

July 1, 2022

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Subject: Biological resources letter report for the approximately 27.6-acre 28th Street & Q Street Project located in unincorporated Sacramento County, California

Dear Nick Avdis:

Bargas Environmental Consulting (Bargas) is pleased to provide this biological resources letter report for the approximately 27.6-acre 28th & Q Street Project (hereafter, Project) located in unincorporated Sacramento County, California (**Exhibit 1**). As described herein, the Project site contains disturbed habitats that could potentially support four special status plant species, three special status invertebrate species, and two special status raptor species in addition to other migratory birds. There are also aquatic features present which are anticipated to require wetland regulatory permitting if impacts are anticipated from the proposed Project. The following letter details the resources analyzed during desktop analysis and methods used during the field survey.

Project Location & Description

The Project is located west of 28th Street, north of Q Street, and east of 26th Street, approximately 0.27-mile south of U Street in the census designated place of Rio Linda in unincorporated Sacramento County, California. The proposed Project includes the following Assessor's Parcel Numbers:

- 208-0022-001
- 208-0012-016
- 208-0022-002
- 208-0012-017
- 208-0012-015
- 208-0012-020

The approximate center point of the Project is at coordinates 38.699191°, -121.403734° and is located within the Del Paso Land Grant.

This study was conducted in support of potential future parcel rezoning.

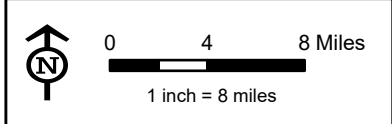
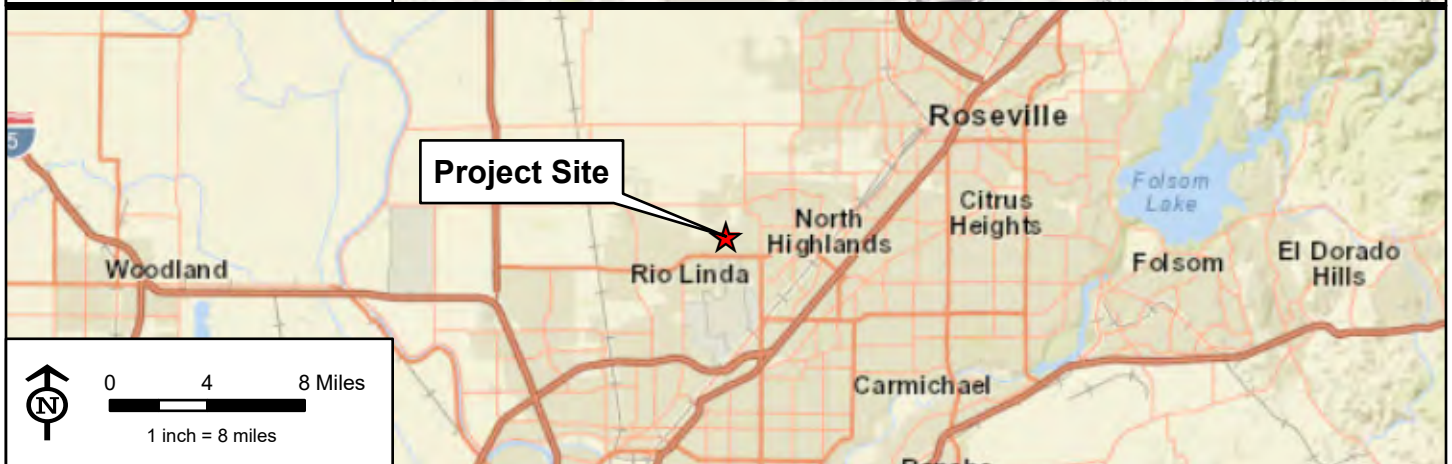
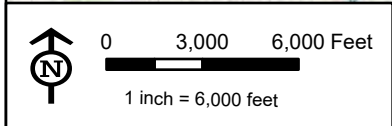
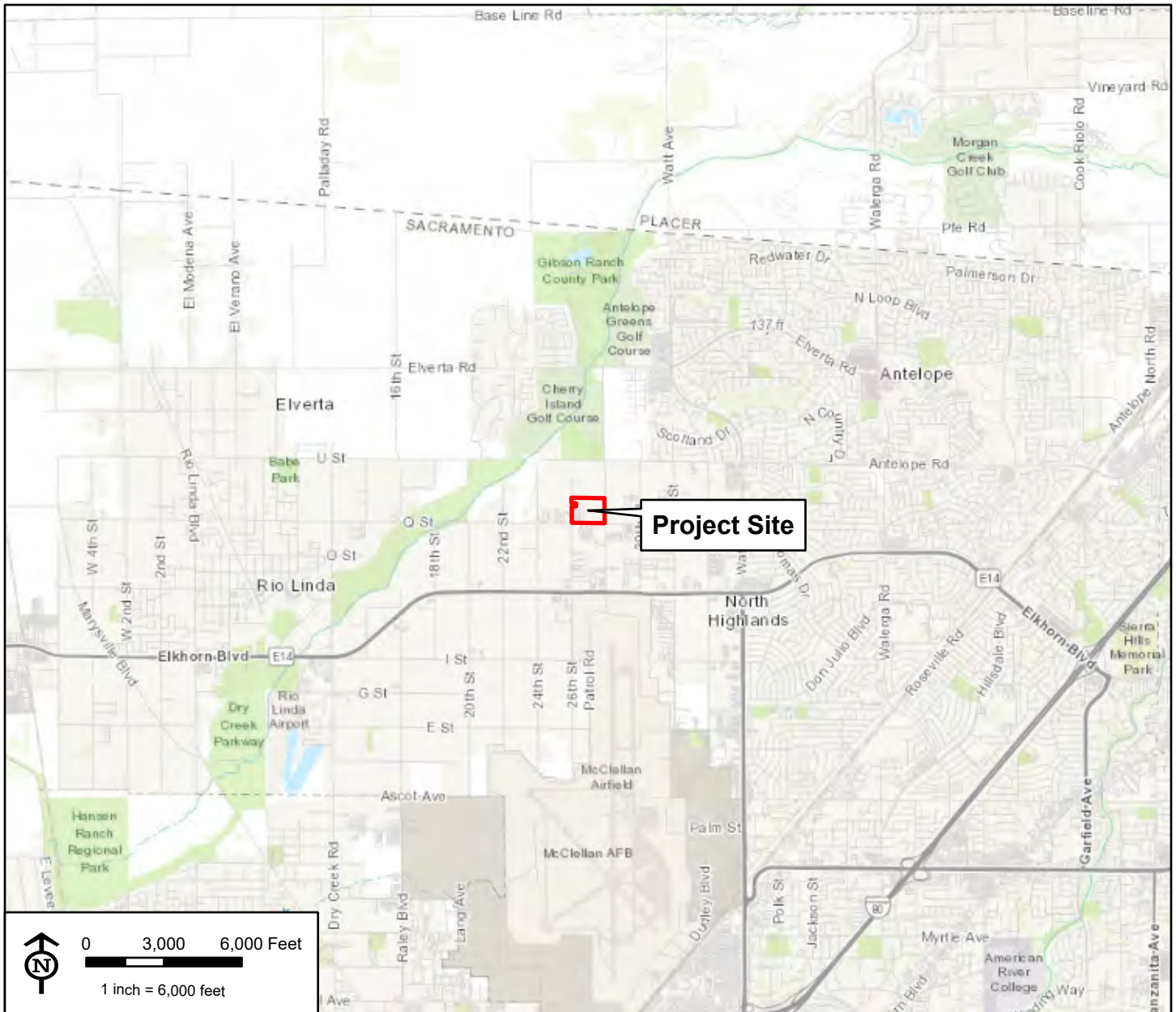
Methods

