
TECHNICAL MEMORANDUM

TO: “Interested Parties”
FROM: Michael Bumgardner, Bumgardner Biological Consulting
SUBJECT: 8160 Stevenson Avenue Sandale Tentative Map South Sacramento
County Habitat Conservation Plan Biological Resources Survey
Report (Control No.: PLNP2021-00259)
DATE: 4/29/2022

Introduction

The proposed project consists of a Tentative Parcel Map to create three parcels from one 0.585-acre lot in the RD-5 land use zone (gross acreage). The subject parcel (Assessor’s Parcel No. 115-1950-021) is located on the south side of Stevenson Avenue approximately 650 feet east of Power Inn Road (Figure 1). Proposed Parcel A will front on Stevenson Avenue. Proposed Parcels B and C will be served by a private drive to be located on the west side of the property.

The parcel is flat and is improved with a single-family home and landscaping typical of a rural/urban home site. Stevenson Avenue is a paved public road at this location. The installation of street frontage improvements will be required to complete the street section to Sacramento County standards. Public utilities are available to the site.

The single-family home on Parcel A will remain. The garage add-on located on the west side of the building will be removed to allow for construction of the private drive. Parcels B and C will be developed with single family homes.

Survey Methods

An initial data compilation and review for the project site was conducted by me and Adrian Juncosa (Ecosynthesis Scientific & Regulatory Services) based on the following requested information provided by the Sacramento County Office of Planning and Environmental Review:

- map of the project site SSHCP base landcovers;
- GIS shapefile(s) of the project site SSHCP base landcovers; and
- list of the modeled species habitat for covered species that is present on the project site.

The review of the above data identified the SSHCP covered species that would then be the focus of any subsequent survey and assessment of the project site and adjacent lands. The review of the above data also allowed for the identification of other data sources that could provide useful information. These latter sources include the following:

- mapped occurrences of SSHCP covered species;
- documented occurrences of SSHCP covered species in the California Natural Diversity Data Base (CNDDB);
- Sacramento County “Parcel Viewer GIS” system;
- Google Earth Pro and ESRI World Imagery satellite images;
- National Wetlands Inventory maps; and
- Natural Resources Conservation Service soil survey mapping and associated soil series descriptions.

A reconnaissance-level survey of the project site and immediate surrounding lands (i.e., lands that share a property boundary with the project site) was subsequently conducted by me and Adrian Juncosa on February 3, 2022. The survey of the project site was conducted between approximately 11:00 am and 3:30 pm as non-linear transects approximately 30 feet apart to ensure that all ground within the project site could be evaluated for presence of covered species and modeled habitat for covered species addressed by the SSHCP. A survey of immediate surrounding lands was conducted from the nearest portion of the project site’s property boundary given that all surrounding lands are in private ownership to which we do not have legal access.

The survey also included a “windshield” survey from existing roads in the vicinity of the project site to search for the presence of covered species and modeled habitat for covered species as required by the SSHCP. SSHCP survey distance thresholds that were observed during the “windshield” survey includes the following:

- out to 1 mile from the project site for western spadefoot [*Spea hammondi*] (Figure 2);
- out to 0.5 mile from the project site for greater sandhill crane [*Grus canadensis*] (Figure 2);
- out to 0.25 miles from the project site for Swainson’s hawk [*Buteo swainsoni*], other raptor species, and loggerhead shrike [*Lanius ludovicianus*] (Figure 2);
- out to 500 feet from the project site for tricolored blackbird [*Agelaius tricolor*]; (Figure3);
- out to 300 feet from the project site for western red bat [*Lasiurus blossevillei*] (Figure 3), and
- out to 250 feet from the project site for burrowing owl [*Athene cunicularia*] (Figure 3).

The “windshield” survey focused on the presence of SSHCP covered species and modeled habitat for covered species and was aided by Nikon Monarch 7 10x42 binoculars and a Swarovski Habicht ST 80 HD 20-60x spotting scope.

Onsite wetlands were delineated by Mr. Juncosa on February 3 and April 6, 2022, according to

the 1987 Corps of Engineers Wetlands Delineation Manual and 2008 Regional Supplement for the Arid West Region, Ver. 2.0. Data point locations and wetland boundaries were recorded with a Trimble GeoXH 6000 GNSS-enabled field computer. Non-wetland land cover boundaries (Valley Grassland and Low Density Development) were determined primarily from satellite imagery. It should be noted that the wetland delineation for the project site exists as a “stand alone” document prepared by Mr. Juncosa but its results are summarized in this technical memorandum.

A comprehensive botanical survey was carried out concurrently with the wetland delineation on April 6, 2022 by means of closely spaced linear transects and additional close scrutiny within the wetland features. The latter survey was floristic but with special attention directed at the possible occurrence of both SSHCP covered plant species and other special-status plant species which have been recorded in the project vicinity (i.e., within five miles of the project site). The botanical survey is documented in a stand-alone memorandum but with the key results summarized herein.

Survey Results

The information requested from the Sacramento County Office of Planning and Environmental Review resulted in the identification of 12 covered species for which a suitable land cover type is mapped on or immediately adjacent to the project site (identified through the Sacramento County “Parcel Viewer GIS” system). The modeled habitat within the project site (Table 1) is all associated with Valley Grassland and Low Density Development.

Table 1 South Sacramento Habitat Conservation Plan Covered Species Modeled Habitat at 8160 Stevenson Avenue, Sacramento, California		
Species	Habitat Use	Acreage
vernal pool tadpole shrimp [<i>Lepidurus packardii</i>]	entire lifecycle	0.022 acres
western spadefoot [<i>Spea hammondi</i>]	foraging	0.25 acres
Swainson’s hawk [<i>Buteo swainsoni</i>]	foraging	0.25 acres
white-tailed kite [<i>Elanus leucurus</i>]	foraging	0.25 acres
ferruginous hawk [<i>Buteo regalis</i>]	foraging	0.25 acres
northern harrier [<i>Circus hudsonius</i>]	nesting-foraging	0.25 acres

burrowing owl [<i>Athene cunicularia</i>]	nesting	0.25 acres
tricolored blackbird [<i>Agelaius tricolor</i>]	nesting-foraging	0.25 acres
pallid bat [<i>Antrozous pallidus</i>]	foraging	0.25 acres
western red bat [<i>Lasiurus blossevillei</i>]	foraging	0.25 acres
Yuma myotis [<i>Myotis yumanensis</i>]	foraging	0.25 acres
American badger [<i>Taxidea taxus</i>]	entire lifecycle	0.25 acres

The surveys of the project site that were conducted on February 3 and April 6, 2022 verified that the two most extensive land cover types on the project site are Low Density Development (0.280 acres) and Valley Grassland (0.249 acres). However, another land cover type that was found on the site during the survey and delineation included Seasonal Wetland (0.022 acres) (Figure 4). SSHCP covered species that are associated with this latter land cover type are addressed in Table 2. However, Seasonal Wetland is described expansively in the SSHCP to include habitat types that vary from saturated but never ponded features through features that are inundated for a prolonged period of time. The Seasonal Wetland features on the project site do not pond. Consequently, there are no Seasonal Wetland features that provide habitat for any SSHCP-covered obligate plant, or aquatic or amphibious animal species in Table 2.

