



February 13, 2019

Mr. Angelo Heropoulos
21670 Shillingsburg Avenue
San Jose CA, 95120

RE: Biological Report for California Red-Legged Frog, 21670 Shillingsburg Avenue, San Jose, Santa Clara County, CA

Dear Mr. Heropoulos:

This letter provides a Biological Report for California red-legged frog (CRLF; *Rana draytonii*) for your property located at 21670 Shillingsburg Avenue in San Jose, Santa Clara County, California (APN 708-40-005) (“study area”) (Figure 1).

Santa Clara County planning staff requested a Biological Report for CRLF on the study area as part of a Grading Abatement application. Three Grading Violation areas are the subject of the Grading Abatement application, and are shown on the Preliminary Abatement Plan, dated November 29, 2018, prepared by MH Engineering. These areas include “Grading Violation-Area 1” covering 6,504 ft² in the northeastern portion of the study area; “Grading Violation-Area 2” covering 10,562 ft² in the southwestern portion of the study area; and “Grading Violation-Areas” covering 51,713 ft² in the northern portion of the study area. The Grading Violations occurred in late summer 2018. An aerial image from August 9, 2018 shows grading within the three Violation Areas (Figure 2).

According to Santa Clara County planning staff, in a letter dated January 11, 2019:

“The applicant proposes to retain the 90 cubic yards of unpermitted grading performed in the southwestern corner of the lot (Area 2) to prevent ponding on the property. The California Natural Diversity Database (CNDDB) has identified California Red Legged frog (federally listed as a threatened species) in the general area. Please provide a Biology report, prepared by a certified biologist, in order to determine if the unpermitted grading has impacted the species or its habitat.”

The study area is located within the permit area for the Santa Clara Valley Habitat Plan (Habitat Plan) (ICF International 2012), and therefore Habitat Plan methods and nomenclature are used in this report. This report is restricted to the Biological Report for CRLF in relation to the Grading Abatement application. No other biological or regulatory issues are addressed.

1.0 METHODS

Prior to the field visit, a background literature search was conducted to document habitat conditions on and adjacent to the study area. The primary sources for the background literature