This report is informed by data from a desktop analysis of the literature and numerous resource databases, as well as field surveys, the methods for which are described below.

Definitions

This report will use the following definitions for areas referred to herein:

- **Project site:** The Project site is defined as the 27.6 acres being analyzed for Project entitlements (**Exhibit 2**).
- **Biological Study Area:** The Biological Study Area (BSA) is defined as the Project site and a 250-foot buffer. This is the area within which biological resources were fully analyzed.
- **Regional Study Area:** The Regional Study Area (RSA) is defined as the Project site and a 3-mile buffer. The RSA was used as the basis for determining special status biological resource records for consideration in this report.



Source: ESRI ArcGIS Online Basemap - World Topographic Map, World Street Map

Public Land Survey System (PLSS):
 Mount Diablo Meridian, Township 010N, Range 5E, Section 00
 USGS Quad(s): Rio Linda (1973)
 Watershed: Lower American (1802011)
 Project Site Coordinates: -121.404°W 38.699°N

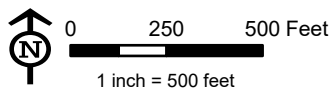


**Exhibit 1
 Project Site and Vicinity**

28th Street and Q Street



Source: Bing Maps Hybrid



 Project Site (27.6-acres)

Exhibit 2
Project Site



28th Street and Q Street



Desktop Review

Prior to conducting field surveys, Bargas conducted an initial review of literature and data sources to characterize the biological conditions and to compile records of sensitive biological resources that could potentially occur in the BSA. The methods used for this analysis are described below.

Biological Setting

The biological setting includes terrain, hydrology, soils, land uses, and other features that support or inhibit biological resources in an area. In order to better understand the biological setting of the project, the following resources were reviewed in detail:

- US Fish and Wildlife Service's *National Wetlands Inventory*¹ to determine if surface waters and wetlands have been mapped on or adjacent to the BSA.
- US Geological Survey's *National Hydrography Dataset*² to determine if hydrological features have been mapped on or adjacent to the BSA.
- US Department of Agriculture National Resource Conservation Service *Web Soil Survey*³ to map and describe soil(s) within the BSA.
- Google Earth Pro aerial map images of the BSA, including historical aerial images.

Special Status Species & Habitats

It is important to create a well-defined list of habitats and species that could reasonably be expected to occur on the Project site in order to analyze potential Project effects on biological resources effectively. The following describes how the list of potentially-occurring special status biological resources was assembled.

Data Sources

Species and habitat occurrences were queried from the following resources:

- US Fish and Wildlife Service's *Information for Planning and Consultation*⁴ portal (IPaC) for a list of federally listed species and designated critical habitat recommended for impact analysis consideration, based on an upload of the BSA limits.
- California Department of Fish and Wildlife's *California Natural Diversity Database*⁵ (CNDDDB) for special status species and habitat records within the RSA
- California Native Plant Society's *Inventory of Rare and Endangered Plants*⁶ for a list of special status plant species occurrences within the USGS 7.5-minute quadrangles that overlap the RSA.

¹ USFWS. 2022. *National Wetlands Inventory* – Wetlands Online Mapper. Available at <https://www.fws.gov/wetlands/>. Accessed March 2022.

² USGS. 2022. *The National Geological Map Database*. Available at https://ngmdb.usgs.gov/ngmdb/ngmdb_home.html. Accessed March 2022.

³ NRCS 2022. *Web Soil Survey*. Available at <https://websoilsurvey.sc.egov.usda.gov/>. Accessed March 2022.

⁴ USFWS. 2022. *Information for Planning and Consultation*. Available at <https://ipac.ecosphere.fws.gov>. Accessed March 2022.

⁵ CDFW. 2022. *California Natural Diversity Database*. Available at <https://wildlife.ca.gov/Data/CNDDDB>. Accessed March 2022.

⁶ CNPS. 2022. *Inventory of Rare and Endangered Plants*. Available at <https://rareplans.cnps.org>. Accessed March 2022.



Special Status Designations Considered

A variety of agencies and respected non-profit organizations assess the conservation status of plant and wildlife species, however, not all are applicable to this report. The following special status designations were considered when determining special status species to be discussed in this report:

- **Federal Status:** Species listed as **Endangered (FE)** or **Threatened (FT)**, as well as species **Proposed as Endangered (FPE)**, **Proposed as Threatened (FPT)**, **Proposed for Delisting (FPD)**, and **Candidates (FC)** for listing under the Federal Endangered Species Act.
- **California Status:** Species listed as **Endangered (CE)** or **Threatened (CT)**, as well as species that are **Candidates for Endangered (CCE)** status, **Threatened (CCT)** status, or **Delisting (CCD)** under the California Endangered Species Act. Also considered are species listed as **Fully Protected (FP)** and **Species of Special Concern (SSC)**.
- **CNPS Status:** All California Rare Plant Ranks (CRPR) maintained by the CNPS *Inventory of Rare and Endangered Plants*.
- **Vegetation Communities:** All vegetation communities mapped by the CNDDDB.

