

# Huffman-Broadway Group, Inc.

## ENVIRONMENTAL REGULATORY CONSULTANTS

828 MISSION AVENUE, SAN RAFAEL, CA 94901 • 415.925.2000 • WWW.H-BGROUP.COM

September 14, 2021

Mr. Don Little, Senior Vice President  
Trammel Crow Company  
415 Mission Street, 45<sup>th</sup> Floor  
San Francisco, CA 94105

**Subject: Biological Evaluation for the 80-12 Industrial Center at 300 Chadbourne Road, Fairfield, Solano County, California**

Dear Mr. Little:

At your request, Huffman-Broadway Group, Inc. (HBG) conducted a biological evaluation for the 20-acre property at 300 Chadbourne Road in Fairfield, Solano County, California. The project site, located near at the intersection of Chadbourne Road and Busch Drive, is the site of a former Walmart. Much of the property has been previously developed with the Walmart store and associated parking lots and landscaping. Trammel Crow Company plans to develop the property with business/industrial uses with parking and other facilities as part of the 80-12 Industrial Center. The project will require the demolition of the former Walmart building and the footprint of the project will cover the entire property.

### **1.0 LOCATION AND STUDY OBJECTIVE**

#### **1.1 Project Location**

The project site consists of Solano County Assessor Parcel Numbers (APNs) 0028-250-240, -250, -260, -270, -290, and -300. The project site totals approximately 20 acres and is in the northeast quadrant of the intersection of Chadbourne Road and Busch Drive at 300 Chadbourne Road in the City of Fairfield, California. The location of the Project Site is shown in Figure 1. Figure 2 shows the location of the site on the Fairfield South 7.5-minute USGS quadrangle map. Figure 3 shows an aerial photo of the Project Site.

#### **1.2 Objective**

The objective of this study is to conduct a biological evaluation for the purpose of determining the presence or absence of ecological constraints associated with proposed development of the project site. General level biological surveys were conducted on

June 22, 2021, by HBG Senior Environmental Scientist and wildlife biologist Gary Deghi to determine if special status species or sensitive habitats (including wetlands) are present. The assessment of ecological constraints was based on information (e.g., technical reports, data, mapping, and aerial imagery) readily available at the time of the study and on site conditions observed during the field inspection. The field surveys conducted were not an official protocol level survey for establishing the presence or absence of special status species or sensitive habitats, but a general level study to determine the potential for presence. In addition, HBG contracted with an arborist (James P. Allen & Associates) to conduct a Tree Resource Analysis for the property and to prepare a report for separate submittal to the City of Fairfield (James P. Allen & Associates 2021).

## **2.0 REGULATORY BACKGROUND**

The following provides regulatory background information regarding special status species and sensitive habitats:

### **2.1 Sensitive Habitats**

Sensitive habitats are those habitats which have been identified by local, state, or federal agencies as areas which provided special functions or values. These habitats are subject to regulation under various local, state, and federal regulations such as the following:

City or County Tree Ordinances	The California Endangered Species Act
City or County General Plan Land Use Areas	The Federal Clean Water Act
City, County, State, or Federal Special Habitat Management Areas	The Federal Endangered Species Act (listed species or critical habitat)
The California Porter-Cologne Act	The Federal Migratory Bird Treaty Act
The California Coastal Act	The Bald and Golden Eagle Protection Act
The California Environmental Quality Act (CEQA)	The National Environmental Protection Act
Habitats such as serpentine soils or vernal pools supporting plant species on California Native Plant Society (CNPS) Lists 1 and 2 which are considered special status habitats under CEQA.	The Federal Magnuson-Stevens Fishery Conservation and Management Act
The California Department of Fish and Wildlife Lake and Streambed Alteration Agreement Program	The Federal Coastal Zone Management Act

Sensitive habitats potentially found within the Project Area include:

**Waters of the United States.** The Department of the Army, acting through the U.S. Army Corps of Engineers (USACE), has the authority to permit the discharge of dredge or fill material in waters of the U.S. under Section 404 of the Clean Water Act (CWA). Waters of the U.S. include both wetlands and “other waters of the U.S.” Wetlands and other waters of the U.S. are described by U.S. Environmental Protection Agency (US EPA) and USACE regulations (40 CFR § 230.3(s) and 33 CFR § 328.3(a), respectively). US

EPA and the USACE define wetlands as “...those areas that are inundated or saturated by surface or ground water 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” (US EPA regulations at 40 CFR § 230.3(t); USACE regulations at 33 CFR § 328.3(b)). Both natural and manmade wetlands and other waters (not vegetated by a dominance of rooted emergent vegetation) are subject to regulation. The geographic extent of wetlands is defined by the collective presence of a dominance of wetland vegetation, wetland hydrology conditions, and wetland soil conditions as determined following the USACE’ *1987 Wetlands Delineation Manual* (1987 Manual); the USACE’ *2008 Regional Supplement to Corps of Engineers Wetland Delineation Manual: Arid West, Version 2.0* (Arid West Regional Supplement); and supporting guidance documents. The geographic extent of other waters of the U.S. is defined by an ordinary high water mark (OHWM) in non-tidal waters (33 CFR. §328.3(e)) and by the High Tide Line within tidal waters (33 CFR. §328.3(d)).

*Navigable Waters Protection Rule.* In 2020, the Trump Administration obtained approval of the Navigable Waters Protection Rule (NWPR) that altered the reach of the nation’s Clean Water Act. The NWPR has four categories of jurisdictional waters and twelve categories of excluded waters/features. There is no standalone interstate waters category and no case-specific significant nexus analysis. Key changes were made for defining tributary, adjacent wetland, ditches, lakes, ponds, and impoundments, and new definitions for defining typical year versus normal, perennial, intermittent, ephemeral, snowpack, and ditches were created. No change was made to the definition of wetlands or the methodology for defining wetlands. Under the NWPR, WOTUS includes 1) territorial seas and traditional navigable waters; 2) tributaries; 3) lakes and ponds, and impoundments of jurisdictional waters; and 4) adjacent wetlands.

A ruling in the U.S. District Court for the District of Arizona on August 30, 2021, in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*, may result in the Final NWPR being overturned permanently. The Environmental Protection Agency and U.S. Army Corps of Engineers are reviewing the U.S. District Court’s order vacating and remanding the NWPR, have halted implementation of the Navigable Waters Protection Rule, and are currently interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice.

**Waters of the State.** Waters of the State are defined more broadly than “waters of the US” to mean “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code section 13050(e)). Examples include, but are not limited to, rivers, streams, lakes, bays, marshes, mudflats, unvegetated seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked baylands, seasonal wetlands, and riparian woodlands. Waters of the State include all waters within the state’s boundaries, whether private or public, including waters in both natural and artificial channels. They include all “waters of the United States”; all

surface waters that are not “waters of the United States, e.g., non-jurisdictional wetlands, groundwater, and the territorial seas.

The State Water Quality Control Board (SWQCB) and its Regional Boards, including the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), routinely rely on the USACE/USEPA jurisdictional determinations as the Water Boards have no adopted methodology for the identification and delineation of wetlands or other waters of the State. However, as a matter of policy, the SWQCB/SFBRWQCB consider wetlands and waters determined non-jurisdictional by the USACE/USEPA under SWANCC or Rapanos guidance to remain jurisdictional as waters of the State subject to SWQCB/SFBRWQCB jurisdiction. Similarly, the SWQCB/SFBRWQCB typically takes jurisdiction over wetlands and other waters where the USACE/USEPA has determined that a wetland or other water of the US is exempted or excluded from jurisdiction or where the USACE/USEPA determines that the proposed project activity is exempt from regulation.

**Lakes, Streams, Riparian Habitats, Sensitive Plant Communities.** CDFW regulates lakes and streams under Section of 1602 of the California Fish and Game Code (FGC). CDFW’s regulations implementing the FGC define the relevant rivers, streams, and lakes over which the agency has jurisdiction to constitute “all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which have intermittent flows of water.” (Title 14 *California Code of Regulations* [CCR] § 720). The CDFW takes jurisdiction under its Lake and Streambed Alteration Agreement Program for any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.

The CDFW does not have a methodology for the identification and delineation of the jurisdictional limits of streams except for the general guidance provided in *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607 California Fish and Game Code* (CDFG 1994). In making jurisdictional determinations, CDFW staff typically rely on field observation of physical features that provide evidence of water flow through a bed and channel such as observed flowing water, sediment deposits and drift deposits, and that the stream supports fish or other aquatic life. Riparian habitat is not specifically defined by the Fish and Game Code but CDFW takes jurisdiction over areas within the flood plain of a body of water where the vegetation (grass, sedges, rushes, forbs, shrubs, and trees) is supported by the surface or subsurface flow.