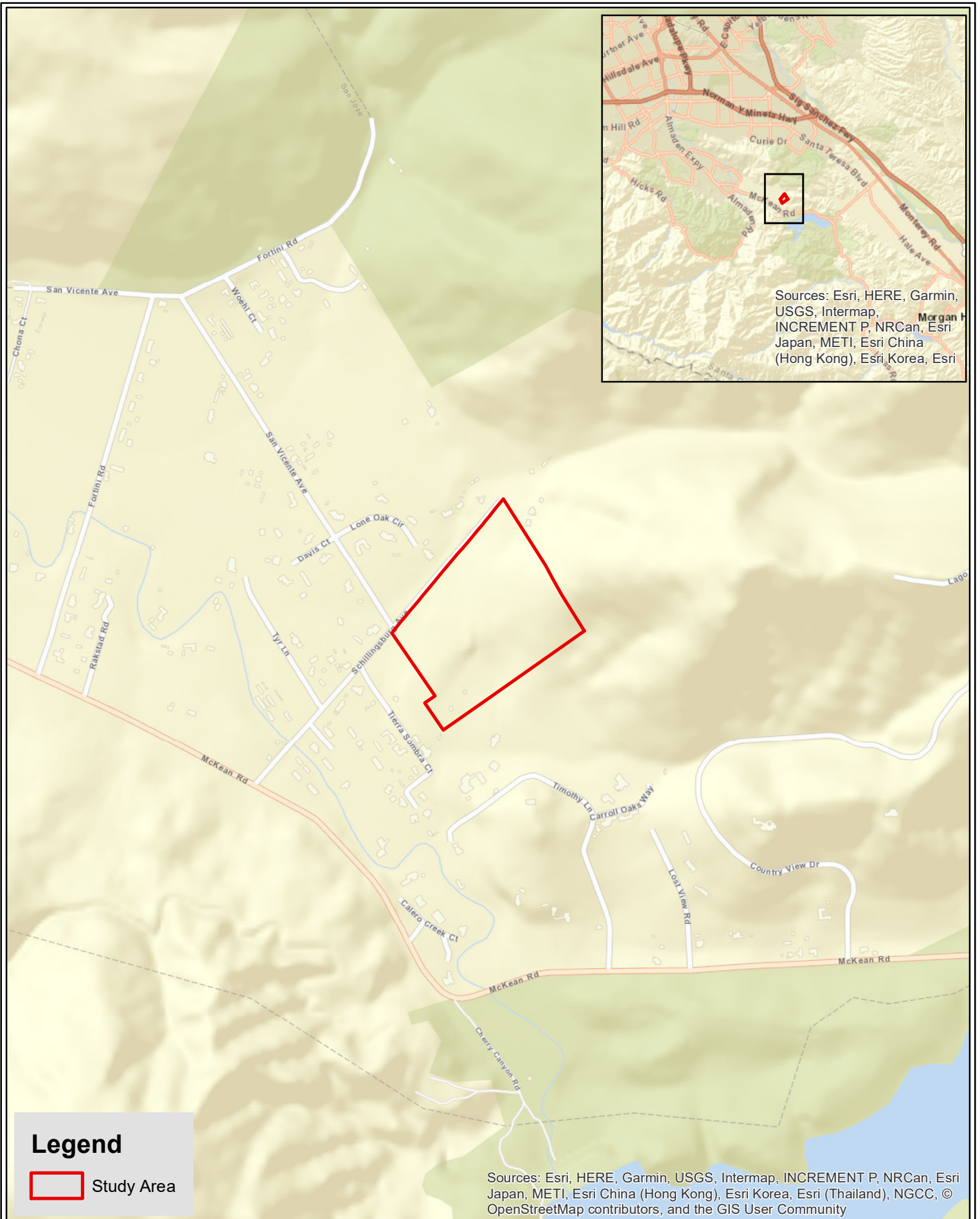
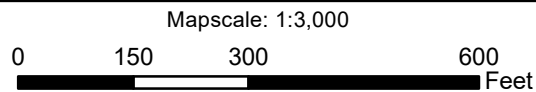


Figure 1. Study area locality map.



Figure 2. Aerial imagery of the study area, dated 8/9/18, during/after Grading Violation.



search included the Habitat Plan (ICF International 2012), Santa Clara Valley Habitat Agency Geobrowser (Geobrowser) (Santa Clara Valley Habitat Agency 2019), California Natural Diversity Database (CNDDB) (CDFW 2019), National Wetlands Inventory (NWI) (USFWS 2019a), National Hydrography Dataset (NHD) (USGS 2019), topographic maps (USGS 1953), geologic data (California Geological Survey 2010), and aerial imagery.

The field visit was conducted on February 11, 2019 by plant ecologist Tom Mahony and wildlife biologist Mark Allaback (Biosearch Environmental Consulting, Santa Cruz, CA). The study area was traversed on foot. The potential for occurrence of CRLF was assessed based on the presence of necessary habitat characteristics, confirmed records from the region, and the biologist's knowledge of the target species. No focused field surveys were conducted. The study area boundary was downloaded from the Santa Clara County parcel layer as an ArcGIS shapefile obtained from the County website. The Grading Violation Areas were estimated from the Preliminary Abatement Plan, dated November 29, 2018, prepared by MH Engineering.

2.0 STUDY AREA

The study area covers ~33.2-acres and is located at 21670 Shillingsburg Avenue in San Jose, Santa Clara County, California (Figure 1 and 2). The study area is currently used for equestrian operations, including pasture, riding arenas, and stables. The study area consists primarily of undeveloped pasture, along with development and other disturbance associated with equestrian operations, including fencing, arenas, stables, and associated infrastructure. Photographs of the study area are included in Appendix A.

2.1 Topography, Geology, and Soils

The study area is located north of Calero Reservoir, in the Santa Teresa Hills, between ~380 and ~560-foot elevation (NGVD). The study area consists of flat to hilly terrain that slopes toward the south and west (USGS 1953). The western portion of the study area is underlain by alluvial and terrace deposits of Pliocene to Holocene age, the eastern portion of the study area is underlain by sandstone and mudstone of Jurassic to Cretaceous age, and a small portion of the far northern corner of the study area is underlain by greenstone and basalt of Jurassic to Cretaceous age (California Geological Survey 2010).

