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MEMORANDUM

DATE: March 2, 2023

TO: Erin Quinn, Project Director, SCS Engineers

FROM: John Kunna, Senior Biologist

SUBJECT: Biological Resources Analysis, Cimarron Country Estates, Merced, California

PURPOSE

The purpose of this memorandum is to respond to the County of Merced's requirement for a description of the proposed project site and an assessment of the value of the site for biological resources. This analysis is based on the review of the aerial image you provided (Figure 1, attached), the vesting tentative map dated 4-15-2022, the results of the literature review and reconnaissance-level field survey, and LSA's project experience with biological resources in the Merced area.

This report describes the existing conditions on the site and assesses the potential for protected biological resources such as special-status species, jurisdictional waters, and sensitive habitats to occur on the site.

PROJECT DESCRIPTION

The proposed project will develop a 52.42-acre subdivision project in Merced located adjacent to Black Rascal Creek on the northwest and Leeds Road on the east (Figure 1). The planned subdivision is for approximately 40 lots ranging in size from 44,310 to 47,761 square feet. The project encompasses Assessor's Parcel Numbers (APN) 008-020-014, 238-020-001 and 238-020-007.

METHODS

LSA Senior Biologist John Kunna conducted a reconnaissance-level survey of the project site and adjacent areas on February 15, 2023 to evaluate the potential occurrence of special-status species, wetlands, sensitive habitats, and other protected biological resources. The biologist surveyed by walking throughout the site and adjacent areas to search for biological resources, such as the presence of special-status plants, wildlife, and their habitats. The biologist also visited an upstream section of Black Rascal Creek and known vernal pools in the Merced area.

During the field survey, the biologist also investigated the presence of waters of the United States/ waters of the State (including adjacent wetlands) that would be subject to regulation under Section 404 of the Clean Water Act and/or the California Porter-Cologne Water Quality Control Act.

Prior to conducting the survey, LSA searched the records of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; CDFW 2023) for occurrences of special-status plant and wildlife species within a 5-mile radius of the project site.

LSA accessed the National Wetlands Inventory (NWI) Wetlands Mapper (USFWS n.d.) to determine if there were any known waters or wetlands on or near the site. LSA used the United States Fish and Wildlife Service (USFWS) critical habitat mapper to map designated critical habitat near the site.

LSA used the United States Department of Agriculture Web Soil Survey to map the soils on the site (USDA n.d.).

Special-Status Species

For the purposes of this assessment, special-status species are defined as follows:

1. Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act (FESA);

2. Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the California Endangered Species Act (CESA);

3. Plant species that are on the California Rare Plant Rank (CRPR) Lists 1A, 1B, and 2;

4. Animal species that are designated as Species of Special Concern or Fully Protected by CDFW; or

5. Species that meet the definition of rare, threatened, or endangered under Section 15380 of the California Environmental Quality Act (CEQA) guidelines.

RESULTS

Habitat/Land Cover Types

The project site is currently a flat, open fallow field that shows evidence of being used for agriculture (likely alfalfa/hay production). The site is immediately surrounded by agriculture (primarily almond orchards) and rural residential housing.

Ruderal/Nonnative Annual Grassland

The site supports primarily nonnative annual grassland and ruderal vegetation. Plant species observed during the reconnaissance-level survey consisted of mostly nonnative grasses and forbs, such as Italian rye grass (*Festuca perennis*), wild oats (*Avena* sp.), mallow (*Malva* sp.), mustard (*Brassica* sp.), Italian thistle (*Carduus pycnocephalus*), common cocklebur (*Xanthium strumarium*), and field bindweed (*Convolvulus arvensis*).

Landscaping and Trees

Planted ornamental trees and shrubs, such as eucalyptus (*Eucalyptus* sp.) and oleander (*Nerium oleander*), are present adjacent to the project site. There are also valley oak (*Quercus lobata*) and

walnut (*Juglans* sp.) trees near the site. Almond orchards are located on most of the north, east, and west sides of the site.