Table 2 South Sacramento Habitat Conservation Plan Covered Species Associated with the Seasonal Wetland Land Cover Type		
Species	Habitat Use	Acreage
Ahart's dwarf rush [<i>Juncus leiospermus</i> var. <i>ahartii</i>]	entire lifecycle	0.022 acres
Boggs Lake Hedge-Hyssop [<i>Gratiola heterosepala</i>]	entire lifecycle	0.022 acres
dwarf downingia [<i>Downingia pusilla</i>]	entire lifecycle	0.022 acres
legenere [<i>Legenere limosa</i>]	entire lifecycle	0.022 acres
pincushion navarretia [<i>Navarretia myersii</i>]	entire lifecycle	0.022 acres

Sacramento Orcutt grass [<i>Orcuttia viscida</i>]	entire lifecycle	0.022 acres
slender Orcutt grass [<i>Orcuttia tenuis</i>]	entire lifecycle	0.022 acres
mid-valley fairy shrimp [<i>Branchinecta mesovallensis</i>]	entire lifecycle	0.022 acres
vernal pool fairy shrimp [<i>Branchinecta lynchi</i>]	entire lifecycle	0.022 acres
vernal pool tadpole shrimp [<i>Lepidurus packardii</i>]	entire lifecycle	0.022 acres
Ricksecker's water scavenger beetle [<i>Hydrochara rickseckeri</i>]	entire lifecycle	0.022 acres
California tiger salamander [<i>Ambystoma californiense</i>]	aquatic	0.022 acres
western spadefoot [<i>Spea hammondi</i>]	aquatic	0.022 acres
ferruginous hawk [<i>Buteo regalis</i>]	foraging	0.022 acres
greater sandhill crane [<i>Grus canadensis tabida</i>]	roosting-foraging	0.022 acres
loggerhead shrike [<i>Lanius ludovicianus</i>]	foraging	0.022 acres
northern harrier [<i>Circus hudsonius</i>]	foraging	0.022 acres
Swainson's hawk [<i>Buteo swainsoni</i>]	foraging	0.022 acres
tricolored blackbird [<i>Agelaius tricolor</i>]	foraging	0.022 acres
western burrowing owl [<i>Athene cunicularia hypugaea</i>]	foraging	0.022 acres
white-tailed kite [<i>Elanus leucurus</i>]	foraging	0.022 acres
American badger [<i>Taxidea taxus</i>]	entire lifecycle	0.022 acres
western red bat [<i>Lasiurus blossevillii</i>]	foraging	0.022 acres

In general, since at least 2002, the undeveloped portion of the project site reflects terrestrial habitat (i.e., Valley Grassland) that exhibits disturbance but no discernible uses such as development, grazing, or large-scale grading (including either excavation or placement of fill materials). Much of the surrounding land is developed with residences with some nearby patches of disturbed Valley Grassland. However, the project site is fenced with wooden slat fencing so transit from any nearby vacant parcels is largely precluded for all species except birds.

Two polygons of Seasonal Wetland occur within the Valley Grassland. These Seasonal Wetland features (0.010 and 0.012 acres respectively) are dominated by non-native perennial grass (perennial ryegrass [*Festuca perennis*]) and forbs (tall whitetop [*Lepidium latifolium*] and curly dock [*Rumex crispus*]) with lesser amounts of other non-native herbaceous species. Indicators of wetland hydrology in these wetland features are limited to those associated primarily with soil saturation rather than prolonged inundation. Therefore, it is concluded that no aquatic habitat is ever present in these features for a sufficiently prolonged period to support the aquatic phase of the life cycle of any SSHCP-covered obligate plant, or aquatic or amphibious animal species. One small (0.004 acre) topographic depression appears to become inundated briefly but lacks any hydric soil indicators and does not support any native or non-native plants that are characteristic of prolonged inundation. This feature was determined to be non-wetland due to the absence of hydric soils.

It should be noted that the characteristics of the observed onsite Seasonal Wetland features are incompatible with the description of any land cover type described in the SSHCP. In particular, the features differ from the description of Seasonal Wetlands in the SSHCP. However, at County staff direction, these features have been labeled as Seasonal Wetland but do not provide habitat for typically aquatic Seasonal Wetland covered species.

No evidence of SSHCP covered species was found during the reconnaissance level surveys of the project site and surrounding lands. However, potentially suitable habitats (i.e., suitable land cover types for covered species) were found during the surveys and are summarized in Table 3.

Table 3 South Sacramento Habitat Conservation Plan Covered Species Suitable Habitat Assessment		
Species	Suitable Habitat	Survey Results & Assessment
Sanford's arrowhead	there is no suitable habitat (i.e., emergent wetlands or the margins of rivers, streams, ponds, reservoirs, irrigation and drainage canals and ditches, and stock ponds with sufficient hydro-period) for the species on the project site	the onsite seasonal wetland features within the project site have insufficient hydro-period to support the species during its entire life cycle - therefore it has no potential to occur on the project site

SSHCP covered seasonal wetland plants	seasonal wetland is a wetland that ponds for an extended period during a portion of the year and typically occurs within moderate to large depressional features along streams, creeks, and rivers; along the edges of open water; or scattered within valley grassland	the onsite seasonal wetlands are considered to have insufficient hydro-period to support SSHCP covered seasonal wetland plants - therefore such species are considered to have no potential to occur on the project site
California tiger salamander	aquatic breeding and larval development sites for the species include vernal pools or other seasonal water sources but it occurs in underground burrows in grassland, savanna, or open woodland habitats during the remainder of the year	though there is no suitable onsite aquatic habitat with sufficient hydro-period to support breeding and larval development, there is potential upland habitat (i.e., valley grassland) onsite - however the nearest known occurrences of the species are 10+ miles southeast of the project site with substantial habitat fragmentation between the two locations – therefore the species is considered to have no potential to occur at the project site
western spadefoot	aquatic breeding sites for the species include rivers, creeks, pools in intermittent streams, vernal pools, and temporary rain pools (i.e., natural features) - as well as artificial ponds, livestock ponds, sedimentation and flood control ponds, irrigation and roadside ditches, roadside puddles, tire ruts, and borrow pits - terrestrial habitat includes a variety of vegetation communities with short grasses and sandy or gravelly soils	though there is no suitable onsite aquatic habitat with sufficient hydro-period to support breeding and larval development, there is potential upland habitat (i.e., valley grassland) onsite - however the nearest known occurrences of the species are 8+ miles east of the project site with substantial habitat fragmentation between the two locations - therefore the species is considered to have no potential to occur at the project site
western pond turtle	occurs in and adjacent to ponds, reservoirs, or other slow-moving perennial aquatic habitats (e.g., sloughs, streams, and rivers) surrounded by upland that can be used as nesting habitat (usually within 300 feet or less)	though the onsite valley grassland is suitable for egg-laying by this species, there is no suitable aquatic habitat for the species within 300 feet or less of the project site - therefore the species is not expected on the project site