Sensitive plant communities are those natural plant communities identified in local or regional plans, policies, ordinances, regulations, or by the CDFW which provide special functions or values. The CDFW natural plant communities considered sensitive are those that CDFW ranks as sensitive communities that are ‘threatened’ or ‘very threatened’ and keeps records of their occurrences in its California Natural Diversity Data Base (CNDDDB). All known occurrences of sensitive habitats are mapped onto 7.5-minute USGS

topographic quadrangle maps maintained by the CNDDDB. Sensitive plant communities are also identified by CDFW on their List of California Natural Communities Recognized by the CNDDDB. Impacts to sensitive natural communities must be considered and evaluated under CEQA.

## **2.2 Special Status Species**

**Federal Endangered Species Act (FESA).** The FESA is intended to help protect the ecosystems upon which endangered and threatened species depend. The FESA establishes an official listing process for plants and animals considered to be in danger of extinction, requires development of specific plans of action for the recovery of listed species, and restricts activities perceived to harm or kill listed species or affect critical habitat. The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” can be defined as any act that kills or injures a federally listed species, including significant habitat modification or degradation. The FESA also requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitat, and to accomplish this in consultation with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) pursuant to Section 7 of the FESA. If formal consultation is required, USFWS or NMFS will issue a biological opinion stating whether the permit action is likely to jeopardize the continued existence of the listed species, recommending reasonable and prudent measures to ensure the continued existence of the species, establishing terms and conditions under which the project may proceed, and authorizing incidental take of the species.

**California Endangered Species Act (CESA).** CDFW administers the California Endangered Species Act (CESA). CESA directs agencies to consult with CDFW on projects or actions that could affect state listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. The CESA prohibits the taking of state-listed endangered or threatened plant and wildlife species. CDFW exercises authority over mitigation projects involving state-listed species, including those resulting from CEQA mitigation requirements. CDFW may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. CDFW requires preparation of mitigation plans in accordance with published guidelines.

**California Environmental Quality Act Review.** Special status species to be evaluated in reviews pursuant to the California Environmental Quality Act (CEQA) include those species listed by the federal and state governments as endangered, threatened, or rare or candidate species for these lists. Endangered or threatened species are protected by the federal Endangered Species Act of 1973 as amended, the California Native Plant Protection Act of 1977, and the California Endangered Species Act of 1970. The California Environmental Quality Act (CEQA) provides additional protection for unlisted species that meet the “rare” or “endangered” criteria defined in Title 14, California Code of Regulations Section 15380. Special status species also include those species listed by

CDFW as Species of Concern (species that face extirpation in California if current population and habitat trends continue), those listed as Fully Protected by CDFW (a designation that provides additional protection to those animals that were rare or faced possible extinction), and bird species designated as Bird Species of Conservation Concern by the USFWS. These state and federal Species of Concern must be evaluated in the context of evaluation under CEQA. Special status species included in CEQA review also include bat species protected by the California Fish and Game Code and that have been designated with conservation priority by the Western Bat Working Group. CEQA also requires evaluation of impacts to plant species on California Native Plant Society (CNPS) Lists 1 and 2.

### **2.3 Protections for Migratory Birds**

The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. On December 22, 2017, the U.S. Department of Interior's Office of the Solicitor issued Memorandum M-37050, which states an interpretation that the Migratory Bird Treaty Act does not prohibit the accidental or "incidental" taking or killing of migratory birds. In response to the Trump Administration's attempted changes to the MBTA, eight states, including California, filed suit in September of 2018, arguing that the new interpretation inappropriately narrows the MBTA and should be vacated. On August 11, 2020, the Southern District of New York ruled in favor of the long-standing interpretation of the MBTA to protect migratory birds, reinstating the historical ban on incidental take. Just days before leaving office, the Trump Administration finalized its pullback of MBTA regulations, despite the ruling of the federal court. On his first day in office, new President Joe Biden placed Trump's changes to the MBTA on hold, pending further review.

The State of California also incorporates the protection of nongame birds and birds of prey, including their nests, in Sections 3800, 3513, 3503, and 3503.5 of the California Fish and Game (CFG) Code. Section 3503 of the Fish and Game Code makes it unlawful to take, possess, or needlessly destroy the nests or eggs of any bird. Section 3503.5 makes it unlawful to take or possess birds of prey (hawks, eagles, vultures, owls) or destroy their nests or eggs. In December of 2018, California issued new guidance specifying that state law includes "a prohibition on incidental take of migratory birds, notwithstanding any federal reinterpretation of the Migratory Bird Treaty Act" by the Department of Interior.

To ensure compliance with the above regulations, bird nesting surveys are generally required if construction work requires vegetation removal during the bird nesting season. CDFW generally considers the nesting season to be from February 1 to August 31 for most bird species. Required setbacks to protect active nests from construction activity are usually in the order of about 250 feet for passerines (songbirds) and 500 feet or more for raptors (birds of prey).

## **2.4 Protections for Bat Populations**

Bats and other non-game mammals are protected in California. Section 4150 of the Fish and Game Code states that all non-game mammals or parts thereof may not be taken or possessed except as otherwise provided in the code or in accordance with regulations adopted by the Fish and Game Commission. Thus, destruction of an occupied, non-breeding, bat roost, resulting in the death of bats, or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), is prohibited.

Bats in this region use a wide variety of roosts, including man-made roosts such as buildings, bridges, and culverts; they also use trees that contain suitable roost habitat. Bats are nocturnal, and select day roosts for rest, protection, pup-rearing and overwintering, and night roosts during seasonal periods of activity during foraging flights. Often, the same day roost provides night roost habitat. Colonial bats roost in groups ranging from several to thousands of individuals, while solitary bats roost in tree foliage, either alone, or consisting of a female and her pup(s). Bats are particularly vulnerable to loss or disturbance of their day roosts, even more so during pup-rearing when bats are not volant (flying) and during winter months when bats are in torpor or hibernation.

Bats in this region of California are also not active year-round. During the maternity season, non-volant young (those unable to fly) of colonial bats remain in the roost until late summer (end of August), after which they may either disperse from the natal roost, or remain into or throughout the winter. During winter months, bats typically enter torpor, the onset of which is dependent upon environmental conditions, primarily temperature and rainfall. To prevent direct mortality of either non-volant young or torpid bats during winter months, roosts must not be disturbed or destroyed until bats are seasonally active, and only after they have been provided a means of escape from the roost. Therefore, bats may be safely evicted in this region between March 1 (or when evening temperatures are above 45F and rainfall is less than ½" in 24 hours) and April 15 (prior to parturition of pups). The next acceptable period for eviction is September 1 through October 15 (after pups become self-sufficiently volant or prior to evening temperatures dropping below 45F and onset of rainfall greater than ½" in 24 hours).

## **2.5 Draft Solano Multispecies Habitat Conservation Plan**

In March 1999, the USFWS, in accordance with Section 7 of the federal Endangered Species Act of 1973 (as amended), issued a Biological Opinion regarding the Solano Project Water Service Contract Renewal between the Bureau of Reclamation and the Solano County Water Agency (SCWA). The contract provides for continued delivery of Solano Project water throughout the SCWA contract service area. SCWA delivers Solano Project water in accordance with its eight Member Agency contracts, which includes the City of Fairfield. The Bureau of Reclamation, SCWA, and the member agencies have agreed to implement conservation measures to ensure the protection of threatened and

endangered species and their habitat within the SCWA contract service area. As a condition of the Biological Opinion, SCWA and its member agencies are required to prepare a Habitat Conservation Plan (HCP), per Section 10(a)1(B) of the Federal Endangered Species Act, in order to obtain authorization for incidental take of listed species that may be impacted by activities associated with future water use in the Solano Project contract service area.

The Administrative Final Solano Multispecies Habitat Conservation Plan (the Solano HCP) was prepared in 2012 (SCWA 2012). The Solano HCP has expanded the scope of the Biological Opinion requirements to comply with the State's Natural Communities Conservation Planning Act (NCCPA) of 2002 and includes additional voluntary plan participants and additional species for incidental take coverage. These additional species include federally listed fish species under the jurisdiction of the National Marine Fisheries Service (NOAA Fisheries) and species listed as threatened or endangered under the State's Endangered Species Act. The HCP also addresses other species of concern (i.e., species recognized by agencies such as the California Department of Fish and Wildlife (CDFW) and groups such as the California Native Plant Society (CNPS) as having declining or vulnerable populations, but not officially listed as threatened or endangered species.) Seventy-seven species are proposed to be covered under the Solano HCP. The purpose of the HCP is to promote conservation of biological diversity consistent with the recognition of private property rights, providing for a healthy economic environment for the citizens, agriculture, and industries, and on-going maintenance and operation of public and private facilities in Solano County.

The Solano Multispecies HCP establishes a framework for complying with State and Federal endangered species regulations while accommodating future urban growth, infrastructure development, and ongoing operation and maintenance activities associated with flood control, irrigation facilities, and other public infrastructure. It will account for all activities undertaken by or under the permitting authority and control of the Plan participants within Solano County.

The project site is in Covered Urban Zone 1 and therefore the project site would be subject to appropriate HCP conservation measures. Figure 3-6 of the HCP (Vegetation and Cover Types) shows the site as "Developed" and not included within any of the mapped vegetation cover types (SCWA 2012). The nearest vegetation cover type mapped in the HCP are nearby areas designated as Valley Floor Grassland Conservation Area.