Occurrence Potential

Following the desktop review, field surveys, and habitat analyses, Bargas assessed the potential for the occurrence of special status species in the BSA. Biological conditions (vegetation communities, wildlife habitats, disturbances, etc.) and the habitat and life cycle requirements of special status species identified for analysis in the desktop review were considered. “Recent” occurrences are defined as observed within the past 30 years. Based on these considerations, species were assigned to the following categories:

- **Present:** Species is known to occur in BSA based on recent surveys, CNDDDB (within 30 years), or other records.
- **High:** Species with known recent recorded occurrences/populations near the BSA and highly suitable habitat occurs within the BSA. Highly suitable habitat includes all necessary elements to support the species (e.g., elevation, hydrology, soils, cover, habitat type, food resources).
- **Moderate.** Species with known recent recorded occurrences/populations near the BSA; however, habitat within the BSA has been moderately disturbed, fragmented, or is small in extent. Moderately suitable habitat includes several elements to support the species (e.g., elevation, hydrology, soils, cover, habitat type, food resources). Furthermore, moderately suitable habitat may also be located at the edge of the species’ range, or there are no reported occurrences nearby.
- **Low.** Species with few known recent recorded occurrences/populations near the BSA and habitat within the BSA is highly disturbed or extremely limited. A low potential is assigned to annual or perennial plant species that may have been detectable during a focused survey in the appropriate blooming period but was not found; however, small populations or scattered individuals are still considered to have a low potential to occur. Additionally, species for which poor-quality habitat may support the species within the BSA, but the reported extant range is far outside the BSA and/or any species observations would anticipate being migratory (i.e., not likely to reproduce within the Biological Study Area).
- **Presumed Absent/No Potential.** Focused surveys were conducted and the species was not detected, or the species was found in the desktop review, but suitable habitat (soil, vegetation, elevational range) was not found in the BSA, or the BSA is not within the known geographic range of the species.



The potential for bird species were further distinguished into those that may: 1) nest within or near the BSA; 2) forage within or near the BSA; and/or 3) occur on or near the BSA only as transients during migratory flights or other dispersal events.

Field Surveys

The biological resources field survey was completed concurrently with the aquatic resources delineation by Bargas biologists. Survey dates, times, personnel, and weather conditions are summarized in **Table 1** below.

The pedestrian survey consisted of transects through the Project site, scanning adjacent areas within the BSA using binoculars. The entire undeveloped eastern half of the Project site (APNs 208-0022-002, 208-0012-016, 208-0012-017) was surveyed on foot. The developed western half of the Project site (APNs 208-0022-001, 208-0012-015, 208-0012-020) and the 250-foot BSA buffer were surveyed from accessible public rights-of-way. The BSA was evaluated for the presence of habitat components that could support special status plant and wildlife species identified during the literature and database review described above. The surveys occurred within the typical nesting bird season (February 15 – August 31) and within the blooming period of five of nine special status plant species identified in the literature and database review. The surveys conducted were comprehensive but do not equate to protocol-level surveys for protected wildlife, plant, and habitat resources defined by regulating and/or resource protection agencies.

Table 1. Survey Summary Table

Date	Biologist(s)	Time	Start Conditions			End Conditions		
			Temp	Clouds	Wind	Temp	Clouds	Wind
May 5, 2022	Krystal Pulsipher, Tatiana Torrez	0800 - 1730	59°F	Mostly Cloudy	Light Breeze out of the Southeast	73°F	Mostly Cloudy	Moderate Breeze out of the Southwest
June 1, 2022	Krystal Pulsipher, Tatiana Torrez	0745 - 1700	64°F	Clear	Light Breeze out of the South	90°F	Clear	Light Breeze out of the Southeast
June 2, 2022	Krystal Pulsipher, Tatiana Torrez	0745 - 1400	64°F	Mostly Cloudy	Moderate Breeze out of the South	88°F	Partly Cloudy	Moderate Breeze out of the South

Results

This section discusses in detail what is known about biological resources in the Biological Study Area based on information from field surveys, 21 CNDDDB records, 6 CNPS records, 6 IPaC records, and 1 critical habitat determinations in the Regional Study Area.

Biological Setting

The RSA encompasses large parts of several census designated places in unincorporated Sacramento County including Rio Linda, Elverta, Antelope, North Highlands, and McClellan Park. The majority of the eastern half of the RSA is composed of urban development, primarily residential neighborhoods and commercial properties. Similar land use can be found in the center of Rio Linda in the western half of the RSA. McClellan Airpark, a former air force base, is located in the southern half of the RSA. The northwestern portion of the RSA contains agricultural (i.e. livestock grazing, field crops) and habitat



preservation (i.e. vernal pool complexes) land uses. Much of the southwestern portion of the RSA is characterized by rural residential land uses.

The Project site contains a mixture of land uses including an undeveloped livestock grading pasture in the eastern half, a large RV and mini-storage facility in the western half, with a rural residential home in the northwest corner. There is a mixture of land uses adjacent to the Project site including rural residential primarily to the north, commercial primarily to the west and south, and undeveloped fields (i.e. not grazed or used for agricultural purposes) to the east. Google Earth historical aerials show the presence of a residential home in the northeast quadrant of the pasture prior to February 2018. The aerial image from October 2020 suggests the pasture may have been graded.

The topography within the Project site is open and relatively flat, gently sloping towards the north, with an elevation range from approximately 70 to 85 feet above mean sea level.

Soils

Mapped soil types in the Project site were determined using the NRCS Web Soil Survey. **Table 2** below identifies the soil type by series and subgroup, map symbol, and hydric characteristics.

