

## 2.3.1 NATURAL COMMUNITIES

### REGULATORY SETTING

#### **Federal**

##### Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with NEPA to help protect the ecosystems upon which endangered and threatened species depend.

The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

The development of the proposed project would require obtaining an incidental take permit through the United States Fish & Wildlife Service (USFWS) for potential impacts to the federally threatened valley elderberry longhorn beetle, the federally endangered vernal pool tadpole shrimp, and the federally threatened vernal pool fairy shrimp. Since the City will be seeking federal funding, consultation with the USFWS will be conducted according to Section 7 of the FESA through the Federal Highway Administration (FHWA).

##### Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The Federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

##### Jurisdictional Waters

The United States Army Corps of Engineers (USACOE) regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). “Discharges of fill material” is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into

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waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating federal wetlands and non-tidal waters are described below.

Federal wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Presently, to be a federal wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.

The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the USACOE as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

Prior to construction of the proposed project the project proponent shall obtain Clean Water Act (CWA) Section 401 and 404 permits from the RWQCB and the USACOE.

### **State**

#### California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing CEQA documents. The purpose is to ensure that the state lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). The CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur, and allows CDFG to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. Species that may be considered for consultation are included on a list of “Species of Special Concern,” developed by the CDFG. It tracks species in California whose numbers, reproductive success, or habitat may be threatened. CESA allows CDFG to authorize exceptions to the state’s prohibition against take of a listed species if the “take” of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

CDFG will be consulted with prior to construction regarding potential impacts to the state threatened Swainson's hawk. If prior to construction it is determined that take of Swainson's hawk is unavoidable a CDFG Section 2081 permit shall be obtained by the project proponent.

### California Native Plant Society

The CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

### California Fish and Game Code

Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

The California Department of Fish and Game (CDFG) is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Section 1602, a party must notify the CDFG if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds...except when the department has been notified pursuant to Section 1602." If an existing fish or wildlife resource could be substantially adversely affected by the activity, the CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFG identifying the approved activities and associated mitigation or protection measures.

Prior to construction of the proposed project, the project proponent shall obtain a Streambed Alteration Agreement from CDFG for the crossings over Whitehouse Creek.

### **Local**

#### City of Elk Grove General Plan

The City of Elk Grove General Plan identifies policies and action items that relate to natural communities issues within the City, as they relate to the proposed project:

- **CAQ-8** Large trees (both native and non-native) are an important aesthetic (and, in some cases, biological) resource. Trees which function as an important part of the City's or neighborhood's aesthetic character or as 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, the City may require offsite mitigation or payment of an in-lieu fee. Where possible, trees planted for mitigation should be located in the same watershed as the trees that were removed.

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Trees that cannot be protected shall be replaced either on-site or off-site as required by the City.

- **CAQ-8-Action 1** When reviewing native or non-native trees for preservation, considering the following criteria:
  - Aesthetic value
  - Biological value
  - Shade
  - Water quality benefits
  - Runoff reduction
  - Air quality (pollutant reduction)
  - Health of tree(s)
  - Suitability for preservation in place
  - Safety hazards posed by the tree(s)
  
- **CAQ-9** Wetlands, vernal pools, marshland and riparian (streamside) areas are considered to be 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, re-vegetation 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-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 occurring based on City biological resource mapping and data provided in the General Plan EIR or other technical material that may be adversely affected by public or private development projects. Where preservation is not possible, appropriate mitigation shall be included in the public private project. “Special-status” species are generally defined as species considered to be rare, threatened, 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 project in areas identified to contain or possible 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 survey 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.

### City of Sacramento General Plan

The City of Sacramento General Plan identifies policies that relate to natural communities issues within the City, as they relate to the proposed project:

- **Open Space and Natural Resource Conservation Policy 10** It is the policy of the City to conserve and protect natural resources and planned open space areas, and to phase the conversion of agricultural lands to planned urban uses.
  - The City will continue to provide open space for the preservation and conservation of natural resources. The City will continue programs established by the Department of Parks and Community Services in maintaining parks, trees, and other landscaping. The City will conserve riparian forests and grassland vegetation. The City will protect planned open space areas that support wildlife habitat and work with the County in protecting unique physical features. The City will establish development standards to enhance the visual amenities of open space areas.
- **Preservation of Natural Resources Goal A Policy 2** Continue to implement the Heritage Tree program. The City's Heritage Tree program assures that heritage trees appearing on any new development proposals will be retained according to the City Ordinance affecting such trees. It is important that this program continue.
- **Preservation of Natural Resources Goal D Policy 1** Conserve vernal pools with rare and endangered species to whatever extent feasible. Vernal pools offer unique vegetation not found anywhere else and provide wildlife habitat for various species. Their destruction due to urbanization is inevitable. Those vernal pools that have been identified to contain endangered plant species should be retained to whatever extent feasible.