### **3.0 METHODS**

In preparation for HBG's field inspection of the project site, existing landforms and soil types that may potentially contain sensitive habitats were searched for by reviewing orthorectified digital aerial imagery using Google Earth Pro, USGS topographic mapping, and the NRCS Web Soil Resources Report for the Study Area (USDA 2021). A search of the CDFW-maintained CNDDDB records of occurrence for special status plants and



animals and sensitive habitats was also conducted. This database search included the Fairfield South 7.5-minute quadrangle, which contains the project site, and adjacent USGS 7.5-minute quadrangles. A field inspection of the project site was conducted by HBG biologist Gary Deghi on June 22, 2021. The field survey consisted of walking the parcel on foot and noting the plant communities present and ascertaining if sensitive habitats, including wetlands, are potentially present, and determining if the site provided conditions potentially suitable for special status species. In addition, HBG contracted with an arborist (James P. Allen & Associates) to conduct a Tree Resource Analysis for the property and to prepare a report for separate submittal to the City of Fairfield (James P. Allen & Associates 2021).

#### **4.0 EXISTING BIOLOGICAL SETTING**

##### **4.1 General Project Site Description**

The project site totals approximately 20 acres and is in the northeast quadrant of the intersection of Chadbourne Road and Busch Drive in Fairfield, California. The Project Site is bounded on the north by State Highway 12, on the west by Chadbourne Road, on the south by a small open field and Busch Drive, and on the east by the Jelly Belly Factory. Land uses beyond the Chadbourne Road and Busch Drive consist of various commercial and office uses such that the property is surrounded by developed land uses in every direction. The location of the Project Site is shown in Figure 1. Figure 2 shows the location of the site on the Fairfield South 7.5-minute USGS quadrangle map. Figure 3 shows an aerial photo of the Project Site.

Vegetation on the property consists of a variety of planted trees and weedy and non-native grassland species and landscaping species common in disturbed urban sites. Based on review of the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey, the native soils over the entire site are mapped as Sycamore silty clay loam, 0 to 1% slopes (USDA 2021).

The project site is in Covered Urban Zone 1 and therefore the project site would be subject to appropriate HCP conservation measures. Figure 3-6 of the HCP (Vegetation and Cover Types) shows the site as “Developed” and not included within any of the mapped vegetation cover types (SWCA 2012). The nearest vegetation cover type mapped in the HCP are nearby areas designated as Valley Floor Grassland Conservation Area.

##### **4.2 Plant Communities**

Vegetation communities and habitats at the project site were identified based on the currently accepted List of Vegetation Alliances and Associations (or Natural Communities List) (CDFW 2010). The list is based on A Manual of California Vegetation, Second Edition (Sawyer and et al 2009), which is the National Vegetation Classification applied to California. Nearly the entire Project Site would be considered an Urban

habitat, a habitat type not included in the CDFW Natural Communities List. Small portions of the property would be considered as Non-native Grassland.

The project arborist (James P. Allen Associates) counted a total of 441 planted non-native and native trees found along the property boundaries, in the vicinity of the prior Walmart building, and throughout the parking lots. These trees include 169 coast redwoods (*Sequoia sempervirens*), 101 sycamore trees (*Platanus racemosa*), 75 evergreen pears (*Pyrus kawakamii*), 45 crepe myrtles (*Lagerstroemia* sp.), 35 trident maples (*Acer buergerianum*), 9 alders (*Alnus rhombifolia*), 3 stone pines (*Pinus pinea*), 3 coast live oaks (*Quercus agrifolia*), 1 Callery pear tree (*Pyrus calleryana*), and a single Mexican fan palm (*Washingtonia robusta*). Plants around the building and throughout the parking bays and entrance roadways are planted landscaping shrubs such as Japanese pittosporum (*Pittosporum tobira*), red claws (*Escallonia rubra*), agapantha (*Agapanthus africanus*), and red tip photinia (*Photinia fraseri*).

The non-native grassland at the property is found in three small vacant, ruderal fields. Vegetation in these areas is non-native herbaceous plants and grasses commonly found in disturbed ruderal habitats in urban areas. Plant species found in the ruderal spaces within the property were non-native grasses and herbaceous plants including wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), perennial rye grass (*Festuca perennis*), purple salsify (*Tragopogon parryifolius*), bull thistle (*Cirsium vulgare*), field bindweed (*Convolvulus arvensis*), foxtail barley (*Hordeum murinum*), field mustard (*Brassica rapa*), wild radish (*Raphanus sativus*), prickly lettuce (*Lactuca serriola*), and bristly ox-tongue (*Helminthotheca echioides*), and a small number of sweet fennel (*Foeniculum vulgare*), coyote brush (*Baccharis pilularis*) and artichoke thistle (*Cynara cardunculus*).

In addition to trees lining the property boundaries, a variety of shrubs and other plants are also found in along the edges of the site bordering Highway 12 and the Jelly Belly factory including Cape ivy (*Delairea odorata*), saw-toothed goldenbush (*Hazardia squarrosa*), broadleaved pepperweed (*Lepidium latifolium*), Himalaya berry (*Rubus armeniacus*), and others.

#### **4.3 Animal Populations**

The species discussed in this study are based on review of available literature and a visit to the area by an HBG wildlife biologist. A complete listing of the references from which information was compiled on the flora and fauna inhabiting the region is contained in the References section. The ruderal vegetation in the onsite non-native grassland provides habitat of limited value to wildlife, but many mature trees throughout the property provides potential nesting, foraging, and roosting sites for birds and potential roost sites for any of a variety of species of bat. The eaves of the prior Walmart building can be used as nest sites by swallows, phoebes or other bird species, and the Spanish tile roofs (evident in some places) are candidate sites for roosting bats.

Most of the wildlife observed by HBG during the site visit were bird species. Species observed at the site during the June 22, 2021 field review included turkey vulture (*Cathartes aura*) (flying over the site), red-shouldered hawk (*Buteo lineatus*), Nuttall's woodpecker (*Dryobates nuttallii*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), California scrub-jay (*Aphelocoma californica*), cliff swallow (*Petrochelidon pyrrhonota*), bushtit (*Psaltirparius minimus*) (including a recently-fledged family group), house finch (*Haemorhous mexicanus*) and introduced Eurasian collared-dove (*Streptopelia deaecto*), rock pigeon (*Columba livia*), and house sparrow (*Passer domesticus*).

Very little habitat for amphibians or reptiles occurs on the property and none were observed during the field review. Evidence of mammals on the site included observation of an introduced Eastern gray squirrel (*Sciurus carolinensis*) and dens of Botta's pocket gopher (*Thomomys bottae*). No California ground squirrels (*Otospermophilus beecheyi*) or ground squirrel colonies that could provide burrows that could serve as habitat for amphibians or reptiles or that could be occupied by burrowing owl (*Athene cunicularia*), a special status species, were observed on the project site. Other mammals that likely occur in the area would include those adapted to urban environments such as Virginia opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), Norway rat (*Rattus norvegicus*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*).

Any of the bird species observed using the trees on the project site during the June 22, 2021, field review could nest in the trees on the project site or in or on the prior Walmart building. It is known that nesting by migratory birds occurs on the site with the sighting of a family group of recently fledged bushtits using the redwood trees and surrounding landscaping vegetation near the southeastern corner of the prior Walmart building. The eaves of the Walmart structure are suitable as sites for nesting cliff swallows or black phoebe. Although both cliff swallow and black phoebe were observed on the property, no evidence of nesting by these species was documented during the field review. To ensure compliance with the MBTA and the California Fish and Game Code, bird nesting surveys are warranted prior to construction on the property during the bird nesting season.

Many of the planted trees along the borders of the property, in the area of the prior Walmart structure, along entrance roads, and within parking lots on the property are mature trees, some showing evidence of small cavities and exfoliating bark that could serve as roost sites for populations of bats or that could harbor solitary bats. Trees were too numerous for detailed study as part of this preliminary study, but preconstruction surveys to include a bat habitat assessment of each tree followed by appropriate tree removal methodologies to protect bat populations is warranted. Many examples are found in the literature of bats using Spanish tile roofs as maternity roosts or winter roost sites. The Spanish tile roofs on the Walmart building may be suitable for use by

bats and should be further investigated as part of a preconstruction bat habitat assessment.

#### **4.4 Sensitive Habitats**

During the June 22, 2021, field review, Gary Deghi of HBG conducted an initial reconnaissance investigation of the study area for the presence of wetlands and other Waters of the U.S. potentially subject to federal jurisdiction under the Clean Water Act or Waters of the State subject to state jurisdiction under the Porter-Cologne Water Quality Control Act. The site was found to contain upland habitats consisting of several small fields of ruderal non-native vegetation and areas of previous disturbance, including construction of structures and pavement. No areas were found that would be regulated by the Corps of Engineers as a Water of the U.S. under Section 404 of the Clean Water Act or by the SFBWQCB as a Water of the State of California under the Porter-Cologne Act. No areas were found that would be classified as vernal pools, considered important from a conservation standpoint under Solano HCP criteria. Likewise, no areas at the site would be considered a stream course subject to the jurisdiction of the CDFW pursuant to Section 1602 of the California Fish and Game Code.