greater sandhill crane	uses open agricultural habitats, short grasslands, and seasonally managed wetlands for foraging - flooded fields and similar habitat where there is protection from terrestrial predators are used for roosting	though the onsite valley grassland and other land cover types on the project site are considered suitable for foraging, the species has not been recorded in the vicinity of the project site - likely given it is not an urban tolerant species and is therefore considered to have no potential to occur on the project site
ferruginous hawk	forages (i.e., hunts) in large, open tracts of grassland, sparse scrubland, and desert - note that it is only a wintering species in the SSHCP boundaries	the species utilizes valley grassland and the other land cover types on the project site during the winter months - however the species is not urban tolerant and typically is not found near human development even when suitable foraging habitat is available - therefore it is considered to have no potential to occur on the project site
northern harrier	is a resident and wintering species throughout lower elevation annual grasslands, oak savannah, and valley and coastal marshes - typically nests in emergent wetlands; tall, dense grasslands; or grain fields	the onsite valley grassland and other land cover types on the project site are considered suitable nesting and foraging habitat for the species (at least absent annual mowing or disking) - in addition, the species is known to occasionally nest on larger urban parcels supporting tall grasses and forbs - therefore it is considered to have some potential to occur on the adjacent parcel immediately east of the project site
Swainson's hawk	species typically nests in riparian woodland or forest stands, or oak savannah - nest territories are located adjacent to suitable foraging habitat (e.g., grassland, suitable grain and row crop fields, alfalfa, and pastures)	no nests that may have been created or used by the species occur within 0.25 miles of the project site - however the valley grassland and other land cover types on the project site could be used by the species as foraging habitat by individuals nesting beyond the 0.25-mile threshold and new nests could be created in the following nesting seasons

white-tailed kite	generally, inhabits low-elevation grasslands, wetlands dominated by grasses, oak woodlands, and agricultural and riparian areas - nests on the edge of riparian habitats, in hedgerows, or groups of trees (rarely in isolated trees)	no nests that may have been created or used by the species occur within 0.25 miles of the project site - however the valley grassland and other land cover types on the project site could be used by the species as foraging habitat by individuals nesting beyond the 0.25-mile threshold and new nests could be created in the following nesting seasons
burrowing owl	year-round resident in annual and perennial grasslands or other vegetation communities or areas that support sparse or non-existent tree or shrub canopies - underground refugia for the species are typically provided by California ground squirrel burrows but the species does utilize other subterranean refugia	no evidence of the species has been found on the project site, though it provides suitable foraging habitat (i.e., valley grassland) - it should be noted however that the parcel immediately east of the project site may be occupied by California ground squirrels), but a definitive determination could not be made given legal access to the parcel could not be obtained - therefore if the adjacent parcel is occupied, the project site could be used for foraging - furthermore the species could occupy the project site in the future if California ground squirrels inhabit the site
loggerhead shrike	occurs in dry, open habitats including grasslands, pastures with fence rows, agricultural fields, open woodlands (savannas), scrub, and riparian areas - they inhabit open areas with clear visibility for hunting, perches for scanning, and scattered small trees and large shrubs for nesting	though the onsite valley grassland and other land cover types provide suitable foraging habitat for the species, there is no onsite or adjacent habitat that is suitable for nesting by the species - therefore it is considered to have no potential to occur on the project site
tricolored blackbird	found in annual grassland, oak savannah, and freshwater marsh - nesting typically occurs in emergent freshwater marsh, but also occurs in dense stands of willow, blackberry, thistle, nettles, grasses, and certain field crops	the species has not been documented nesting or foraging on or adjacent to the project site - however the dense tall annual grassland/wild mustard immediately east of the project site is potentially suitable nesting habitat for the species - nonetheless this habitat is "land-

		locked” by extensive urban development and therefore precluded from use during nesting or foraging
SSHCP covered raptor species	most raptors that occur within south Sacramento County are arboreal nesters utilizing tall, densely foliated trees - furthermore the nest sites are either stick nests or tree cavities and therefore must be large enough to support such structures	there are large trees at several locations within 0.25 miles of the project site that could provide nesting opportunities for raptors - however the reconnaissance level survey in the project vicinity found no evidence of such nests - in addition, most of the nearby trees do not provide sufficient structure to support or hide such nest sites and this may explain their absence - however it should be noted that new nests could be created in the following nesting seasons
American badger	resident species at scattered localities throughout California (except in the coastal redwood region) - generally occurs in extensive, open habitats in the vicinity of abundant rodent populations	though the onsite valley grassland and other land cover types on the project site are considered suitable for foraging, the species has not been recorded in the vicinity of the project site (i.e., all known occurrences are several miles east of the project site) - likely due to the species not being an urban tolerant species - therefore it is considered to have no potential to occur on the project site
Yuma myotis and pallid bat (as well as other special-status bats that are not tree-roosting species)	day roosts are typically found in buildings, bridges, rocky outcrops, mines, caves, and trees - night roosts are generally provided by, mines, caves, bridges, and other man-made structures (the type of roost differs between species)	there are no suitable day roosts within 300 feet of the project site - therefore any bats using the site would be limited to foraging (hunting) in the air space over the project site (i.e., over the valley grassland and other land cover types associated with the project site)
western red bat and hoary bat (tree-roosting bats)	roosting sites are found in dense tree or shrub foliage 2 to 40 feet above ground (usually in large walnuts, cottonwoods, sycamores, or willows - occasionally in orchard) where	there are no suitable day roosts within 300 feet of the project site - therefore any bats using the site would be limited to foraging (hunting) in the air space over the project site (i.e., over the

	there is refuge from light, heat, and predators	valley grassland and other land cover types associated with the project site
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Animal species that were found on the project site during the reconnaissance level survey included Eurasian collared dove [*Streptopelia decaocto*] and ruby-crowned kinglet [*Regulus calendula*]. The above species are relatively common and occur in semi-rural settings in lowland California.