Table 2. Soil Types within the Study Area

Soil Series	Map Symbol	Parent Material	Drainage Class	Hydric Rating
Fiddymont fine sandy loam, 0 to 1 percent slopes	143	Residuum weathered from sedimentary rock	Well drained	No
Fiddymont fine sandy loam, 1 to 8 percent slopes	145	Residuum weathered from sedimentary rock	Well drained	No
San Joaquin fine sandy loam, 0 to 3 percent slopes	211	Alluvium derived from granite	Well drained	No

Source: NRCS 2022

Aquatic Resources

A total of approximately 0.87-acre of aquatic features and 0.014-acre of non-aquatic features were identified and mapped within the undeveloped eastern half of the BSA as part of a formal aquatic resources delineation⁷. The aquatic features include three seasonal wetland swales, five seasonal wetlands, and one roadside ditch. Two upland swales were mapped as non-aquatic features within the eastern half of the BSA. Two additional upland swales were mapped within the western half of the BSA just outside the border of the Project site boundary.

The Study Area is situated within the Gibson Lake-Dry Creek subwatershed (HUC-12 180201110105) of the Lower American watershed (HUC-8 18020111; USGS 2022). The Study Area is located approximately 0.57 miles southeast of Dry Creek. The hydrologic regime in the Study Area is influenced by seasonal precipitation, stormwater runoff and sheet flow from adjacent lands, and overflow from the drainage ditches along the southern and eastern boundary of the Study Area. Seven wetland features (three seasonal wetland swales, three seasonal wetlands, roadside ditch) observed within the Study Area drain into a parcel north of and outside of the Study Area via two swales. Two aquatic features appear to be isolated and do not share a surface hydrologic connection to the swales draining to the north. The two swales converge into a single linear feature on the property immediately north of the Study Area, draining to the northwest where it discharges to an unnamed intermittent stream approximately 810 feet north of the Study Area. The unnamed intermittent stream is a tributary of Dry Creek, a perennial stream located approximately 0.57 miles northwest of the Study Area. Dry

⁷ Bargas Environmental Consulting. 2022. DRAFT Aquatic Resources Delineation – 28th Street and Q Street, Rio Linda, Sacramento County, California. Report prepared for Thomas Law Group.



Creek is tributary to the Natomas East Main Drainage Canal (Steelhead Creek) which in turn is a tributary of the American River. The American River discharges to the Sacramento River.

Vegetation Communities

Five vegetation communities were observed within the Project site in addition to areas that are already developed. The western half of the Project site is developed and can be classified as urban. The eastern half of the Project site is undeveloped and contains three herb/grass dominated communities and two tree dominated communities. **Exhibit 3** displays where these vegetation communities were observed in the Project site.

Wild Oats and Annual Brome Grassland

The most prevalent vegetation community present within the eastern half of the Project site is Wild Oats and Annual Brome Grassland (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance). This community is commonly found in pastures utilized for livestock grazing and the vegetation observed in this community on the Project site was not very dense and exhibited significant signs of grazing pressure. The dominant species observed in this community include Wild Oat (*Avena fatua*), Rescue Grass (*Bromus catharticus*), Ripgut Grass (*B. diandrus*), Soft Chess (*B. hordeaceus*), Stinkwort (*Dittrichia graveolens*), Hawkbit (*Leontodon saxatilis*), Medusa Head (*Elymus caput-medusae*), Beardless Wild-Rye (*E. triticooides*), Rye Grass (*Festuca perennis*, formerly *Lolium perenne*), and Toad Rush (*Juncus bufonius*).

Perennial Rye Grass Fields

The vegetation community observed within most of the observed aquatic features can best be characterized as Perennial Rye Grass Fields (*Lolium perenne* Herbaceous Semi-Natural Alliance). The vegetation observed within the aquatic features have been more heavily impacted by livestock grazing activities at the time the surveys were completed, causing them to be generally more sparsely vegetated. Some of the plant species observed are more closely associated with natural vegetation community alliances observed in less disturbed seasonal wetlands and vernal pools present in the Central Valley. The dominant species observed include Hyssop Loosestrife (*Lythrum hyssopifolia*), Beardless Wild-Rye, Seaside Barley (*Hordeum murinum*), Coyote Thistle (*Eryngium vaseyi*), and Toad Rush. The prevalence of non-native plant species and species that are able to tolerate dryer conditions indicates the vegetation communities present are likely in a transitional period of shifting from a natural vegetation community that would have been dominated by native water-loving species to a semi-natural upland community. Grazing pressures and drought brought on by climate change are likely contributing to this shift in vegetation communities.

Pale Spike Rush Marsh

The vegetation community observed within one seasonal wetland located along a seasonal wetland swale in the northwest quadrant of the pasture can best be characterized as Pale Spike Rush Marsh (*Eleocharis macrostachya* Herbaceous Alliance). The dominant plant species observed was Spike Rush (*Eleocharis macrostachya*) with Coyote Thistle observed within the periphery of the feature.

Eucalyptus – Tree of Heaven – Black Locust Groves

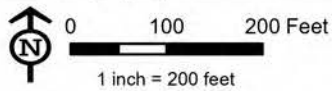
The northeast quadrant of the pasture contains tree cover. The majority of the tree cover can best be characterized as Eucalyptus – Tree of Heaven – Black Locust (*Eucalyptus* spp. - *Ailanthus altissima* - *Robinia pseudoacacia* Woodland Semi-Natural Alliance). The dominant species observed was Tree of Heaven (*Ailanthus altissima*) with Black Locust (*Robinia pseudoacacia*) also observed to be present. Other non-native species observed include American Sycamore and White Poplar.


Valley Oak Woodland and Forest

A few smaller patches of Valley Oak Woodland and Forest (*Quercus lobata* Woodland Alliance) were also observed in the northeast quadrant of the pasture. The dominant species observed was Valley Oak (*Quercus lobata*) with Interior Live Oak (*Q. wislizeni*) also observed.




