

## **Appendix C: Biological Resources Report**

**BIOLOGICAL RESOURCES REPORT  
BALL FAMILY PROPERTY  
333 CAMILLE AVENUE  
ALAMO, CONTRA COSTA COUNTY**

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## **1.0 INTRODUCTION**

This report describes the biological resources of the 60.5-acre Ball Family Property in Alamo, Contra Costa County (Figures 1-3). The northeastern 20.3 acres of the property is already developed with an estate residence, office building and parking lot, outbuildings, mature landscaping and remnants of an old walnut orchard. The southwestern 40.2 acres of the property are undeveloped open space. The property is located in the southwestern corner of unincorporated Alamo, at the west end of Camille Avenue.

The purpose of this biological resources assessment is to document the findings of field surveys, characterize the habitats that are present on site, evaluate the potential of the site to support special-status species, provide an analysis of potential impacts of the proposed project on biological resources, and describe mitigation measures that would ensure that the impacts of the project on biological resources are less than significant. The findings are intended to provide the information on biological resources needed for an evaluation and disclosure of project impacts as required by the California Environmental Quality Act (CEQA). This report was prepared under contract with Camille Ironwood LLC.

## **2.0 PROJECT DESCRIPTION**

The proposed project would subdivide the lower northeastern 21.7 acres of the property into a new gated single-family custom home development. Thirty-five custom homes, roads, utilities, and ancillary services would be developed. The existing estate residence, office building and parking lots, barn, caretaker's apartment, and auxiliary structures would also be removed (Figure 4). The proposed residential development would occur on the portion of the property that has already been developed with an estate residence, pool and landscaping, office building, parking lot, barn and outbuildings, and orchard.

An approximately one-acre staging and parking area to provide access to the Madrone Trail and Las Trampas Regional Trail managed by East Bay Regional Park District (EBRPD) would be constructed in the southern corner of the site. Vehicular access to the staging area would be provided through the project site from Camille Avenue.

Trees, shrubs and herbaceous vegetation within the area to be developed would be removed during construction. Approximately 455 trees would be removed to facilitate construction, including 247 native trees and 208 exotics. Approximately 310 trees within the area subject to development would be retained, including 168 native trees and 152 exotics.

The Project would require the relocation, fill and restoration of sections of existing creek channel as well as the fill of seasonal wetlands that are present within the residential development area. Approximately 223 linear feet of seasonal creek would be filled in order to create buildable lots, while 295 linear feet of creek channel would be created where the creeks would be relocated or restored through the removal of existing culverts. Some of the trees and shrubs lining the drainages would be removed to reduce safety hazards and facilitate development. Approximately 0.173 acre of seasonal wetlands in the southeast corner of the site would be filled

to allow development in this area. The creek channels on site would be enhanced with new native riparian plantings.

Approximately 38.8 acres of the property west of the residential development would be managed as open space. Transitional grading along the fringes of the open space adjacent to the residential development would occur during the initial earthwork for the project.

In addition to the residential development, wetland restoration to compensate for impacts to wetlands associated with development of the proposed project may be implemented on site. Wetland mitigation may be accomplished through the construction of an approximately 0.35-acre seasonal wetland in an area of eucalyptus woodland and developed landscape in the open space west of the proposed residential development. Tree removal (mostly the non-native blue gum, *Eucalyptus globulus*), earthwork and restoration plantings would be required to construct the wetland mitigation site.

Construction would involve earthmoving activities such as excavation, grading, soil stockpiling, and filling in the area proposed for residential development and the staging area. Approximately 26,000 cubic yards of material would be excavated and balanced on-site.

Project construction would be phased. Construction would commence with tree removal and the demolition of the existing office building, estate home, barn, caretaker's apartment, and auxiliary structures. Following site clearance, earthwork would commence. Site improvement construction activities including demolition, excavation, grading, wetland restoration, creek restoration, and paving would occur over a period of 16-18 months. The construction of residences may be phased, depending upon market conditions, for up to ten years.