Special-Status Plant Species

The CNDDB search returned seven special-status plant species with occurrences within 5 miles of the site. All seven species are found in intact vernal pools. Due to its history of agriculture and tilling and the resulting colonization by nonnative plants, the project site does not provide suitable habitat for special-status plants.

Wetlands and Waters

Black Rascal Creek runs along the northwest corner of the site. There was ponded water in the creek channel adjacent to the site. Tules (*Schoenoplectus acutus*) were growing on the channel margins, indicating this area holds water year-round. Upstream portions of Black Rascal Creek northeast of the site where Campus Parkway passes over the channel were muddy but did not hold water. The NWI maps the closest section of Black Rascal Creek as Riverine but the upstream portions of the site as Freshwater Emergent Wetland and Freshwater Forested/Shrub Wetland. The riparian corridor near the creek had willow trees (*Salix* sp.) and dense thickets of Himalayan blackberry (*Rubus armeniacus*), amongst other plants.

There was some ponded water in ruts on the farm roads on the boundaries of the site. Ditches on the site were dry but had deep cracks and dried algae, indicating that they hold water intermittently. One ditch in the northeast corner of the site drains to a channel associated with the adjacent residential development and then Black Rascal Creek. There is a small pedestrian bridge over this drainage. These features are mostly devoid of vegetation and are not considered vernal pools.

Critical Habitat

The site is not located within designated critical habitat. The nearest critical habitat for Conservancy fairy shrimp is located approximately 1.6 miles north of the site. The nearest critical habitat for California tiger salamander (*Ambystoma californiense*) (CTS) is located approximately 2.8 miles northeast of the site. Another area of critical habitat for CTS is located approximately 7.6 miles east of the site.

Wildlife

The biologist noted numerous coyote (*Canis latrans*) tracks and scat. Numerous small mammal burrows were seen in the field. Most of the burrows appear to have been made by pocket gophers (*Thomomys bottae*). Other small holes in the ground may have been dug by coyotes or skunks (*Mephitis mephitis*). None of the burrows were large enough for use by special-status species, such as American badger (*Taxidea taxus*) or San Joaquin kit fox (*Vulpes macrotis mutica*) (SJKF).

There were active rodenticide bait stations in the orchard to the north of the site, which likely depresses the number of rodents on the site, as well predators, which are then subject to secondary non-target poisoning.

The biologist saw an American kestrel (*Falco sparverius)* hunting in the field. Other bird species observed included turkey vulture (*Cathartes aura*), dark-eyed junco (*Junco hyemalis*), California towhee (*Melozone crissalis*), western meadowlark (*Sturnella neglecta*), and white-crowned sparrow (*Zonotrichia leucophrys*). One hawk (*Buteo* sp.) that could not be identified to species was perched on an electrical transmission tower approximately 0.8 mile southeast of the site.

Two old, inactive bird nests (likely built in 2022) were seen in shrubs adjacent to the site. Several species of native migratory birds could nest on the ground in the field and other species likely nest in the trees and shrubs adjacent to the site between February and August of each year.

The biologist detected only one species of reptile, a side-blotched lizard (*Uta stansburiana*).

Invertebrates seen included European honeybees (*Apis mellifera)* and a bumblebee that was not identified to species. Several honeybee hives were located on the northern side of the site adjacent to the almond orchard.

Special-Status Animal Species

The CNDDB query returned nine special-status wildlife species with occurrences within 5 miles of the site. Of the nine special-status species, three—Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp—are found only in vernal pools. Due to past land use there are no intact vernal pools on the site; therefore, these species have no potential to occur and are not discussed further. The remaining six species are discussed in further detail below.

