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**SITE ASSESSMENT FOR CALIFORNIA TIGER SALAMANDER
AT 3800 FINLEY AVENUE, SANTA ROSA, CALIFORNIA**

Prepared by:

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INTRODUCTION

A site assessment for endangered California tiger salamander (CTS, *Ambystoma californiense*, Sonoma Distinct Population Segment) was conducted on a 6.35-acre parcel of land (APN 035-104-001) located at 3800 Finley Avenue in Santa Rosa, Sonoma County (Figure 1). The site lies approximately 200 feet west of a taxiway for the north-south runway of the former Santa Rosa Air Center (Figure 2). The landowners wish to sell the property, and asked me to prepare this site assessment in order to help them determine a potential selling price, as well as to have some specific information to disclose to potential buyers interested in developing the property, on permitting issues related to CTS. A project description is not available at this time.

METHODS

The site assessment was conducted according to the United States Fish and Wildlife Service (USFWS) document *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or A Negative Finding of the California Tiger Salamander* (hereafter *Guidance*, USFWS 2003). A field survey was conducted by walking throughout the property while documenting vegetation, topography, aquatic features, and other aspects of habitat and taking photographs of representative habitat. Boards, logs, and other objects lying on the ground were overturned in search of juvenile or adult CTS, and the presence and relative abundance of small mammal burrows and desiccation fissures in the ground were noted, as both are often used by CTS during the dry season. Birds, mammals, and other animals seen or heard during the survey were also documented, as were other indications of presence such as scat, tracks, and nests.

Prior to visiting the project site, the California Natural Diversity Database (CNDDDB), operated by the California Department of Fish and Wildlife (CDFW), was queried to obtain location records of documented sightings of CTS and other special-status species of plants and animals in the vicinity of the project site and surrounding areas. The CNDDDB is a repository of information on documented sightings and collections of rare, threatened, or endangered plant and animal species within California, and is considered the most comprehensive source of information on special-status species for a given area. Additional information sources include USFWS and CDFW documents, consultants' reports and scientific literature, field guides and general references for plants and animals, and personal knowledge of site assessments, field surveys, and other activities pertaining to CTS on the Santa Rosa Plain.

RESULTS

The survey was conducted on 15 August 2016. The following assessment is organized so as to answer the three questions posed in the *Guidance* (USFWS 2003) for site assessments:

1. Is the project site within the range of the CTS?

The potential range of CTS in Sonoma County includes undeveloped portions of Santa Rosa and/or Sonoma County west to undeveloped portions of Sebastopol adjacent to the Laguna de Santa Rosa. Therefore, the project site is within the range of CTS. The project site is also designated critical habitat for Sonoma CTS (USFWS 2011).

2. What are the known localities of CTS within the project site and within 3.1 miles (5.0 kilometers (km) of the project boundaries?

There are approximately fifty known CTS localities within 3.1 miles of the project boundaries (CNDDDB 2016). Some of the localities much closer than that to the project site are shown on Figure 3, the nearest being approximately 900 feet north-northwest of the site (CNDDDB Occurrence no. 237). Another is approximately 1700 feet west-southwest (Occurrence no. 236).

3. What are the habitats within the project site and within 1.24 miles (2 km) of the project boundaries?

Upland habitat

The property in its existing condition is primarily introduced annual grassland, with a few remnant trees next to what was likely a home site and outbuildings in the past---concrete slabs remain---(Figure 2, northeast corner). The trees visible in Figure 2 at the former home site consist of one live and one dead Monterey pine (*Pinus radiata*), and several small valley oak (*Quercus lobata*), ranging from 3 to 5 inches diameter at breast height (dbh). The oaks and a clump of naturalized plum saplings are surrounded by a dense thicket of non-native Himalayan blackberry (*Rubus discolor*) and native poison-oak (*Toxicodendron diversilobum*).

A 30-50-ft. strip of land has been disked around the perimeter of the property to produce a fire break (Figure 4; the blue and yellow flowers in the fire break are non-native chicory (*Cichorium intybus*) and bristly ox-tongue (*Picris echioides*), respectively). The grassland consists of a variety of non-native grasses, some of which may have been planted for grazing livestock or for producing hay, plus non-native weeds including yellow star-thistle (*Centaurea solstitialis*), mustard (*Brassica* or *Hirschfeldia* sp.), radish (*Raphanus sativus*), bindweed (*Convolvulus simulans*), vetch (*Vicia* sp.), and curly dock (*Rumex crispus*). The uplands contain numerous burrows made by gophers (*Thomomys bottae*), voles (*Microtus californicus*), and moles (*Scapanus latimus*). On the Santa Rosa Plain, gopher burrows are the primary underground habitat used by CTS in uplands. In the past, burrows made by Beechey ground squirrels (*Spermophilus beecheyi*) were probably more important to CTS, but ground squirrels were subject to poisoning, trapping, and shooting campaigns by farmers throughout agricultural lands in California, and are now relatively scarce in Sonoma County. Desiccation fissures that develop as soils dry and contract during summer are also used by CTS and other animals for shelter; such fissures are scattered throughout the subject property, in both the uplands and the dried wetlands.