No other sensitive habitats occur on the property, including sensitive natural communities as recorded in the CNDDDB.

#### **4.5 Special Status Species**

The CDFW maintains records for the distribution and known occurrences of special status species and sensitive habitats in the CNDDDB. The CNDDDB is organized into map areas based on 7.5 minute topographic quadrangle maps produced by the U.S. Geological Survey (USGS). All known occurrences of special status species are mapped onto quadrangle maps maintained by the CNDDDB. The database gives further detailed information on each occurrence, including specific location of the individual, population, or habitat (if possible) and the presumed current state of the population or habitat.

**Special Status Plant Species.** Table 1 presents a list of special status plants that have been reported by the CNDDDB in the project vicinity within about five miles of the site. An evaluation of the potential for these potential special status species to occur at the site is also included in Table 1. A number of special status plant species listed in Table 1 are known to occur in the Fairfield area. Although some of the rare plants noted in Table 1 are possible in the surrounding areas, all the species included in Table 1 require habitat conditions that are not found at the subject property.

The Non-native grassland on the project site, vegetated with non-native grasses and weedy species, does not provide suitable habitat for any of the special status plant species noted in Table 1. The urbanized nature of the project site, the presence of a high component of non-native species of flora, and the lack of vernal pools, seasonal wetlands, swales or alkali flats or other specialized habitats that may possibly harbor special status plants known to occur in the area make this site a poor candidate for

supporting special status plant species. The project site is not suitable habitat for native species and is not expected to support special status species of flora.

**Special Status Animal Species.** HBG has consulted the CNDDDB to ascertain the potential for special status animal species to occur near the project site. Table 2 presents a list of special status animal species that have been reported by the CNDDDB within about five miles of the site or that are known by HBG biologists to occur in the general vicinity of the property. An evaluation of the potential for special status animal species to occur at the site is also included in Table 2.

Based on review of the CNDDDB, a number of special status animal species have been documented in the vicinity of the project site. Special status animal species that have been known to occur within several miles of the project site include Swainson's hawk (*Buteo swainsoni*) and burrowing owl (*Atene cunicularia*). The weedy/ruderal vegetation and non-native grassland habitat at the project site provides limited opportunities to support either of these species, as described below.

Although the project site is mapped in the Solano HCP (SCWA 2012) as "Developed", nearby areas are included in the Valley Floor Grassland Conservation Area. Two other species of conservation importance with respect to the Valley Floor Grassland Conservation Area described in the Solano HCP are the Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) and California tiger salamander (*Ambystoma californiense*), both federally listed as threatened. The Valley elderberry longhorn beetle depends on the presence of elderberry trees (*Sambucus* sp.) that are usually found along watercourses. No elderberry trees occur on the proposed project site. The project site is also not in any of the core areas identified in the Solano HCP for California tiger salamander conservation, and, in fact, a search of the CNDDDB revealed no records of California tiger salamander anywhere within 5 miles of the project.

Swainson's Hawk- The Swainson's hawk (*Buteo swainsoni*) is a medium-sized hawk that is state-listed in California as a threatened species and designated by the USFWS as a Bird Species of Conservation Concern. Most Swainson's hawk territories in the Central Valley are in riparian systems adjacent to suitable foraging habitats. Nest trees include valley oak, Fremont cottonwood, walnut, large willows, and eucalyptus. Swainson's hawks often nest peripherally to riparian systems of the valley as well as utilizing lone trees or groves of trees in agricultural fields. Suitable foraging areas include grasslands, pastures, alfalfa and other hay crops, and certain grain and row croplands. In the Central Valley, Swainson's hawks find suitable foraging habitat in such agricultural areas near suitable nest sites, however, nesting habitat is in decline due primarily to flood control projects, agricultural practices, and urban development. The population of Swainson's hawk in California's Central Valley was estimated at 1,948 breeding pairs in 2007 (CDFW 2007), with most of this population occurring in the area from Stanislaus County north to Butte County.

Information from the CNDDDB reports a number of Swainson's hawk nesting sites near the City of Fairfield, with the closest record being that of nesting Swainson's hawk approximately 2.2 miles north of the project site along Ledgewood Creek near Abernathy Road and Mankas Corner Road where Swainson's hawks that nested in a valley oak fledged one young in 2013. The next nearest documented Swainson's hawk nest was from a nest site approximately 3 miles away in a riparian area at the upper end of Cordelia Slough, where young were fledged in 2004 (CDFW 2021).

The project site is an urban infill site that is almost entirely paved and developed with structures with several small areas of ruderal field. Mature trees planted as site landscaping and in an area surrounded by development would not be expected to provide suitable nesting sites for Swainson's hawk and the small patches of ruderal non-native grassland would not provide suitable areas for foraging by the species. The Solano HCP suggests that preconstruction surveys be conducted in certain situations to identify and avoid Swainson's hawk nesting areas if construction is proposed during the March 1 to August 31 nesting season. However, such preconstruction surveys would not be warranted in this case. The disturbed nature of the site renders the site virtually useless as a nesting or foraging habitat for Swainson's hawk.

Burrowing Owl- Burrowing owls (*Athene cunicularia*) are small terrestrial owls commonly found in open grassland ranging from western Canada to portions of South America. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. In California, burrowing owls most commonly use burrows of California ground squirrel, but they also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers during migration. While foraging, owls will perch on raised burrow mounds or other topographic relief such as rocks, tall plants, fence posts, and debris piles to attain better visibility. Occupancy of suitable burrowing owl habitat can be verified at a site by an observation of at least one burrowing owl, or, alternatively, presence of "decoration" at or near a burrow entrance which can include molted feathers, cast pellets, prey remains, eggshell fragments, or excrement.

The burrowing owl is a USFWS Bird Species of Conservation Concern and a California Department of Fish and Wildlife (CDFW) species of special concern (CDFW 2021). CDFW adopted survey protocol and mitigation guidelines for burrowing owls as described in a March 7, 2012, Staff Report (CDFW 2012).

A number of burrowing owl occurrences are noted in the CNDDDB in this part of Solano County, the nearest one being about one mile southeast of the project site (CDFW 2021). Field review of the project site by an HBG wildlife biologist revealed that nearly the entire site has been subject to construction of a large structure or has been paved for access and parking. The small areas of vegetation are ruderal weedy fields lacking in

vegetation suitable for foraging by burrowing owl and lacking burrows of California ground squirrels that could support burrowing owl. For projects proposed in locations where the habitat is conducive to presence of burrowing owl, the California Department of Fish and Wildlife may recommend a preconstruction survey to determine whether burrowing owls are present, and this is reflected in the mitigation recommendations contained within the Solano HCP. Preconstruction surveys would not be warranted in this case due to the lack of habitat suitable to support the species.

## **5.0 BIOLOGICAL EVALUATION**

### **5.1 Standards of Significance**

According to CEQA Guidelines (Appendix G), the project would be considered to have a significant impact on biological resources if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) 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.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## **5.2 Evaluation**

### **1) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

The Project would not result in any significant adverse impacts on special status plant or animal species and would not substantially reduce the number or restrict the range of a rare, endangered, or threatened species of fauna. None of the special status plant or animal species discussed in Tables 1 and 2 have the potential to occur at the construction site. More detail on special status species is presented below.

**Special Status Plants.** All of the special status plant species mentioned in Table 1 as occurring in the project vicinity require habitat conditions that are not found at the site of the proposed project. The urbanized nature of the project site and the project area, the presence of a high component of non-native vegetation at the site, and the lack of specialized habitats known to harbor special status plants occurring in the vicinity, make this site a poor candidate for supporting special status plant species. No special status plant species occur on the property, therefore, no impacts to special status species of flora would result from construction of the proposed project at the site.

**Special Status Animals.** Two special status animal species that have occurred in the vicinity of the project are Swainson's hawk and burrowing owl:

*Swainson's hawk*- This infill site, previously developed with a Walmart and associated parking areas, with only small areas of weedy ruderal vegetation, does not provide habitat that would be suitable as a nesting or foraging habitat by Swainson's hawk, which prefers foraging in agricultural fields and grasslands in the vicinity of riparian systems. No impacts to Swainson's hawk would result from the project, and mitigation to protect nesting hawks or loss of foraging habitat would not be warranted.

*Burrowing owl*- Habitat for burrowing owl does not occur on the proposed project site. There are no ground squirrels or ground squirrel colonies on the property, therefore there are no burrows suitable to support burrowing owl. No impacts to burrowing owl would result from construction of the proposed project and mitigation in the form of preconstruction surveys would not be warranted.