California Tiger Salamander

Status and Natural History. The USFWS has divided CTS into three distinct population segments. The project site is within the Central California Population Segment, which was listed as Threatened under the FESA. This species is also listed as Threatened under the CESA. CTS occurs in grassland, oak woodland, and coastal sage scrub communities in the San Joaquin Valley and Central Coast Ranges of California, from southern Solano County to eastern Kern County and in the Sierra Nevada foothills, and from southern Sacramento County to northern Tulare County (Stebbins 2003). Adult CTS spend the majority of the year below ground in rodent burrows or other natural crevices (Shaffer et al. 1993). Individuals are most frequently observed near burrows of ground squirrels or Botta's pocket gophers (Shaffer et al. 1993). They move to seasonal ponds in response to winter rains to breed. Eggs hatch into larvae after several days. The larval stage has been reported to last 3 to 6 months, with metamorphosis beginning in the late spring or early summer (Petranka 1998; USFWS 2017; Trenham et al. 2000). The metamorphosed juveniles leave the pond as it dries and disperse to underground retreats. The USFWS considers upland habitat to be all accessible, suitable land within 1.24 miles of known or potential breeding ponds (USFWS 2003a).

Occurrence in the Project Vicinity. Within Merced County, CTS are known from multiple records throughout grassland areas. There are seven presumed extant CNDDB occurrences within a 5-mile radius of the project site (CDFW 2023), mostly based on observations made during surveys for the development of the University of California – Merced campus. The nearest CNDDB occurrence (#3390) is located approximately 1.9 miles north of the site.

Potent The ponded section of Black Rascal Creek adjacent to the northwest corner of the site probably has been altered and may contain runoff from agriculture and residences, as well as invasive predators (e.g., American bullfrog, centrachid fish), which would make it unsuitable for CTS breeding. A review of aerial imagery found few if any potential breeding ponds within 1.24 miles of the site.

There are small mammal burrows within the project site, but the vegetation on the site is comprised almost entirely of nonnative weeds, which in turn supports a very limited population of an invertebrate prey base for CTS. Because the site was cultivated, it likely had few burrows within it for many years. The rodenticide stations adjacent to the site suggest that the burrowing mammal population has been severely curtailed as well.

Although CTS likely historically occurred on the site, there is a low potential any have persisted on the site due to the destruction of habitat and isolation from breeding ponds.

Burrowing Owl

Status and Natural History. Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern and was historically found throughout most of lowland California except in forested areas. The burrowing owl's breeding range has remained largely the same, but within this overall range there have been local extirpations and declines, largely due to urbanization. Burrowing owls inhabit grasslands and other areas of short vegetation, including in agricultural areas and near developed areas. They require underground burrows for roosting and nesting, most commonly originally dug by ground squirrels, but will also use artificial structures, such as culverts, pipes, and rock riprap. They are capable of digging their own burrows in loose soil.

Occurrence in the Project Vicinity. There are two CNDDB occurrences within 5 miles of the project site (CDFW 2023), including an observation made as recently as 2017. Burrowing owls are commonly seen in the grazed grasslands on the University of California – Merced Vernal Pool and Grassland Reserve, approximately 4 miles north of the site.

Potential to Occur. Burrowing owls were not observed on the site, and there was no evidence (owl pellets, feathers, whitewash) of their occurrence. No burrows large enough for use by burrowing owls were seen on or adjacent to the site. It is unlikely that burrowing owls would colonize the site.

Tricolored Blackbird

Status and Natural History. The tricolored blackbird (*Agelaius tricolor*) is federally listed as Threatened and is also a California Species of Special Concern. The species nests in freshwater marshes with tules or cattails, or in other dense vegetation such as blackberry thickets, often in close proximity to open water. Tricolored blackbirds forage in a variety of habitats including pastures, agricultural fields, and feedlots.

Occurrence in the Project Vicinity. The CNDDB search returned five occurrences of tricolored blackbird within 5 miles of the project site (CDFW 2023). Two of these occurrences are considered "possibly extirpated."

Potential to Occur. There is a low potential that tricolored blackbird could occur on the site. A relatively small area of suitable nesting habitat for tricolored blackbird is present near the northwest corner of the site in the form of blackberry thickets and tule adjacent to open water. The grasslands on the site provide limited but suitable foraging habitat.