Other raptor species, though not considered special-status species by the California Department of Fish and Wildlife (CDFW), are nonetheless protected under the SSHCP and Section 3503.5 of the California Fish and Game Code. As such, the reconnaissance level survey involved a search for evidence of any nesting raptors that might occur in the project vicinity. The search for evidence of nesting was conducted concurrently with the focused search for SSHCP-covered species such as Swainson's hawk, white-tailed kite, and Cooper's hawk. No evidence of prior nesting (e.g., large stick nests) was found during the survey. It should be noted that this finding is not unexpected as most of the large trees found in the vicinity of the project site are non-native ornamentals that do not have the structure or density to support or hide raptor nests. Furthermore, the extent of urban development around the project site precludes the area from providing sufficient habitat within which to hunt for appropriate prey species.

Other special-status species that are not covered by the SSHCP but that are considered to have the potential to occur on the project site include Yuma myotis [*Myotis yumanensis*] and pallid bat [*Antrozous pallidus*]. There are no suitable roost sites on the project site for either of these bat species. Therefore, their only use of the project site would be limited to foraging in the air space over the site.

The last special-status animal species not covered by the SSHCP, but that may occur on the project site is Crotch bumble bee [*Bombus crotchii*]. It occurs at relatively warm and dry sites in open grassland and scrub habitats with ample foraging habitat in the form of diverse pollen sources. Colonies are annual and only the new, mated queens overwinter. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Though unlikely to occur on the project site, the species cannot be dismissed entirely as not occurring within the site.

Twenty-three vascular plant species and one moss were found within the project site. Only three of these species (including the moss) are native to California, and none are special-status species whether covered by the SSHCP or not. Five special-status plant species that are not covered by the SSHCP have been recorded in the project vicinity (Table 4), but the comprehensive onsite botanical survey found no evidence of these species. Therefore, the project has no potential for adverse impacts on any special-status plant species.

Table 4 Special Status Plant Species Not Covered by the South Sacramento Habitat Conservation Plan		
Species	Habitat	Potential for Occurrence at 8160 Stevenson Avenue
alkali-sink goldfields [<i>Lasthenia chrysantha</i>]	vernal pools, alkali flats	marginal to none
Heckard's pepper grass [<i>Lepidium latipes</i> var. <i>heckardii</i>]	margins of vernal pools, edges of salt marshes, alkaline flats, pastures, and mud-wet fields	marginal
saline clover [<i>Trifolium hydrophilum</i>]	salt marshes, open alkaline soils, marshes and swamps, valley grassland (mesic, alkaline), and vernal pools	marginal (but possible in mesic Valley Grassland or grassy Seasonal Wetland)
woolly rose-mallow [<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>]	marshes and swamps	none
Peruvian dodder [<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>]	marshes and swamps	none

Conclusions and Recommendations

Given the biological evaluation in this technical memorandum it has been determined that certain avoidance and minimization measures (AMMs), as required by the SSHCP, should be implemented for the proposed project. The applicable AMMs identified by this report are associated only with the General Covered Species Take AMMs. The County will ultimately determine which other AMMs from the SSHCP will apply to the proposed project based on review of the project plans at the time of their submittal. The applicable General Covered Species Take AMMs are identified below.

SPECIES-1 (Litter Removal Program): A litter control program will be instituted for the entire project site. All workers will ensure that their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. All garbage will be removed from the project site at the end of each workday, and construction personnel will not feed or otherwise attract wildlife to the area where construction activities are taking place.

SPECIES-2 (No Pets in Construction Areas): To avoid harm and harassment of native species, workers and visitors will not bring pets onto a project site.

SPECIES-3 (Take Report): If accidental injury or death of any Covered Species occurs, workers will immediately inform the approved biologist or on-site monitor and site supervisor. The approved biologist or on-site monitor will phone the appropriate contact person at the Implementing Entity. The Implementing Entity will immediately contact the Wildlife Agencies by telephone. A memorandum will be provided to the Implementing Entity and Wildlife Agencies within 1 working day of the incident. The report will provide the date and location of the incident, number of individuals taken, the circumstances resulting in the take, and any corrective measures taken to prevent additional take.

SPECIES-4 (Post-Construction Compliance Report): A post-construction compliance report will be submitted to the SSHCP Implementing Entity within 30 calendar days of completion of construction activities or within 30 calendar days of any break in construction activity that lasts more than 30 days. The report will detail the construction start and completion dates, any information about meeting or failing to meet species take Avoidance and Minimization Measures (AMM), effectiveness of each AMM that was applied at the project site, and any known project effects to Covered Species.

PLANT-1 (Rare Plant Surveys): If a Covered Activity project site contains modeled habitat for Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), Legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii*), or Sanford's arrowhead (*Sagittaria sanfordii*), the Covered Activity project site will be surveyed for the rare plant by an approved biologist and following the California Department of Fish and Wildlife (CDFW) rare plant survey protocols (CDFG 2009) or the most recent CDFW rare plant survey protocols. An approved biologist will conduct the field surveys and will identify and map plant species occurrences according to the protocols. See Chapter 10 for the process to submit survey information to the Plan Permittee and the Permitting Agencies.

PLANT-2 (Rare Plant Protection): If a rare plant listed in AMM PLANT-1 is detected within an area proposed to be disturbed by a Covered Activity or is detected within 250 feet of the area proposed to be disturbed by a Covered Activity, the Implementing Entity will assure one unprotected occurrence of the species is protected within a SSHCP Preserve before any ground disturbance occurs at the project site.

TCB-1 (Tricolored Blackbird Surveys): If modeled habitat for tricolored blackbird is present within a Covered Activity's project footprint or within 500 feet of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting or foraging sites are present within the project footprint and adjacent areas within 500 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels

are visible from authorized areas. Within the Plan Area, potential tricolor blackbird nest sites are often associated with freshwater marsh and seasonal wetlands, or in thickets of willow, blackberry, wild rose, thistle, and other thorny vegetation. Tricolored blackbirds are also known to nest in crops associated with dairy farms. Foraging habitat is associated with annual grasslands, wet and dry vernal pools and other seasonal wetlands, agricultural fields (such as large tracts of alfalfa and pastures with continuous haying schedules and recently tilled fields), cattle feedlots, and dairies. The Third-Party Project Proponent will map all existing or potential nesting or foraging sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information.