### **2) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?**

No riparian habitat or other sensitive natural community as defined by the CNDDB, Solano HCP, or the CEQA guidelines occurs on or in the vicinity of the subject parcel.



**3) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

As no wetlands or waters of the U.S. or state are found on the property, development of the property as proposed would not result in filling (direct impacts) or any indirect impacts to any area that would be subject to the Clean Water Act jurisdiction of the U.S. Army Corps of Engineers, the Porter-Cologne Act jurisdiction of the SFBRWQCB, or the Section 1602 Fish and Game Code jurisdiction of CDFW. No permits from the USACE, SFBRWQCB, or CDFW would be required.

**4) Would the project 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?**

Although a number of wildlife species, including a variety of bird species, were observed on the property during the field survey, the proposed construction would not result in significant biological impacts at this disturbed, urban, infill site.

**Nesting birds.** Nesting bird species protected by the federal Migratory Bird Treaty Act or California Fish and Game Code could be impacted during project construction. The project will require removal of a large number of trees that could provide suitable substrate for nesting birds. In fact, a family group of recently-fledged bushtits was observed on the property, indicating that nesting by this species occurred on the site during the 2021 nesting season. Work related to construction involving the removal of trees or vegetation or related to building demolition during the February 1 to August 1 breeding season of birds could result in mortality of nesting avian species, if they are present. To ensure compliance with the MBTA and the California Fish and Game Code, bird nesting surveys are generally required if construction work requires vegetation removal during the bird nesting season.

**Impact 1:** The removal of trees and vegetation or demolition of the prior Walmart structure during the February 1 to August 31 breeding season could result in mortality of nesting avian species if they are present.

**Mitigation Measure 1:** If construction is to be conducted during the breeding season of migratory birds (February 1 to August 31), a qualified biologist should conduct a pre-construction breeding bird survey in areas of suitable habitat (trees and vegetation, and also eaves and other building structures) within 15 days prior to the onset of construction activity. If bird nests are found, appropriate buffer zones should be established around all active nests to protect nesting adults and their young from direct or indirect impacts related to project construction disturbance. Size of buffer zones should be determined per recommendations of the qualified biologist based on site conditions and species

involved. Buffer zones should be maintained until it can be documented that either the nest has failed or the young have fledged.

**Potential Bat Roosts.** The proposed project has the potential to affect special status and common roosting bat species during either the removal of trees or demolition of the prior Walmart structure (especially during removal of the Spanish tile roof). Bats have the potential to roost in existing vacant or underutilized buildings, other man-made structures, and could be present within the structure. In addition, many of the planted trees along the borders of the property, in the area of the prior Walmart structure, along entrance roads, and within parking lots on the property are mature trees, some showing evidence of small cavities and exfoliating bark that could serve as roost sites for populations of bats or could harbor solitary bats.

Significant impacts to bats prohibited under the Fish and Game Code could result from disruption of an occupied non-breeding bat roost or the loss of a maternity colony of bats. This may occur through direct disturbance from destruction of a roost site during removal or pruning of trees or an indirect disturbance causing behavioral alterations due to construction noise or vibration, or by increased human activity in the area. A bat habitat assessment conducted by a bat biologist prior to construction could determine if suitable habitat for bats is found in trees to be removed or trimmed and allow development of mitigation strategies to achieve humane removal of bat populations if present.

**Impact 2:** Demolition of the Walmart structure or removal of mature trees could result in destruction of maternity roosts, hibernacula, day roosts, and/or night roosts of bat species protected by the California Fish and Game Code.

**Mitigation Measure 2:** The applicant should conduct a Bat Habitat Assessment of all trees to be removed or trimmed and all structures scheduled for demolition. The habitat assessment of the prior Walmart structure would consist of a visual examination of the exterior and interior surfaces and spaces for suitable entry points, and signs of roosting bats (fecal pellet accumulations, urine or fur staining at entrances, insect prey remains, live or dead bats, characteristic odor, etc.). The habitat assessment of trees will determine the presence of suitable roosting habitat in the form of tree cavities that could harbor colonial bats or exfoliating bark or suitable foliage to support solitary bats. If no bat habitat is found during the assessment, the structure can be demolished or the tree can be removed or trimmed. If trees or structures contain suitable potential bat habitat, presence of roosting bats is presumed, and additional mitigation is necessary.

**Trees:** Schedule removal of trees with suitable bat habitat with a bat biologist present during seasonal periods of bat activity (March 1 to April 15 or September 1 to October 15). If trees containing suitable

potential bat habitat are scheduled for removal outside of these seasonal periods of bat activity, conduct a visual survey of all suitable roost features to determine if bats are present, and remove the tree if bats are not present. If roost features cannot be completely surveyed due to access, cavity depth, etc. and uncertainty remains regarding the potential presence of roosting bats, tree removal should be delayed until the appropriate seasonal period of bat activity under the supervision of a qualified bat biologist.

**Structures:** If structures are found to contain suitable potential roost habitat or signs of past or present use by bats, presence of roosting bats is presumed and a detailed visual survey or night emergence survey will be conducted in an effort to verify the absence of bats. Night emergence surveys can only be conducted when bats are active. Buildings containing bats or signs of past or present use by bats will require either humane eviction (installation of blockage materials and one-way exits), or partial dismantling, and only during seasonal periods of bat activity between March 1 to April 15 or September 1 to October 15.

**Water Quality.** During all activities involving land disturbance, the applicant will require the contractor to follow all applicable Best Management Practices from the California Stormwater Quality Best Management Practices Handbook for Construction Activities. With the implementation of Best Management Practices, including the use of straw wattles, covering of stockpile areas and other practices, there would be little possibility of siltation within stormwater runoff that could adversely affect the water quality of downstream aquatic habitats.

No impacts would occur to fish or wildlife associated with streams or wetlands anywhere in the project area. The project will not cause a fish or wildlife population to drop below self-sustaining levels.

**5) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The project would not conflict with any policies of the City of Fairfield or of the Solano HCP.

**6) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

The project has been reviewed pursuant to requirements of the Solano HCP and NCCP. The member agencies, including the City of Fairfield, have agreed to implement conservation measures to ensure the protection of threatened and endangered species and their habitat within the Solano County Water Agency contract service area. The

project site is in Covered Urban Zone 1 and therefore the project site would be subject to appropriate HCP conservation measures. Figure 3-6 of the HCP (Vegetation and Cover Types) shows the site as “Developed” and not included within any of the mapped vegetation cover types (SCWA 2012). The nearest vegetation cover type mapped in the HCP are nearby areas designated as Valley Floor Grassland Conservation Area. The project is consistent with measures to ensure protection of special status species covered by the HCP/NCCP.

As a result of this Biological Evaluation, we find that the proposed new construction will be consistent with requirements of the City of Fairfield and the Solano HCP and no significant biological impacts will result from construction at the site. If you have any questions regarding this Biological Report, please call either me or Dr. Terry Huffman at 415-925-2000.

Sincerely,

*Gary Deghi*

Gary Deghi  
Vice President/Senior Environmental Scientist

## **6.0 REFERENCES**

California Department of Fish and Game. 1994. A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607 California Fish and Game Code. 1994.

California Department of Fish and Wildlife. 2007. Final Report, California Swainson's Hawk Inventory 2005-2007. U.C. Davis Wildlife Health Center, Department of Fish and Game Resource Assessment Program, Final Report. May 31, 2007.

California Department of Fish and Wildlife. 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program. September.  
<https://wildlife.ca.gov/Data/VegCAMP>

California Department of Fish and Wildlife. 2012. Staff Report on Burrowing Owl Mitigation. Dated March 7, 2012.

California Department of Fish and Wildlife. 2021. Natural Heritage Division, Natural Diversity Data Base for the Fairfield South Quadrangle Map and surrounding areas. July 2021.

California Department of Fish and Wildlife. 2021. Special Animals List For State of California produced by Biogeographic Data Branch, California Natural Diversity Database, California Department of Fish and Wildlife. Sacramento, CA. List dated July 2021.