Aquatic habitat and/or wetlands

Wetlands are found along the south boundary fence and west fence, with the latter area connected to a bigger, interior wetland visible in Fig. 2 in the northwest sector of the property. The wetlands along the fences had all been disked, obscuring many of the plant species, which had been turned under. The wetland along the west fence, shown viewed to the south in Figure 5, includes an arroyo willow (*Salix lasiolepis*) and dead grass, likely ryegrass (*Lolium* sp.) and semaphore grass (*Pleuropogon* sp.), which probably covered much of the water surface before the water evaporated. Viewed to the north (Figure 6) from the same location, the deepest portion of the wetland is close to the large clump of poison-oak and blackberry overgrowing the fence (and two valley oak, ~6 and 8-in. dbh). The green vegetation with white flowers on the disked soil in the center of Figure 6 is bindweed (or morning glory), a weed which creeps along the surface of the ground until reaching an upright plant or fence, then climbs like a vine. The interior wetland area, which mostly has not been disked, includes a variety of facultative and/or obligate wetland species, including cattail (*Typha* sp.), cocklebur (*Xanthium strumarium*), pennyroyal (*Mentha pulegium*), curly dock, and bristly ox-tongue (Figure 7).

Animal species present during field survey

Animals observed, heard, or otherwise noted during the field survey included American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), Nuttall's woodpecker (*Picoides nuttallii*), turkey vulture (*Cathartes aura*), western scrub jay (*Aphelocoma californica*), Botta's pocket gopher, broad-handed mole, California vole, and western fence lizard (*Sceloporus occidentalis*).

DISCUSSION

I am unable to tell, during the dry season, whether or not the observed wetlands at 3800 Finley Avenue are sufficiently deep, nor if the soil is underlain by a hardpan layer, such that the pools are potentially suitable for CTS breeding. Successful reproduction by CTS requires that the water must last for about three months after eggs are deposited, and that, as the water depth decreases during longer days and warmer weather in the spring, there is sufficient vegetation or debris to provide shelter for the larvae from wading birds and raccoons (USFWS 2016; and *personal observation*).

Nevertheless, the wetlands at 3800 Finley Avenue appear superficially similar, during the dry season, to other wetlands that are known CTS breeding sites in the undeveloped areas around the old airport (Figure 3), within the same elevation range (90-110 ft. MLLW). Conducting surveys for CTS eggs and/or larvae during the wet season in one or more wet seasons would be the only way to determine whether or not the wetlands at the site are used for breeding.

If CTS breeding at the site was confirmed, development of the property could require mitigation as high as a 3:1 acreage ratio, i.e., purchasing mitigation credits equivalent to

three acres in a CTS mitigation bank per one acre of habitat lost at the project site, assuming that the existing wetlands are not developed (and not including existing hardscape such as the concrete slabs at the former home site). This is because most of the property would lie within 500 feet of the wetlands most likely to support CTS breeding. According to the Programmatic (USFWS 2007), lands within 500 feet of a CTS breeding site are subject to 3:1 mitigation for CTS. If it were determined that the wetlands were not used for CTS breeding, the ratio would be 2:1, since the property is less than 2200 feet from known breeding sites.

Given the proximity of known breeding sites to the subject property (Figure 3), it is quite likely that uplands on the property are currently occupied by juvenile and adult CTS. Therefore, the minimum likely mitigation required would be 2:1 (USFWS 2007).

LITERATURE CITED

USFWS 2003. Interim guidance on site assessment and field surveys for determining presence or a negative finding of the California tiger salamander. U.S. Fish and Wildlife Service. 22 October 2003. 12 p. + maps.

USFWS 2007. Programmatic Biological Opinion (Programmatic) for U.S. Army Corps of Engineers (Corps) permitted projects that may affect California tiger salamander and three endangered plant species on the Santa Rosa Plain, California. (Corps File Number 223420N). U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office. 9 November 2007.

USFWS 2011. Endangered and threatened wildlife and plants; revised designation of critical habitat for the Sonoma County Distinct Population Segment of California tiger salamander. U.S. Fish and Wildlife Service. Federal Register 76(169): 54346-54372. 31 August 2011.