### AFFECTED ENVIRONMENT

#### Study Area

The biological study area consists of a mix of rural and urban uses. The study area itself consists of rural residential, agriculture, and urbanized. All of these areas have been modified from their

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former natural condition and are currently subject to routine disturbance from on-going agricultural activities and nearby urban uses. Only remnants of natural features and vegetation occur within the study area. **Figure 2.3.1-1** depicts an aerial view of the land uses within the Study Area. As seen in this figure, the limits of the study are depicted with the current land use activities that occur there.

### Physical Conditions

The study area is predominantly flat and has been altered from its natural state. The only significant topographical features within the study area include Laguna Creek, the modified Whitehouse Creek channel, the headwaters of the modified Jacinto Creek channel, a seasonal wetland that has been modified into a detention basin, and three vernal pools that have been altered by past agricultural activity. These features are mapped in **Figure 2.3.1-1**, and discussed in more detail below.

Hydrologic features within the project area include Laguna Creek, Whitehouse Creek, Jacinto Creek, seasonal wetlands, and vernal pools, and also several roadside ditches. The Whitehouse Creek channel has been modified and realigned due to past development in the area. The portion of Whitehouse Creek that passes through the project area now channels only high flow volumes that are diverted from the detention basin to the east of the project area. A diversion structure allows low flow volumes to flow directly into Laguna Creek to the south via an earthen/concrete-lined channel.

### Biological Conditions in the Biological Study Area

#### Natural Communities

The natural communities occurring within the Sheldon Road/State Route 99 interchange project area are discussed below. Common wildlife and plant species observed, or expected to occur, in these areas and special-status species and sensitive plant habitats observed, or expected to occur, in these areas are also addressed below. **Figure 2.3.1-1** illustrates the natural communities located in the project area. The natural communities occurring within the project area include agricultural/non-native grassland (irrigated pasture, crop, and fallow land totaling 38.9 ha [96.13 acres]), seasonal wetlands (0.40 ha [1.0 acre]), vernal pools (0.097 ha [0.24 acre]), Laguna Creek perennial stream (0.25 ha [0.62 acre]), and channelized drainage (1.47 ha [3.63 acres]). All proposed developments/developed land, which includes landscaped, actively maintained land, and ruderal areas is approximately 80.34 ha (198.51 acres).

#### Agricultural/Non-Native Grassland

The predominant vegetation community within the project limits is consistent with past agricultural land uses. Most of the existing agricultural fields appear to have been used for irrigated pasture and crops, and are now fallow. These areas are composed of non-native, ruderal (weedy) vegetation including wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), yellow star-thistle (*Centaurea solstitialis*), soft chess (*Bromus hordeaceus*), Italian ryegrass (*Lolium multiflorum*), burclover (*Medicago polymorpha*), field mustard (*Brassica* sp.), filaree (*Erodium botrys*), and Fitch's tarweed (*Hemizonia fitchii*). Additionally, curly dock (*Rumex crispus*)



occurs in the roadside ditches throughout the project area. The majority of the onsite trees are associated with the rural residential areas and are composed mainly of Valley oak (*Quercus lobata*), cork oak (*Quercus suber*), California black walnut (*Juglans hindsii*), English walnut (*J. regia*), redgum eucalyptus (*Eucalyptus camaldulensis*), red-ironbark eucalyptus (*E. sideroxylon*), black locust (*Robinia pseudo-acacia*), willow (*Salix* sp.), acacia (*Acacia* sp.), ash (*Fraxinus* sp.), pines (*Pinus* sp.), beefwood (*Casuarina* sp.), London plane tree (*Platanus acerifolia*), Chinese elm (*Ulmus parvifolia*), Chinese pistache (*Pistacia chinensis*), juniper (*Juniperus* sp.), and mulberry (*Morus alba*).

Agricultural land supports foraging habitat for numerous wildlife species. Avian species observed or expected to forage and/or nest in this habitat include American Crow (*Corvus brachyrhynchos*), Yellow-billed Magpie (*Pica nuttalli*), Western Meadowlark (*Sturnella neglecta*), Mourning Dove (*Zenaidura macroura*), Scrub Jay (*Aphelocoma coerulescens*), Turkey Vulture (*Cathartes aura*), House finch (*Carpodacus mexicanus*), European Starling (*Sturnus vulgaris*), Northern Harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), Red-tailed Hawk (*Buteo jamaicensis*), and Barn Owl (*Tyto alba*). Additional wildlife species observed or expected to occur in this habitat include Deer Mouse (*Peromyscus maniculatus*) and Black-tailed Jackrabbit (*Lepus californicus*)<sup>1</sup>.