California Department of Fish and Wildlife. 2021. California Natural Diversity Database (CNDDDB). State and Federally Listed Endangered, Threatened, and Rare Plants of California. California Department of Fish and Wildlife. Sacramento, CA. List dated June 2021.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website  
<http://www.rareplants.cnps.org>

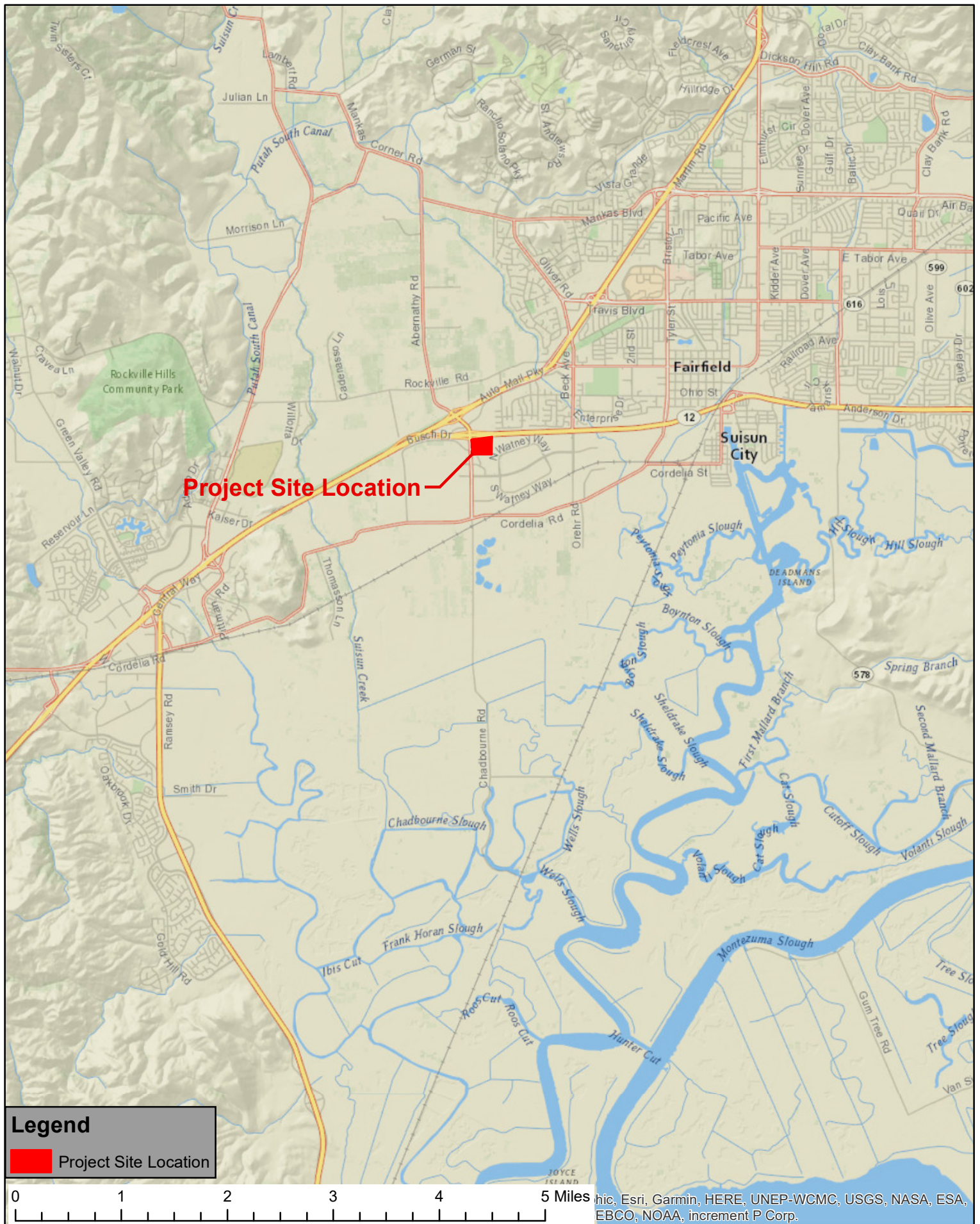
[James P. Allen & Associates. 2021. Tree Resource Analysis, 80-12 Industrial Center, 300 Chadbourne Road, Fairfield, CA. Prepared for Dr. Terry Huffman of Huffman-Broadway Group, Inc. September 13, 2013.](#)

National Geographic Society. 2017. *Field Guide to the Birds of North America*. Seventh edition. National Geographic Society. Washington, D.C.

Reid, Fiona A. 2006. *Mammals of North America*. Peterson Field Guides. Fourth Edition. Houghton Mifflin Co., Boston.

- Sawyer, J. O., T. Keeler-Wolf and J.M. Evens. 2009. *A Manual of California Vegetation*. Second Edition. In cooperation with The Nature Conservancy and the California Department of Fish and Game. California Native Plant Society. Sacramento, California.
- Sibley, David A. 2014. *The Sibley Guide to Birds*. Second Edition. National Audubon Society. Chanticleer Press, Inc. New York, N.Y. 624 pp.
- Solano County Water Agency. 2012. Final Administrative Draft Solano Multispecies Habitat Conservation Plan and Natural Community Conservation Plan, Solano County Water Agency, October 2012.
- Stebbins, R.C. 2003. *Western Reptiles and Amphibians*. Peterson Field Guides. Houghton Mifflin Co., Boston. Third edition.
- U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*, Technical Report Y-87-1. Prepared by the Environmental Laboratory, Department of the Army, Waterways Experiment Station, Vicksburg, MS.
- U.S. Army Corps of Engineers. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Department of Agriculture, Natural Resources Conservation Service [NRCS]. 2021. Web Soil Survey, Solano County. Natural Cooperative Soil Survey. June 2021.
- U.S. Fish and Wildlife Service. 2015. Listings and occurrences for California. Federally listed threatened and endangered plant and animal species in California. <https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=CA&stateName=California&statusCategory=Listed>