TCB-2 (Tricolored Blackbird Pre-Construction Surveys): Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 500 feet of a project footprint if existing or potential nest sites were found during design surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and within 3 days of ground-disturbing activities, and within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence of nesting tricolored blackbird. Pre-construction surveys will be conducted during the breeding season (March 1 through August 31). Surveys conducted in February (to meet pre-construction survey requirements for work starting in March) must be conducted within 14 days and 3 days in advance of ground-disturbing activities. If a nest is present, then TCB-3 and TCB-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and the Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

TCB-3 (Tricolored Blackbird Nest Buffer): If active nests are found within the project footprint or within 500 feet of any project-related Covered Activity, the Third-Party Project Proponent will establish a 500-foot temporary buffer around the active nest until the young have fledged.

TCB-4 (Tricolored Blackbird Nest Buffer Monitoring): If nesting tricolored blackbirds are present within the project footprint or within 500 feet of any project-related Covered Activity, then an approved biologist experienced with tricolored blackbird behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that tricolored blackbirds are exhibiting agitated behavior, construction will cease until the buffer size is increased

to a distance necessary to result in no harm or harassment to the nesting tricolored blackbirds. If the biologist determines that the colonies are at risk, a meeting with the Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will be held to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone).

SWHA-1 (Swainson's Hawk Surveys): If modeled habitat for Swainson's hawk (Figure 3-25) is present within a Covered Activity's project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a survey to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Nest sites are often associated with Riparian land cover, but also include lone trees in fields, trees along roadways, and trees around structures. Nest trees may include, but are not limited to, Fremont's cottonwood (*Populus fremontii*), oaks (*Quercus* spp.), willows (*Salix* spp.), walnuts (*Juglans* spp.), eucalyptus (*Eucalyptus* spp.), pines (*Pinus* spp.), and Deodar cedar (*Cedrus deodara*). The Third-Party Project Proponent will map all existing and potential nesting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information.

SWHA-2 (Swainson's Hawk Pre-Construction Surveys): Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites were found during initial surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities to determine presence of nesting Swainson's hawk. Pre-construction surveys will be conducted during the breeding season (March 1 through September 15). If a nest is present, then SWHA-3 and SWHA-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

SWHA-3 (Swainson's Hawk Nest Buffer): If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25 mile disturbance buffer around the active nest until the young have fledged, with concurrence from the Wildlife Agencies.

SWHA-4 (Swainson's Hawk Nest Buffer Monitoring): If nesting Swainson's hawks are present within the project footprint or within 0.25 mile of any project-related Covered Activity, then an approved biologist experienced with Swainson's hawk behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting Swainson's hawks begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a Swainson's hawk flies into an active construction zone (i.e., outside the buffer zone).

WBO-1 (Western Burrowing Owl Surveys): Surveys within modeled habitat are required for both the breeding and non-breeding season. If the project site falls within modeled habitat, an approved biologist will survey the project site and map all burrows, noting any burrows that may be occupied. Occupied burrows are often (but not always) indicated by tracks, feathers, eggshell fragments, pellets, prey remains, and/or excrement. Surveying and mapping will be conducted by the approved biologist while walking transects throughout the entire project site plus all accessible areas within a 250-foot radius from the project site. The centerline of these transects will be no more than 50 feet apart and will vary in width to account for changes in terrain and vegetation that can preclude complete visual coverage of the area. For example, in hilly terrain with patches of tall grass, transects will be closer together, and in open areas with little vegetation, they can be 50 feet apart. This methodology is consistent with current survey protocols for this species (California Burrowing Owl Consortium 1993). Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If suitable habitat is identified during the initial survey, and if the project does not fully avoid the habitat, pre-construction surveys will be required. Burrowing owl habitat is fully avoided if project-related activities do not impinge on a 250-foot buffer established by the approved biologist around suitable burrows. See Chapter 10 for the process to conduct and submit survey information.

WBO-2 (Western Burrowing Owl Pre-Construction Surveys): Prior to any Covered Activity ground disturbance, an approved biologist will conduct pre-construction surveys in all areas that were identified as suitable habitat during the initial surveys. The purpose of the pre-construction surveys is to document the presence or absence of

burrowing owls on the project site, particularly in areas within 250 feet of construction activities. To maximize the likelihood of detecting owls, the pre-construction survey will last a minimum of 3 hours. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total) or begin 2 hours before sunset and continue until 1 hour after sunset. Additional time may be required for large project sites. A minimum of two pre-construction surveys will be conducted (if owls are detected on the first survey, a second survey is not needed). All owls observed will be counted and their location will be mapped. Surveys will conclude no more than 2 calendar days prior to construction. Therefore, the Third-Party Project Proponent must begin surveys no more than 4 days prior to construction (2 days of surveying plus up to 2 days between surveys and construction). To avoid last-minute changes in schedule or contracting that may occur if burrowing owls are found, the Third-Party Project Proponent may also conduct a preliminary survey up to 15 days before construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than 2 calendar days in advance of construction.

WBO-3 (Burrowing Owl Avoidance): If western burrowing owl or evidence of western burrowing owl is observed on the project site or within 250 feet of the project site during pre-construction surveys, then the following will occur:

During Breeding Season: If the approved biologist finds evidence of western burrowing owls within a project site during the breeding season (February 1 through August 31), all project-related activities will avoid nest sites during the remainder of the breeding season or while the nest remains occupied by adults or young (nest occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance is establishment of a minimum 250-foot buffer zone around nests. Construction and other project-related activities may occur outside of the 250-foot buffer zone. Construction and other project-related activities may be allowed inside of the 250-foot non-disturbance buffer during the breeding season if the nest is not disturbed, and the Third-Party Project Proponent develops an avoidance, minimization, and monitoring plan that is approved by the Implementing Entity and Wildlife Agencies prior to project construction based on the following criteria:

- The Implementing Entity and Wildlife Agencies approve of the avoidance and minimization plan provided by the project applicant.
- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction

activities.

If there is any change in owl nesting and foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer. Construction cannot resume within the 250-foot buffer until any owls present are no longer affected by nearby construction activities, and with written concurrence from the Wildlife Agencies. If monitoring by the approved biologist indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use, the non-disturbance buffer zone may be removed if approved by the Wildlife Agencies. The approved biologist will excavate the burrow in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl to prevent reoccupation after receiving approval from the Wildlife Agencies.

The Implementing Entity and Wildlife Agencies will respond to a request from the Third-Party Project Proponent to review the proposed construction monitoring plan within 21 days.

During Non-Breeding Season: During the non-breeding season (September 1 through January 31), the approved biologist will establish a minimum 250-foot non-disturbance buffer around occupied burrows. Construction activities outside of this 250-foot buffer will be allowed. Construction activities within the non-disturbance buffer will be allowed if the following criteria are met to prevent owls from abandoning over-wintering sites:

- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
- If there is any change in owl foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer.
- If the owls are gone for at least 1 week, the Third-Party Project Proponent may request approval from the Implementing Entity and Wildlife Agencies that an approved biologist excavate usable burrows and install one-way exclusionary devices to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue.

Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.

WBO-4 (Burrowing Owl Construction Monitoring): During construction of Covered Activities, 250-foot construction buffer zones will be established and maintained around any occupied burrow. An approved biologist will monitor the site to ensure that buffers are enforced and owls are not disturbed. The approved biologist will also train construction personnel on avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.

WBO-5 (Burrowing Owl Passive Relocation): Passive relocation is not allowed without the express written approval of the Wildlife Agencies. Passive owl relocation may be allowed on a case-by-case basis on project sites during the non-breeding season (September 1 through January 31) with the written approval of the Wildlife Agencies if the other measures described in this condition preclude work from continuing. Passive relocation must be done in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl. Passive relocation will only be proposed if the burrow needing to be removed or with the potential to collapse from construction activities is the result of a Covered Activity. If passive relocation is approved by the Wildlife Agencies, an approved biologist can passively exclude birds from their burrows during the non-breeding season by installing one-way doors in burrow entrances. These doors will be in place for 48 hours to ensure that owls have left the burrow, and then the biologist will excavate the burrow to prevent reoccupation. Burrows will be excavated using hand tools only. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure into the burrow to avoid having materials collapse into the burrow and trap owls inside. Other methods of passive relocation, based on best available science, may be approved by the Wildlife Agencies over the 50-year Permit Term.

WBO-6 (Burrowing Owl Timing of Maintenance Activities): All activities adjacent to existing or planned Preserves, Preserve Setbacks, or Stream Setback areas will be seasonally timed, when safety permits, to avoid or minimize adverse effects on occupied burrows.

WBO-7 (Rodent Control): Rodent control will be allowed only in developed portions of a Covered Activity project site within western burrowing owl modeled habitat. Where rodent control is allowed, the method of rodent control will comply with the methods of rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.

RAPTOR-1 (Raptor Surveys): If modeled habitat for a covered raptor species (Figures 3-20, 3-23, 3-24, or 3-28) is present within a Covered Activity's project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint.

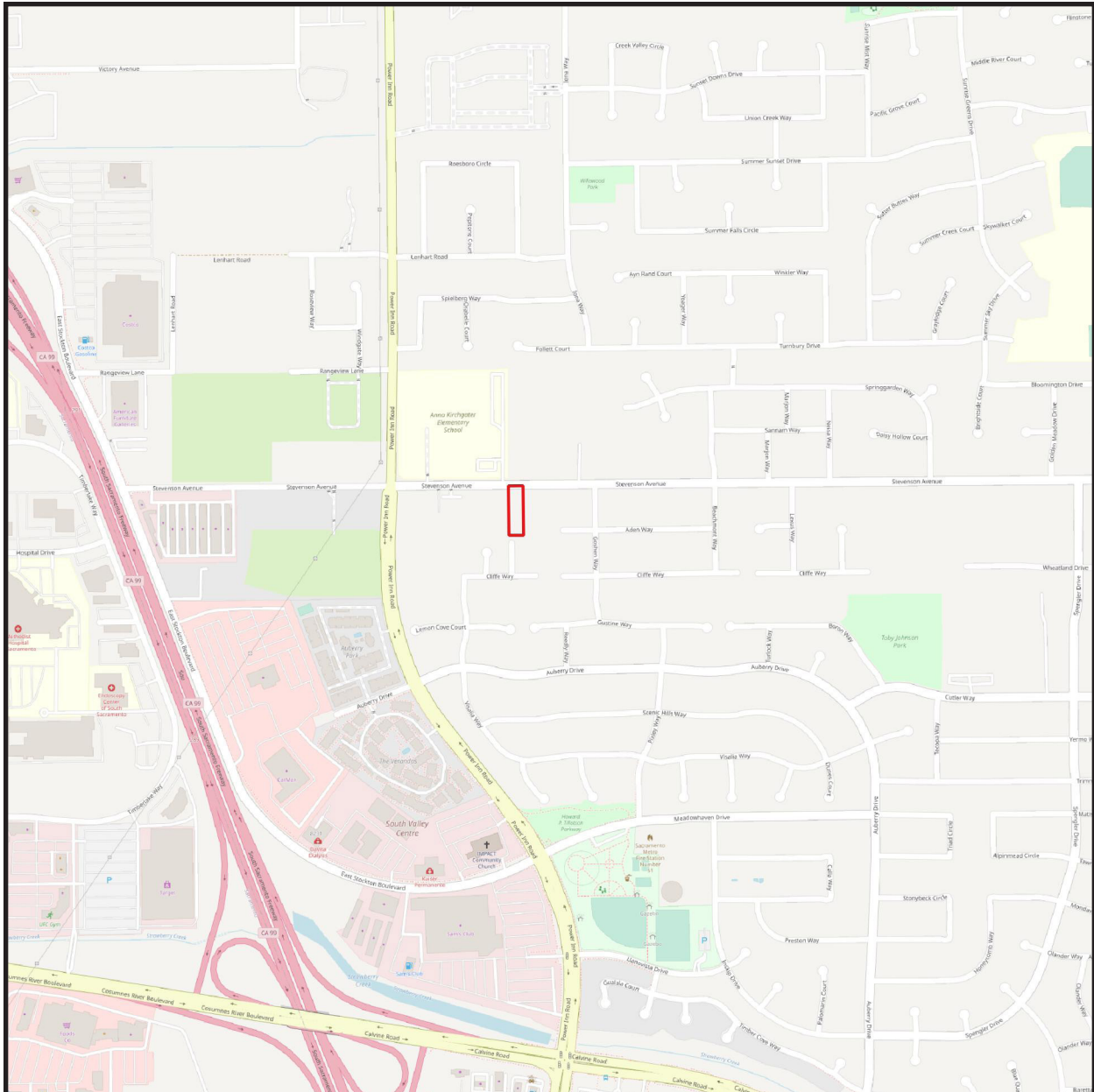
Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential nesting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information.

RAPTOR-2 (Raptor Pre-Construction Surveys): Pre-construction surveys will be required to determine if active nests are present with a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites are found during initial surveys and construction activities will occur during the raptor breeding season. An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground disturbing activities within the proposed project footprint and within 0.25 mile of the proposed project footprint to determine presence of nesting covered raptor species. Preconstruction surveys will be conducted during the raptor breeding season. If a nest is present, then **RAPTOR-3** and **RAPTOR-4** will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

RAPTOR-3 (Raptor Nest/Roost Buffer): If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25 mile temporary nest disturbance buffer around the active nest until the young have fledged.

RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring): If project-related Covered Activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an approved biologist experienced with raptor behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone (i.e., outside the buffer zone).

