Low-Effect Habitat Conservation Plan
for
California Red-legged Frog

Level 1 New Vineyard
24129 Turkey Road, Sonoma County, California
(APN: 128-484-040)
(USFWS ref. # 2012-TA-3073)

Prepared for:
Bradley Jacobs
261 Falcon Crest
Warner Robbins, GA 31088-7548
478-922-1337

Prepared by:
Wildlife Research Associates
1119 Burbank Avenue
Santa Rosa, CA 95407
707-544-6273

September 25, 2013

EXECUTIVE SUMMARY

Bradley Jacobs is applying for a permit pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 as amended (16 U.S.C. 153101544, 87 Stat. 884), from the U.S. Fish & Wildlife Service (USFWS) for the incidental take of the threatened California red-legged frog (*Rana draytonii*) (CRF). The potential taking would occur incidental to construction of 0.25 acre of development, including a residence, a storage barn, and a gravel roadway as well as the establishment of a 4.5 acre vineyard within a 8.5-acre undeveloped site located at 24129 Turkey Road (APN 128-484-040), in Sonoma County, CA. This project may affect individual CRF, but will not affect designated Critical Habitat for California red-legged frog (USFWS 2010) or any listed plant species.

The project site is currently undeveloped and the proposed development will result in the permanent removal of 0.25 acre of non-native grasslands, considered upland habitat providing foraging and refugium for CRF. The closest reported sighting of CRF occurs southeast, approximately 2.5 km in distance from the site (CNDDB 2012). Although focused surveys conducted at the 0.35 acre pond on the project site resulted in negative results for CRF occupancy, based on the habitat present on the project site and the presence of other ponds and streams in the vicinity that could potentially support CRF breeding, the USFWS considers the pond and the surrounding upland habitat potentially occupied by CRF. Therefore, Mr. Jacobs is applying for a Section 10(a)(1)(B) permit, for a period of five (5) years, and proposes to implement the habitat conservation plan (HCP) described herein, which provides measures for minimizing and mitigating adverse effects on the CRF from developing 0.25 acre of permanent impacts with a residence, storage barn, and gravel roads, and temporarily disturbing grassland to install utilities, and establishing a vineyard.

This HCP summarizes information about the project and identifies the responsibilities of the USFWS and Mr. Jacobs for implementing the actions described herein to benefit the CRF. The biological goal of the HCP is to offset the effects to CRF from the proposed project by preserving habitat at a secure site in perpetuity. Mr. Jacobs will satisfy the mitigation requirements by purchasing 0.75 acre of habitat credits for the endangered CRF from a USFWS-approved conservation bank. This HCP also describes measures to minimize take of individual CRF, manage aquatic habitat on site for the benefit of CRF, and ensure the elements of the HCP are implemented in a timely manner. Funding sources for implementation of the HCP, actions to be taken for unforeseen events, alternatives to the proposed permit action, and other measures required by the USFWS are also discussed.

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1.0 INTRODUCTION

This Habitat Conservation Plan (HCP) addresses effects to CRF for the proposed project located at 24129 Turkey Road on an 8.5-acre site in the unincorporated portion of Sonoma County, California. Focused plant surveys were conducted during the blooming period for those listed plant species with potential to occur in the project area. No listed plants were observed and the proposed project is not expected to result in effects to listed plants.

The proposed project will be a multi-use residential/agricultural project, which includes an approximately 3,500 sq. ft. house with an approximate 4-5 acre vineyard, as well as an agricultural building (steel building, size 30 x 60) to house farming equipment and supplies; and contain a small pump house to protect the well head and irrigation equipment (size 8 X 10 ft.) The property will have roads to and from the house in compliance with all Sonoma County Fire Protection codes; the property currently has an ingress point and a road along the northern edge of the property that runs most of the length of the northern property line to a pond located in the northwest corner of the property (road construction: road base only, ~ 10 ft. wide).

This HCP has been prepared pursuant to the requirements of Section 10(a) of the Federal Endangered Species Act (ESA), and is intended to provide the basis for issuance of a Section 10(a)(1)(B) permit to Mr. Jacobs, the permit applicant, to authorize incidental take (see Section 6.0) of the California red-legged frog (*Rana draytonii*) (CRF), a federally listed threatened species, that could potentially result from the grading and construction activities on the project site.

This HCP is based on the *Habitat Assessment and California red-legged frog Focused Surveys (USFWS Ref # 2012-TA-3073), Level 1 New Vineyard, 24129 Turkey Road, Sonoma County California (APN: 128-484-040)* (Wildlife Research Associates 2012), hereafter the *Habitat Assessment*. This document provides an assessment of the existing habitat at the 24129 Turkey Road project site for the CRF, evaluates the effects of the proposed project on CRF, and presents a mitigation plan to offset habitat losses and/or direct harm to CRF that could result from grading and construction activities at the project site. The project site provides potential habitat for CRF but is not located within designated critical habitat for CRF (USFWS 2010).

The biological goal of this HCP is to offset the effects to CRF from the development of the proposed residence and associated roadway by preserving habitat for CRF at a secure site in perpetuity. Specifically, 0.75 acre of CRF habitat credits will be purchased from a conservation bank approved by the USFWS for CRF mitigation, such as the Mountain House Mitigation Bank in Alameda County. Measures to prevent take of individual CRF are included in this HCP.

1.1 PROJECT LOCATION

The Level 1 New Vineyard project, located at 24129 Turkey Road, is situated on the east side of Sonoma Mountain, west of Sonoma Creek and Arnold Drive (HWY 121), south of Sonoma Valley and north of San Pablo Bay in the rural area of Sonoma County, California (Appendix A, Figure 1). The project area is located in an unsectioned portion of the Sears Point 7.5-minute topographic quadrangle, within Township 4N and Range 5W. Surrounding land uses consist of mainly of open space lands, ranches and vineyards.

1.2 PROJECT SITE

The roughly square 8.5-acre parcel is oriented northwest-southeast, with higher elevations in the northwest, at 36 feet (11 meters), and dropping down to 19 ft (6 m) in the southeast. A man-made pond, approximately 0.35 acres, is located in the northwestern portion of the site and collects

water from adjacent properties. The overflow from the pond runs into a drainage ditch that runs along the western edge of the property line and then along the southern end of the property line to an area that drains into what appears to be a blue line stream.

1.3 HCP HISTORY

On April 5, 2012, Trish Tatarian received affirmation from the USFWS to conduct protocol level surveys for CRF at the on-site pond. Protocol surveys were conducted according to the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). Survey results were provided to the USFWS in a report entitled *Habitat Assessment and California Red-legged frog Focused Surveys* (Wildlife Research Associates 2012a), which was sent to the USFWS in July 2012. On August 7, the Service provided an email to Jane Valerius Environmental Consulting recommending that take authorization for CRF be obtained for the proposed project. The Service attended a site visit on March 15, 2013.

Additional reports prepared in support of the proposed project include the *Preliminary Delineation of Waters of the United States, Including Wetlands, for 24129 Turkey Road, Sonoma, Sonoma County, California* (Jane Valerius Environmental Consulting 2012), which details the results of the wetland delineation conducted in 2012 (Appendix A). A verified map was obtained from the Army Corps of Engineers (Corps File No. 2012-00231N) on September 25, and the letter of *Approved Jurisdictional Determination* was obtained by James Mazza on October 22, 2012. All wetlands identified will be avoided; therefore, no federal nexus will occur as a result of the project.

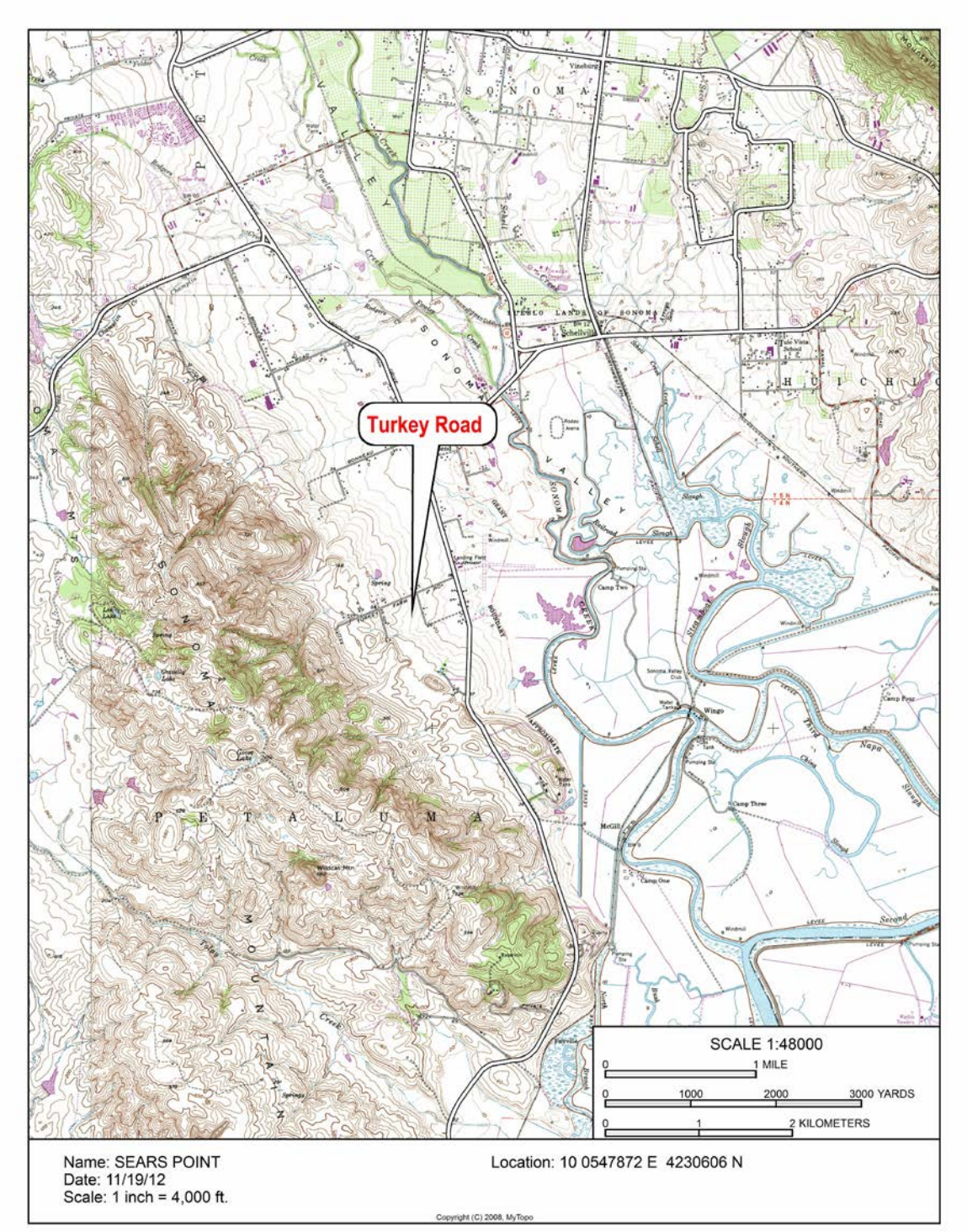


Figure 1: Project Location

Figure 2: Aerial view.