### Vernal Pools

Three vernal pools were identified in the property north of Sheldon Road and east of SR 99. The pools and surrounding topography have been altered in the past due to farming practices. Plant species observed in association with the vernal pools include coyote thistle (*Eryngium vaseyi*), mediterranean barley (*Hordeum marinum*), toad rush (*Juncus bufonius*), slender popcorn flower (*Plagiobothrys stiptitatus*), and curly dock (*Rumex crispus*).

The vernal pools represent potential habitat for several animal species. No wildlife was observed in association with the vernal pools, however the pools do represent potential habitat for California linderiella (*Linderiella occidentalis*), midvalley fairy shrimp (*Branchinecta mesovallensis*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), California tiger salamander (*Ambystoma californiense*), western spadefoot toad (*Spea hammondi*), and various species of waterfowl.

### Seasonal Wetlands

Depressional seasonal wetlands were observed in shallow depressions within the southeast quadrant of the project area and a riverine seasonal wetland was observed within the northeast quadrant. These features were observed to be dominated by perennial ryegrass (*Lolium perenne*), Mediterranean barley (*Hordeum marinum*), and curly dock (*Rumex crispus*). These features appear to have been disturbed by past agricultural and development activity.

A realigned portion of Whitehouse Creek occurs within the southeast quadrant of the project area. This feature would best be defined as a seasonal wetland. Whitehouse Creek has been

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<sup>1</sup> The California Natural Diversity Database (CNDDDB), the U.S. Fish and Wild Life Service (USFWS) list for special status species, and the California Wildlife Habitat Relationships (CWHR) database were utilized to create a complete listing of species.

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redirected to Laguna Creek southeast of the Sheldon Road interchange as part of the Lower Laguna Creek Drainage Master Plan. Most of the water is diverted to Laguna Creek before it gets to Whitehouse Creek within the project site; therefore it has been identified as a seasonal wetland. Plant species observed in Whitehouse Creek include bulrush (*Scirpus microcarpus*), nutsedge (*Cyperus* sp.), rabbitsfoot grass (*Polypogon monspeliensis*), yellow waterprimrose (*Ludwigia peploides*), curly dock (*Rumex crispus*), and spikerush (*Eleocharis* sp.).

During the wet season, Whitehouse Creek provides foraging habitat for a variety of resident and migratory wildlife species. Many of the wildlife species associated with the agricultural land, in addition to Great Blue Heron (*Ardea herodias*), Great Egret (*Ardea alba*), and Red-winged Blackbird (*Agelaius phoeniceus*) are expected to utilize this habitat. This feature does not support water during the dry season.

Where Whitehouse Creek crosses under SR 99, it flows down into a screened drainpipe that continues to the south subsurface for several hundred meters until it daylight within the Laguna Creek channel.

A riverine seasonal wetland was observed within the northeast quadrant of the project site. This feature is identified on the Florin USGS topographic quadrangle as the headwaters of a blue-line stream and is locally identified as Jacinto Creek. However, this feature did not possess elements indicative of a stream, such as a defined bed and bank. This feature drains toward SR 99, where it flows into a culvert that daylight west of the study area. This area appears to have been altered in the past for agricultural purposes.

### Laguna Creek

Laguna Creek is a perennial stream that passes through the southern tip of the project area. This stream is low gradient, slow moving stream that supports both wetland and riparian vegetation, including willows (*Salix* sp.), cattails (*Typha latifolia*), spikerush, curly dock, bulrush, and nutsedge.

Laguna Creek represents potential habitat for several animal species. Wildlife observed in association with Laguna Creek includes Great Blue Heron, Beavers, Great Egret, and Red-winged Blackbird. Laguna Creek represents potential habitat for Giant Garter Snake (*Thamnophis gigas*).

Though Laguna Creek is within the study area, project development activities will not occur within 152 meters (500 feet) of the creek channel.

### Channelized Drainages

The channelized drainages in the southern portion of the project area appear to be actively maintained and are relatively devoid of vegetation. Vegetation within the drainage adjacent to Sheldon Road includes many of the species found in the onsite agricultural fields, including scattered curly dock.

These habitats alone do not provide ample cover or significant foraging or nesting habitat for wildlife species due to the relative lack of vegetation, however, animal species observed in the agricultural and wetland habitats discussed above would likely be observed in and around these drainages.

### Migration Corridors

Previous road projects and agricultural activities have significantly altered the land proposed for the interchange improvements. The remaining habitat does not provide sufficient migration corridor habitat because of the already bisected and parceled out land uses that occur onsite.

The wetland areas identified within the study area represent marginal habitat for migrating waterfowl. The entire central valley is part of the Pacific Flyway, however the majority of usable migration and wintering habitat in the region occurs in agricultural and wildlife areas several kilometers west of the study area.

The City of Elk Grove General Plan Environmental Impact Report, November 2003, states that migration corridors occur in annual grassland habitat and riparian oak woodland habitat. No oak woodland habitat occurs onsite. Annual grasslands occur onsite, but are determined as not providing sufficient migration corridor habitat.