Mountain Plover

Status and Natural History. The mountain plover (*Charadrius montanus*) is not federally or State-listed, but it is a California Species of Special Concern. The species breeds in short-grass prairies east of the Rocky Mountains (Shuford and Gardali 2008). In the Central Valley, wintering mountain plovers forage in alkali flats and heavily grazed grasslands (USFWS 2003b).

Occurrence in the Project Vicinity. The CNDDB search returned one presumed extant occurrence of mountain plover within 5 miles of the project site (CDFW 2023).

Potential to Occur. The species has no potential to nest on the site. The species has a limited potential to occur on the site, and only in the winter. The site is of low value for mountain plover.

Swainson's Hawk

Status and Natural History. The Swainson's hawk (*Buteo swainsoni*) was listed as Threatened by the CDFW on April 17, 1983. It is not federally listed. Swainson's hawk is an uncommon breeding summer resident and migrant of the Central Valley of California. This species typically nests in scattered trees within grassland, shrubland, or agricultural landscapes (e.g., along stream courses or in open woodlands). The stick nests are often at the edge of narrow bands of riparian vegetation, in isolated oak woodland, and in lone trees, roadside trees, or farmyard trees, as well as in adjacent urban residential areas. Individual hawks will fly up to 18 miles from their nest to search for prey. Small mammals, such as voles and gophers, are the most common prey items, but Swainson's hawks will also eat smaller birds, reptiles, amphibians, and insects. In Merced County, Swainson's hawks typically arrive from late February and early March and depart for South America in September through October (Woodbridge 1998).

Occurrence in the Project Vicinity. The CNDDB search returned seven occurrences of Swainson's hawks within 5 miles of the project site (CDFW 2023). The closest CNDDB occurrence (#2463) is based on an observation made in 2010 approximately 1.6 miles northeast of the site.

Potential to Occur. CDFW considers areas within 10 miles of a Swainson's hawk nest to be suitable foraging habitat if they have the following vegetation types (California Department of Fish and Game 1994):

- Alfalfa
- Fallow fields
- Beet, tomato, and other low-growing row or field crops
- Dry-land and irrigated pasture
- Rice land (when not flooded)
- Cereal grain crops (including corn after harvest)

Because the site is a fallow field, it is considered suitable foraging habitat for Swainson's hawks. Furthermore, Swainson's hawks could nest in trees adjacent to or within 0.5 mile of the site. To meet the CDFW recommendations for mitigation and protection of Swainson's hawks, appropriately timed surveys must be conducted by a CDFW-approved biologist for a 0.5-mile radius around all proposed project activities. If active nesting is identified within the 0.5-mile radius, consultation with CDFW is required.

San Joaquin Kit Fox

Status and Natural History. The SJKF (*Vulpes macrotis mutica*) is a subspecies of kit fox. The USFWS listed this subspecies as endangered March 11, 1967; it is listed as a threatened species by the CDFW. Critical habitat for SJKF has not been designated. The SJKF is found primarily in the San Joaquin Valley area of California. SJKF currently inhabit portions of the San Joaquin Valley and the surrounding foothills of the Coast Ranges, Sierra Nevada, and Tehachapi Mountains, from southern Kern County north to Stanislaus County on the western side of the San Joaquin Valley.

SJKF occur in a variety of habitats, including grasslands, scrublands, vernal pool areas, alkali meadows and playas, and an agricultural matrix of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands (USFWS 1998). In the northern part of its range (including Merced County) most habitat on the valley floor has been eliminated. They previously occurred primarily in foothill grasslands, valley oak savanna, and alkali grasslands (USFWS 1998). In addition to habitat loss, SJKF numbers were likely reduced by the use of rodenticides to reduce small mammal populations. SJKF were exposed to rodenticides in the prey animals that had it in their systems, and also had their prey base reduced.