Source: Bing Maps Hybrid





 Study Area (27.6-acres)


Vegetation Community

 Eucalyptus - Tree of Heaven - Black Locust Groves

 Pale Spike Rush Marsh

 Perennial Rye Grass Fields

 Urban / Developed

 Valley Oak Woodland and Forest


 Wild Oats and Annual Brome Grasslands

Exhibit 3
Vegetation Communities

28th Street and Q Street



Sensitive Vegetation Communities

One sensitive vegetation community was mapped by the CNDDDB within the RSA. This community and its potential for occurrence is discussed below:

- **Northern Hardpan Vernal Pool**

2 CNDDDB record(s) in the Regional Study Area. Potential for Occurrence: Low. The BSA contains San Joaquin fine sandy loam soils, a soil type associated with Northern Hardpan Vernal Pool vegetation community. The majority of the area within the Project Site containing this soil type is already developed, but the southwest quadrant of the pasture contains this mapped soil type. The Project Site contains several seasonal wetland swales and seasonal wetlands. The habitat quality for plants typically associated with Northern Hardpan Vernal Pool communities is low due to pressures from livestock grazing and extended drought conditions over the past decade, creating conditions more suitable for non-native and upland plant species to encroach into these aquatic features. Although a focused botanical survey was not conducted, other site surveys were conducted within the blooming period of several native plant species associated with Northern Hardpan Vernal Pool and did not yield observations of those species.

Plants

A total 40 plant taxa were detected during field surveys. A list of all plant taxa detected during field surveys is provided in **Attachment A**. Approximately 71% of the observed species are non-native, 48% being recognized as invasive. Areas heavily disturbed by agricultural activities, such as intense livestock grazing, can be expected to have lower floral diversity than areas containing intact natural plant communities and habitats.

The desktop review determined that six plant taxa with special status had been documented as occurring within the RSA and the surveys were conducted within the blooming period of each of these species; however, a focused botanical survey was not conducted. These taxa and their occurrence potential are discussed below and summarized in **Attachment B**.

- No special status plant taxa from desktop analysis were determined to be **Present** in the BSA.
- No special status plant taxa from desktop analysis were determined to have **High** potential for occurrence in the BSA.
- No special status plant taxa from desktop analysis were determined to have **Moderate** potential for occurrence in the BSA.
- The following four special status plant taxa from desktop analysis were determined to have **Low** potential for occurrence in the BSA.
 - **Dwarf Downingia**
Campanulaceae > Downingia pusilla
No federal status, No state status, CRPR 2B.2
Source(s): CNDDDB, CNPS. 1 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Low Quality. Soils: Unknown. The CNDDDB contains one record within the RSA confirmed extirpated. The Project Site contains seasonal wetland swales and seasonal wetlands that could potentially support this plant species. The habitat quality is low due to pressures from livestock grazing and extended drought conditions over the past decade creating conditions more suitable for non-native and upland plant species to encroach into these aquatic features. Although a focused botanical survey was not conducted, other site surveys were conducted within the blooming period and did not yield observations of this species.
 - **Legenere**
Campanulaceae > Legenere limosa
No federal status, No state status, CRPR 1B.1
Source(s): CNDDDB, CNPS. 1 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Low Quality. Soils: Unknown. The Project Site contains seasonal wetland swales and seasonal wetlands that could



potentially support this plant species. The habitat quality is low due to pressures from livestock grazing and extended drought conditions over the past decade creating conditions more suitable for non-native and upland plant species to encroach into these aquatic features. Although a focused botanical survey was not conducted, other site surveys were conducted within the blooming period and did not yield observations of this species.

- **Boggs Lake Hedge-Hyssop**

Plantaginaceae > Gratiola heterosepala

No federal status, No state status, CRPR 1B.2

Source(s): CNPS. 0 CNDDDB records in the RSA. The nearest CNDDDB record is None away. Habitat: Low Quality. Soils: Yes. The CNDDDB contains one record within the RSA identified as potentially extirpated. The Project Site contains seasonal wetland swales and seasonal wetlands that could potentially support this plant species. The habitat quality is low due to pressures from livestock grazing and extended drought conditions over the past decade creating conditions more suitable for non-native and upland plant species to encroach into these aquatic features. Although a focused botanical survey was not conducted, other site surveys were conducted within the blooming period and did not yield observations of this species.

- **Valley Brodiaea**

Themidaceae > Brodiaea rosea ssp. vallicola

No federal status, No state status, CRPR 4.2

Source(s): CNPS. 0 CNDDDB records in the RSA. The nearest CNDDDB record is None away. Habitat: Low Quality. Soils: Yes. The Project Site contains grassland habitat and seasonal wetland swales and seasonal wetlands that could potentially support this plant species. The habitat quality is low due to pressures from livestock grazing creating conditions more suitable for non-native plant species to encroach into these aquatic features. Although a focused botanical survey was not conducted, other site surveys were conducted within the blooming period and did not yield observations of this species.

- The following 2 special status plant taxa from desktop analysis were determined to have **No** potential for occurrence in the Biological Study Area.

- **Sanford's Arrowhead**

Alismataceae > Sagittaria sanfordii

No federal status, No state status, CRPR 1B.2

Source(s): CNDDDB, CNPS. 1 CNDDDB records in the RSA. The nearest CNDDDB record is < 1 Mile away. Habitat: Not Present. Soils: Unknown. The Project Site does not contain aquatic habitat that remains inundated year-round to support this aquatic plant species.

- **Stinkbells**

Liliaceae > Fritillaria agrestis

No federal status, No state status, CRPR 4.2

Source(s): CNPS. 0 CNDDDB records in the RSA. The nearest CNDDDB record is None away. Habitat: Low Quality. Soils: No. There are several CNDDDB occurrences within the RSA that are confirmed or likely extirpated. This species has a strong affinity to serpentine soils, a soil type not present in the Project Site. Additionally, pressures from livestock grazing have created conditions more suitable for non-native plant species. Although a focused botanical survey was not conducted, other site surveys were conducted within the blooming period and did not yield observations of this species.

Wildlife

A total of 4 wildlife taxa were detected during field surveys, all species known to occur in areas inhabited by humans. A list of all wildlife taxa detected during field surveys is provided in **Attachment A**.

The desktop review determined that 11 wildlife taxa with special status had been documented as occurring within the RSA. These taxa and their occurrence potential are discussed below and summarized in **Attachment B**.