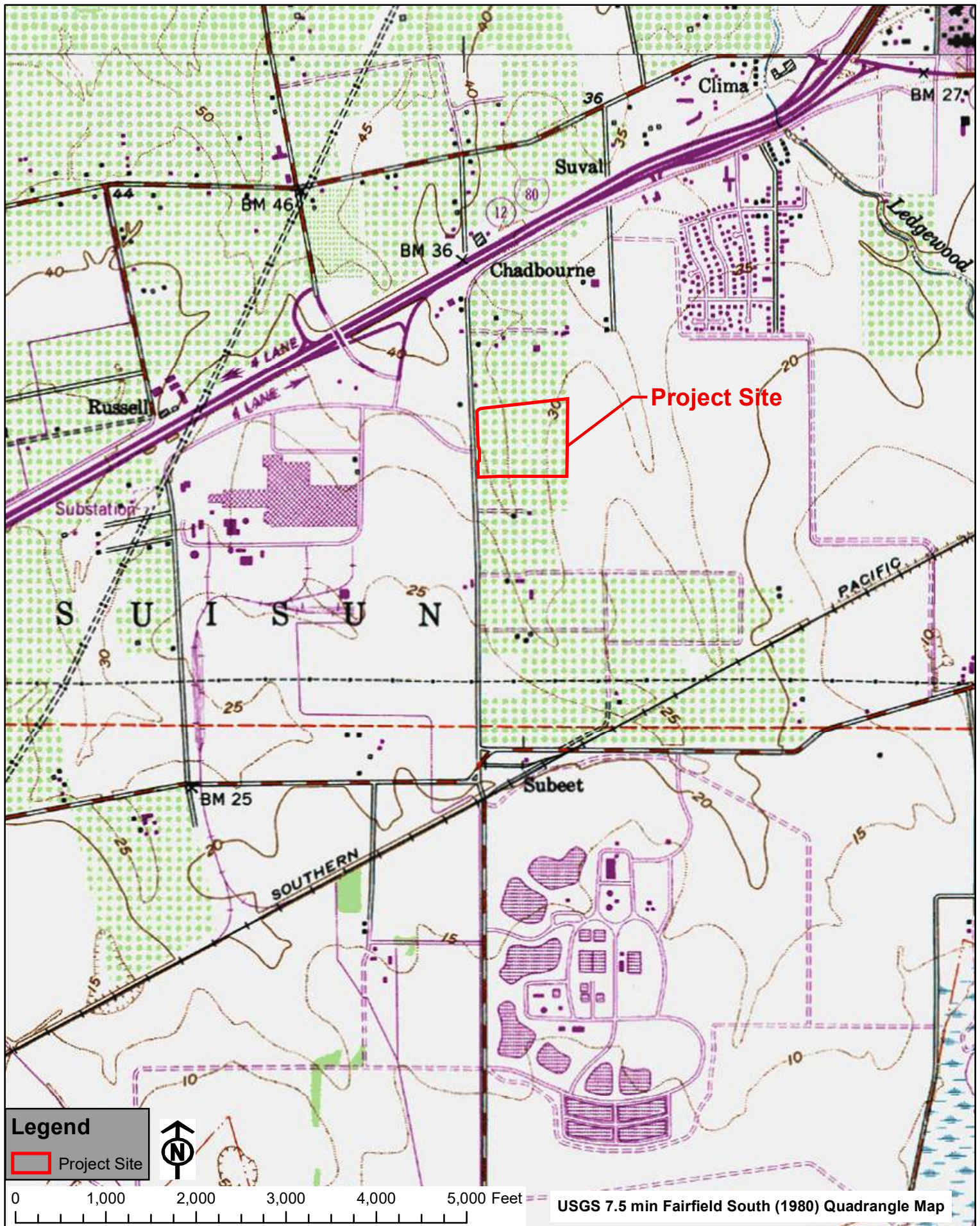


**Figure 1. Project Site Location Map**

80-12 Industrial Center  
City of Fairfield, Solano County, California

**Huffman-Broadway Group, Inc.**  
ENVIRONMENTAL REGULATORY CONSULTANTS





**Figure 2. USGS Topographic Map of the Project Area**

80-12 Industrial Center  
City of Fairfield, Solano County, California





**Figure 3. Aerial Image of the Project Site**

80-12 Industrial Center  
City of Fairfield, Solano County, California

**Huffman-Broadway Group, Inc.**  
ENVIRONMENTAL REGULATORY CONSULTANTS



**TABLE 1. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT, SOLANO COUNTY, CALIFORNIA**

<b>SPECIES<sup>1</sup></b>	<b>STATUS<sup>2</sup> FED/STATE/CNPS</b>	<b>HABITAT/RANGE</b>	<b>OCCURRENCE</b>
Alkali milk-vetch ( <i>Astragalus tener</i> var. <i>tener</i> )	--/--/1B.2	Inhabits low ground, alkali flats and flooded land in valley and foothill grasslands or in playas or vernal pools. 1-170m.	Not present. Suitable habitat is not found at the project site.
Vernal pool smallscale ( <i>Atriplex persistens</i> )	--/--/1B.2	Inhabits alkali vernal pools; known from scattered locations in the Delta and Central Valley basin. 10-115m.	Not present. Suitable habitat is not found at the project site.
Big-scale (California) balsamroot ( <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i> )	--/--/1B.2	Chaparral, cismontane woodland, valley and foothill grassland, sometimes on serpentinite. 90-1555m.	Not present. Suitable habitat is not found at the project site.
Lyngbye's sedge ( <i>Carex lyngbyei</i> )	-/-/2B.2	Marshes and swamps (brackish or freshwater) at sea level.	Not present. Suitable habitat is not found at the project site.
Pappose tarplant ( <i>Centromadia parryi</i> ssp. <i>parryi</i> )	--/--/1B.2	Found in mesic and often alkaline site in coastal prairie, meadows and seeps, coastal salt marsh and valley and foothill grasslands. 2-420m	Not present. Suitable habitat is not found at the project site.
Soft salty bird's beak <i>Chloropyron molle</i> ssp. <i>molle</i>	FT/Rare/1B.1	Found in Coastal salt marsh with <i>Distichlis</i> , <i>Salicornia</i> , <i>Frankenia</i> , etc. 0-5 m.	Not present. Suitable habitat is not found at the project site.
Bolander's water-hemlock ( <i>Cicuta maculata</i> var. <i>bolanderi</i> )	--/--/2B.1	Found in fresh or brackish water. 0-200m.	Not present. Suitable habitat is not found at the project site.

**TABLE 1. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT, SOLANO COUNTY, CALIFORNIA**

SPECIES <sup>1</sup>	STATUS <sup>2</sup> FED/STATE/CNPS	HABITAT/RANGE	OCCURRENCE
Suisun thistle ( <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i> )	FE/--/1B.1	Found with <i>Scirpus</i> and <i>Distichlis</i> near small watercourses within salt marsh 0-1m; only two known locations (Grizzly Island and lower Peytonia Slough), both in Solano, Co.	Not present. Suitable habitat is not found at the project site.
Mt. Diablo buckwheat ( <i>Eriogonum truncatum</i> )	--/--/1B.1	On dry, exposed clay or sandy substrates in chaparral, coastal scrub and valley and foothill grasslands. 3-350m.	Not present. Suitable habitat is not found at the project site.
Jepson's coyote-thistle ( <i>Eryngium jepsonii</i> )	--/--/1B.2	On clay soils in vernal pools and valley and foothill grassland. 3-305 m.	Not present. Suitable habitat is not found at the project site.
San Joaquin spearscale ( <i>Extriplex joaquiniana</i> )	--/--/1B.2	Chenopod scrub, meadows, playas, valley and foothill grassland and vernal pools. Usually in seasonal alkali wetlands or alkali sink scrub with <i>Distichlis</i> , <i>Frankenia</i> , etc. 1-835m.	Not present. Suitable habitat is not found at the project site.
Contra Costa goldfields ( <i>Lasthenia conjugens</i> )	FE/--/1B.1	Inhabits vernal pools, swales and low depressions in open grassy areas. Most remaining occurrences restricted to the Fairfield region. 1-470m.	Not present. Suitable habitat is not found at the project site.
Delta tule pea ( <i>Lathyrus jepsonii</i> var. <i>jepsonii</i> )	--/--/1B.2	Freshwater and brackish marshes with <i>Typha</i> , <i>Rosa</i> , <i>Juncus</i> , <i>Scirpus</i> etc. Usually on the marsh the slough edges.	Not present. Suitable habitat is not found at the project site.
Legenere ( <i>Legenere limosa</i> )	--/--/1B.1	Inhabits the beds of vernal pools. 1-880m.	Not present. Suitable habitat is not found at the project site.

**TABLE 1. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT, SOLANO COUNTY, CALIFORNIA**

<b>SPECIES<sup>1</sup></b>	<b>STATUS<sup>2</sup> FED/STATE/CNPS</b>	<b>HABITAT/RANGE</b>	<b>OCCURRENCE</b>
Mason's lilaeopsis ( <i>Lilaeopsis masonii</i> )	--/CR/1B.1	Found in the tidal zone in muddy or silty soils with freshwater and brackish marshes and riparian scrub. 1-10m.	Not present. Suitable habitat is not found at the project site.
Bearded popcornflower ( <i>Plagiobothrys hystericulus</i> )	--/--/1B.1	Vernal pools, valley and foothill grassland in wet sites. 0-275m.	Not present. Suitable habitat is not found at the project site.
California alkali grass ( <i>Puccinellia simplex</i> )	--/--/1B.2	Found in meadows and seeps, chenopod scrub, and vernal pools in foothill grasslands. Found in alkaline, vernal mesic sinks, flats, and lake margins. 1-915 M.	Not present. Suitable habitat is not found at the project site.
Suisun Marsh aster ( <i>Symphotrichum lentum</i> )	--/--/1B.2	Found in freshwater and brackish marshes and swamps, often along sloughs with <i>Phragmites</i> , <i>Scirpus</i> , <i>Typha</i> , etc. 0-3m.	Not present. Suitable habitat is not found at the project site.
Long-styled sand-spurrey ( <i>Spergularia macrotheca</i> var. <i>longistyla</i> )	--/--/1B.2	Found in alkaline marshes and swamps, meadows and seeps. 0-220 M.	Not present. Suitable habitat is not found at the project site.
Slender-leaved pondweed ( <i>Stuckenia filiformis</i> ssp. <i>alpina</i> )	--/--/2B.2	Found in marshes and swamps, in shallow, clear water of lakes and drainage channels. 300-2150m.	Not present. Suitable habitat is not found at the project site.
Saline clover ( <i>Trifolium depauperatum</i> var. <i>hydrophilum</i> )	--/--/1B.2	Marshes and swamps, mesic alkaline sites, vernal pools in valley and foothill grassland. 0-300m.	Not present. Suitable habitat is not found at the project site.
Oval-leaved viburnum ( <i>Viburnum ellipticum</i> )	--/--/2B.3	Chaparral, cismontane woodland and lower montane coniferous forest. 215-1400m.	Not present. Suitable habitat is not found at the project site.

1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the Fairfield South 7.5 Minute Quadrangle Map and surrounding areas, information dated July 2021.

**TABLE 1. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT, SOLANO COUNTY, CALIFORNIA**

2. Status Codes:

FE	Federally listed Endangered
FT	Federally listed Threatened
FPE	Federally Proposed Endangered
FPT	Federally Proposed Threatened
CE	California State-listed Endangered
CT	California State-listed Threatened
CR	California Rare
FP	California Fully Protected
CSC	California Species of Special Concern

California Rare Plant Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

California Rare Plant Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.

California Rare Plant Rank 2A: Plants presumed extirpated in California, but more common elsewhere.

California Rare Plant Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere.

California Rare Plant Rank 3: Plants about which more information is needed – a review list.

California Rare Plant Rank 4: Plants of limited distribution – a watch list.

CNPS 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)

0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

SPECIES <sup>1</sup>	STATUS <sup>2</sup> FED/STATE	HABITAT/RANGE	OCCURRENCE
<b>Invertebrates</b>			
Vernal Pool fairy shrimp ( <i>Branchinecta lynchi</i> )	FT/--	Inhabits vernal pools; occurs throughout the Delta and Central Valley.	Not present. Suitable habitat is not found at the project site.
California linderiella ( <i>Linderiella occidentalis</i> )	--/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	Not present. Suitable habitat is not found at the project site.
Western bumble bee ( <i>Bombus occidentalis</i> )	--/--	This species was once common and widespread, but the species has declined precipitously from Central California to Southern British Columbia, perhaps from disease.	This widespread and once common species could occur almost anywhere in the general area of the site and is included in the CNDDDB due to a general decline in bee populations in recent years.
Crotch bumble bee ( <i>Bombus crotchii</i> )	--/--	Found in coastal California east to the Sierra-Cascade Crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> and <i>Eriogonum</i> .	This species occurs primarily in California and is included in the CNDDDB due to sharp declines over the last decade.
Valley Elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	FT/--	Inhabits blue elderberry bushes (host plant); restricted to the Central Valley and adjacent foothills.	Not present. Suitable habitat is not found at the project site. No elderberry plants were observed during the field review.