Should additional information regarding the evaluation of biological resources for the 8160 Stevenson Avenue Sandale Tentative Map be needed, do not hesitate to contact me (916-638-7368 or 916-812-2540).



EcoSynthesis

SCIENTIFIC & REGULATORY SERVICES INC

Bumgardner Biological Consulting

Scale: 1:10,000 (1"=833')

North



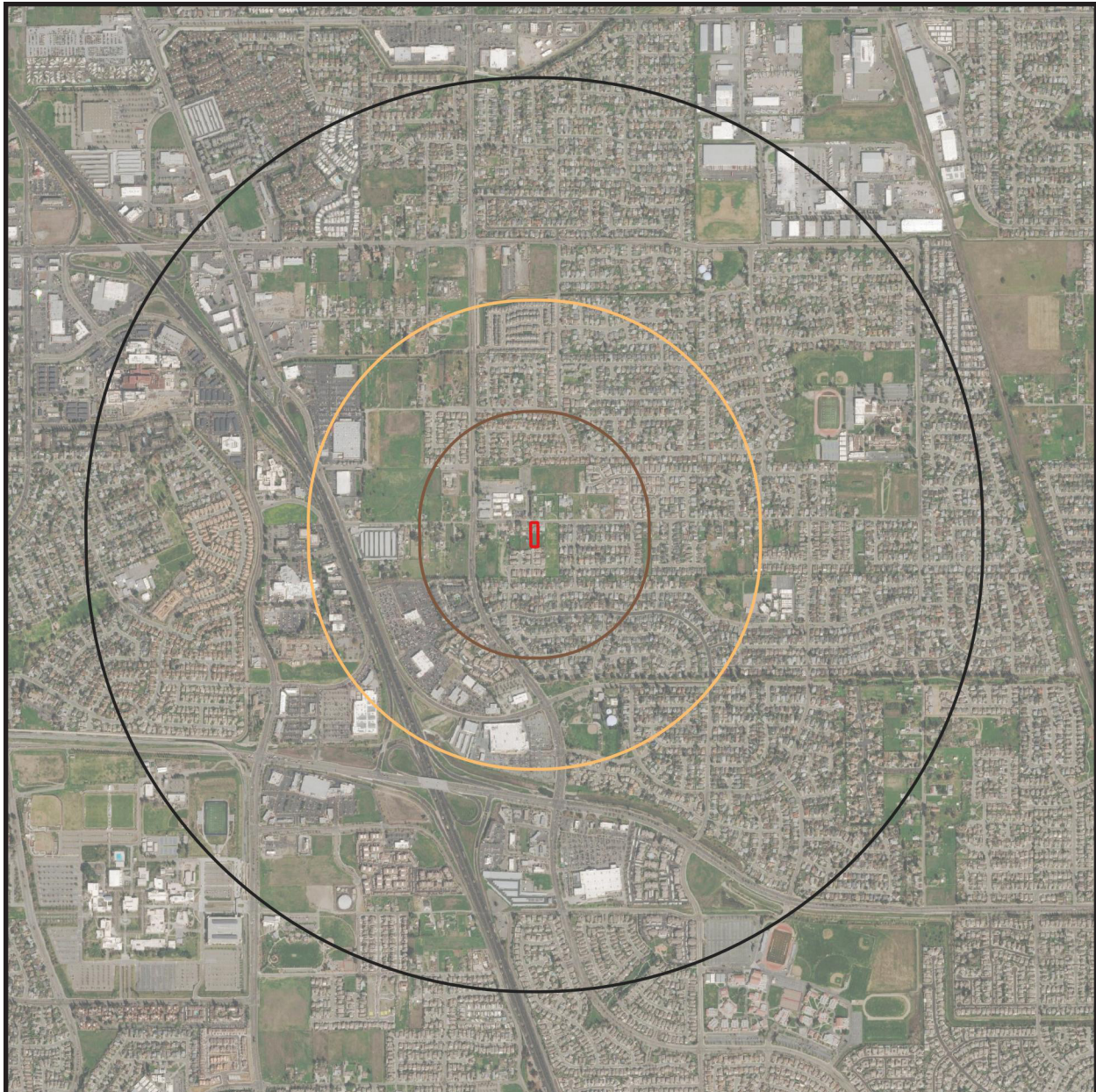
Sandale LLC Property 8160 Stevenson Avenue

Biological Resources Technical Memorandum

Figure 1. Site Location



Parcel boundary



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Bumgardner Biological Consulting

Scale: 1:24,000 (1"=2,000')



Sandale LLC Property 8160 Stevenson Avenue

Biological Resources Technical Memorandum

Figure 2. Western spadefoot, greater sandhill crane, loggerhead shrike, and raptor (including Swainson's hawk) "windshield" survey areas.