### 3.0 METHODS

A desktop review of records of special-status species<sup>1</sup> known from the nine-quad area<sup>2</sup> surrounding the proposed project, and biological resources evaluations conducted for other nearby projects was completed prior to the conduct of any reconnaissance-level surveys in 2012. Sources of information used in the desktop review included a search of the *California Natural Diversity Data Base* (CDFG 2012, hereafter referred to as CNDDDB), the *California*

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<sup>1</sup> Many species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened or endangered (CNPS 2010). Collectively, these plants and animals are referred to as "special-status species."

<sup>2</sup> Records of special-status species in the following 7.5-minute quads were queried in the California Natural Diversity Data Base (CNDDDB): Briones Valley, Walnut Creek, Clayton, Oakland East, Las Trampas Ridge, Diablo, San Leandro, Hayward, and Dublin

*Native Plant Society Inventory of Rare and Endangered Plants v7* (CNPS 2012), and a list of federally listed species generated from records kept by the U.S. Fish and Wildlife Service. These sources were used to generate the lists of special-status species known from the region that may be found within the project area. Appendix A includes special-status plants with a CNPS ranking of 1.x-4.x. Appendix B includes special-status animals with potential to occur in the project area. Information on the rarity rankings are provided in Appendix A and B. Plant community names conform to Holland (1986) and Sawyer and Keeler-Wolf (2009). Appendices A and B were updated in 2016 with records from the CNDDDB (accessed 1/12/2016), the CNPS on-line inventory (4/4/2016) and Information for Planning and Conservation (USFWS, IPaC 4/4/2016)<sup>3</sup>.

Information on soils was obtained from the U.S. Department of Agriculture Natural Resources Conservation Service on-line soil survey for the study area prior to the conduct of the wetland in 2012 (NRCS 2012). Soils information was obtained and reviewed to aid in the determination of whether habitat on the site is suitable for certain special-status plants and animals. In the absence of suitable soil conditions, special-status plants or animals requiring those conditions would be presumed absent.

Most of the biological resources surveys conducted for the proposed project focused on an approximately 23.6-acre area hereafter referred to as the ‘Study Area’ in which impacts of the project would occur. The Study Area encompasses the area proposed for residential development, the EBRPD staging area and potential wetland and riparian restoration area located in the open space west of the residential development area (Figure 3). Surveys conducted in 2012 and 2013 did not include the EBRPD staging area as it was not included as an element of the proposed project at that time. The Study Area was expanded in 2015 to include the proposed EBRPD staging area.

Reconnaissance-level field surveys of the Study Area were conducted by Judy Bendix in 2012 and again in 2015 to include the EBRPD staging area. Focused botanical surveys of the project area were completed by Amy Richey, Mike Perlmutter and Judy Bendix in 2012 and 2013 (Appendix C). Additional botanical surveys of the EBRPD staging area were completed by Amy Richey in 2015. Botanical surveys were timed to coincide with the flowering period of target plants, except as noted and addressed. All field surveys were conducted on foot during daylight hours.

Due to the mobility of special-status reptiles and amphibians known from the region, Mark Jennings, Ph.D. assessed the suitability of the entire 60.5-acre property for the state and federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*, AWS), federal threatened California red-legged frog (*Rana aurora draytonii*, CRLF), state and federal threatened California tiger salamander (*Ambystoma californiense*, CTS) and California species of special concern western pond turtle (*Actinemys marmorata*, WPT) in 2012, and again in 2016 (Appendix D). The assessment of the 60.5-acre property and the EBRPD staging area was needed in order to evaluate potential impacts of the project to special-status reptiles and amphibians. The habitat

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<sup>3</sup> Insofar as species may have been added to the nine-quad area since surveys were initiated in 2012, it is not necessary to undertake new surveys. A thorough inventory of species present within the Study Area was conducted. None of the species added to Appendix A or B were observed during the surveys conducted in 2012, 2013 and 2015.  
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assessments for CTS and CRLF were performed in accordance with the protocols established by the U.S. Fish and Wildlife Service (USFWS 2003, 2005). There are no protocols published by the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife for AWS or WPT.