2.0 PROJECT DESCRIPTION

2.1 PROJECT DESCRIPTION

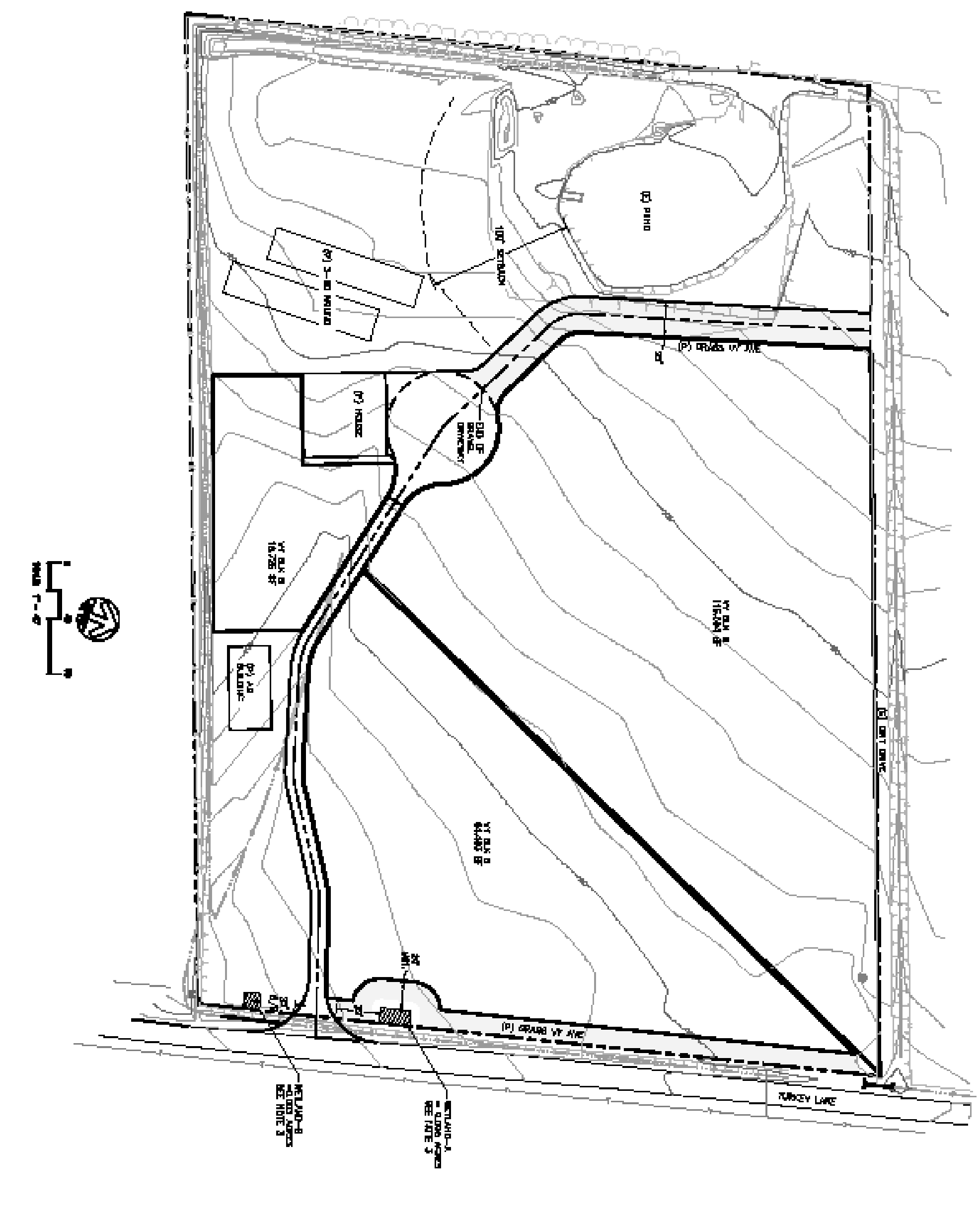
Development for the 8.5-acre property, located at 24129 Turkey Road, Sonoma, will be a multi-use residential/agricultural project. The proposed project will consist of construction of an approximately 3,500 sq. ft. house and a 1,800 sq. ft. agricultural building (steel building, size 30 x 60 ft.) with a cement floor to house farming equipment and supplies. All structures and gravel roads will be placed outside a 100-foot buffer from the pond; within 100 feet of the pond, the road will transition to a grass lane. An above ground sewage disposal system consisting of mounds will be located near the house, in the southwestern portion of the project site.

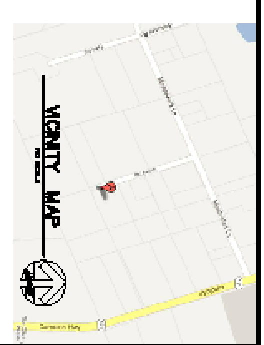
The property will have a gravel road to and from the house that will be located on the southern portion of the property and will be in compliance with all Sonoma County Fire Protection codes. The property currently has an ingress point and a road along the northern edge of the property that runs most of the length of the northern property line to the pond, located in the northwest corner of the property (road construction: road base only, approximately 10 ft. wide). The proposed gravel road will be approximately 543.86 linear feet and 10 feet wide, with an approximately 40 sq. ft. turn-around, located approximately 457 feet west of Turkey Road (Figure 3).

Of the 8.5-acre site, approximately 4.5 acres (196,772 sq. ft) of the parcel will be planted with a vineyard of Pinot Noir grape vines. The vineyard will have vegetation avenues around the vines to prevent soil erosion where needed.

Table 1: Square Footage of Development

	Impacts
Structure	**Total (sq. ft)**
Gravel road	5,438.60
Turn around	40
House/building envelope	3,500
Ag. Building	1,800
Total Square Footage (acreage)	**10,778.6 (0.25)**





SHEET C1 OF C1	SITE PLAN 24129 TURKEY ROAD, SONOMA CA APN: 128-484-040	Prepared for: Brad Jacobs of J2 Winery Prepared on: September 10, 2012	Always Engineering, Inc. Civil Engineering & Topographic Surveying

2.2 PERMIT HOLDER/PERMIT BOUNDARIES

Mr. Bradley Jacobs will be the holder of the Section 10(a)(1)(B) permit. He may be reached via mail at 261 Falcon Crest, Warner Robbins, GA 31088-7548 (Tel: 478-922-1337) or via email at jacobsbw@j2winery.com. Additional contact persons will be reported to the USFWS as necessary.

A total of 0.25-acre will be developed with roads and structures within the 8.5-acre parcel, which is the permit boundary. The building envelopes and gravel road will encompass all permanent development of structures or infrastructure; 4.5 acres within the permit boundary will be converted to vineyard. Please refer to Figure 1 for the location of the project site, Figure 2 for the aerial vicinity map and Figure 3 for the proposed site plan map that illustrates the boundaries of the project site.

2.3 ZONING AND SURROUNDING LAND USES

The 24129 Turkey Road project site is zoned AR, meaning for Agricultural and Residential District under the Sonoma County General Plan land-use designation (www.sonoma-county.org/prmd/docs/zoning_data/125-128.pdf). Currently, the parcel is surrounded by rural residences.

3.0 METHODS AND REGULATORY FRAMEWORK

3.1 METHODS

Literature Review: Information on special-status plant species was compiled through a review of the literature and database search. Database searches for known occurrences of special-status species focused on the Sears point, Petaluma River and Sonoma U.S. Geologic Service 7.5-minute topographic quadrangles, which provided a 4.8 km (3 mi) radius around the proposed project area. The following sources were reviewed to determine which special-status plant and wildlife species have been documented in the vicinity of the project site:

- U.S. Fish and Wildlife Service (USFWS) quadrangle species lists (USFWS 2012)
- USFWS list of special-status animals for Sonoma County (USFWS 2012)
- California Natural Diversity Database records (CNDDB) (CNDDB 2012)
- California Department of Fish and Game's (CDFG) Special Animals List (CDFG 2012),
- State and Federally Listed Endangered and Threatened Animals of California (CDFG 2012)
- California Native Plant Society (CNPS) Electronic Inventory records (CNPS 2012)
- CDFG publication "California's Wildlife, Volumes I-III" (Zeiner et al., 1990)

Other sources of information regarding reported occurrences include locations previously reported to the U.C Berkeley Museum of Vertebrate Zoology and the California Academy of Sciences.

Habitat Assessment: Trish Tatarian, wildlife biologist of Wildlife Research Associates, and Jane Valerius, botanist and wetland specialist of Jane Valerius Environmental Consulting, conducted an initial daytime survey of the project site on March 26, 2012, from 1000 to 1130. Trish surveyed the trees for suitable bird nesting habitat and analyzed the on-site habitats for suitability for CRF. Analysis of aerial photographs was conducted of adjacent habitat that could provide terrestrial habitat for CRF, and ponds and water bodies that could provide potential breeding habitat for CRF but from which have not been reported in the CNDDB. Habitats within 1.6 km were evaluated for their potential to provide connectivity between sites for CRF. Jane evaluated the on-site vegetation communities for their potential to support special status plants and/or wetland communities.

We reviewed the following documents for analyzing potential impacts to CRF:

- Revised Designation of Critical Habitat for the California Red-Legged Frog (*Rana draytonii*) (USFWS 2010);
- Revised Critical Habitat for the California Red-Legged Frog (*Rana aurora draytonii*) (USFWS 2008);
- Proposed Designation of Critical Habitat for the California Red-legged Frog (*Rana aurora draytonii*) (USFWS 2004);
- Recovery Plan for the California red-legged frog (*Rana aurora draytonii*) (USFWS 2002);
- Final Determinations of Critical Habitat for the California Red-legged Frog: Final Rule (USFWS 2001);
- Draft Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii)* (USFWS 2000); and
- Determination of Threatened Status for the California Red-legged Frog (USFWS 1996).

Botanical Surveys: Protocol surveys were conducted of the study area during the blooming period for those species with potential to occur in the area. Surveys were conducted on March 26, April 10, May 20, and June 13, 2012. Surveys were conducted in accordance with CDFG guidelines. The surveys were timed so that site visits were conducted during the blooming period for all the potential plant species. Surveys were floristic, meaning that all species identifiable at the time of the surveys were noted. Please refer to the *Habitat Assessment* (Wildlife Research Associates 2012) for a list of plants observed.