Occurrence in the Project Vicinity. The CNDDB lists two occurrences of SJKF within 5 miles of the project site (CDFW 2023). One of these observations was made in 1995, approximately 4 miles northeast of the site within the Black Rascal Creek drainage. The other observation was made approximately 3 miles northeast of the site in 2001. Numerous focused and camera-trap surveys over the past several years on and around the University of California – Merced campus have failed to detect the species.

Potential to Occur. There are only two CNDDB occurrences of the species within a 5-mile radius of the site. The lack of observations suggests that the population in this area has been extirpated or persisting at a low density, or that individual SJKF only disperse through the area occasionally. The site is characterized by friable soils that could be used for dens; however, the ponded water on the site suggests the water table is high and dens would be flooded seasonally. The site supports at least some small mammals that could be prey for SJKF. The eastern portions of Merced County have been broadly identified by the USFWS in the Recovery Plan for Upland Species in the San Joaquin Valley as providing a potential movement corridor for SJKF between known populations to the south and west of Merced and southeastern Stanislaus County (USFWS 1998). While the proposed project site lies within this corridor, pre-existing impediments to movement surrounding the project site exist in the form of residential development to the west, and to a lesser extent, agriculture and road to the east. If SJKF are moving through the area, they would likely use the area east of the site to avoid orchards and residences. While SJKF may move through the area, the lack of dens and suitable denning habitat suggests that they would do so only occasionally.

Waters of the United States/State

A formal wetland delineation is outside the scope of this analysis. The soils on the site are mapped as Ryer clay loam, Wyman clay loam, and Bear Creek clay loam, none of which are classified as wet or hydric soils.

CDFW would likely exert jurisdiction over Black Rascal Creek, extending to the top of the bank or the outer dripline of the riparian canopy, whichever is greater. The United States Army Corps of Engineers would likely exert jurisdiction over Black Rascal Creek and would regulate fill or discharge below the ordinary high water mark.

Sensitive Habitats

Riparian Habitats

The trees and shrubs associated with Black Rascal Creek near the northwest corner of the site would likely be considered riparian habitat and therefore under CDFW jurisdiction.

Other Sensitive Habitats

There are no CNDDB occurrences for sensitive terrestrial communities within 5 miles of the site.

SUMMARY AND RECOMMENDATIONS

To assess potential impacts from the project to tricolored blackbird, a CDFW-approved biologist should conduct a survey prior to issuance of permits. The survey should follow the protocol in the 2015 CDFW *Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields.* The survey report should then identify measures to avoid, minimize, and mitigate for impacts to tricolored blackbird.

To assess potential impacts from the project to Swainson's hawk, a CDFW-approved biologist should conduct a survey prior to issuance of permits. The survey should follow the protocol in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley,* Swainson's Hawk Technical Advisory Committee, May 31, 2000. This is the standard survey protocol recommended by CDFW for this species. The survey report should then identify measures to avoid, minimize, and mitigate for impacts to Swainson's hawk.

If vegetation removal, grading, or construction would be initiated during the bird nesting season (February 1–August 31), potential disturbance or loss of nesting birds (including non-special-status species) protected under California Fish and Game Code Sections 3503, 3503.5, and 3513 and the Migratory Bird Treaty Act (MBTA) could occur. This impact would be considered significant. Implementation of the following measure would avoid or reduce this impact to nesting and breeding birds to less than significant:

> Tree and vegetation removal and initial grading should occur from September 1 through January 31, outside of the nesting period of migratory birds to the maximum extent practicable. If construction, vegetation removal, or ground disturbance activities must occur during the breeding season (February 1–August