Three soil types have been mapped on the study area (NRCS 2019):

- 143—Flaskan sandy clay loam, 5 to 9 percent slopes
- 315—Cropley clay, 0 to 2 percent slopes, MLRA 14
- 376—Zeppelin-Alumrock complex, 30 to 50 percent slopes

2.2 Hydrology

The principal hydrologic sources for the study area are direct precipitation and surface sheet flow and shallow sub-surface flow from surrounding uplands. The study area drains toward the south and west. No drainages, ponds, or wetlands have been mapped for the study area in the NWI (USFWS 2019a), NHD (USGS 2019), or the Santa Teresa Hills 7.5 minute topographic quadrangle (USGS 1953).

3.0 RESULTS AND RECOMMENDATIONS

3.1 Habitat Agency Geobrowser Mapping and Existing Conditions

The study area covers ~33.2-acres. According to the Geobrowser (Santa Clara Valley Habitat Agency 2019), the study area is located within the Habitat Plan Area but outside of the Urban Service Area. Three land cover types were mapped on the study area in the Geobrowser: Grain, Row-crop, Hay and Pasture, Disked/Short-term Fallowed; Rural-Residential; and California Annual Grassland. A formal Land Cover Verification (including land cover mapping) was not conducted as part of this report. However, based on the initial CRLF reconnaissance, land cover types observed on the study area are in general conformance with the land cover types mapped in the Geobrowser, though the location and extent of each type could differ based on the results of a detailed Land Cover Verification and land cover mapping.

Prior to the 2018 Grading Violation, most of the study area—and in particular Grading Violation-Area 1 and Grading Violation-Areas—were located in pasture that could conform to Grain, Row-crop, Hay and Pasture, Disked/Short-term Fallowed and/or California Annual Grassland land cover types (Figure 3) (Appendix A-1, A-2). Based on the February 11, 2019 field visit, the pasture is dominated primarily by non-native grasses and forbs, including soft chess (*Bromus hordeaceus*¹), riggut brome (*Bromus diandrus*), Italian ryegrass (*Festuca perennis*), English plantain (*Plantago lanceolata*), summer mustard (*Hirschfeldia incana*), mallow (*Malva* sp.), filaree (*Erodium botrys*), dock (*Rumex* sp.), annual bluegrass (*Poa annua*), clover (*Trifolium* sp.), horehound (*Marrubium vulgare*), and shepherd's purse (*Capsella bursa-pastoris*)². Native species, including California buttercup (*Ranunculus californicus*) and miner's lettuce (*Claytonia perfoliata*), are occasionally present.

Grading Violation-Area 2 is located in Rural-Residential land cover, consisting of disturbed areas including dirt/gravel roads, outbuildings, staging/storage areas, and other disturbance associated with equestrian operations and other land use on the study area (Appendix A-3). In addition, an ephemeral swale was located adjacent to and south of this area. The swale appears to collect sheet flow and other runoff from surrounding uplands, drain southwest along the southern study area boundary, and exist the study area to the south. Due to recent heavy rains, the swale had several inches of ponded water during the February 11, 2019 field visit (Appendix A-4).

The study area supports a significant population of California ground squirrels (*Otospermophilus beecheyi*). California ground squirrel burrows provide cover for a variety of wildlife species. No shrub or tree canopy is present on the study area.

¹ Botanical nomenclature follows Baldwin et al. (2012) and the Jepson Flora Project (2019).

² Many grasses and forbs were not identifiable during the field visit due to the season (since annual grasses and forbs were still in the early growth stages) and no botanical surveys were conducted.