USFWS 2016. Recovery plan for the Santa Rosa Plain. U.S. Fish and Wildlife Service, Region 8. Sacramento Fish and Wildlife Office. 31 May 2016. 144 p.

I hope the information I have provided helps to clarify your situation regarding sale or development of your property. Please give me a call if I can be of further assistance.

Sincerely,

Michael H. Fawcett, Ph.D.

FIGURES

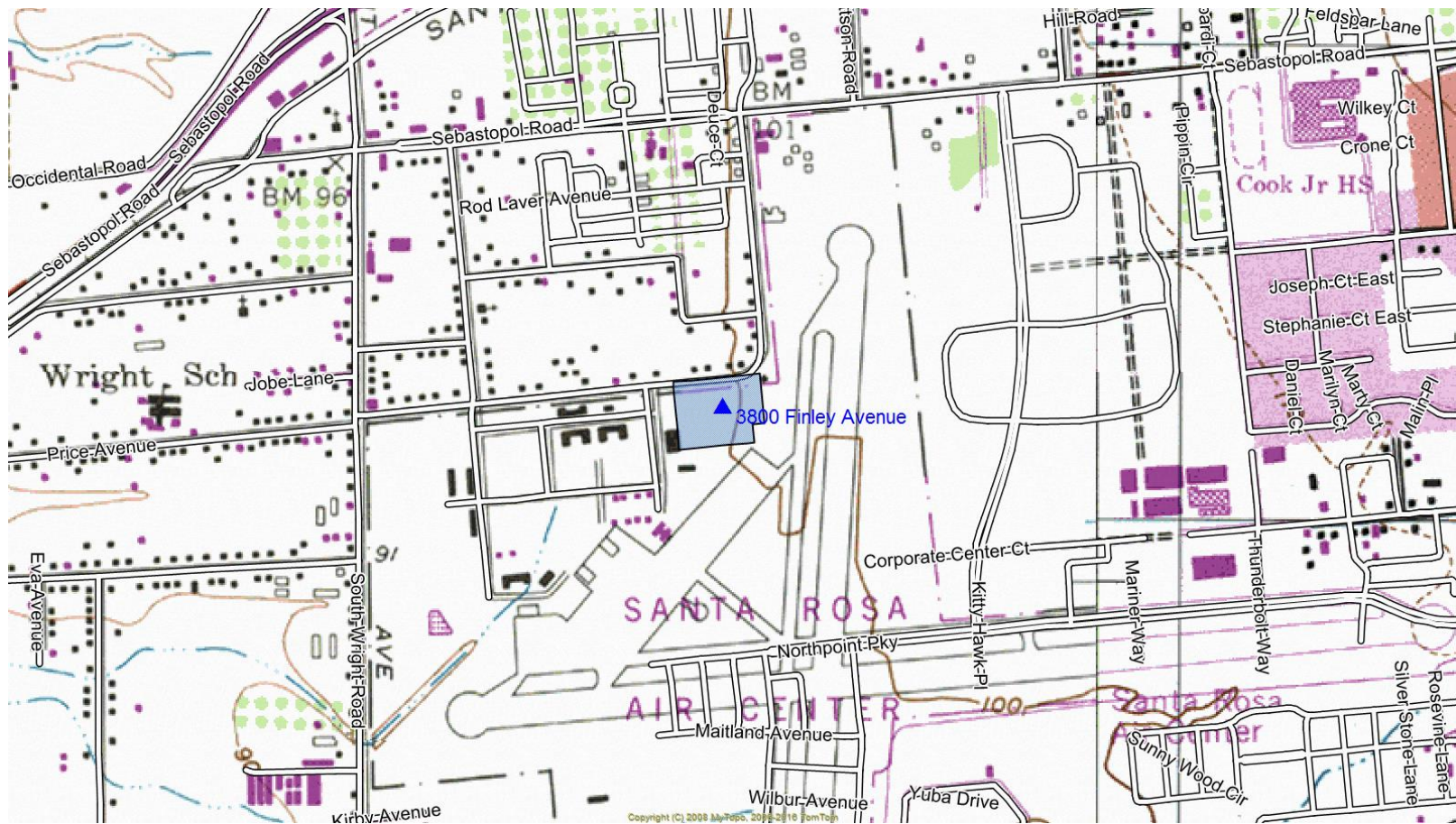


Figure 1. Regional location of 3800 Finley Avenue parcel; a portion of USGS 7.5 minute topographic quadrangle Sebastopol One inch equals 1000 feet



