be prepared by a qualified biologist through the formal Section 404 wetland delineation process. The delineation shall be submitted to and verified by USACE. If, based on the verified delineation, it is determined that fill of waters of the United States would result from implementation of the project, authorization for such fill shall be secured from USACE through the Section 404 permitting process. Any waters of the United States that would be affected by project development shall be replaced or restored on a “no-net-loss” basis in accordance with USACE mitigation guidelines (or the applicable USACE guidelines in place at the time of construction). In association with the Section 404 permit (if applicable) and prior to the issuance of any grading permit, Section 401 Water Quality Certification from the RWQCB shall be obtained.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-3 would reduce impacts to wetlands, other waters of the United States, and waters of the state to a **less-than-significant** level because it would ensure no net loss of functions and acreage of wetlands and other waters through implementation of USACE mitigation guidelines.

Impact 3.4-4: Consistency with the South Sacramento Habitat Conservation Plan (SSHCP).

The SOIA area is within the proposed SSHCP area, and is designated as an Urban Development Area; however, the City of Elk Grove is not a participant in the SSHCP. Should future developers participate in the HCP, development within the SOIA area would be permitted because it is within an Urban Development Area and is not within a preserve area. Impacts to implementation of the SSHCP would be **less than significant**.

The SOIA area is within the proposed SSHCP area, and is designated as an Urban Development Area. A public draft of the SSHCP and its Draft EIS/EIR have been released, however, the HCP has not yet been adopted. The SSHCP includes a multi-jurisdictional group of partners, including Sacramento County, the cities of Rancho Cordova and Galt, the Sacramento County Water Agency, the Sacramento The City of Elk Grove is not participating in the SSHCP, and upon future annexation into the City of Elk Grove, the project site would not be included in the SSHCP area and future development related to the proposed SOIA would not be subject to the SSHCP provisions. However, the SOIA area is currently within unincorporated Sacramento County, and future developers of the project site could choose to participate in the SSHCP prior to future annexation should the SSHCP be adopted. The project site is within an Urban Development Area, where urbanization is permissible and incidental take of covered species can occur. Because urban development would be permitted within the SOIA area should developers participate in the SSHCP, and because the City of Elk Grove is not a participant in the SSHCP should developers choose not to participate in the SSHCP prior to annexation, impacts to implementation of the SSHCP would be **less than significant**.

Mitigation Measure

No mitigation is required.