**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

SPECIES <sup>1</sup>	STATUS <sup>2</sup> FED/STATE	HABITAT/RANGE	OCCURRENCE
Monarch butterfly ( <i>Danaus plexippus</i> ) (wintering sites)	--/--	Winter roost sites located in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	Not present. Suitable habitat is not found at the project site.
<b>Fish</b>			
Longfin smelt ( <i>Spirinchus thaleichthys</i> )	FC/CE	Found in open waters of estuaries, mostly in the middle or bottom of the water column. Euryhaline, nektonic and anadromous. Prefers salinities of 15030 ppt but can be found in both freshwater and seawater.	Not present. Suitable habitat is not present at the site.
Sacramento splittail ( <i>Pogonichthys macrolepidotus</i> )	--/CSC	Adult Sacramento Splittail migrate upstream from brackish areas to spawn in freshwater areas subject to flooding, such as the lower reaches of rivers, dead end sloughs, and in larger sloughs such as Montezuma Slough.	Not present. Suitable habitat is not present at the site.

**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

SPECIES <sup>1</sup>	STATUS <sup>2</sup> FED/STATE	HABITAT/RANGE	OCCURRENCE
<b>Amphibians</b>			
California tiger salamander ( <i>Ambystoma californiense</i> )	FT/CT,WL	Found in annual grasslands and grassy understory of valley-foothill hardwood habitats in central and northern California. Needs underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water source for breeding.	Not present. Suitable habitat is not found at the project site.
California red-legged frog ( <i>Rana draytonii</i> )	FT/CSC	Mostly found in lowlands and foothills in/near permanent sources of deep water but will disperse far during and after rain. Prefers shorelines with extensive vegetation. Requires 11-20 weeks of permanent water for larval development and requires access to aestivation habitat.	Not present. Suitable habitat is not found at the project site.



**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

<b>SPECIES<sup>1</sup></b>	<b>STATUS<sup>2</sup> FED/STATE</b>	<b>HABITAT/RANGE</b>	<b>OCCURRENCE</b>
Foothill yellow-legged frog ( <i>Rana boylei</i> )	--/CSC	Partly shaded shallow streams with riffles, with a rocky substrate in a variety of habitats; needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Frogs are usually found on stream banks, especially near riffles.	Not present. Suitable habitat is not found at the project site.
<b>Reptiles</b>			
Western pond turtle ( <i>Emys marmorata</i> )	--/CSC	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nests found up to 0.5 miles from water.	Not present. Suitable habitat is not found at the project site.
<b>Birds</b>			
Snowy egret ( <i>Egretta thula</i> )	--/--	Colonial nester with nest sites situated in protected beds of dense tules. Rookery sites are situated close to foraging areas. Found in marshes, tidal-flats, streams, wet meadows, and borders of lakes.	Not present. Suitable habitat for a rookery is not found at the site.

**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

<b>SPECIES<sup>1</sup></b>	<b>STATUS<sup>2</sup> FED/STATE</b>	<b>HABITAT/RANGE</b>	<b>OCCURRENCE</b>
Black-crowned night-heron ( <i>Nycticorax nycticorax</i> ) [Nesting]	--/--	Colonial nester, usually in trees but occasionally in tule patches. Rookery sites are located adjacent to foraging areas including lake margins, mud-bordered bays and marshy spots.	Not present. Suitable habitat for a rookery is not found at the site.
Swainson's hawk (nesting) ( <i>Buteo swainsoni</i> )	BCC/CT	Nests in trees and riparian stands; summer migrant to Central Valley. Suitable foraging areas include grasslands, pastures, alfalfa and other hay crops, and certain grain and row croplands.	Not present. Suitable nesting habitat is not found at the project site.
Northern harrier ( <i>Circus hudsonius</i> ) (nesting)	--/CSC	Forages and nests in grasslands, marshes, and agricultural fields; occurs throughout California, concentrated in the Central Valley and coastal valleys.	Not present. Suitable nesting habitat is not found at the project site.
White-tailed kite ( <i>Elanus leucurus</i> ) (nesting)	--/FP	Nests in dense oaks, willows, other trees; occurs in the Central Valley and adjacent low foothills.	Not present. Suitable nesting habitat is not found at the project site.

**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

<b>SPECIES<sup>1</sup></b>	<b>STATUS<sup>2</sup> FED/STATE</b>	<b>HABITAT/RANGE</b>	<b>OCCURRENCE</b>
Bald eagle ( <i>Haliaeetus leucocephalus</i> ) (nesting and wintering)	BCC/CE,FP	In winter, may be found throughout most of California at lakes, reservoirs, rivers and some rangelands and coastal wetlands. California's breeding habitats are mainly located in mountains and foothill forests near permanent water sources.	Not present. Suitable nesting habitat is not found at the project site.
American Peregrine falcon ( <i>Falco peregrinus</i> ) [nesting]	BCC/FP	Inhabits open wetlands near cliffs, also occurs in some cities where nests on buildings and bridges.	Not present. Suitable nesting habitat is not found at the site.
California black rail ( <i>Laterallus jamaicensis coturniculus</i> )	BCC/CT,FP	Inhabits tidal salt and brackish marsh bordering sloughs and large bays.	Not present. Suitable habitat is not found at the project site.
California Ridgway's rail ( <i>Rallus obsoletus obsoletus</i> )	FE/CE,FP	Inhabits tidal salt marsh along larger sloughs and bays in the SF Bay and lower Delta.	Not present. Suitable habitat is not found at the project site.
Yellow rail ( <i>Coturnicops noveboracensis</i> )	BCC/CSC	Found in freshwater marshes. Summer resident in the eastern Sierra and Modoc County.	Not present. Suitable habitat is not present at the site.
Burrowing owl ( <i>Athene cunicularia</i> ) (burrow sites)	BCC/CSC	Nests in mammal burrows, rock cavities in grassland and scrub; occurs throughout much of mid and lower California.	Not present. No ground squirrels or ground squirrel colonies. Suitable habitat is not found at the project site.

**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

SPECIES <sup>1</sup>	STATUS <sup>2</sup> FED/STATE	HABITAT/RANGE	OCCURRENCE
Loggerhead shrike ( <i>Lanius ludovicianus</i> ) (nesting)	BCC/CSC	Habitat includes open areas such as desert, grasslands, and savannah. Nests in thickly foliated trees or tall shrubs. Forages in open habitat which contains trees, fence posts, utility poles and other perches.	Not present. Suitable nesting habitat is not found at the project site.
Saltmarsh common yellowthroat ( <i>Geothlypis trichas sinuosa</i> )	BCC/CSC	Forages and nests in dense fresh and saltwater marsh habitat in the San Francisco Bay and lower Delta.	Not present. Suitable habitat is not found at the project site.
Suisun Song sparrow ( <i>Melospiza melodia maxillaris</i> )	BCC/CSC	Forages and nests in dense marsh and scrub habitat along the margins of Suisun Bay.	Not present. Suitable habitat is not found at the project site.
Tri-colored blackbird ( <i>Agelaius tricolor</i> ) [Nesting colony]	BCC/CT,CSC	Breeds near freshwater, usually in tall emergent vegetation. Requires open water with protected nesting substrate. Colonies prefer heavy growth of cattails and tules. Uses grasslands and agricultural lands for foraging.	Not present. Suitable habitat is not found at the site.
<b>Mammals</b>			
Hoary bat ( <i>Lasivurus cinereus</i> )	--/--	Prefers open habitats with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.	Unlikely. A preconstruction Bat Habitat Assessment will ensure that mitigation strategies to protect bat populations can be implemented.

**TABLE 2. SPECIAL STATUS ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE PROJECT, FAIRFIELD, SOLANO COUNTY, CALIFORNIA**

SPECIES <sup>1</sup>	STATUS <sup>2</sup> FED/STATE	HABITAT/RANGE	OCCURRENCE
Suisun shrew ( <i>Sorex ornatus sinuosus</i> )	--/CSC	Inhabits tidal marshes along the northern shores of San Pablo and Suisun Bays.	Not present. Suitable habitat is not found at the project site.
Salt Marsh harvest mouse ( <i>Reithrodontomys raviventris</i> )	FE/CE,FP	Inhabits pickleweed salt marsh flats in the San Francisco Bay and lower Delta.	Not present. Suitable habitat is not found at the project site.

1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the Fairfield South 7.5 Minute Quadrangle Map and surrounding areas, information dated July 2021.

2. Status Codes:

FE Federally listed Endangered

FT Federally listed Threatened

FPE Federally Proposed Endangered

FPT Federally Proposed Threatened

BCC USFWS Bird Species of Conservation Concern

CE California State-listed Endangered

CT California State-listed Threatened

CR California Rare

FP California Fully Protected

CSC CDFW Species of Special Concern

WL CDFW Watch List Species