Figure 2. Aerial view of 3800 Finley Avenue parcel

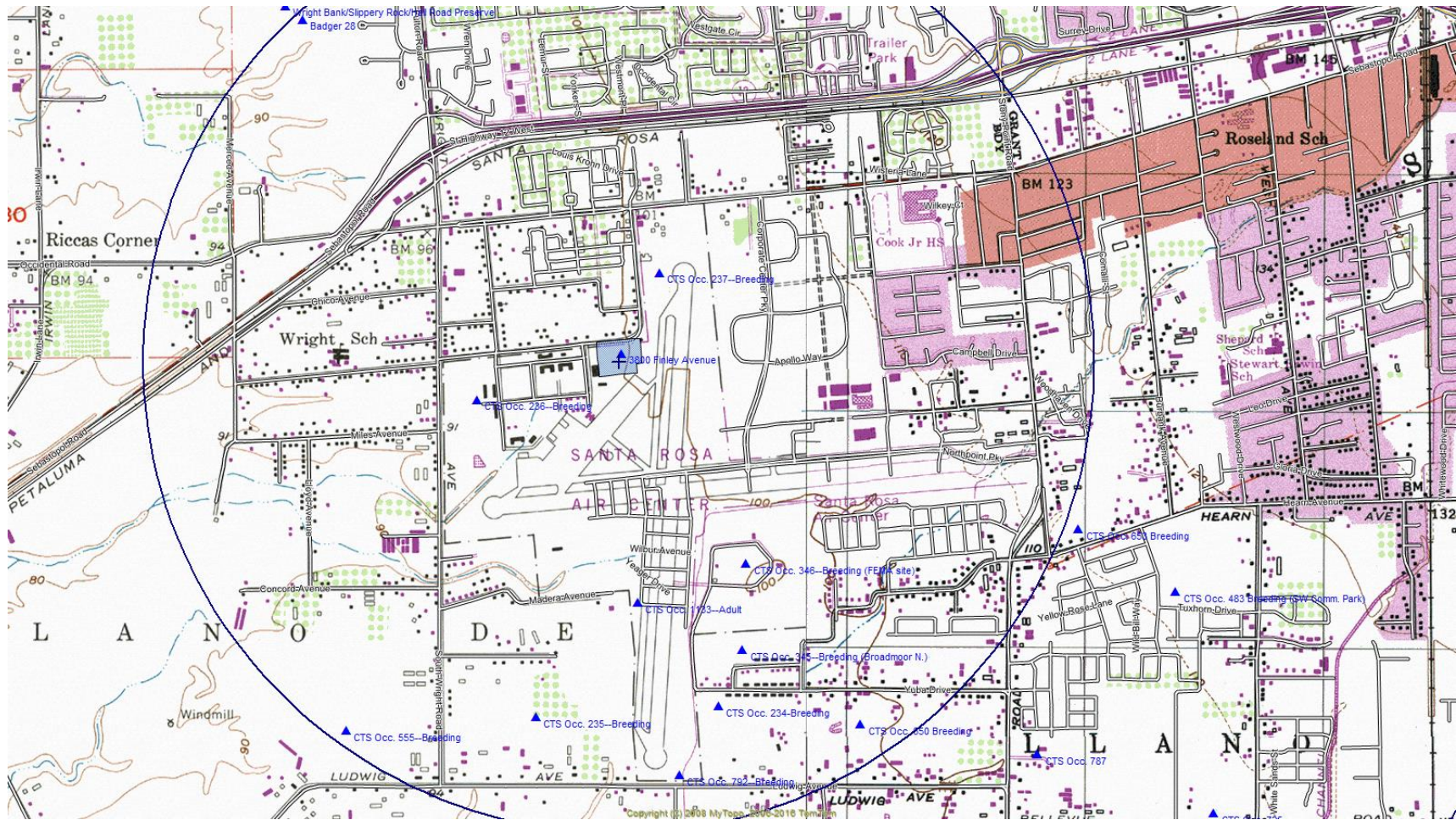


Figure 3. Locations of some of the known CTS occurrences near 3800 Finley Avenue parcel—blue ring is 1.24 miles from site
 One inch equals 2000 feet



Figure 4. Diked 30-to-50-ft. fire break around perimeter of property---view west from northeast corner; undisked grassland on left



Figure 5. Wetland (disked) along west boundary, view south



Figure 6. Wetland (disked) along west boundary, view north



Figure 7. Closeup view of large interior wetland; visible are cattail, common cocklebur, pennyroyal, dock, bristly ox-tongue, and yellow star-thistle