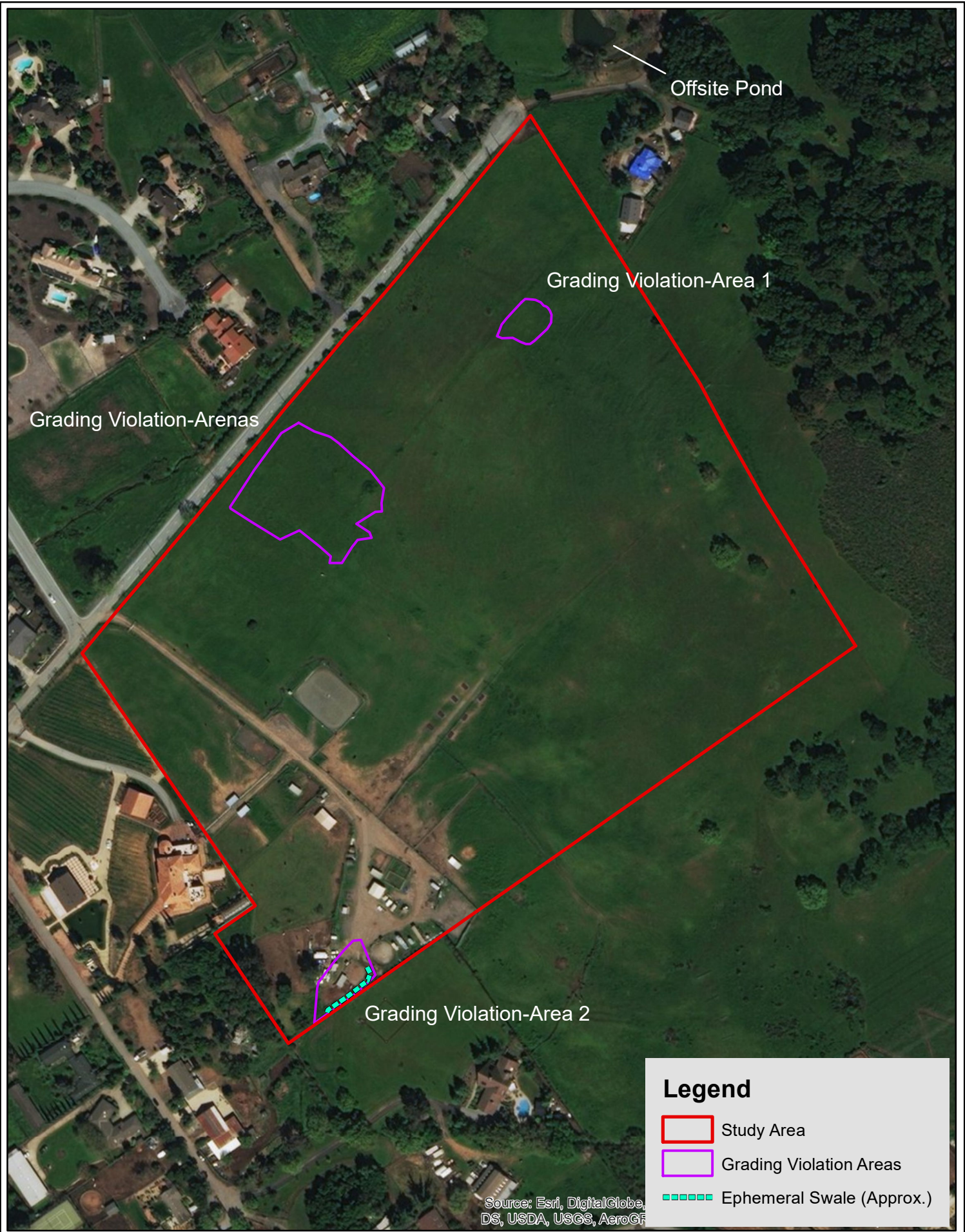


Figure 3. Aerial imagery of the study area from 2017, prior to the Grading Violation.