Parcel boundary



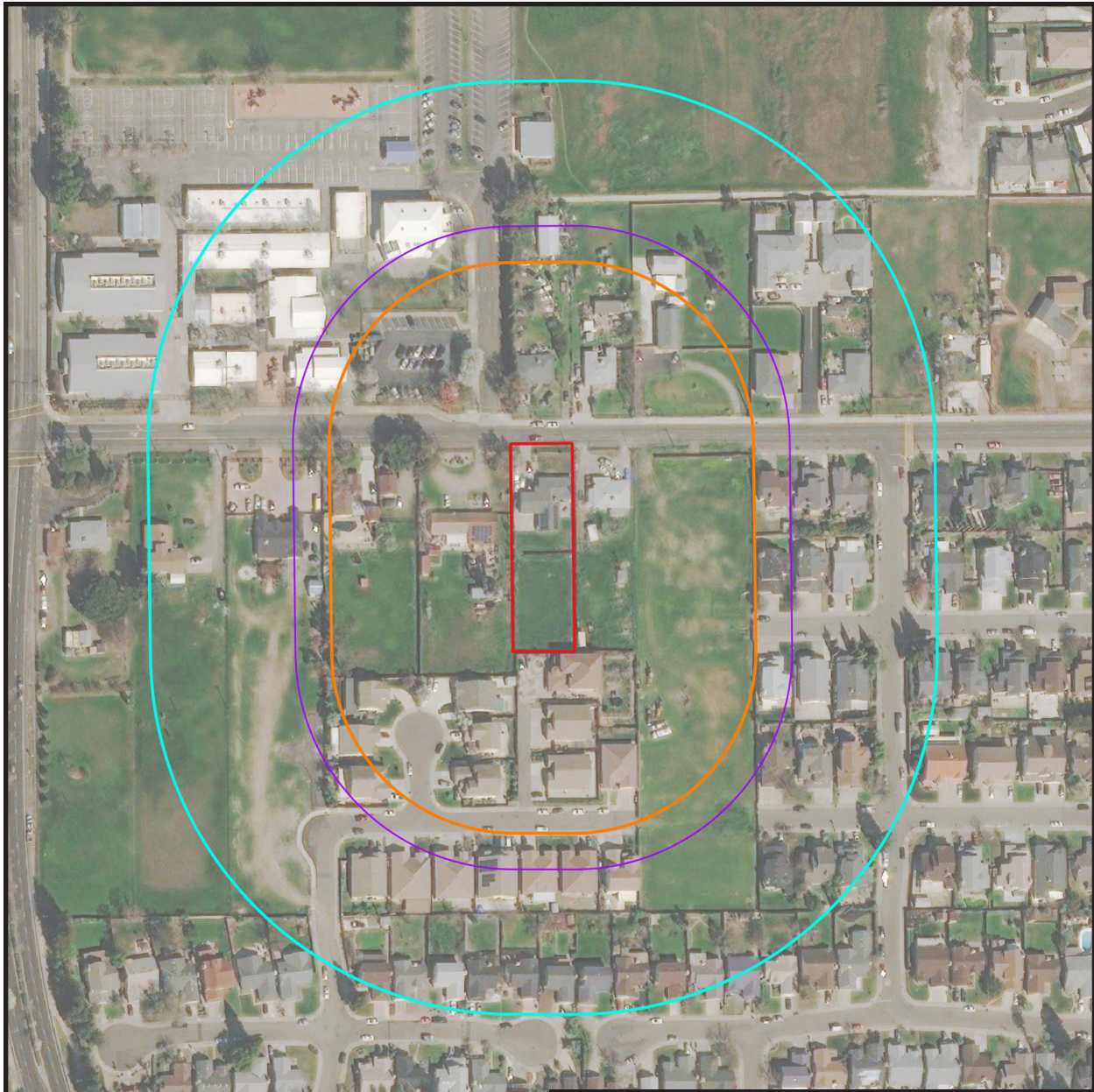
1 mile radius (western spadefoot)



0.5 mile radius (greater sandhill crane)



0.25 mile radius (loggerhead shrike, raptors)



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Biological Resources Technical Memorandum

Figure 3. Tricolored blackbird, western red bat, and western burrowing owl "windshield" survey areas

Bumgardner Biological Consulting

Scale: 1:2,400 (1"=200')



Parcel boundary



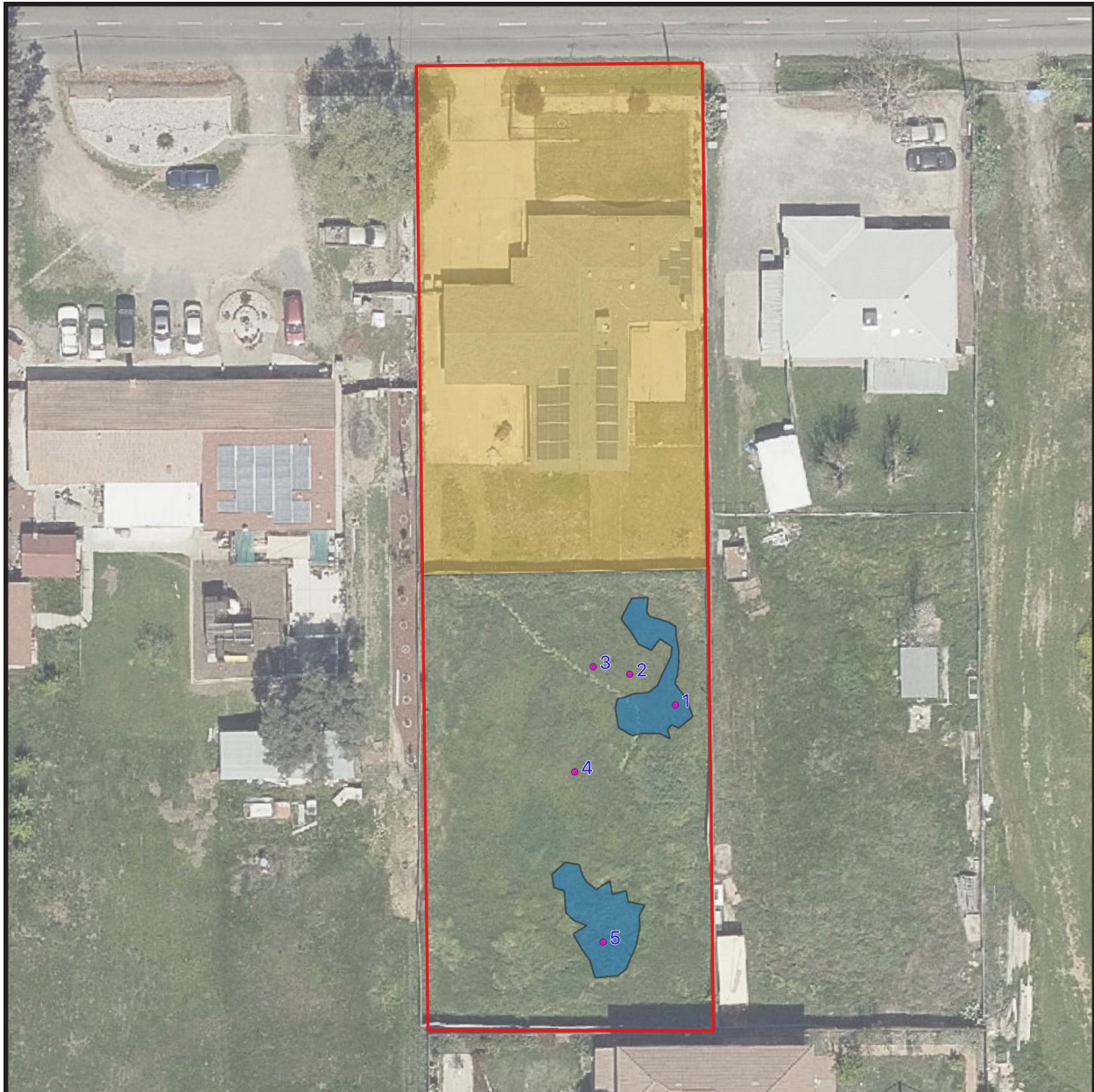
500 foot radius (tricolored blackbird)



300 foot radius (western red bat)



250 foot radius (western burrowing owl)



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Scale: 1:600 (1"=50')



Sandale LLC Property 8160 Stevenson Avenue
Biological Resources Technical Memorandum
Figure 4. Land Cover Map

- Parcel boundary
- Low Density Development
- Valley Grassland [no fill]
- Seasonal Wetland
- Wetland study data points