California Red-legged Frog Protocol Surveys: On April 5th, 2012, Trish Tatarian received an affirmation (USFWS reference number 2012-TA-0373) of her request to conduct focused surveys for CRF at the pond, based on the habitats on the proposed project site, the nearest reported location and the habitat connectivity of the site and other known locations of CRF. Focused surveys were conducted according to the *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005), between April 18 and June 27, 2012. Please refer to the *Habitat Assessment* (Wildlife Research Associates 2012) for details on the methods used and the negative results.

Wetland Delineation: A formal delineation was conducted by Jane Valerius, botanist and wetland specialist on June 13, 2012. Please refer to the *Preliminary Delineation of Waters of the United States, Including Wetlands* (Jane Valerius Environmental Consulting 2012) for further details.

3.2 FEDERAL REGULATIONS

Certain animal species are designated as having special status based on their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special-status designation is a combination of these factors that leads to the designation of a species as sensitive. The Federal Endangered Species Act (FESA) outlines the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur.

3.2.1 Endangered Species Act of 1973

The federal Endangered Species Act of 1973 (FESA), 15 United States Code (U.S.C.) Section 1531 *et seq*., provides for the protection and conservation of various species of fish, wildlife, and plants that have been federally listed as threatened or endangered. Section 9 of the FESA prohibits the "take" of any fish or wildlife species that is listed as endangered under the ESA unless such take is otherwise specifically authorized pursuant to either Section 7 or Section 10(a)(l)(B) of the Act. Pursuant to the implementing regulations of the FESA, the take of fish or wildlife species listed as threatened is also prohibited unless otherwise authorized by the USFWS.

“Take” is defined in the FESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Federal regulation 50 CFR 17.3 further defines the term "harm" in the “take” definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. Activities otherwise prohibited under FESA Section 9 and subject to the civil and criminal enforcement provisions under FESA Section 11 may be authorized under ESA Section 7 for actions by Federal agencies and under FESA Section 10 for nonfederal entities.

Section 10(a) of the FESA establishes a process for obtaining an "incidental take permit," which authorizes nonfederal entities to incidentally take federally listed wildlife or fish subject to certain conditions. “Incidental take” is defined by the FESA as take that is "incidental to, and not the

purpose of, the carrying out of an otherwise lawful activity." Preparation of a conservation plan, generally referred to as a habitat conservation plan or HCP, is required for all Section 10(a) permit applications. The USFWS and the National Marine Fisheries Service (NMFS) have joint authority under the FESA for administering the incidental take program. NMFS has jurisdiction for anadromous fish species and the USFWS has jurisdiction for all other fish and wildlife species.

Section 7 of the Endangered Species Act requires all Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the FESA or result in the destruction or adverse modification of its habitat. Technically, the issuance of an incidental take permit is an authorization for take by a Federal agency; therefore, in conjunction with issuing a permit, USFWS must conduct an internal Section 7 consultation on the proposed HCP. The internal consultation is conducted after an HCP is developed by a nonfederal entity (e.g., Mr. Jacobs) and submitted for formal processing and review. Provisions of Sections 7 and 10 of the FESA are similar, but Section 7 requires consideration of several factors not explicitly required by Section 10. Specifically, Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on critical habitat. (The FESA requires that USFWS identify critical habitat to the maximum extent that it is prudent and determinable when a species is listed as threatened or endangered.) The internal consultation results in a Biological Opinion prepared by USFWS regarding whether implementation of the HCP will result in jeopardy to any listed species or adversely modify critical habitat.

There are three phases to the Section 10 process for obtaining an incidental take permit. The first is the HCP development phase, during which the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, mitigate for, and minimize impacts;
- funding that will be made available to undertake such measures;
- procedures to deal with unforeseen circumstances;
- alternative actions considered that would minimize or not result in take; and
- additional measures the USFWS may require as necessary or appropriate for purposes of the plan.

The second phase is the permit-processing phase, which begins when a complete application package is submitted to the appropriate permit-issuing office of USFWS. The complete application package for a low-effect HCP consists of, 1) an HCP, 2) a completed permit application; and 3) a $100 permit fee from the applicant.

Once the USFWS has received a complete HCP package, the USFWS must publish a “Notice of Availability” of the draft HCP in the Federal Register; prepare a Section 7 Intra-Service Biological Opinion; prepare a Set of Findings that evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below); and prepare an Environmental Action Statement, a brief document that serves as the USFWS's record of compliance with NEPA for categorically excluded actions (see below). An implementing agreement is not required for a low-effect HCP. A Section 10 incidental take permit is granted upon determination by USFWS that all requirements for permit issuance have been met. Statutory criteria for issuance of the

permit are as follows:

- the taking will be incidental;
- the impacts of incidental take will be minimized and mitigated to the maximum extent practicable;
- adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided;
- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;
- the applicant will provide additional measures that USFWS requires as being necessary or appropriate; and
- USFWS has received assurances, as may be required, that the HCP will be implemented.

After receipt of a complete application, an HCP and permit application is typically processed within several months. This schedule includes the Federal Register notice and public comment.

During the final phase, the post-issuance phase, the permittee and other responsible entities implement the HCP and the USFWS monitors the permittee's compliance with the HCP and the long-term progress and success of the HCP. The public is notified of permit issuance through publication in the Federal Register.

3.2.2 National Environmental Policy Act of 1969

The National Environmental Policy Act of 1969, as amended (NEPA), requires that Federal agencies analyze the environmental impacts of their proposed actions (i.e., issuance of an incidental take permit) and include public participation in the planning and implementation of their actions. Although Section 10 of the Endangered Species Act and NEPA requirements overlap considerably, the scope of NEPA also considers the impacts of the proposed action on non-biological resources, such as water quality, air quality, and cultural resources. Depending upon the scope and impact of the HCP, NEPA compliance is obtained through one of three actions:

1) preparation of an environmental impact statement (generally prepared for high-effect HCPs);
2) preparation of an Environmental Assessment (generally prepared for moderate-effect HCPs); or
3) a categorical exclusion (allowed for low-effect HCPs).

The NEPA process helps Federal agencies make informed decisions with respect to the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions. Low-effect HCPs, as defined in the USFWS's (1996b) Habitat Conservation Planning Handbook, are categorically excluded under NEPA, as defined by the Department of Interior Manual 516DM2, Appendix 1, and Manual 516DM6, Appendix 1.

3.3 CALIFORNIA REGULATIONS

The California Endangered Species Act (CESA) amends the California Fish and Game Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA. The following section provides a discussion of the state and county regulations as they pertain to the project.

3.3.1 California Endangered Species Act

The California Endangered Species Act (CESA (FGC §§ 2050–2116) is administered by CDFG. The CESA prohibits the "taking" of listed species except as otherwise provided in state law. The CESA includes FGC Sections 2050–2116, and policy of the state to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat. The CESA requires mitigation measures or alternatives to a proposed project to address impacts to any State listed endangered, threatened or candidate species, or if a project would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy. Section 86 of the Fish and Game Code (FGC) defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill". Unlike the FESA, CESA applies the take prohibitions to species under petition for listing (state candidates) in addition to listed species. Section 2081 of the FGC expressly allows CDFG to authorize the incidental take of endangered, threatened, and candidate species if all of the following conditions are met:

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- Issuance of the permit will not jeopardize the continued existence of the species.
- The permit is consistent with any regulations adopted in accordance with §§ 2112 and 2114 (legislature-funded recovery strategy pilot programs in the affected area).
- The applicant ensures that adequate funding is provided for implementing mitigation measures and monitoring compliance with these measures and their effectiveness.

The CESA provides that if a person obtains an incidental take permit under specified provisions of the FESA for species also listed under the CESA, no further authorization is necessary under CESA if the federal permit satisfies all the requirements of CESA and the person follows specified steps (FGC § 2080.1).

Section 2080.1 allows an applicant who has obtained a federal incidental take statement pursuant to a federal Section 7 consultation or a federal Section 10(a) incidental take permit to notify the Director in writing that the applicant has been issued an incidental take statement or an incidental take permit pursuant to the federal Endangered Species Act of 1973. The applicant must submit the federal opinion incidental take statement or permit to the Director of Fish and Game for a determination as to whether the federal document is "consistent" with CESA. Receipt of the application by the Director starts a 30-day clock for processing the Consistency Determination.

In order for the Department to issue a Consistency Determination, the Department must determine that the conditions specified in the federal incidental take statement or the federal incidental take permit are consistent with CESA. If the Department determines that the federal statement/permit is not consistent with CESA, the applicant must apply for a State Incidental Take Permit under section 2081(b) of the Fish and Game Code.

The exception provided in Fish and Game Code section 2080.1 to CESA's take prohibition can be used only for species that are listed under both FESA and CESA, and cannot be applied to species that are listed by the State but not federally listed.

3.3.2 California Environmental Quality Act

In many ways, the California Environmental Quality Act, commonly known as CEQA (Public Resources Code Section 21000 *et seq*.), is analogous at the state level as NEPA is to the federal

level. CEQA applies to projects that require approval by state and local public agencies. It requires that such agencies disclose a project's significant environmental effects and provide mitigation whenever feasible. This environmental law covers a broad range of environmental resources. With regard to wildlife and plants, those that are already listed by any state or federal governmental agency are presumed to be endangered for the purposes of CEQA and impacts to such species and their habitats may be considered significant.

Sonoma County Agriculture Commission, the lead agency for the project, views the proposed development as exempt and therefore, no CEQA analysis is required.

3.3.3 Sonoma County

In the Sonoma County General Plan 2020, under the Resource Conservation Program, Policy RC-6b states that protection of rare and endangered species, wetlands, and other biotic resources shall be accomplished through compliance with applicable state and federal laws. Section 15380 of the State of California Environmental Quality Act (CEQA) Guidelines (14 Cal. Admin. Code section 15000 et seq.) defines a species as being "rare" if it may be considered threatened or endangered as defined in the federal Endangered Species Act.

This HCP addresses potential impacts to CRF individuals and habitat.

4.0 BIOLOGY

4.1 ON-SITE HABITAT TYPES

The project area is located within the San Francisco Bay/Delta Bioregion (Welsh 1994). This bioregion is located within central California and encompasses the San Francisco Bay and the Sacramento Delta, extending from the Pacific Ocean to the eastern portion of the tule marsh zone, which is defined by Highway 99 (Welsh 1994). Habitats within this bioregion include both mesic (moist) habitats, such as freshwater marsh, and xeric (dry) habitats, such as chaparral, and are typical of a Mediterranean type climate.

The 8.5-acre project site is located at the southern end of Sonoma Valley. Topographically, the project site is located on the predominantly east-facing slope at the toe of Sonoma Mountain, at an elevation of 10 meters in the west and 7 meters in the east. Several blue line creeks flow within 1.6 kilometer of the proposed project site, but are not hydrologically connected. Several springs and large ponds are present in the vicinity of the project site.