3.2 California Red-legged Frog (Federal Status: Threatened; State Status: Species of Special Concern)

The CRLF is a large (85-138 mm), nocturnal species that historically occupied much of central and southern California. The species requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submerged or emergent vegetation. Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Eggs require 6 to 12 days before hatching and metamorphosis occurs 3.5 to 7 months after hatching (Stebbins 2003). Following metamorphosis between July and September, post-metamorphic juveniles (metamorphs) generally do not travel far from aquatic habitats. Movements of metamorphs and adults occur with the first rains of the weather-year, in response to receding water, or following the breeding season (Fellers and Kleeman 2007; Allaback et al. 2010; pers. obs.). Radio-telemetry data indicates that individuals generally engage in straight-line movements irrespective of riparian corridors and can move up to two miles (Bulger et al. 2003; Fellers and Kleeman 2007). California red-legged frogs utilize a variety of water sources during the non-breeding season, and females are more likely than males to depart from perennial ponds shortly after depositing eggs (Fellers and Kleeman 2007). They may take refuge in small mammal burrows, leaf litter or other moist areas during periods of inactivity or whenever it is necessary to avoid desiccation (Rathbun et al. 1993; Jennings and Hayes 1994). Occurrence has been negatively correlated with the presence of introduced fishes and American bullfrogs (Moyle 1973; Hayes and Jennings 1986, 1988; Alvarez et al. 2003), although both frog species may persist at certain locations, particularly along the coast (Cook and Jennings 2007; D'Amore et al. 2009). Genetic studies indicate that the nominal subspecies *draytonii* and *aurora* represent separate lineages and are therefore distinct species (Shaffer et al. 2004; USFWS 2010).

Five CRLF occurrences have been documented³ in the CNDDDB within three miles of the study area (Figure 4). One occurrence has been documented in close proximity to the southwestern portion of the study area. This occurrence (CNDDDB Occurrence No. 1523, dated February-June 1983) is described in the CNDDDB (CDFW 2019) as follows: “*Location: About 0.4-miles N of McKean Rd at Cherry Canyon Rd, NW of Calero Reservoir. Location description given as “duck pond on Vierra Ranch at the base of Calero Reservoir. Could not verify locality with Google Earth & internet searches; Mapped generally to provided coordinates. Exact location unknown. The pond may no longer be extant.”*”

No ponds matching the location described in the CNDDDB record were observed on aerial imagery dating back to 1998 or in the NWI, but areas off the study area were not viewed on foot so no definitive determination could be made regarding the presence or absence of ponds southwest of the study area. Due to the time since the original CRLF observation (February-June 1983), the changes in land use that have occurred since the CNDDDB record, a lack of ponds observable on aerial imagery or the NWI in the vicinity of the CNDDDB record, and the CNDDDB’s determination that “the pond may no longer be extant,” the original CRLF record may no longer be extant.

³ The lack of documented occurrences does not necessarily mean that a species does not occur in an area, only that no occurrences have been reported.