A wetland delineation was completed by Tom Mahony in 2012 and revised in 2015 to encompass the EBRPD staging area (Appendix E, Mosaic Associates 4/4/12, revised 6/27/15). The delineation followed the guidelines provided in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008) and the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987).

Photographs of the Study Area are included in Appendix F. Wildlife species observed during the course of field surveys are listed in Appendix G.

Potential impacts to biological resources and proposed mitigation measures described in Section 8.0 of this report are based on a review of the project plans prepared by Aliquot (Vesting Tentative Map, Ball Estates, Sheets TM 1-3 and 5-8, 2/27/2016, TM 4 4/28/2016), observations of biological resources made during the reconnaissance and focused surveys conducted as part of this analysis, and discussions with the project team. Due to uncertainties in the timing, duration and phasing of construction activities, the analyses detailed in this report are based on the following assumptions:

- Development including streets, homes, landscaping, utilities, and other infrastructure will occur consistent with project plans featured on Figure 4.
- Tree removals will occur consistent with Figure 4.
- Construction staging areas will be located within the development footprint featured on Figure 4.
- Construction activities will occur year-round and will be phased over a multi-year period.

#### **4.0 SETTING**

The proposed project is located in the unincorporated community of Alamo in Contra Costa County, south of Walnut Creek and west of Highway 680. Single-family residential neighborhoods surround the property to the north, east, and south. Open space land in Las Trampas Regional Park is situated to the west of the site. Existing development in the Study Area consists of a main residence and swimming pool, barn, horse paddocks and outbuildings, office building and parking lot, two old walnut orchards and extensive landscaping. The west side of the Ball property was designated as open space by the Contra Costa County Board of Supervisors through a General Plan Amendment adopted on January 2005.

Land use on this property is single family residential on the north side of the Study Area and office on the south side. The remnants of a once more extensive walnut orchard on the east side of the Study Area are maintained by mowing and discing, but are not commercially farmed. The office building, residence and outbuildings are in use and the landscaping is actively tended.

The open space on the Ball property is much like the adjacent Las Trampas Regional Park, consisting of a steep hilly area of first and second order intermittent drainages that are covered with oak-bay woodland, bluegum eucalyptus along a major ravine, and non-native annual grassland in openings, as well as scattered patches of chaparral.

Portions of the area proposed for development were graded in the past to create level pads for the home, office and other structures above the old walnut orchards, and the hillslopes below the pads support a mix of horticultural and native oak woodland species. Elevations on site range from 350 to 680 feet above mean sea level. Two intermittent drainages with discernable channels are present on site. Drainage 1 is near the southern boundary of the Study Area, and Drainage 2 is near the center of the site (Figure 3). A third drainage with no defined bed or bank originates on the slope west of proposed lot 9, but disappears in the flatter terrain of the Study Area.

## 5.0 BIOTIC HABITATS

Habitats and plant communities found within the Study Area include developed/orchard, eucalyptus woodland, intermittent drainage/seasonal wetland and valley oak woodland/savanna (Figure 3). Summary information on the extent of these habitats is presented in Table 1. The open space west of the Study Area supports blue oak woodland, patches of annual grassland and scattered patches of chaparral. Biotic habitats within the Study Area are described in more detail below.

**Table 1. Area of Habitats on the Ball Property Study Area**

<b>Habitat Type</b>	<b>Acres</b>
Developed/orchard	16.81
Eucalyptus woodland	2.25
Freshwater Seasonal wetland	0.28
Intermittent drainage (Other Waters)	0.18
	1,563 LF
Valley Oak Woodland/Savanna	4.11
<b>Total</b>	<b>23.63</b>

## 5.1 Soil Evaluation Results

Two soil series, the Garretson series, and the Millsholm series have been mapped on the Study Area (NRCS 2012, see Appendix E). Descriptions of these series are presented below.