The approximate 0.35 acre pond, located in the northwest portion of the project site, collects water from adjacent properties. Emanating from this pond is a drainage ditch that runs south along the western edge of the property line where then it proceeds east along the southern end of the property line to an area that drains into what appears to be a blue line stream. The drainage ditch on the east side of the property, near Turkey Road, is a drainage control ditch and the drainage ditch on the northern property line is located on the neighbor's land. These two ditches are not on the legal parcel boundary (Jane Valerius Environmental Consulting 2012).

The ditches connect to a natural stream drainage course off site in the adjacent vineyard to the south of the property. This drainage ultimately connects to Sonoma Creek, which is east of the property. Sonoma Creek is a perennial creek and ultimately connects to San Pablo Bay.

4.1.1 Vegetation Communities

Three vegetation communities occur within the project site: 1) non-native annual grassland; 2) willow riparian shrubland; and 3) Eucalyptus grove. The majority of the site supports non-native grassland, and within the grassland in the southwest portion of the study area, along the western property boundary, are two small potential seasonal wetlands. These areas are considered seasonal wetlands, as verified by the USACE (Jane Valerius environmental Consulting 2012). The willow riparian shrubland is associated only with the perennial pond. See Appendix B of the *Habitat Assessment* (Wildlife Research Associates 2012) for a list of plant species observed on the site.

Non-Native Annual Grassland: Non-native annual grassland is the main vegetation type within the study area. This vegetation type is comprised of a mix of non-native grassland including ryegrass (*Lolium multiflorum, L. perenne*), hare barley (*Hordeum murinum* ssp. l*eporinum*), oats (*Avena barbata, A. fatua*), bromes (*Bromus hordaeceus, B. diandrus, B. catharticus* var. *elatus*), medusa head grass (*Elymus caput-medusae*), Harding grass (*Phalaris aquatica*) and rattail fescue (*Festuca myuros*). California oatgrass (*Danthonia californica*), a native grass species occurs with the grassland but the overall cover values for this species is not sufficient to make the grassland a native grassland type. Semaphore grass (*Pleuropogon californicus*), another native grass species), was noted in one of the potential seasonal wetland areas.

Non-native forb species include bur clover (*Medicago polymorpha*), spring vetch (*Vicia sativa*), clovers (*Trifolium subterranean, T. hirtum, T. dubium*), rough cat's-ear (*Hypochaeris radicata*), filarees (*Erodium cicutarium, E. botrys, E. moschatum*), cut-leaf geranium (*Geranium dissectum*),

English plantain (*Plantago lanceolata*), mustards (*Brassica nigra, B. rapa*), bellardia (*Bellardia trixago*), parentucellia (*Parentucellia viscosum*), Italian thistle (*Carduus pycnocephalus*), salsify (*Tragopogon porrifolius*), wild radish (*Raphanus sativus*), chicory (*Cichorium intybus*) and yellow star thistle (*Centaurea solstitialis*).

A number of native forbs occur in the grassland area. These include blue-eyed grass (*Sisrynchium bellum*), brodiaea's (*Brodiaea elegans, B. terrestris*), soaproot (*Chlorogalum pomeridianum*), suncups (*Camissonia ovata*), coyote thistle (*Eryngium aristulatum*), dwarf lupine (*Lupinus bicolor*), little tarweed (*Madia exigua*), Kellogg's yampa (*Perideridia kelloggii*), California buttercup (*Ranunculus californicus*), checkerbloom (*Sidalcea malviflora* ssp. *malviflora*), white broadiaea (*Triteleia hyacinthina*), and Ithuriel's spear (*Triteleia laxa*).

Willow Riparian: The willow riparian shrubland occurs around the perimeter of the pond in the northwest corner of the property. Two native species of willow were noted: sandbar willow (*Salix exigua*) and arroyo willow (*Salix lasiolepis*). Other species noted in this northwestern corner included Fremont's cottonwood (*Populus fremontii*), some small (young) valley oak (*Quercus lobata*), small coast live oak (*Quercus agrifolia*), coast redwood (*Sequoia sempervirens*), buckeye (*Aesculus californica*), Monterey pine (*Pinus radiata*) and an unknown, non-native tree species.

Duckweed (*Lemna* sp.) covers the pond surface. Other species associated with the pond include Himalayan blackberry (*Rubus armeniacus*) and cattails (*Typha latifolia*). Harding grass is also common around the upland sideslopes of the pond area.

Eucalyptus Grove: Blue gum or *Eucalyptus globulus* trees occur along the western property boundary line adjacent to the excavated ditch. Other non-native herbaceous species in this area include periwinkle (*Vinca major*), Harding grass, and Italian thistle.

Wetlands and waters of the U.S.: A formal delineation of waters of the U.S., including wetlands, was conducted for the property by Jane Valerius Environmental Consulting (2012). A delineation report was been prepared and verified by the USACE. Two small potential seasonal wetlands have been identified for the study area. A total of 386 square feet or 0.009 acres of wetlands and approximately 0.25 acres of other waters were mapped for the delineation study area for a total of 0.259 acres of wetlands and waters of the U.S. and state (Jane Valerius Environmental Consulting 2012). They occur at the eastern edge of the property in the southeastern quadrant. Plant species associated with these areas are predominantly facultative (FAC) species such as Mediterranean barley (*Hordeum murinum* ssp. *gussoneanum*) and annual ryegrass. Semaphore grass, an obligate wetland plant, was observed in the 144 sf wetland area in the far southeast corner.

As stated earlier, the 0.35-acre pond is located in the northwestern portion of the site and collects water from adjacent western properties and then flows through the constructed ditches off-site into an unnamed stream in the southwest corner of the study area. The pond also likely qualifies as a "waters of the U.S.", as defined by the USACE.

4.1.2 Wildlife Habitats

Wildlife habitat classifications for this report is based on the California Department of Fish and Game's Wildlife Habitat Relationships (WHR) System (CDFG 1988) which places an emphasis on dominant vegetation, vegetation diversity and physiographic character of the habitat. The value of a site to wildlife is influenced by a combination of the physical and biological components of the immediate environment, and includes such features as type, size, and diversity

of vegetation communities present and their degree of disturbance. As a plant community is degraded by loss of understory species, creation of openings, and a reduction in canopy area, a loss of structural diversity generally results. Degradation of the structural diversity of a community typically diminishes wildlife habitat quality, often resulting in a reduction of wildlife species diversity.

Wildlife habitats are typically distinguished by vegetation type, with varying combinations of plant species providing different resources for use by wildlife. The following is a discussion of existing habitats found on site and the wildlife species they support.

Upland habitat is comprised of the non-native grasslands occupying the majority of the site. Evidence of small mammals observed included Botta's pocket gopher (*Thomomys bottae*) and broad-footed mole (*Scapanus latimanus*). No evidence or individuals of California ground squirrel (*Spermophilus beecheyi*) were observed on the site.

Aquatic habitat is comprised of the pond and the associated vegetation. The pond measures approximately 50 meters by 32 meters and is likely more than 3 meters deep. Duckweed covered approximately 95% of the pond surface area at the time of the surveys. Willows and California blackberry bushes grow around the perimeter of the pond with approximately 2% of the pond being occupied by cattails in the northeastern portion. Canopy cover of the pond at noon, when the sun is overhead, is approximately 30%.

4.1.3 Habitats Within 1.6 kilometers

Upland habitats: The rural residences along Turkey Road support non-native grasslands. Parcels to the north and south of Turkey Road are planted vineyards. Although many papers have been written about the impacts of agriculture chemicals on amphibians, no published paper has documented impacts to movement of amphibians in vineyards.

Aquatic habitats: Based on aerial analysis, there are approximately 14 ponds located within a 1.6 km radius of the project site located west of Arnold Drive. All are located on private property and were not surveyed for CRF. Of these 14 ponds, only one pond, located north-northwest, looks to be unsuitable due to the potential for being a dairy aeration pond.

4.1.4 Movement Corridors

The proposed project site is located within the Central Coast Ecoregion which supports a wide range of areas that are essential for ecological connectivity and that include natural landscapes that act as corridors to allow for wildlife movement, as well as interstate highway connections that act as barriers to movement (Spencer, et al. 2010). Wildlife movement includes migration (i.e., usually one way per season), inter-population movement (i.e., long-term genetic flow) and small travel pathways (i.e., daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and primary movement corridors, permitting an increase in gene flow among populations. Barriers to movement include those structures that impede such movements, such as large scale development or major highways with no undercrossings. Roads cause habitat fragmentation because they break large habitat areas into smaller habitat patches that support fewer individuals, which can increase loss of genetic diversity and risk of local extinction. Additionally, roads may prevent access to essential physical or biological features necessary for breeding, feeding, or sheltering.

Wildlife movement corridors encompassing the project area include all lands located west of Hwy 121/Arnold Drive which is considered a heavily travelled road (USFWS 2010). Although

culverts under HWY 121 may increase the potential for successful road crossing for small animals, the sparse number of culverts (3 culverts along 2,274 feet near the project area) under the road may result in culverts being located outside the areas where the frogs would cross HWY 121. As stated in the Critical Habitat designation for CRF (USFWS 2010), CRF often make straight-line movements regardless of habitats. There are no barriers to movement north, south or west of the project area.

4.2 COVERED SPECIES

Special-Status Plants: Although several federally listed plant species occur in Sonoma Valley and are associated with vernal pools and seasonal wetlands, no federally listed plant species were detected in the permit area; only one special-status plant species was detected during the surveys conducted in 2012 (Wildlife Research Associates 2012) and it was not a federally listed species. Therefore, no effects to federally listed plants are anticipated to result from the proposed project and no plant species are covered by this HCP.

Special-Status Amphibians: The species addressed in this HCP and covered by the HCP's associated Section 10(a)(1)(B) permit is the federally listed threatened California red-legged frog, which has been reported approximately 2.5 km southeast of the site (CNDDB 2012). The proposed project is outside the Critical Habitat for the species (USFWS 2010). The CRF is the only federally listed species that could be incidentally taken by the proposed project.

4.2.1 Conservation Status

In 1996, the California red-legged frog was listed as Threatened (USFWS 1996). A draft Recovery Plan was presented in 2000 (USFWS 2000) with a final published in 2002 (USFWS 2002) and in 2001 a final determination of critical habitat for the CRF was published (USFWS 2001). In 2004, the critical habitat was reassessed (USFWS 2004), adopted in 2008 (USFWS 2008) and further revised in 2010 (USFWS 2010).

In Sonoma County, two discrete areas of critical habitat were adopted under the 2010 rule for Critical Habitat for the species and are located more than three miles from the proposed project site (USFWS 2010).

The California Natural Diversity Data Base (CNDDB) recognizes the CRF as a *Species of Special Concern* (California Department of Fish and Game 2012). Although the state designation does not afford the CRF any legal protection, the CRF qualifies as a rare species under CEQA.