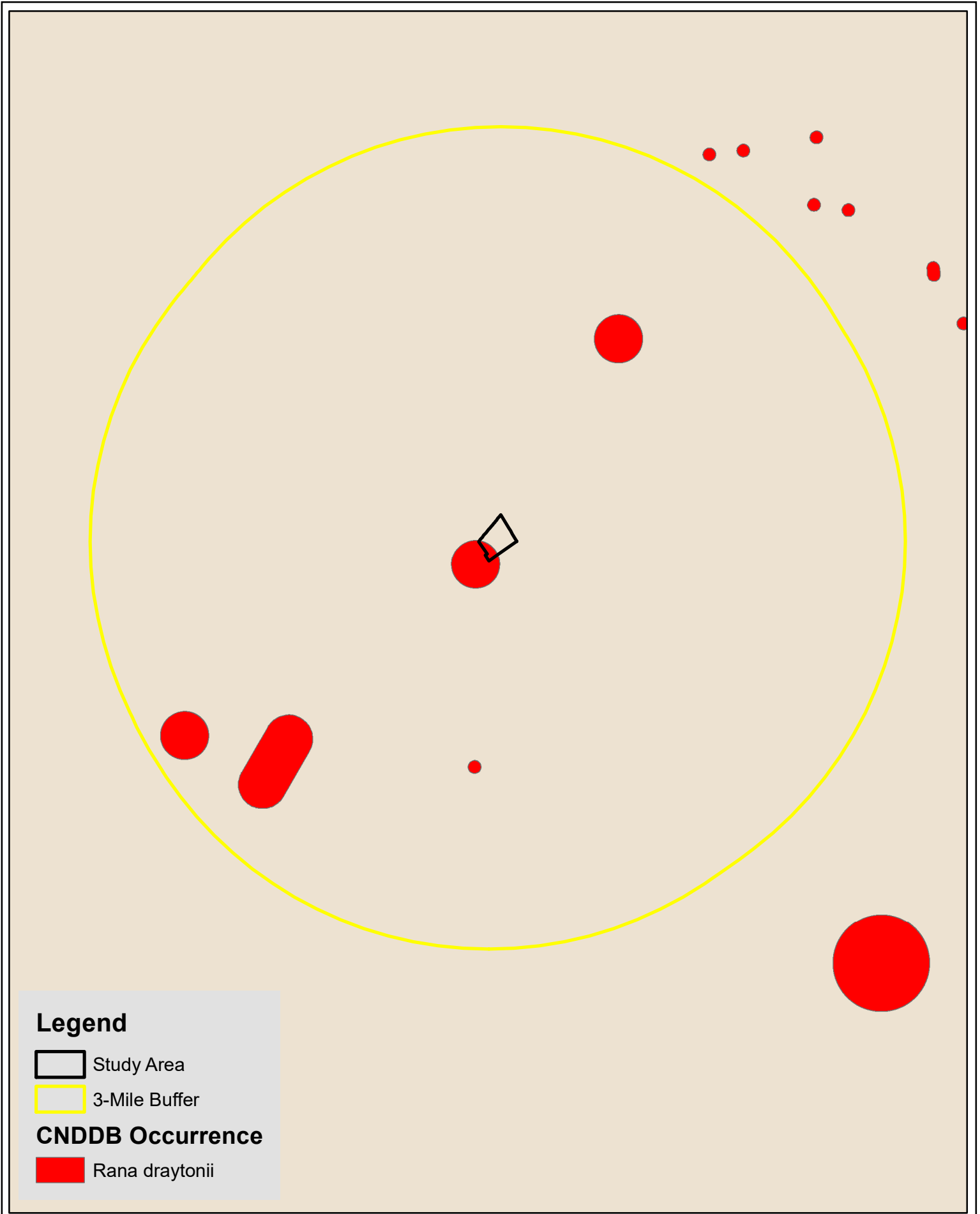
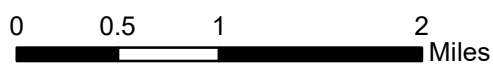


Figure 4. CNDDDB map of California red-legged frog (*Rana draytonii*) occurrences in the study area region.

Data Source: CNDDDB (CDFW 2019).

Mapscale: 1:60,000



The remaining CRLF occurrences within three miles of the study area are located ~1.5-miles northeast, ~1.6-miles south, ~1.9-miles southwest, and ~2.5-miles southwest of the study area (Figure 4). The study area is not located within federally-designated Critical Habitat for CRLF (USFWS 2019b). The nearest Critical Habitat unit for CRLF is located ~5-miles east of the study area in the Diablo Range east of Highway 101.

Based on a review of data sources—including historic aerial imagery and databases such as the CNDDDB, Geobrowser, and NWI—the study area likely lacked ponds or other aquatic habitat (such as creeks, riparian vegetation, or perennial or other long hydroperiod wetlands) prior to the August 2018 Grading Violation. No ponds or other suitable aquatic habitat were observed on the study area during the February 11, 2019 field visit. The ephemeral swale observed adjacent to Grading Violation-Area 2 in the southwestern portion of the study area supports only ephemeral hydrology, conveying water for short periods after rain events, generally lacks wetland vegetation, and therefore does not support suitable aquatic habitat for CRLF except as temporary refuge during dispersal events when standing water is present.

An offsite pond is present ~500-feet NNE of Grading Violation-Area 1 (Figure 2). Based on Google Earth imagery since 1998, the pond has been present for several years and provides potential CRLF breeding habitat. Arroyo Calero, which is situated approximately 1,000-feet west of the study area and is perennial, provides potential summer habitat for CRLF. If CRLF are present at the offsite pond, individuals would be expected to disperse through the study area, especially since potential summer habitat is available in the creek to the west. Although CRLF are known to utilize mammal burrows such as those dug by California ground squirrels, in areas that support a mosaic of vegetation communities it is generally assumed that burrows are used temporarily during dispersal events in order for individuals to reach more densely vegetated areas or summer habitat with standing water.