No potential migration corridors were identified within the study area. The existing network of roads, including SR 99, and the degree of modifications to Whitehouse Creek preclude the use of this area as a migration corridor for any upland or aquatic species. The wetland areas identified within the study area represent marginal habitat for migrating waterfowl. The entire Central Valley is part of the Pacific Flyway; however, the majority of usable migration and wintering habitat in the region occurs in agricultural and wildlife areas several miles west of the study area.

## IMPACTS

### **No Build Alternative**

Under the No Build alternative, disturbances to natural communities in the vicinity of the project area that could be affected by the implementation of the project would not take place. Improvements to the existing Sheldon Road/SR 99 interchange would not occur under the No Build alternative. As such, the existing interchange, on- and off-ramps, and frontage roads would remain in their current state.

### **Build Alternatives (2A and 3A)**

**Figures 2.3.1-2 and 2.3.1-3** illustrate the build alternatives (2A and 3A), and identify potential impacts to biological resources that would result from each alternative.

### ***Habitat Fragmentation***

The Sheldon Road/SR 99 interchange and surrounding residential and commercial land uses have been substantially altered, and the remaining habitat is fragmented. This project is not expected to increase habitat fragmentation more than the pre-construction condition.

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### AFFECTED ENVIRONMENT: NATURAL COMMUNITIES OF SPECIAL CONCERN

Sensitive habitats include those that are of special concern to resource agencies and those that are protected under CEQA, Section 1600 of the CDFG Code, or Section 404 of the Clean Water Act (CWA). Additionally, certain habitats are protected under the City of Elk Grove General Plan. Sensitive habitats within the project area include vernal pools, an intermittent drainage/riverine seasonal wetland (Whitehouse Creek), perennial creek (Laguna Creek), and trees.

#### **Vernal pools**

The vernal pools identified within the project area represent potential habitat for several special-status plant and animal species, seven of which are state and/or federally listed species. The Natural Diversity Database has classified northern hardpan vernal pools as G3, S3.1, indicating that there are viable occurrences worldwide (G3) and although there are viable occurrences statewide, this habitat is considered very threatened (S3.1).

#### Survey Results

Three vernal pools were identified in the property north of Sheldon Road and east of SR 99. The pools and surrounding topography have been altered in the past due to farming practices. Plant species observed in association with the vernal pools include coyote thistle, Mediterranean barley, toad rush, slender popcorn flower, and curly dock. These features were identified and mapped during the wetland delineation conducted within the project area. Vernal pools, wetlands, and land use features are shown **Figure 2.3.1-1**.

Surveys for special-status plant species in association with these features were conducted in May of 2004. Surveys for special-status animal species have not been and will not be conducted. Vernal pool special-status invertebrates identified in **Table 2.3.5-1**, in the Threatened and Endangered Species section of this document, are inferred to be present within suitable habitat onsite (i.e., vernal pools). The inferred presence of special-status animal species in the project area vernal pools was determined using the “Guidance for Inferred Presence” (2003) document developed jointly by Caltrans and FHWA.

### IMPACTS

#### **No Build Alternative**

Under the No Build alternative, disturbances to natural communities in the vicinity of the project area that could be affected by the implementation of the project would not take place. Improvements to the existing Sheldon Road/SR 99 interchange would not occur under the No Build alternative. As such, the existing interchange, on- and off-ramps, and frontage roads would remain in their current state.





**Build Alternatives (2A and 3A)**Permanent Impacts

**Impact 2.3.1-1** Under both Build Alternatives (2A and 3A), the project would result in impacts to vernal pools and/or their supporting watersheds within the project area. The impacts would result in the complete loss of the vernal pools within the project area. Both of the options identified for East Stockton Boulevard would result in impacts to vernal pools. Impacts to the vernal pool habitat identified within the project area are summarized below in **Table 2.3-1**.

**TABLE 2.3-1**  
**SUMMARY OF IMPACTS TO VERNAL POOLS**

<b>Alternative</b>	<b>Option(s)</b>	<b>Impact Hectares (Acres)</b>
2A	E. Stockton Blvd. Option 1	0.097 (0.24)
	E. Stockton Blvd. Option 2	0.097 (0.24)
3A	E. Stockton Blvd. Option 1 W. Stockton Blvd. Option 1	0.097 (0.24)
	E. Stockton Blvd. Option 1 W. Stockton Blvd. Option 2	0.097 (0.24)
	E. Stockton Blvd. Option 2 W. Stockton Blvd. Option 1	0.097 (0.24)
	E. Stockton Blvd. Option 2 W. Stockton Blvd. Option 2	0.097 (0.24)