4.2.2 Description and Taxonomy

The California red-legged frog is the largest native frog in California. It is typically found from sea level to elevations of approximately 1,500 meters (5,000 feet). Body length ranges from 40 to 130 millimeters (1.6 to 5.1 inches), with adult females being larger than males (138 mm (5.4 in.) versus 116 mm (4.6 in.)) (Hayes and Miyamoto 1984). The posterior abdomen and hind legs of adults vary in color, but are often of a reddish hue; the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish-brown background. Dorsal spots usually have light centers (Stebbins 1985), and the dorsolateral folds (folds along the sides of the frog) are prominent. Larvae range from 14 to 80 mm (0.6 to 3.1 in.) in length (Storer 1925).

4.2.3 Ecology and Habitats

Non-breeding CRF have been found in both aquatic and upland habitats. The majority of individuals prefer dense, shrubby or emergent vegetation, closely associated with deep (>0.7 meters) still, or slow moving water. However, some individuals use habitats that are removed

from aquatic habitats, seeking cover in ground squirrel burrows, under boulders and logs and in non-native grasslands (Tatarian 2008). Upland refugia habitat includes areas up to 90 meters from a stream corridor or breeding pond and includes natural features, such as boulders, rocks, trees, shrubs, and logs. In general, densely vegetated terrestrial areas within the riparian corridor provide important sheltering habitat during the winter flooding of the streams (Tatarian 2008).

California red-legged frog movements, from one aquatic water body to another, typically occur to and from breeding habitats. Movement may occur after egg laying, instead of egg laying or as a result of the breeding pond drying. Radio-tracking in Marin County (Fellers and Kleeman 2007) and Contra Costa County (Tatarian 2008) reveal that distances varied between 2.8 kilometers and 320 meters and were typically in a straight line.

Movements were not always associated with movement between water bodies. In Contra Costa County, CRF were detected moving onto upland habitat in search of food and were observed to make multiple movements throughout a season (Tatarian 2008). Movements typically occurred with the onset of more than 0.5 cm of rain and distances moved overland averaged 90 meters, while aquatic distances were measured up to 600 meters (Tatarian 2008). Time spent in the upland habitats were a maximum of 52 days (Tatarian 2008).

4.2.4 Geographic Distribution

Once widespread throughout California, from the Coast Ranges to the Sierra Nevada, and into the southern San Joaquin Valley (Jennings & Hayes 1985), the species is now extirpated from the San Joaquin Valley and has declined to near extinction in the Sierra Nevada, with only six populations remaining. California red-legged frog has been extirpated from approximately 70% of its former range and is known to occur in 243 streams or drainages in 22 counties. Within Sonoma County, this species occurs in low numbers in the surrounding hills of the Santa Rosa Plain and Petaluma.

4.2.5 Reported Occurrences

The project site is located on the Sears Point 7.5-minute U.S.G.S. topographic quadrangle and, after querying the three topographic quadrangles that comprise a 3-mile radius, eight (8) CRF locations were identified from the CNDDB (CNDDB 2012). Of the 432 specimens represented for *Rana draytonii* and *Rana aurora draytonii* on the internet site of the Museum of Vertebrate Zoology at the University of Berkeley (http://mvz.berkeley.edu/) (2012), no CRF has been reported in this portion of Sonoma County. Recorded locations from the CNDDB, in Universal Transverse Mercator (UTM) coordinates (meters) (NAD 83), and a description of the sighting, are provided in Table 2. The closest reported sighting is located 2.5 km (1.55 mi) southeast of the study area.

Table 2: Reported CRF Occurrences, CNDDB

I.D.	Location	Coordinates	Distance from Site
225	W side of Lakeville HWY, 1.4 km NW of the intersection of Lakeville HWY and HWY 37, SE of Petaluma	N4221990 E545055	>5 km SW
273	2.7 km NW of intersection of Hwy 121 and Hwy 37.	N4224484 E546105	>3 km SW
274	2.7 km NW of the intersection of Hwy 121 and Hwy 37	N4223901 E547823	>3 km SW

I.D.	Location	Coordinates	Distance from Site
524	North of HWY116, 2 km NE of the junction of Adobe Road and Stage Gulch Road	N4232931 E543274	4.73 km SW
659	1.6 km SSE of the intersection of Stage Gulch Road and Petaluma Road, 6 mi E of Petaluma	N4230416 E542176	5 km W
733	Sears Point Area on the E side of HWY 121	NA	~ 2.5 km SE
753	Champlin Creek, just E of the Sonoma County Transfer Station Road, on the W side of HWY 116, E of Petaluma	N4232902 E543237	4.7 km SW
959	Ellis Creek, between S Ely Road and Petaluma Marsh, SE of Petaluma	N4230752 E536810	>3 km SW

Measures to prevent take of CRF individuals are presented in the conservation measures. Loss of habitat for CRF will be compensated for by purchase of off-site mitigation credits at a Service-approved conservation bank.

4.2.6 Occurrence at the Project Site

No California red-legged frog larvae, recent metamorphosed young or adults were observed in the Turkey Road pond during the focused surveys conducted in 2012. Other amphibians observed or heard include Pacific chorus frog (*Pseudacris regill*a), and American bullfrog (*Lithobates catesbeianus*) (Table 3).

Table 3: Survey Results – CRF Focused Surveys, Turkey Road, Sonoma

Date	Amphibians Observed/Heard (# of individuals)	Other wildlife observed/heard
4/18/2012	PSRE (O-10, H-15)	Crayfish – all size classes
5/2/2012	LICA (O-1), PSRE (O->10)	Crayfish – all size classes
5/16/2012	LICA (O-2), PSRE (O-1)	Crayfish and mosquitofish observed. Raccoon tracks along pond edge.
5/23/2012	LICA (O-2)	Raccoon predation on crayfish
6/5/2012	LICA (O-1), PSRE (O-1)	Raccoon wet tracks on rocks. Crayfish and mosquitofish observed. Mallard ducklings (5)
6/12/2012	LICA (O-2), PSRE (O-1)	Crayfish – all size classes. Mallard ducklings (3)
6/27/2012	LICA (O-2)	Crayfish – all size classes. Mallard ducklings (2).

Note: PSRE = Pacific chorus frog, LICA = American bullfrog

Presence of CRF upland habitat is based on presence of individuals reported 2.5km (1.55 mi) southeast of the site.

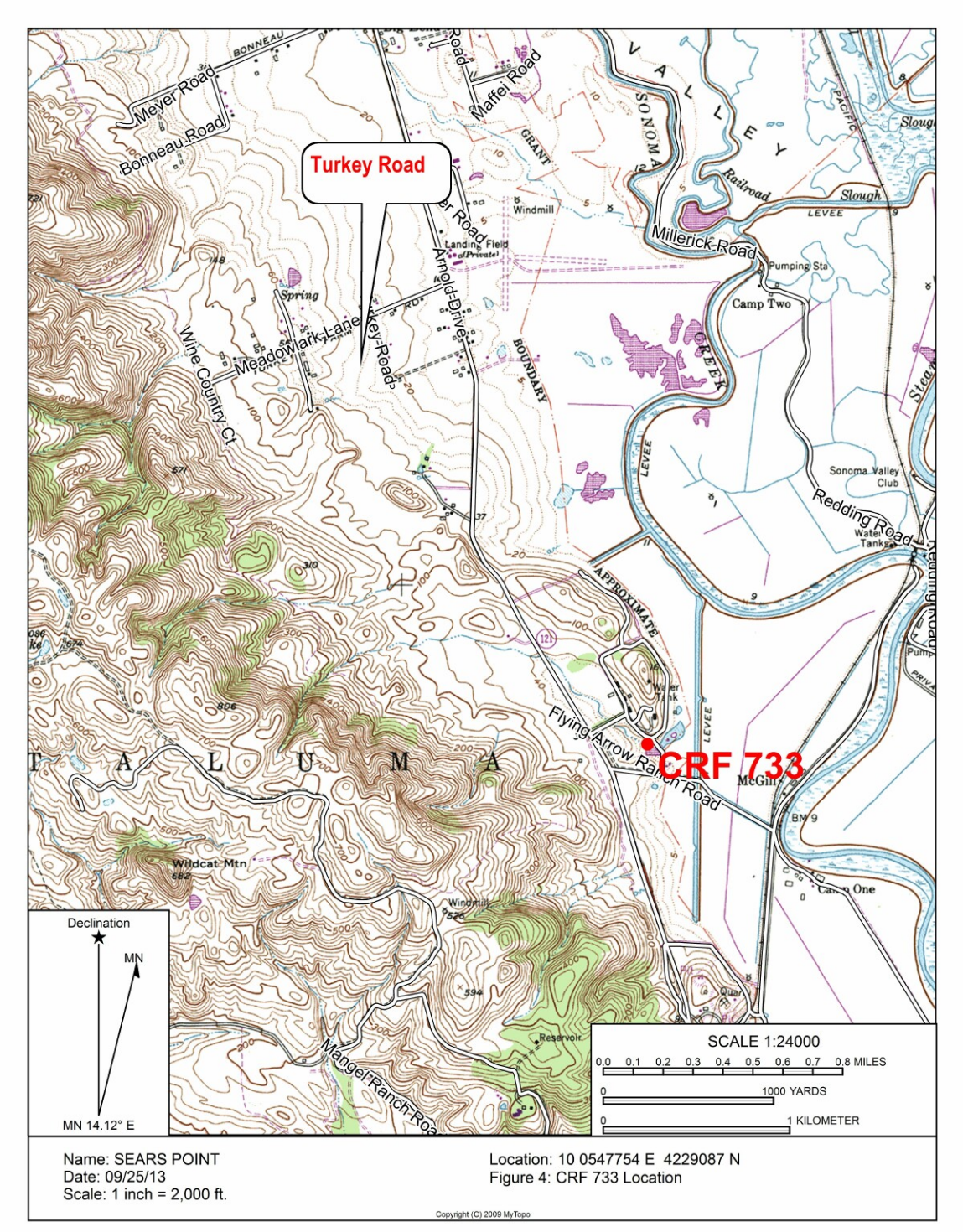


Figure 4: CRF 733 location.

5.0 IMPACTS AND ENVIRONMENTAL COMPLIANCE

5.1 IMPACT ASSESSMENT

Impacts to CRF individuals and their habitat will occur as a result of the proposed project. Measures to prevent take of individuals are presented below. The proposed lot division is located within 2.5 km of a known location of an individual CRF (CNDDB 2012). The annual grassland on the project site is suitable upland habitat for CRF and the on-site pond provides potential breeding habitat for CRF. There are no barriers between the project site and habitat for CRF that lies to the north, south, and west. Highway 121 to the east of the project site is considered a potential barrier to CRF movement. The increased area of hardcscape that will result from the proposed project is small and disparate, and will not form a barrier to CRF movement in the area.