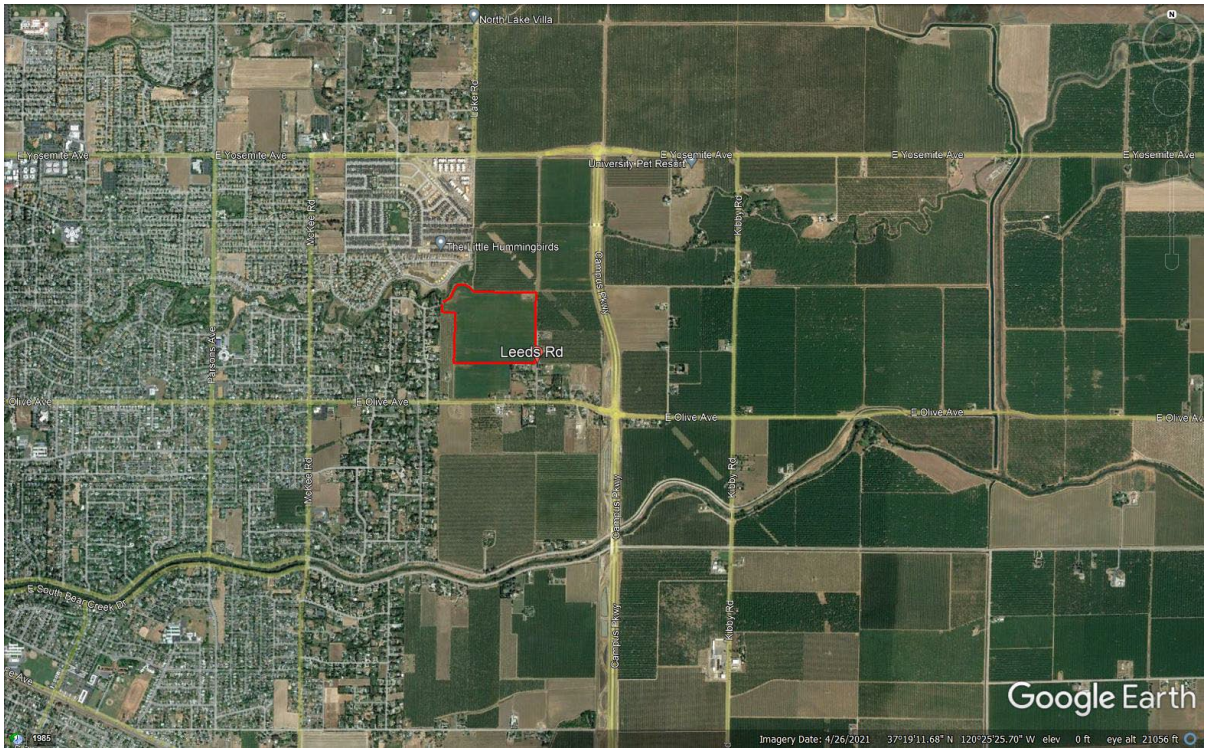
31), a qualified biologist should conduct pre-construction breeding bird surveys no more than 7 days prior to the start of these activities to detect active nests, eggs, and/or young. If construction, vegetation removal, or ground disturbance activities stop or lapse for a period of 7 days or more during the breeding season, a follow-up breeding bird survey shall be conducted to ensure no new breeding activity has occurred for the anticipated impacted area. Outside of the breeding season, no pre-construction breeding bird survey would be required for construction, vegetation removal, or ground disturbance activities. Surveys can be used to detect the nests of special-status as well as non-special-status birds. An exclusion zone where no construction would be allowed shall be established around any active nests of any avian species protected by the MBTA and CDFW that are found within the project site until a qualified biologist has determined that all young have fledged. Suggested exclusion zone distances differ depending on species, location, and placement of nest, and shall be at the discretion of the biologist and, if necessary, the USFWS and CDFW.

To assess potential impacts from the project to regulated waters or wetlands, a formal wetland delineation of the site should be conducted. The delineation should identify whether permits or agreements are needed for fill or discharge to Black Rascal Creek or other regulated waters or wetlands, if present on or near the site.

Attachments: A: Figure 1 – Project Site
B: References

ATTACHMENT A

FIGURE 1 – PROJECT SITE



ATTACHMENT B

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