**MITIGATION MEASURES**

**MM 2.3.1-1** In order to mitigate for impacts to vernal pool habitat, the project proponent shall mitigate according to USFWS guidelines. Since the area of impact is less than 0.4 ha (1 acre), the compensatory mitigation will be conducted according to the USFWS programmatic Section 7 consultation as outlined in *Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California*. The mitigation identified in the *Programmatic Formal Endangered Species Act Consultation* is as follows:

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1. Preservation component. For every 0.4 hectares (1.0 acre) of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated within a Service-approved ecosystem preservation bank, or, based on Service evaluation of site-specific conservation values, 1.2 hectares (3.0 acres) of vernal pool habitat may be preserved on the project site or on another non-bank site as approved by the Service.
2. Creation component. For every 0.4 hectares (1.0 acre) of habitat directly affected, at least one vernal pool creation credit will be dedicated within a Service-approved habitat mitigation bank, or, based on Service evaluation of site-specific conservation values, 0.8 hectares (2.0 acres) of vernal pool habitat will be created and monitored on the project site or on another non-bank site as approved by the Service.

Under both alternatives (2A and 3A) effective on-site creation of vernal pools is unlikely. Therefore, the project would purchase vernal pool credits from a Service-approved ecosystem preservation bank, such as Bryte Ranch Conservation Bank, to mitigate for impacts to vernal pools.

### *Discussion of Intermittent Stream/Seasonal Wetlands*

Whitehouse Creek is mapped as a blue-line stream on the Florin USGS topographic quadrangle, and can best be defined as seasonal wetlands that were historically an intermittent stream. Whitehouse Creek historically drained seasonal waters from the area east of SR 99 and channeled them west underneath SR 99. Whitehouse Creek then continued from that point for approximately 1.20 km (0.75 mile) west until its confluence with Laguna Creek. Since then Whitehouse creek has been heavily modified both to the east and west of the project area. Development activities have resulted in the channeling and redirection of the creek such that it currently joins Laguna Creek immediately west of SR 99 via a cement-lined channel. These modifications have drastically reduced the flow of waters through the portion of Whitehouse Creek passing along the project area, resulting in reduced value of this feature for native vegetation and wildlife. Currently Whitehouse Creek would be better defined as a riverine seasonal wetland, in that it does not support flows typical of a stream, yet holds water during the wet season such that it supports seasonal wetland vegetation.

### Survey Results

Whitehouse Creek supports a diversity of plant species that have adapted to wet soil conditions. Plant species observed in Whitehouse Creek include bulrush, nutsedge, rabbitsfoot grass, yellow waterprimrose, curly dock, and spikerush.

During the wet season, Whitehouse Creek provides foraging habitat for a variety of resident and migratory wildlife species. Many of the wildlife species associated with the agricultural land, in addition to great blue heron (*Ardea herodias*), great egret (*Ardea alba*), and red-winged blackbird (*Agelaius phoeniceus*), are expected to utilize this habitat.

IMPACTS

**No Build Alternative**

Under the No Build alternative, disturbances to natural communities in the vicinity of the project area that could be affected by the implementation of the project would not take place. Improvements to the existing Sheldon Road/SR 99 interchange would not occur under the No Build alternative. As such, the existing interchange, on- and off-ramps, and frontage roads would remain in their current state and changes to Whitehouse Creek would not be made.

**Build Alternatives (2A and 3A)**

Permanent Impacts

**Impact 2.3.1-2** The realignment of East Stockton Boulevard under both build alternatives (Alternative 2A and 3A) would result in the need to construct a new roadway crossing over Whitehouse Creek. The construction of this crossing would require some fill of Whitehouse Creek. **Table 2.3-2** lists the impacts (i.e., hectares of Whitehouse Creek filled to accommodate crossing) for each alternative and associated options.

**TABLE 2.3-2  
SUMMARY OF IMPACTS TO WHITEHOUSE CREEK**

Alternative	Option(s)	Impact Hectares Direct (Acres)
2A	E. Stockton Blvd. Option 1	0.012 (0.03)
	E. Stockton Blvd. Option 2	0.012 (0.03)
3A	E. Stockton Blvd. Option 1	0.012
	W. Stockton Blvd. Option 1	(0.03)
	E. Stockton Blvd. Option 1	0.012
	W. Stockton Blvd. Option 2	(0.03)
	E. Stockton Blvd. Option 2	0.012
	W. Stockton Blvd. Option 1	(0.03)
	E. Stockton Blvd. Option 2	0.012
	W. Stockton Blvd. Option 2	(0.03)

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### MITIGATION MEASURES

#### *Avoidance and Minimization Efforts*

**MM 2.3.1-2a** The East Stockton Boulevard crossing of Whitehouse Creek shall be constructed so as to minimize fill of Whitehouse Creek. Fill placed in the creek to construct the crossing shall be limited to the minimal amount of area necessary to construct the crossing. The crossing shall be designed to maintain the hydrologic and biologic integrity of Whitehouse Creek.