5.2 DIRECT AND INDIRECT EFFECTS

Direct and indirect effects to CRF and their habitat may result from the proposed development. Individual CRF may be injured, killed, harmed, or harassed by ground disturbing activities within annual grasslands that provide upland refugia and dispersal habitat.

The proposed project will result in the permanent loss of 0.25 acre of annual grassland habitat for CRF that will be converted to buildings or roads. Approximately 0.15 acres of grassland habitat will be temporarily disturbed during installation of the above ground sewage disposal system but will then be reseeded to grassland. An additional 4.5 acres of grassland will be converted to vineyard. Although conversion from grassland to vineyard will reduce the quality of upland habitat in the permit area, it will not create a barrier to CRF movement through the permit area or within the permit area to and from the aquatic habitat provided by the on-site pond. In addition, including a buffer around the pond will ensure that upland refugia and foraging habitat is available to CRF adjacent to the pond.

Implementation of the HCP will minimize and mitigate project effects by preserving 0.75 acre of off-site habitat for CRF in perpetuity. Implementation of the HCP is also expected to improve habitat quality for CRF at the on-site pond by removing non-native vegetation, planting native riparian vegetation, controlling duckweed, and controlling aquatic non-native predators of CRF. Measures will also be implemented during construction and planting to ensure that effects from these activities are minimized and are presented in Section 7.2.

5.3 CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated to the proposed action are not considered in this analysis because they require separate consultation pursuant to section 7 of the Endangered Species Act (Act) or Section 10a of the Act. Cumulative effects to the CRF include continuing and future conversion of suitable breeding, foraging, sheltering, and dispersal habitat resulting from urban and agricultural development. Additional urbanization can result in road widening and increased traffic on roads that bisect breeding and upland sites, thereby increasing road-kill while reducing in size and further fragmenting the remaining habitats.

A commonly used method to control mosquitoes, used in Sonoma County (Marin/Sonoma Mosquito and Vector Control District, internet website 2002), is the application of methoprene, which increases the level of juvenile hormone in insect larvae and disrupts the molting process. Lawrenz (1984) found that methoprene (Altosid SR 10) retarded the development of selected crustaceans that had the same molting hormones *(i.e.,* juvenile hormone) as insects, and

anticipated that the same hormone may control metamorphosis in other arthropods. Because the success of many aquatic vertebrates relies on an abundance of invertebrates in temporary wetlands, any delay in insect growth could reduce the numbers and density of prey available (Lawrenz 1984).

5.4 EFFECTS ON CRITICAL HABITAT

The project site is not within designated critical habitat for CRF or any other federally listed species and no effects to critical habitat are expected as a result of the proposed project or implementation of the HCP.

6.0 TAKE OF THE COVERED SPECIES

Focused surveys for CRF conducted in 2012 were negative and no CRF occurrences have been reported on any adjacent property. The nearest reported sighting is located 2.5 km (1.5 mi) SE of the site (CNDDB 2012).The on-site pond may provide suitable breeding habitat for CRF; however no evidence of CRF was observed during protocol-level CRF surveys.

An unknown number of individual CRF may be taken (killed, injured, harmed, or harassed) as the result of the proposed project. Because the precise number of CRF occurring within the permit area is unknown, estimates of habitat acreage affected by the proposed project have been used to assess the extent of take of CRF. The maximum levels of take of CRF anticipated to occur under the HCP are as follows:

A. Any CRF that may be taken (killed, injured, harmed, or harassed) within the 4.9 acres to be disturbed by project construction and any CRF that may be harassed within the boundaries of the 8.5-acre permit area during the following covered activities;

- any grading and construction operations including, but not limited to use of equipment, vegetation removal, trampling of vegetation, compaction of soils, ground disturbance, grading, or creation of dust; and
- any permanent loss of habitat as a result of development of infrastructure including, but not limited to buildings, roads, installation of utilities, and drainage;
- any activities undertaken to manage or enhance habitat for CRF.

These incidental take limits are subject to full implementation of all mitigation measures, as described in Section 7.0. If any of these take limits are exceeded, Mr. Jacobs shall cease all grading and construction operations and contact the USFWS immediately.

7.0 MEASURES TO AVOID, MINIMIZE, AND MITIGATE IMPACTS

7.1 USFWS CONSERVATION GUIDELINES

The USFWS does not have established guidelines for mitigating impacts to CRF and its habitat. Mitigation is conducted on a project by project basis. Mitigation for an individual project's effects can be accomplished through the purchase of credits at a USFWS-approved conservation bank. However, other means of compensation are acceptable including avoidance, on-site preservation, or establishment of a conservation easement. The USFWS evaluates each project separately to determine impacts on the species and the type and amount of mitigation that is necessary to compensate for project-related impacts to CRF. If credits are purchased at a conservation bank, the bank's operator is then responsible for all future reporting and maintenance of appropriate habitat on the site.

This project has already undergone preliminary informal consultation with USFWS. The proposed project has incorporated a buffer around the on-site pond into project design plans and will offset the loss of 0.25 acres of upland habitat for CRF by purchasing 0.75-acre of credits at a USFWS approved conservation bank.

7.2 Minimization Measures During Construction

The following measures to protect individual CRF will be implemented during ground breaking of the 24129 Turkey Road project site. They include the following measures:

1. Immediately prior to the start of work, a pre-construction survey will be conducted in the construction area for CRF by a Service –approved biologist. If CRF are found the USFWS shall be notified and the relocation of the individual shall be completed with approval by the USFWS.

2. A USFWS-approved biologist shall conduct an Employee Education Program for all construction personnel. At a minimum, the training will include a description of the CRF and their habitat, the importance of the species and their habitats, and the general measures that are being implemented to protect the CRF as they relate to the project. Instruction shall include the appropriate protocol to follow in the event CRF are found onsite.

3. A USFWS-approved biological monitor will be on site each day during initial site grading of development sites and during initial vegetation clearing and/or disking for vineyard planting. Thereafter, an onsite person shall be designated to monitor onsite compliance with all minimization measures. The USFWS-approved biologist shall ensure that this individual receives training consistent with that outlined in the Biological Opinion.

4. Before the start of work each morning, the biological monitor will check for animals under any equipment such as vehicles and stored pipes. The biological monitor will check all excavated steep-walled holes or trenches greater than one foot deep for any CRF. Any listed animals found will be removed by a Service-approved biologist and translocated under approval by the USFWS.

5. An erosion and sediment control plan will be implemented to prevent impacts on habitat outside the work areas. Erosion control and exclusionary materials will be

selected that do not include plastic monofilament mesh or other features that might lead to entrapment, injury, or death of listed species. Acceptable materials include natural fibers such as jute, coconut, twine, or other similar fibers.

6. Best Management Practices will be implemented during construction to prevent any construction debris or sediment from impacting adjacent habitat.

7. The number of access routes, number and size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project goal. The Service-approved biological monitor will identify the boundaries of the work and staging areas and ensure that that the contractor does not disturb any ground outside the designated construction area. The contractor shall obtain approval from the monitor to go outside designated areas.

8. All foods and food-related trash items will be enclosed in sealed trash containers at the end of each day, and removed completely from the site once every three days.

9. No pets will be allowed anywhere in the project site during construction.

10. A speed limit of 15 mph on dirt roads will be maintained, if applicable.

11. All equipment will be maintained such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents.

12. Hazardous materials such as fuels, oils, solvents, etc., will be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitats. All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 200 feet from any aquatic habitat.

13. Grading and clearing will typically be conducted between April 15 and October 15, of any given year, depending on the level of rainfall and/or site conditions.

14. Project areas temporarily disturbed by construction activities will be re-vegetated with an appropriate mixture of native seeds for annual grassland upon project completion.

7.2 Operational Best Management Practices

The pond located on the project site will be managed according to a USFWS-approved management plan that will enhance and maintain habitat for CRF. The management plan will be submitted to and approved by the USFWS prior to construction of roads or buildings. The goal of the management plan is to maintain the pond and the adjacent upland riparian habitat in a manner that will enhance and maintain CRF breeding habitat for the duration of vineyard operations.

Measures to enhance and maintain the pond for California red-legged frog will include the following:

- control and/or removal of non-native vegetation,
- planting native riparian vegetation,
- controlling duckweed, and
- controlling aquatic non-native predators of CRF.

7.3 MITIGATION PLAN

In addition to the avoidance and minimization measures and best management practices that will be implemented, Mr. Jacobs will compensate for loss of CRF 0.25 acre of upland habitat for CRF by purchasing 0.75 acre of CRF credits at a USFWS approved conservation bank. The service area for CRF at the Mountain House Conservation Bank includes the project area. Therefore, Mr. Jacobs proposes to purchase the credits at the Mountain House Conservation Bank prior to the construction of any proposed roads or buildings.

8.0 PLAN IMPLEMENTATION

8.1 BIOLOGICAL GOALS AND OBJECTIVES

The biological goal of this HCP is to contribute to a regional preserve design to benefit the CRF, while allowing construction of a residence and 4.5 acres of vineyard at the project site.

Objective 1: Purchase 0.75 acre of credit at the Mountain House Conservation Bank prior to ground disturbance.

Objective 2: Implement a management plan for the on-site pond to benefit of CRF.

8.2 RESPONSIBILITIES

As specified in the USFWS Habitat Conservation Planning Handbook (1996b), an Implementing Agreement (IA) is not required for low-effect HCPs unless requested by the permit applicant. Mr. Jacobs understands that he is responsible for implementing and funding the mitigation, management, and monitoring activities outlined in this HCP.

Mr. Jacobs will purchase CRF habitat credits from a Service approved mitigation or conservation bank. The Bank will assume all responsibilities for annual monitoring, maintenance, and reporting and will complete all obligations assigned to it within the Section 10 permit and the HCP.

8.3 SCOPE

The proposed project is a proposed general rural residential development of 0.25 acre, which will include driveways, building envelopes, as well as sewage and water lines, as shown in the site plan drawing in Figure 3, and as described in Section 2.0 of this HCP. The mitigation site will be off-site at a Service approved mitigation or conservation bank. This HCP covers activities only within the 8.5-acre site and addresses direct and indirect effects.

8.4 PLAN DURATION

Mr. Jacobs seeks a five (5) year permit from the USFWS to cover those activities associated with development of 0.25 acre and establishment of a 4.5 acre vineyard at the 8.5-acre site. The five-year permit term is requested to accommodate any unforeseen delays in planning and construction. Since 0.75 acre of CRF habitat credits will be purchased at a Service-approved conservation bank, the operator of the conservation bank will assume all responsibilities for implementation of the required mitigation. The permit will expire once Mr. Jacobs has fulfilled all of his responsibilities as described in Section 8.2.