- No special status wildlife taxa from desktop analysis were determined to be **Present** in the BSA.
- No special status wildlife taxa from desktop analysis were determined to have **High** potential for occurrence in the BSA.
- The following 4 special status wildlife taxa from desktop analysis were determined to have **Moderate** potential for occurrence in the BSA.
 - **Vernal Pool Fairy Shrimp**
Branchinectidae > Branchinecta lynchi
Federal Threatened
Source(s): CNPS; IPaC. 5 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Medium Quality. The Project Site contains several seasonal wetland swales and seasonal wetlands which could potentially support this branchiopod species. It is unknown what the current hydroperiod is for these aquatic features due to livestock grazing pressures and extended drought conditions experienced over the past decade. Therefore, it is unknown if these aquatic features remain inundated long enough for this branchiopod species to successfully complete its life cycle if the species is present.
 - **Vernal Pool Tadpole Shrimp**
Triopsidae > Lepidurus packardii
Federal Endangered
Source(s): CNDDDB; IPaC. 1 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Medium Quality. The Project Site contains several seasonal wetland swales and seasonal wetlands which could potentially support this branchiopod species. It is unknown what the current hydroperiod is for these aquatic features due to livestock grazing pressures and extended drought conditions experienced over the past decade. Therefore, it is unknown if these aquatic features remain inundated long enough for this branchiopod species to successfully complete its life cycle if the species is present.
 - **White-tailed Kite**
Accipitridae > Elanus leucurus
California Fully Protected
Source(s): CNPS. 4 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Medium Quality. The BSA contains some trees that could support nesting activity; pre-existing nests were not observed during field surveys. The Project Site contains low quality foraging habitat due to the lack of available vegetation cover for prey to reside; signs of small mammal presence were not observed during field surveys. Some suitable foraging habitat is present within the BSA to the east and north of the Project Site. Higher quality nesting trees are present along the Dry Creek riparian corridor approximately 0.5 mile northwest of the Project Site.
 - **Swainson's Hawk**
Accipitridae > Buteo swainsoni
California Threatened
Source(s): CNDDDB. 3 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Medium Quality. The BSA contains some trees that could support nesting activity; pre-existing nests were not observed during field surveys. The Project Site contains low quality foraging habitat due to the lack of available vegetation cover for prey to reside; signs of small mammal presence were not observed during field surveys. Some suitable foraging habitat is present within the BSA to the east and north of the Project Site. Higher quality nesting trees are present along the Dry Creek riparian corridor approximately 0.5 mile northwest of the Project Site.
- The following special status wildlife taxon from desktop analysis was determined to have **Low** potential for occurrence in the BSA.
 - **Monarch - California Overwintering Population**
Nymphalidae > Danaus plexippus pop. 1
Federal Candidate



Source(s): IPaC. 0 CNDDDB records in the RSA. The nearest CNDDDB record is None away. Habitat: Low Quality. The BSA contains grassland habitat that may potentially support milkweed species (*Asclepias* species), the obligate host plant of Monarch caterpillars; however, the potential for milkweed species to occur is low due to the disturbance present and the dominance of non-native plant species. A botanical survey was not conducted as part of this analysis.

- The following 6 special status wildlife taxa from desktop analysis were determined to have **No** potential for occurrence in the BSA.
 - **Steelhead - Central Valley DPS**
Salmonidae > *Oncorhynchus mykiss irideus* pop. 11
Federal Threatened
Source(s): CNDDDB; CH. 1 CNDDDB records in the RSA. The nearest CNDDDB record is < 1 Mile away. Habitat: Not Present. The BSA does not contain aquatic habitat that could support this fish species.
 - **Delta Smelt**
Osmeridae > *Hypomesus transpacificus*
Federal Threatened; California Endangered
Source(s): IPaC. 0 CNDDDB records in the RSA. The nearest CNDDDB record is None away. Habitat: Not Present. The BSA does not contain aquatic habitat that could support this fish species.
 - **California Tiger Salamander**
Ambystomatidae > *Ambystoma californiense*
Federal Endangered; California Endangered
Source(s): IPaC. 0 CNDDDB records in the RSA. The nearest CNDDDB record is None away. Habitat: Not Present. The BSA is outside of the distribution range of known populations of this salamander species and contains low quality habitat.
 - **Giant Gartersnake**
Colubridae > *Thamnophis gigas*
Federal Threatened; California Threatened
Source(s): IPaC. 0 CNDDDB records in the RSA. The nearest CNDDDB record is None away. Habitat: Not Present. The BSA does not contain aquatic habitat that could support this snake species.
 - **Northwestern Pond Turtle**
Emydidae > *Actinemys marmorata*
California Species of Special Concern
Source(s): CNDDDB. 1 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Not Present. The BSA does not contain aquatic habitat that could support this turtle species.
 - **Tricolored Blackbird**
Icteridae > *Agelaius tricolor*
California Threatened; California Species of Special Concern
Source(s): CNDDDB. 1 CNDDDB records in the RSA. The nearest CNDDDB record is 1 to 3 Miles away. Habitat: Not Present. BSA does not contain habitat that could support nesting and very little low quality habitat that could support foraging.

Other Considerations

Wildlife Movement

The BSA does not likely function as a significant wildlife movement corridor due to the presence of urban development to the west, south, and southeast. Further, there are rural residential homes present to the north and northeast which would deter most wildlife.



Nesting Birds

The BSA contains habitat that could support both tree and ground nesting species of birds. The BSA contains both landscaped and remnant native trees that could support tree nesting birds. Although heavily impacted by livestock grazing, the undeveloped pasture within the eastern half of the BSA could still potentially support ground nesting birds. No active or pre-existing bird nests were observed within the BSA.

Discussion

Habitats within the BSA largely consist of ornamental and ruderal/disturbed habitats in the developed western half and heavily disturbed semi-natural and natural vegetation communities in the eastern half. The land cover within the eastern half of the BSA provides low quality habitat for four special status plant species and one insect species, and medium quality habitat for two branchiopod species and two raptor species. Additionally, the habitat present could support nesting activity of various migratory bird species.