#### *Compensatory Mitigation*

**MM 2.3.1-2b** In order to mitigate for permanent impacts (i.e., fill) to Whitehouse Creek, the project proponent will purchase in-kind mitigation credits at a 1:1 ratio at a U.S. Army Corps of Engineers-approved mitigation bank within the region.

#### Construction Impacts

**Impact 2.3.1-3** Construction activities associated with the construction of the East Stockton Boulevard crossing of Whitehouse Creek would impact the creek. Potential construction-related impacts include damage to the creek bed and banks from the use of construction equipment to install the crossing. Construction within or near Whitehouse Creek would also result in impacts to the water quality in Whitehouse Creek, such as increased sedimentation due to construction activities, or pollution of the water in the creek from the use of construction equipment (i.e., petroleum spills, oil leaks, etc.).

### MITIGATION MEASURES

#### *Avoidance and Minimization Efforts*

**MM 2.3.1-3a** Construction activities in or near the bed of the creek shall be minimized to the greatest extent possible, in order to minimize the area of damage caused by construction activity associated with the construction of the creek crossing. The following techniques shall be used to help avoid and minimize impacts to Whitehouse Creek during construction:

1. The construction area for creek work shall be established prior to the start of construction work in the creek. The creek construction area shall be marked with orange construction fencing to clearly demarcate the limits of the construction area, and to prevent construction equipment and workers from entering sensitive areas outside the construction area.

2. Work within the creek bed shall be limited to the dry season (approximately April 15 to October 15) to minimize impacts to bank erosion and water quality. Impacts to adjoining portions of Whitehouse Creek shall be minimized by implementing best management practices (BMPs), such as utilizing construction mats within the creek channel and implementing an erosion and sediment control plan that minimizes impacts to water quality within Whitehouse Creek.

### *Compensatory Mitigation*

**MM 2.3.1-3b** Whitehouse Creek shall be restored to its original topography to mitigate for temporary impacts (i.e. damage resulting from construction activities) and these areas shall be planted with wetland vegetation and subject to a CDFG and ACOE-approved re-vegetation and monitoring plan.

### *Discussion of Tree Resources*

Although native trees such as oaks and California black walnuts are not afforded special protection under state or federal law, loss of these species is a concern of the USFWS, CDFG, and CNPS because of their continued depletion throughout California. Native trees and Landmark trees are protected under the City of Elk Grove's General Plan Policy CAQ-8, the City of Elk Grove's Tree Preservation Ordinance located at Title 19, Chapter 12 of the City of Elk Grove Code, and the City of Sacramento's Tree Preservation Ordinance located at Title 12, Chapter 64 in the City of Sacramento Code. The project site contains both native trees (Valley oaks) and Landmark trees that have been identified for potential removal in order to accommodate grading and paving activities associated with the project. Additionally, the driplines of several native oaks could be encroached upon by the reconstruction of project features (i.e., the resurfacing of roadways, sidewalk reconstruction, etc.).

### Survey Results

The majority of the trees within the project area are associated with the rural residential areas and are composed mainly of Valley oak, California black walnut, bluegum eucalyptus, red-ironbark eucalyptus, black locust, willow, acacia, ash, London plane tree, and mulberry. A summary of tree resources within the study area is presented below in **Table 2.3-3**.

## 2.3 BIOLOGICAL ENVIRONMENT

**TABLE 2.3-3  
SUMMARY OF TREE RESOURCES WITHIN PROJECT AREA**

Tree Species	Location	Size Class – cm (in)				Total
		<15cm (<6’’)	15- 30cm (6-12’’)	30- 61cm (12- 24’’)	>61cm (>24’’)	
Valley Oak ( <i>Quercus lobata</i> )	NW Quadrant					0
	NE Quadrant		2			2
	SW Quadrant					0
	SE Quadrant					0
	Roadways		3	3		6
	SUBTOTAL		0	5	3	0
California black walnut ( <i>Juglans hindsii</i> )	NW Quadrant					0
	NE Quadrant			1	1	2
	SW Quadrant					0
	SE Quadrant			4		4
	Roadways					0
	SUBTOTAL		0	0	5	1
Red gum Eucalyptus ( <i>Eucalyptus camaldulensis</i> )	NW Quadrant					0
	NE Quadrant			3	18	21
	SW Quadrant			5	8	13
	SE Quadrant			19		19
	Roadways					0
	SUBTOTAL		0	0	27	26
Red-ironbark Eucalyptus ( <i>Eucalyptus sideroxylon</i> )	NW Quadrant			6	17	23
	NE Quadrant				11	11
	SW Quadrant		2		14	16
	SE Quadrant				2	2
	Roadways					0
	SUBTOTAL		0	2	6	44