8.5 MONITORING

Monitoring under an HCP has three components: 1) Effects Monitoring (making sure that the amount and impact of take post-project is what was analyzed in the HCP); 2) Effectiveness Monitoring (were the avoidance and minimization measures and the mitigation that were specified effective), and 3) Compliance Monitoring (were the avoidance and minimization measures and required mitigation successfully completed).

A qualified biologist will be present during initial vegetation clearing and grading activities to ensure the project is being implemented as described in the HCP and that avoidance and minimization measures are being implemented as described in Section 7 above. Pond management shall be evaluated on an annual basis for the first 5 years, to ensure the goals outlined in the Pond Management Plan are adhered to and achieved. The Pond Management Plan

will include a goal that the pond reach a10 year equilibrium.

Monitoring of CRF populations at the off-site conservation bank will be conducted as described in the Service-approved Long-Term Management Pan for the Mountain House Conservation Bank. The monitoring data collected will be used to inform adaptive management in accordance with the long-term management plan.

8.5.1 Reporting

Based on the scope of the project and conservation strategy, Mr. Jacobs will adhere to the requirements of this HCP and will provide documentation of the purchase of CRF credits at a USFWS-approved conservation bank. A post- project monitoring report will be submitted to the USFWS within 120 days of project completion. The report will provide documentation that the project was implemented as proposed. The report will include a description of the implemented project including the avoidance and minimization measures implemented, as built drawings clearly indicating any changes in the proposed project, and before and after photographs. Monitoring reports for off-site mitigation will be prepared by the conservation bank operator and submitted to the USFWS per Mountain House Conservation Bank's reporting requirements.

8.6 FUNDING

Mr. Jacobs is responsible for the funding of the goals of the Pond Management Plan. It is estimated that costs will be approximately $2,000/year and will be considered a line item in the vineyard budget.

Mr. Jacobs is responsible for the purchase of 0.75 acre of CRF mitigation credits. The Service approved mitigation or conservation bank will assume all responsibilities for funding of annual maintenance of the Conservation Bank, and the fulfillment of all monitoring and reporting activities for the entire 10-year monitoring period.

9.0 CHANGED AND UNFORESEEN CIRCUMSTANCES

Section 10 regulations [50 CFR 17.22 (b)(2)(iii)] require that an HCP specify the procedures to be used for dealing with unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Habitat Conservation Plan Assurances ("No Surprises") Rule [50 CFR 17.21 (b)(5)-(6) and 17.22(b)(5)-(6); 63 F.R. 8859] defines "unforeseen circumstances" and "changed circumstances" and describes the obligations of the permittees (Mr. Brad Jacobs) and the USFWS.

The purpose of the Assurances Rule is to provide assurances to nonfederal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee. “Changed circumstances” means changes in circumstances affecting a species or geographic area covered by the conservation plan that can reasonably be anticipated by plan developers and the USFWS and that can be planned for (e.g., the listing of a new species, or fire or other natural catastrophic events in areas prone to such events). The policy defines "unforeseen circumstances" as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the USFWS at the time of the plan's negotiation and development and that result in a substantial and adverse change in status of the covered species.

In determining whether any event constitutes an unforeseen circumstance, the USFWS shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the USFWS determines that the unforeseen circumstance will affect the outcome of the HCP, additional conservation and mitigation measures may be necessary. Where the HCP is being properly implemented and an unforeseen circumstance has occurred, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that are already set aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall not involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP without the consent of the permittee. Resolution of the situation shall be documented by letters between the USFWS and Mr. Jacobs.

Thus, in the event that unforeseen circumstances adversely affecting the CRF occur during the term of the permit, Mr. Jacobs would not be required to provide additional financial mitigation or implement additional land use restrictions above those measures specified in the HCP, provided that the HCP is being properly implemented. This HCP expressly incorporates by reference the permit assurances set forth in the Habitat Conservation Plan Assurances ("No Surprises") Rule adopted by the USFWS and published in the Federal Register on February 23, 1998 (50 CFR Part 17). Except as otherwise required by law or provided for under the HCP, including those provisions regarding changed circumstances, no further mitigation for the effects of the proposed project on the CRF may be required from a permittee who is properly implementing the terms of

the HCP and the permit. The HCP will be properly implemented if the commitments and provisions of the HCP and the permit have been or are being fully implemented by the permittee and the conservation bank operator.

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the ESA during the term of the Section 10 permit, the USFWS may consider this to be a changed circumstance. In such case, the Section 10 permit will be reevaluated by USFWS and the HCP-covered activities may be modified, as necessary, to ensure that the activities covered under the HCP will not jeopardize or result in take or adverse modification of any designated critical habitat of the newly listed species. Mr. Jacobs shall implement the modifications to the HCP covered activities identified by the USFWS as necessary to avoid the likelihood of take or adverse modification of the designated critical habitat of the newly listed species. Mr. Jacobs shall continue to implement such modifications until such time as they have applied for and USFWS has approved an amendment of the Section 10 permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species.

As to other potential changed circumstances (e.g., fire, flood, insect infestation, plant diseases, earthquake or other natural disaster), the short duration of the permit (i.e., five years) makes the occurrence of any such circumstance within the permit period unlikely. The likelihood of fire on the parcel is extremely low based on the surrounding vegetation. The likelihood of a flood is also extremely low, based on the elevation of the property.

If CRF credits are not available at a Service-approved mitigation or conservation bank, a preserve that is Service -approved will be provided to mitigate as an alternative. A preserve would be established by Mr. Jacobs and would include a conservation easement, a management plan, a plan for monitoring and reporting, and an endowment to fund management and monitoring activities.

10.0 PERMIT AMENDMENT/RENEWAL PROCESS

10.1 PERMIT AMENDMENTS

At this time there is no reason to expect that an amendment to the take permit will be needed to complete the development at 24129 Turkey Road. However, during the specified permit period an amendment of the Section 10(a) permit for the project would be required for any change in the following:

a) significant revision of the permit area boundary;
b) the listing under the ESA of a new species not currently addressed in the HCP that may be taken by project activities;
c) modification of any important project action or mitigation component under the HCP, including funding, that may significantly affect authorized take levels, effects of the project, or the nature or scope of the mitigation programs; and
d) any other modification of the project likely to result in significant adverse effects to CRF not addressed in the original HCP and permit application.

Amendment of the Section 10(a) permit would be treated in the same manner as an original permit application. Permit amendments typically require a revised HCP, a permit application form and application fee, an Implementing Agreement, a NEPA document, and a public comment period. However, the specific documentation needed in support of a permit amendment may vary, depending on the nature of the amendment. If the permit amendment qualifies as a low-effect HCP, an Implementing Agreement and NEPA document would not be needed.

10.2 HCP AMENDMENTS

This HCP may, under certain circumstances, be amended without amending the associated permit, provided that such amendments are of a minor or technical nature and that the effect on the species involved and the levels of take resulting from the amendment are not significantly different than those described in the original HCP. Examples of minor amendments to the HCP that would not require permit amendment include, but are not limited to:

- minor revisions to the HCP's plan area or boundaries;
- minor changes to conservation bank boundary; and
- minor changes to survey, monitoring, or reporting protocols.

To amend the HCP without amending the permit, Mr. Jacobs must submit to the USFWS, in writing, a description of:

- the proposed amendment;
- an explanation of why the amendment is necessary or desirable; and
- an explanation of why Mr. Jacobs believes the effects of the proposed amendment would not be significantly different than those described in the original HCP.

If the USFWS concurs with Mr. Jacobs' proposal, it shall authorize the HCP amendment in writing and the amendment shall be considered effective upon the date of the USFWS's written authorization.

10.3 PERMIT RENEWAL

No later than 30 days from the permit's expiration date, the permittee may request in writing a permit extension at which time, the Section 10(a)(l)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, that biological circumstances and other pertinent factors affecting CRF are not significantly different than those described in the original HCP, and the permittee is in full compliance with the HCP and permit. To renew the permit, Mr. Jacobs shall submit to the USFWS, in writing:

- an application to renew the permit;
- reference to the original permit number;
- certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;
- a description of any take that has occurred under the existing permit; and
- a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the USFWS concurs with the information provided in the request and the permittee is in full compliance with this HCP, the permit, and still meets the issuance criteria, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If Mr. Jacobs files a renewal request and the request is on file with the issuing USFWS office at least 30 days prior to the permit's expiration, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, Mr. Jacobs may not take listed species beyond the quantity authorized by the original permit. If Mr. Jacobs fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. Mr. Jacobs and the conservation bank operator must have complied with all annual reporting requirements to qualify for a permit renewal.

10.4 PERMIT TRANSFER

Although the sale or transfer of ownership of the property prior to construction of the proposed project is not expected to occur during the life of the permit, should it occur, a new permit application, permit fee, and an Assumption Agreement will be submitted to the USFWS by the new owner(s). The new owner(s) will commit to all requirements of this HCP.

11.0 ALTERNATIVES CONSIDERED

11.1 ALTERNATIVE #1: NO-ACTION

Under the No-Action Alternative, development of 24129 Turkey Road would not occur and Mr. Jacobs would not implement a CRF HCP or receive a Section 10(a) incidental take permit from the USFWS. The project site would remain undeveloped and the existing upland habitat would not be disturbed.

However, this would result in unnecessary economic burden on the applicant and may force the sale of the parcel to a developer that would develop the site to full capacity, thus reducing the available undeveloped land for CRF. For this reason, the No-Action Alternative has been rejected.

11.2 ALTERNATIVE #2: REDUCED DEVELOPMENT

The Reduced Take Alternative would reduce the size of the proposed residences but not the required access roadway or vineyard, thereby allowing some additional upland habitat to remain. In general, biological impacts, including loss of CRF habitat, associated with this alternative would still result, but would be reduced in magnitude. The Reduced Development alternative would require the issuance of a Section 10(a)(1)(B) permit that would encompass the 8.5-acre site but would reduce the proposed hardscape development of 0.25 acres by less than 0.10 acre. Due to the relatively small dimensions of development in the Proposed Action, this would not reduce the acreage of CRF upland habitat loss to a biologically meaningful extent. In addition, this alternative would result in unnecessary economic burdens to the applicant because the primary residence would not be fulfilled. The increased traffic of a vineyard management company would be required if a reduced development was proposed. For these reasons, the Reduced Take Alternative was rejected.

11.3 ALTERNATIVE #3: PROPOSED ACTION

Under the Proposed Action Alternative, Mr. Jacobs would develop the site at 24129 Turkey Road as described in Section 2.0. The Proposed Action Alternative would require the issuance of a Section 10(a)(1)(B) permit to allow development of one residence, an agriculture building and a gravel road with a turn around. Although the proposed project would result in the loss of 0.25 acre of grassland that is potential habitat for CRF, Mr. Jacobs would purchase 0.75 acre of CRF credits at a USFSW-approved conservation bank to offset this loss. The on-site pond that provides potential CRF breeding habitat will be enhanced and maintained and the proposed vineyard will not prevent movement of CRF to and from the pond. Therefore, the Proposed Action is the preferred alternative.