The study area currently lacks, and appears to have lacked prior to the Grading Violation, aquatic or “summer” (e.g., foraging and sheltering) habitat for CRLF, and it is unlikely that CRLF currently or historically used the study area for breeding, foraging, or sheltering.

Although the study area lacks suitable aquatic or foraging and sheltering habitat, due to the presence of ponds in the region, including the one located ~500-feet NNE of Grading Violation-Area 1 and CRLF records within three miles of the study area (Figure 4), CRLF could be dispersing through the study area. CRLF typically disperse across the landscape with the onset of winter rains. The first rain events often incite mass migration of post-metamorphic juveniles across the landscape (Allaback et al. 2010). Although some adults may reside all year round at perennial ponds, a significant portion of a population moves overland during the winter and spring months between summer habitat and breeding areas. All size classes, including metamorphs, subadults and adults, are able to move through grassland, scrub and forested areas, regardless of topography, assuming there are few or no barriers to above-ground movements.

Without having conducted pre-construction surveys or biological monitoring prior to or during August 2018 grading, no determinations regarding any potential direct impacts to CRLF (such as mortality during grading) can be made, though the likelihood of direct impacts appears to be low due to the lack of aquatic habitat on the study area and the season in which the grading was

conducted (which occurred during dry conditions in the late summer when CRLF would not likely be dispersing across the landscape).

No aquatic or foraging/sheltering habitat for CRLF was impacted by the Grading Violation⁴. The Grading Violation does not appear to have resulted in significant adverse impacts to dispersal habitat for CRLF, since the species, if present, could still disperse across the study area. Grading Violation-Area 1 is expected to naturally revegetate (natural recruitment of grasses and forbs in disturbed areas was observed during the field visit [Appendix A-1]) and return to habitat conditions generally present prior to August 2018 grading. In Grading Violation-Area 2, the ephemeral swale remains intact (Appendix A-4), though the precise conditions present in the swale prior to the Grading Violation can't be determined. The adjacent area to the north—which, prior to the August 2018 grading, appears to have consisted of structures, fencing, graded areas, and other disturbance (Figure 3)—currently consists of naturally recruiting grasses and forbs and lacks barriers to CRLF movement (Figure 2; Appendix A-3), resulting in a minor improvement to CRLF dispersal habitat compared to conditions present prior to August 2018 grading.

For the Grading Violation-Arenas, the Grading Violation has resulted in a replacement of pasture habitat with arenas lacking vegetation, reducing the dispersal habitat quality for CRLF due to a lack of cover. However, due to lack of barriers in this area and significant undisturbed adjacent habitat, it is unlikely that the arenas would result in any significant adverse impacts to CRLF habitat throughout the area, if they are present at the nearby offsite pond.

4.0 LIMITATIONS

The results of this report are based on conditions observed at the time of the field visit and the biologist's interpretation of those conditions. This report is restricted to the Biological Report for CRLF. No other biological issues are addressed. Regulatory agencies make the final determination (subject to judicial review) regarding biological resources on the study area. This report should be submitted to Santa Clara County planning staff for review and concurrence.

Please contact us if you have questions or need additional information.

Sincerely,



Tom Mahony, MS, PWS
Principal/Plant Ecologist
Certified Professional Wetland Scientist #2567



Mark Allaback
Certified Wildlife Biologist®
Biosearch Environmental Consulting, Santa Cruz

⁴ This report addresses the Grading Violations only, not installation of fencing or other land use on the study area not subject to the Grading Violation.

5.0 REFERENCES

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APPENDIX A. PHOTOGRAPHS OF THE STUDY AREA.



Appendix A-1. Grading Violation-Area 1, February 11, 2019.



Appendix A-2. Grading Violation-Arenas, February 11, 2019.



Appendix A-3. Grading Violation-Area 2, February 11, 2019.



Appendix A-4. Ephemeral swale along southwestern study area boundary and Grading Violation-Area 2, February 11, 2019.