## 2.3 BIOLOGICAL ENVIRONMENT

Tree Species	Location	Size Class – cm (in)				Total
		<15cm (<6’’)	15-30cm (6-12’’)	30-61cm (12-24’’)	>61cm (>24’’)	
Black locust ( <i>Robinia pseudo-acacia</i> )	NW Quadrant					0
	NE Quadrant		1	1		2
	SW Quadrant					0
	SE Quadrant	6	5	1		12
	Roadways		1			1
	SUBTOTAL	6	7	2	0	15
Willow ( <i>Salix</i> sp.)	NW Quadrant					0
	NE Quadrant					0
	SW Quadrant					0
	SE Quadrant		1			1
	Roadways					0
	SUBTOTAL	0	1	0	0	1
Acacia ( <i>Acacia</i> sp.)	NW Quadrant					0
	NE Quadrant	50				50
	SW Quadrant					0
	SE Quadrant					0
	Roadways					0
	SUBTOTAL	50	0	0	0	50
Ash ( <i>Fraxinus</i> sp.)	NW Quadrant					0
	NE Quadrant		16		1	17
	SW Quadrant					0
	SE Quadrant		2	1		3
	Roadways		4			4
	SUBTOTAL	0	22	1	1	24
Pines ( <i>Pinus</i> sp.)	NW Quadrant		4		1	5
	NE Quadrant		1			1
	SW Quadrant					0
	SE Quadrant					0
	Roadways					0
	SUBTOTAL	0	5	0	1	6

## 2.3 BIOLOGICAL ENVIRONMENT

Tree Species	Location	Size Class – cm (in)				Total
		<15cm (<6’’)	15-30cm (6-12’’)	30-61cm (12-24’’)	>61cm (>24’’)	
London Plane Tree ( <i>Platanus acerifolia</i> )	NW Quadrant					0
	NE Quadrant		1		1	2
	SW Quadrant					0
	SE Quadrant					0
	Roadways		1			1
	SUBTOTAL		0	2	0	1
Chinese elm ( <i>Ulmus parvifolia</i> )	NW Quadrant					0
	NE Quadrant		1			1
	SW Quadrant					0
	SE Quadrant		5			5
	Roadways					0
	SUBTOTAL		0	6	0	0
Chinese Pistache ( <i>Pistacia chinensis</i> )	NW Quadrant				2	2
	NE Quadrant					0
	SW Quadrant					0
	SE Quadrant			1		1
	Roadways					0
	SUBTOTAL		0	0	1	2
Cork oak ( <i>Quercus suber</i> )	NW Quadrant					0
	NE Quadrant		1			1
	SW Quadrant					0
	SE Quadrant					0
	Roadways					0
	SUBTOTAL		0	1	0	0
English walnut ( <i>Juglans regia</i> )	NW Quadrant					0
	NE Quadrant		1			1
	SW Quadrant					0
	SE Quadrant					0
	Roadways					0
	SUBTOTAL		0	1	0	0

Tree Species	Location	Size Class – cm (in)				Total
		<15cm (<6’’)	15-30cm (6-12’’)	30-61cm (12-24’’)	>61cm (>24’’)	
Juniper ( <i>Juniperus</i> sp.)	NW Quadrant					0
	NE Quadrant					0
	SW Quadrant					0
	SE Quadrant					0
	Roadways		1			1
	SUBTOTAL	0	1	0	0	1
Mulberry ( <i>Morus alba</i> )	NW Quadrant			1		1
	NE Quadrant			10		10
	SW Quadrant					0
	SE Quadrant			1		1
	Roadways			1		1
	SUBTOTAL	0	0	13	0	13

IMPACTS

**No Build Alternative**

Under the No Build alternative, natural communities would not be affected because the project would not be implemented. Improvements to the existing Sheldon Road/SR 99 interchange would not occur; as such, the existing interchange, on- and off-ramps, and frontage roads would remain in their current state, and no trees would be removed or impacted as a result of the project.

**Build Alternatives (2A and 3A) Impacts**

Permanent Impacts

**Impact 2.3.1-4**

It is anticipated that most of the trees identified within the project area would be avoided, as they currently are associated with the residences within the project area. However, some protected trees occurring along the roadways would be affected, including six protected Valley oaks. Both Build Alternatives (Alternative 2A and 3A) would have similar impacts to protected trees within the project area.