Specific project design concepts or plans are not yet determined. Based upon the results discussed above, the following additional surveys and regulatory permitting are recommended:

Additional Surveys

- **Measure 1 – Botanical Survey:** A botanical survey is recommended to confirm presence or absence of populations of special-status plant species identified in this analysis as having low potential for occurrence in addition to milkweed species (*Asclepias* species) that could potentially support Monarch Butterfly caterpillars. The survey shall be floristic in nature and occur during the typical blooming period of each species. If special-status plant species are identified as being present, the appropriate agencies shall be consulted for specific measures to take to mitigate for potential impacts to the species.
- **Measure 2 - Swainson’s Hawk and White-tailed Kite Survey:** Due to the presence of trees in the Project site and within a 0.25-mile buffer that may potentially support Swainson’s Hawk and White-tailed Kite nesting activity, planning-level surveys for both species’ nesting activity are recommended. If an active nest of either species or pre-existing in-active raptor nests are identified, California Department of Fish and Wildlife should be consulted for guidance on whether a protocol-level survey and/or protective buffers and biological monitoring may be necessary to avoid impacting nesting Swainson’s Hawk and White-tailed Kite.

Regulatory Permittin

- **Clean Water Act (CWA) Section 404 – US Army Corps of Engineers (USACE) Wetland Fill Permit:** USACE aquatic resources verification and jurisdictional determination, and CWA Section 404 permit, are required if the proposed Project is anticipated to directly or indirectly impact aquatic features mapped in the Project site. Depending upon the nature of the proposed Project and the acreage / linear feet of aquatic resources anticipated to be impacted, one of several Nationwide Permits may be utilized to streamline the permitting process with USACE. If a Nationwide Permit cannot be used, then a Standard Permit is required.
- **CWA Section 401 – Central Valley Regional Water Quality Control Board (CVRWQCB) Water Quality Certification:** If the project requires a CWA Section 404 wetland fill permit, then a Section 401 Water Quality Certification from the CVRWQCB is also required.
- **Federal Endangered Species Act (FESA) Section 7 Consultation:** Due to the moderate potential of occurrence of two listed branchiopod species, the USACE will likely initiate FESA Section 7 consultation with the US Fish and Wildlife Service (USFWS) to obtain a Biological Opinion to specify what measures may be necessary to compensate for the incidental take of these listed species.



We thank you for the opportunity to work on this project. Should you have any questions or comments regarding this letter, please do not hesitate to contact Kevin Ghalambor at or kghalambor@bargasconsulting.com.

Sincerely,

Krystal Pulsipher
Senior Biologist

Attachments:

- Attachment A. Floral & Faunal Compendia
- Attachment B. Special Status Biological Resource Summary
- Attachment C. Site Photographs



Attachment A. Floral & Faunal Compendia

Bargas has documented the presence of 40 plant taxa and 4 wildlife taxa. Taxa are presented in taxonomic order.

Plants

Common Name	Scientific Name	Family	Major Clade	Nativity
Coyote-Thistle	<i>Eryngium vaseyi</i>	Apiaceae	Eudicots	Native
Italian Thistle	<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Asteraceae	Eudicots	Naturalized
Spikeweed	<i>Centromadia fitchii</i>	Asteraceae	Eudicots	Native
Stinkwort	<i>Dittrichia graveolens</i>	Asteraceae	Eudicots	Naturalized
Lowland Cudweed	<i>Gnaphalium palustre</i>	Asteraceae	Eudicots	Native
Hairy Hawkbit	<i>Leontodon saxatilis</i>	Asteraceae	Eudicots	Naturalized
Bindweed, Orchard Morning-Glory	<i>Convolvulus arvensis</i>	Convolvulaceae	Eudicots	Naturalized
Bird's-Foot Trefoil	<i>Lotus corniculatus</i>	Fabaceae	Eudicots	Naturalized
Valley Sky Lupine	<i>Lupinus nanus</i>	Fabaceae	Eudicots	Native
Black Locust	<i>Robinia pseudoacacia</i>	Fabaceae	Eudicots	Naturalized
Bearded Clover	<i>Trifolium barbigerum</i>	Fabaceae	Eudicots	Native
Rose Clover	<i>Trifolium hirtum</i>	Fabaceae	Eudicots	Naturalized
Hairy Vetch, Winter Vetch	<i>Vicia villosa</i>	Fabaceae	Eudicots	Naturalized
Blue Oak	<i>Quercus douglasii</i>	Fagaceae	Eudicots	Native
Valley Oak, Roble	<i>Quercus lobata</i>	Fagaceae	Eudicots	Native
Interior Live Oak	<i>Quercus wislizeni</i>	Fagaceae	Eudicots	Native
Greenstem Filaree	<i>Erodium moschatum</i>	Geraniaceae	Eudicots	Naturalized
White Horehound	<i>Marrubium vulgare</i>	Lamiaceae	Eudicots	Naturalized
Hyssop Loosestrife	<i>Lythrum hyssopifolia</i>	Lythraceae	Eudicots	Naturalized
Edible Fig	<i>Ficus carica</i>	Moraceae	Eudicots	Naturalized
English Plantain	<i>Plantago lanceolata</i>	Plantaginaceae	Eudicots	Naturalized
American Sycamore	<i>Platanus occidentalis</i>	Platanaceae	Eudicots	Naturalized
Navarretia species	<i>Navarretia</i> sp.	Polemoniaceae	Eudicots	Native



Common Name	Scientific Name	Family	Major Clade	Nativity
Knotweed, Knotgrass	<i>Polygonum aviculare</i>	Polygonaceae	Eudicots	Naturalized
Sheep Sorrel	<i>Rumex acetosella</i>	Polygonaceae	Eudicots	Naturalized
Curly Dock	<i>Rumex crispus</i>	Polygonaceae	Eudicots	Naturalized
White Poplar	<i>Populus alba</i>	Salicaceae	Eudicots	Naturalized
Tree Of Heaven	<i>Ailanthus altissima</i>	Simaroubaceae	Eudicots	Naturalized
Spike Rush	<i>Eleocharis macrostachya</i>	Cyperaceae	Monocots	Native
Toad Rush	<i>Juncus bufonius</i>	Juncaceae	Monocots	Native
Barbed Goat Grass	<i>Aegilops triuncialis</i>	Poaceae	Monocots	Naturalized
Wild Oat	<i>Avena fatua</i>	Poaceae	Monocots	Naturalized
Rescue Grass	<i>Bromus catharticus</i>	Poaceae	Monocots	Naturalized
Rippgut Grass	<i>Bromus diandrus</i>	Poaceae	Monocots	Naturalized
Soft Chess	<i>Bromus hordeaceus</i>	Poaceae	Monocots	Naturalized
Medusa Head	<i>Elymus caput-medusae</i>	Poaceae	Monocots	Naturalized
Beardless Wild-Rye	<i>Elymus triticoides</i>	Poaceae	Monocots	Native
Rye Grass	<i>Festuca perennis</i>	Poaceae	Monocots	Naturalized
Mediterranean Barley	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Poaceae	Monocots	Naturalized
Wall Barley	<i>Hordeum murinum</i>	Poaceae	Monocots	Naturalized
Annual Beard Grass	<i>Polypogon monspeliensis</i>	Poaceae	Monocots	Naturalized