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13.0 APPENDIX A:

PRELIMINARY DELINEATION OF WATERS OF THE UNITED STATES, INCLUDING WETLANDS, FOR 24129 TURKEY ROAD, SONOMA, SONOMA COUNTY, CALIFORNIA

PREPARED FOR:

MR. BRADLEY JACOBS
J2 WINERY
261 FALCON CREST
WARNER ROBIN, GEORGIA 31088
PHONE: 478-922-1337

PREPARED BY:

JANE VALERIUS, WETLAND SPECIALIST
JANE VALERIUS ENVIRONMENTAL CONSULTING
2893A SCOTTS RIGHT OF WAY
SEBASTOPOL, CA 95472
TEL: 707-529-2394
EMAIL: JVALERIUS@EARTHLINK.NET

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INTRODUCTION AND BACKGROUND INFORMATION

This report and attachments presents findings based on a delineation of potential U.S. Army Corps of Engineers (Corps) waters of the U.S., including wetlands the property located 24129 Turkey Road, Sonoma, California. This work was conducted on behalf of the property owner, Mr. Bradley Jacobs. The delineation study area or property is located southwest of the City of Sonoma in Sonoma County, west of the Schelleville Airfield (Figure 1). The assessor parcel number (APNs) for the study area is APN 128-484-040. The study is approximately 7.92-acres in size.

The property is situated on the east side of Sonoma Mountain, west of Sonoma Creek and Arnold Drive (Highway 121), south of Sonoma Valley and north of San Pablo Bay in the rural area of Sonoma County, California (Figure 1). The project area is located in an unsectioned portion of the Sears Point 7.5-minute topographic quadrangle, within Township 4N and Range 5W. The approximate center of the study area is approximately at 38º13'08.09" north latitude and 122º27'41.78" west longitude. Surrounding land uses consist of mainly of open space lands, ranches and vineyards.

All maps and appendices referred to in this report are provided at the end of the text. Data sheets are provided in Appendix A. Site photographs are provided in Appendix B.

This delineation was conducted according to the 1987 Corps of Engineers *Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008), and U.S. Army Corps of Engineers, San Francisco District (2007) guidelines. The delineation should be considered preliminary until the U.S. Army Corps of Engineers, San Francisco District, issues a jurisdictional determination of the extent of jurisdictional waters, including wetlands, in the project area. A total of 386 square feet or 0.009 acres of wetlands and approximately 0.25 acres of other waters were mapped for the delineation study area for a total of 0.259 acres of wetlands and waters of the U.S. and state.

The client contact for this report is: Mr. Bradley Jacobs
J2 Winery
261 Falcon Crest
Warner Robin, GA 31088
Phone: 478-973-6760

DESCRIPTION OF SITE CHARACTERISTICS

Project Description

The property owner is proposing to develop this 7.92-acre property as a multi-use residential-agricultural project. The development will include an approximately 3200 square foot residential house with an approximate 4-5 acre vineyard planted with Pinot Noir grape vines. The property will also include an agricultural building to house farming equipment and supplies; and contain a small pump house to protect the well head and irrigation equipment. The property will have a driveway to and from the house in compliance with all Sonoma County Fire Protection codes; the property currently has an ingress point and a driveway along the northern edge of the property that runs most of the length of the northern property line to the pond located in the northwest corner of the property (driveway construction: road base only, ~ 10 ft. wide).

The property consists of an open grassland field with a 0.25 acre pond in the northwest corner and constructed drainage ditches on the north, west and south sides. The property is surrounded by rural residential lots with vineyards to the south.

Topography

The site is relatively flat. Elevations range from 110 feet in the northwest corner to 95 feet in the southeast corner. The general flow on the site is to the southeast corner.

Hydrology

The approximate 0.25 acre pond collects water from adjacent properties. Emanating from this pond is a drainage ditch that running along the western edge of the property line where then it proceeds down the southern end of the property line to an area that drains into what appears to be a blue line stream. The drainage ditch on the front of the property near Turkey Road is a drainage control ditch and the drainage ditch on the northern property line is located on the neighbor's land. These two ditches are not on the legal parcel boundary.

The ditches connect to a natural stream drainage course off site in the adjacent vineyard to the south of the property. This drainage ultimately connects to Sonoma Creek, which is east of the property. Sonoma Creek is a perennial creek and ultimately connects to San Pablo Bay.

Soils

Soils are mapped as Haire clay loam, 0 to 9 percent slopes (HcC) (Miller 1990). This soil type occurs on rolling terraces. A soils analysis for the property was conducted by Paul R. Anamosa, Ph.D. with Vineyard Soil Technologies dated March 2011. In this report four sites were evaluated in October 2010 prior to the purchase of this property and three (3) additional backhoe pits were evaluated at the property on January 28, 2011. The soil was described and profile logs were recorded. Five (5) additional soil samples were taken from horizons at the sites and submitted for analysis of physical and chemical characteristics. Three (3) additional soil samples were collected from the surface soil at each hole and submitted for nematode analysis. The following is information provided by the soil report (Anamosa 2011):

The soils of this vineyard site are mapped by the Sonoma County Soil Survey as being Haire clay loam on the eastern half and Diablo clay on the western half, with a little Red Hills clay in the SW corner. The Haire clay loam is moderately well drained soils on old terraces and in alluvial fans. The surface horizon is a dark grayish brown clay loam with fine angular to massive structure over an upper subsoil of prismatic clay over a lower subsoil of massive clay. In the Carneros region this soil is underlain by a sandy loam resting on old sandstone. In the areas of north Napa to Yountville, this soil does not have the sandy loam lower subsoil and rests on stratified sediments.

The Diablo clay consists of poorly drained soils on hilly uplands weathered from fine grained mudstone and shale. They are characterized by a surface horizon of dark gray clay with medium to coarse subangular blocky structured that is extremely firm to hard. The clay is highly to very highly plastic. The upper subsoil is also very dark gray clay with coarse hard prismatic structure. The lower subsoil is light olive brown to light yellowish brown clay with course to medium angular blocky structure. The clays in all horizons are highly to very highly plastic and are prone to smearing and puddling if tilled when too moist.

The Red Hill clay loam consists of moderately well drained clay loams that have a predominantly clay subsoils. These soils are derived from mixed greenstone and andesitic basalt. The surface horizon is dark reddish brown well-structured clay loam to a depth of about 16-18". The upper subsoil is a dark reddish brown granular structured clay loam to a depth of about 36". The lower subsoil is reddish brown massive heavy clay loam or clay. The highly weathered metamorphosed basic igneous rock ranges starts at about 50" to 60" depth.

The data generated for this report strongly supports the Haire clay loam for all four sites evaluated. These soils were shallow over cemented sandy loam mixed with rounded alluvial gravel.

Rust mottles were not found in any of the profiles. However most of the subsoils were moderately to strongly cemented. Cementation is caused by the precipitation of silica and essentially glues soil particles together in amorphous glass. Cementation can be broken up with deep tillage and would be expected to reestablish during the next 100 years.

Because the pores can be filled with the glass, cemented horizons are frequently poorly drained. However it was also noted that the lack of water accumulation in the holes is a strong indicator that the soils are well drained.

Vegetation

Three vegetation communities occur within the project site: 1) non-native annual grassland; 2) willow riparian shrubland; and 3) Eucalyptus grove. The majority of the site supports non-native grassland, and within the grassland in the southwest portion of the study area, along the western property boundary, are two small potential wetlands (PW) labeled as PW-A and PW-B. These areas are considered to be potential seasonal wetlands until the USACE has verified their status as jurisdictional wetlands. The willow riparian shrubland is associated only with the perennial pond.

Wetland plants recorded within the two identified potential wetland areas are predominantly facultative (FAC) plants such as annual ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum murinum* ssp. *gussoneanum*) and Harding grass (*Phalaris aquatica*). One obligate (OBL) plant species, semaphore grass (*Pleuropogon californica*) was noted in PW-B during March and April surveys of the property.

Precipitation and Growing Season

Annual rainfall is 25 to 45 inches and the annual temperature is 58º to 60º F. The frost-free season is 250 to 275 days.

METHODS

Literature Review

Prior to the delineation field survey, literature pertinent to identifying potential wetlands and other waters of the United States in the project area was reviewed, including the USGS 7.5 minute topographic quadrangle map for the area, the detailed topographic/aerial photograph base map prepared for the project area, the soil survey report and the county hydric soils list.

Field Survey and Map Preparation

A formal delineation was conducted by Jane Valerius, botanist and wetland specialist on June 13, 2012. Ms. Valerius also conducted special status plant surveys for the site in March, April and May of 2012 so was able to watch the hydrology of the site over the spring season.

Areas in which the topography or vegetation suggested that wetlands could exist were sampled using the routine onsite determination method procedures described in the 1987 Corps of Engineers *Wetlands Delineation Manual* (Environmental Laboratory 1987). The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valley, and Coast Region* (U. S. Army Corps of Engineers 2010) combined with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* U.S. Army Corps of Engineers (2008), was used as part of the on-site wetlands analysis and report preparation along with the U.S. Army Corps of Engineers San Francisco District November 2007 *Information Requested for Verification of Corps Jurisdiction* guidance. The wetland indicator status of plants was determined based on the State of California National Wetland Plant List (NWPL) Final Draft Ratings (U.S Army Corps of Engineers 2012).

A soil pit was excavated at each of the nine (9) delineation sample plots (data points) (shown on the attached delineation map) to a depth of 6 to 12 inches, depending on the depth to the water table and soil density. The data points were established in representative wetlands and adjoining non-wetlands. In most cases an adjoining nonwetland data point was established near the wetland data point to "bracket" the wetland data point, as a means to identify the wetland-nonwetland boundary. Additionally, supplemental observations (not recorded as data points) of vegetation, soil, and hydrologic characteristics were made at numerous other locations to evaluate candidate wetlands and to extrapolate wetland-nonwetland boundaries.

The pond within the project area designated as other waters of the United States have an ordinary high water mark (OHWM) that defines the extent of the Corps' jurisdiction of that feature. An OHWM refers to "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR Section 328.3[e]).

RESULTS

This section describes the results of the field survey. The preliminary jurisdictional features and data point locations are shown the delineation map provided as an attachment to this report. A total of 386 square feet or 0.009 acres of wetlands and approximately 0.25 acres of other waters were mapped for the delineation study area for a total of 0.259 acres of wetlands and waters of the U.S. and state.

PW-A is a marginal wetland site as it is dominated by facultative (FAC) species such as annual ryegrass and Mediterranean barley. It also occurs in an area that was disturbed by past land use activities and may not be a natural feature.

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