## 2.3 BIOLOGICAL ENVIRONMENT

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### MITIGATION MEASURES

#### *Avoidance and Minimization Efforts*

- MM 2.3.1-4a** The City shall retain, where feasible, all native trees larger than 15 cm (6”) diameter at breast height (dbh) and all non-native trees larger than 48 cm (19”) dbh. Where possible, the following measures shall be followed to protect trees identified for preservation:
- For trees within the project area that are designated for preservation, a circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree;
  - Temporary protective fencing shall be installed at least 0.3 meters (1.0 foot) outside the driplines of the protected trees prior to initiating construction in order to avoid damage to the tree canopies and root systems;
  - Final grading plans shall show all protected trees, tree tag numbers, and trees’ protected dripline areas, and shall show the location of the required protective temporary fencing;
  - Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work in the area. All pruning shall be in accordance with American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) “Tree Pruning Guidelines”;
  - No signs, ropes, cables (except those which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the trees. Small metallic numbering tags for the purpose of preparing tree reports and inventories shall be allowed;
  - No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of oak trees;
  - No grading (grade cuts or fills) shall be allowed within the driplines of protected oak trees;
  - Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any oak tree;

- No trenching shall be allowed within the dripline of oak trees. If it is absolutely necessary to install underground utilities within the dripline of an oak tree, the utility line shall be bored or jacked under the supervision of a certified arborist;
- The construction of impervious surfaces within the driplines of oak trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system per City standard detail shall be installed under the supervision of a certified arborist;
- No sprinkler or irrigation system shall be installed in such a manner that it sprays water or requires trenching within the driplines of oak trees. An above ground drip irrigation system is recommended;
- During construction try to maintain the same watering frequency around trees that they are used to receiving;
- Landscaping beneath oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. The only plant species that shall be planted within the driplines of oak trees are those that are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants;
- Make sure any weed control chemicals utilized prior to laying of new asphalt are not applied where they can leach into the dripline area of any tree; and
- Clearing of weeds and debris from the protected dripline area shall be done by hand. The use of weed eaters and leaf blowers shall be permitted.

### *Compensatory Mitigation*

#### **MM 2.3.1-4b**

For all protected trees that require removal due to project implementation, a tree mitigation and monitoring plan shall be submitted to Caltrans and the City of Elk Grove for approval prior to the start of construction. The number of trees to be replanted will be based on the number of inches of protected trees to be removed. A mitigation planting plan or landscape plan shall be submitted to Caltrans and the City of Elk Grove and include the following mitigation measures:

- A tree survey shall be conducted by an arborist certified by the International Society of Arboriculture (ISA) to enumerate and evaluate all trees on the site that meet the standards in the City Tree Ordinance and General Plan.

## 2.3 BIOLOGICAL ENVIRONMENT

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- All tree locations shall be mapped onto the final approved plans and wherever possible, direct loss of protected trees shall be avoided.
- For all protected trees that require removal due to project implementation, a tree mitigation and monitoring plan shall be submitted to the City of Elk Grove. The number of trees to be replanted will be based on the number of inches of protected trees to be removed. The mitigation planting plan shall include the number, location and species of the replacement trees; irrigation methods to help tree establishment and ensure survival; planting and maintenance schedules for a three-year establishment period or replanting as needed.
- Trees that are not to be removed that are within 61 meters (200 feet) of grading activities shall be protectively fenced 1.5 meters (5.0 feet) beyond the dripline and root zone of each oak tree (as determined by an arborist). This fence, which is meant to prevent activities that result in soil compaction beneath the canopies or over the root zone, shall be maintained until all construction activities are completed. Grade changes shall be minimized to the extent feasible within or adjacent to the dripline of existing trees.

### CEQA FINDINGS

Impacts to natural communities may be considered significant if the project would:

- Modify natural a natural community in such a way that it would result in a substantial adverse effect on candidate, sensitive, or special status species identified by local or regional plans, policies, or regulations, or by CDFG or USFWS.
- Result in a substantial adverse effect of any riparian or other sensitive natural community identified in local or regional plans, policies or regulations, or by CDFG or USFWS.
- Have a substantial adverse effect of a federally protected wetland community, as defined by Section 404 of the CWA.
- Impede the use of established native resident or migratory wildlife corridors or native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting trees or other biological resources.
- Conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The project would result in impacts to several natural communities, including vernal pools, an intermittent stream (seasonal wetlands), and trees, which are considered sensitive communities. Impacts to these communities would potentially impact sensitive species, and would be considered *potentially significant* impacts without mitigation. Mitigation measure **MM 2.3.1-1** would mitigate for impacts to vernal pools by purchasing vernal pool credits from a USFWS-approved ecosystem preservation bank.

**MM 2.3.1-2a**, **MM 2.3.1-2b**, **MM 2.3.1-3a**, and **MM 2.3.1-3b** would mitigate for impacts to the intermittent stream by establishing construction measures to protect the stream and post-construction measures to restore the stream to its original contours. **MM 2.3.1-4a** and **MM 2.3.1-4b** would mitigate for impacts to trees by preserving trees as feasible by protecting them during project construction, and replacing trees that must be removed in accordance with a tree mitigation and monitoring plan.

With implementation of these mitigation measures, impacts to natural communities would be reduced to *a less than significant* level.