Wildlife

Common Name	Scientific Name	Family	Introduced/Endemic
Rock Pigeon	<i>Columba livia</i>	Columbidae (Pigeons and Doves)	Introduced
Anna's Hummingbird	<i>Calypte anna</i>	Trochilidae (Hummingbirds)	none
California Scrub-Jay	<i>Aphelocoma californica</i>	Corvidae (Crows and Jays)	none
American Crow	<i>Corvus brachyrhynchos</i>	Corvidae (Crows and Jays)	none



Attachment B. Special Status Biological Resource Summary

The research conducted for this report included a desktop review of numerous resource databases in order to determine a list of special status biological resources, including 6 plant taxa and 11 wildlife taxa to be analyzed for potential occurrence. The result of this analysis is summarized in the tables below. Table column definitions:

- **Common Name:** The most widely-accepted English common name for the taxon.
- **Scientific Name:** The most widely-accepted scientific name for the taxon.
- **Source(s):** The desktop review source(s) that contained this taxon.
- **Legal Status:** The legal protected status of the taxon. These terms are described in detail in the Methods section of this report.
- **Habitat:** The quality of the habitat on the Project site for supporting the taxon. Classification of habitats is described in detail in the Methods section of this report.
- **Soils:** The suitability of soils on the Project site to support the taxon, if known. Classification of soils is described in detail in the Methods section of this report.
- **Potential:** The potential for the taxon to be found on the Project site. Ranking of potential is described in detail in the Methods section of this report.

Plants

Common Name	Scientific Name	Source(s)	Legal Status	Habitat	Soils	Potential
Dwarf Downingia	Downingia pusilla	CNDDDB, CNPS	CRPR 2B.2	Low Quality	Unknown	Low
Legenere	Legenere limosa	CNDDDB, CNPS	CRPR 1B.1	Low Quality	Unknown	Low
Boggs Lake Hedge-Hyssop	Gratiola heterosepala	CNPS	CE, CRPR 1B.2	Low Quality	Yes	Low
Sanford's Arrowhead	Sagittaria sanfordii	CNDDDB, CNPS	CRPR 1B.2	Not Present	Unknown	None
Valley Brodiaea	Brodiaea rosea ssp. vallicola	CNPS	CRPR 4.2	Low Quality	Yes	Low
Stinkbells	Fritillaria agrestis	CNPS	CRPR 4.2	Low Quality	No	None

Wildlife

Common Name	Scientific Name	Source(s)	Legal Status	Habitat	Potential
Vernal Pool Fairy Shrimp	Branchinecta lynchi	CNPS; IPaC	Federal Threatened	Medium Quality	Moderate
Vernal Pool Tadpole Shrimp	Lepidurus packardii	CNDDDB; IPaC	Federal Endangered	Medium Quality	Moderate
Monarch - California Overwintering Population	Danaus plexippus pop. 1	IPaC	Federal Candidate	Low Quality	Low



Common Name	Scientific Name	Source(s)	Legal Status	Habitat	Potential
Steelhead - Central Valley DPS	<i>Oncorhynchus mykiss</i> <i>irideus</i> pop. 11	CNDDDB; CH	Federal Threatened	Not Present	None
Delta Smelt	<i>Hypomesus</i> <i>transpacificus</i>	IPaC	Federal Threatened; California Endangered	Not Present	None
California Tiger Salamander	<i>Ambystoma</i> <i>californiense</i>	IPaC	Federal Endangered; California Endangered	Not Present	None
Giant Gartersnake	<i>Thamnophis</i> <i>gigas</i>	IPaC	Federal Threatened; California Threatened	Not Present	None
Northwestern Pond Turtle	<i>Actinemys</i> <i>marmorata</i>	CNDDDB	California Species of Special Concern	Not Present	None
White-tailed Kite	<i>Elanus</i> <i>leucurus</i>	CNPS	California Fully Protected	Medium Quality	Moderate
Swainson's Hawk	<i>Buteo</i> <i>swainsoni</i>	CNDDDB	California Threatened	Medium Quality	Moderate
Tricolored Blackbird	<i>Agelaius</i> <i>tricolor</i>	CNDDDB	California Threatened; California Species of Special Concern	Not Present	None



Attachment C. Site Photographs



Photo 1. Representative site photo taken from the northwest corner of the pasture dominated by Wild Oat and Annual Brome Grassland vegetation community, looking southeast.



Photo 2. Representative site photo taken from the southwest corner of the pasture dominated by Wild Oat and Annual Brome Grassland vegetation community, looking northeast.



Photo 3. Representative site photo taken from the southeast corner of the pasture dominated by Wild Oat and Annual Brome Grassland vegetation community, looking northwest.



Photo 4. Representative site photo taken from the northeast corner of the pasture dominated by Wild Oat and Annual Brome Grassland vegetation community, looking southwest.



Photo 5. Representative site photo of a seasonal wetland swale containing disturbed Perennial Rye Grass Field vegetation community, looking south.



Photo 6. Representative site photo of a seasonal wetland containing disturbed Perennial Rye Grass Field vegetation community, looking southeast.



Photo 7. Representative site photo of a seasonal wetland containing disturbed Pale Spike Rush Marsh vegetation community, looking north.



Photo 8. Representative site photo of the tree within the northeast quadrant of the Project site, containing a mixture of Eucalyptus - Tree of Heaven - Black Locust Groves and Valley Oak Woodland and Forest, looking southeast.



Photo 9. Representative site photo of ornamental landscaping on rural residential properties in the northwest corner of the Project site, looking southeast.



Photo 10. Representative site photo of ornamental landscaping bordering urban developed land in the southwest corner of the Project site, looking northeast.