## **Garretson Series**

The Garretson series consists of gravelly, very fine sandy loam and formed dominantly from sedimentary formations (NCSS 2003). Garretson soils are in valleys on nearly level to strongly sloping fans and floodplains. The mean annual precipitation is about 12 to 25 inches and the mean annual air temperature is about 61 degrees F. The average frost-free season is 250 to 350 days. The climate is subhumid mesothermal, with hot dry summers and cool moist winters. It is classified in the fine-loamy, mixed, nonacid, thermic family of Typic Xerorthent. This extensive soil type is well drained; slow to medium runoff; with moderate permeability. These soils are often used to cultivate citrus or other deciduous fruits, alfalfa, and for home sites.

Within the Garretson series, two soil units have been mapped on the Study Area: Garretson loam, 0 to 2 percent slopes and Garretson loam, 2 to 5 percent slopes. Both of these soil units are well drained, derived from alluvium from sedimentary rock, and typically occur on floodplains. A typical profile consists of loam from 0 to 60 inches of soil profile.

## **Millsholm Series**

The Millsholm series consists of shallow, well drained soils that weathered from sandstone, mudstone, and shale (NCSS 2003a). Millsholm soils are on hills and mountains and have slopes of 5 to 75%. The Millsholm Loams mapped on site are comprised of 85% Millsholm, with minor components of 5% Los Osos, and 3% Los Gatos complex series. The mean annual precipitation is about 14 to 24 inches and the mean annual air temperature is about 59 degrees F. The average frost-free season is 250 to 300 days. The climate is subhumid with hot dry summers and cool moist winters. It is classified as a loamy, mixed, superactive, thermic Lithic Haploxerept. This extensive soil type is well drained; low to very high runoff; with moderate permeability. These soils are often used for rangeland purposes.

Within the Millsholm series, one soil unit has been mapped on the study area: Millsholm loam, 15 to 50 percent slopes, moist, MLRA 15. This soil unit is well drained, derived from loamy residuum weathered from sandstone and shale, and typically occurs on hillslopes. A typical profile consists of loam from 0 to 12 inches and bedrock from 12 to 20 inches.

Soils within the Study Area are loam textured and well-drained, and generally do not support suitable habitat for those special-status plants known from the region that are restricted to specific substrates, such as serpentinite, heavy clay, or alkaline/saline/sandy/gravelly soils. Therefore, the Study Area is not expected to provide suitable habitat for special-status plants that are edaphic specialists (Appendix A). The Study Area could provide suitable habitat for special-status plants found on well-drained, loamy substrates in Oak Woodland or grassland.

## **5.2 Developed/Remnant Orchard**

Due to past development, this habitat comprises about 71 percent of the Study Area. The developed portions of the Study Area include the residence, office, barn complex and horse paddocks and the landscaping surrounding these features. Large portions of the Study Area contain formerly cultivated lands that had been planted as walnut orchard. Native coast live oaks (*Quercus agrifolia*) are located around the eastern perimeter of the Study Area, and other native

trees including California bay (*Umbellularia californica*) and California buckeye (*Aesculus californica*) are found in low numbers throughout this portion of the Study Area. Mature landscaping surrounds the single residence, located west of the entry drive, the barn complex in the center of the property, and the office building in the southeast corner of the Study Area. The landscaped areas surrounding the residence and the entry drives receive regular maintenance, watering and weeding. Vegetation in the former orchards is mowed or disced routinely. Dominant trees in the landscaped areas are London plane (*Platanus acerifolia*), coast redwood (*Sequoia sempervirens*) and valley oak (*Quercus lobata*). English walnut (*Juglans regia*) is present in the orchard on both sides of the entry drive. While ornamental species dominate the actively maintained landscape, non-native ruderal species tolerant of periodic mowing and discing including wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), Italian ryegrass (*Lolium multiflorum*), cutleaf geranium (*Geranium dissectum*), vetch (*Vicia sativa*), and mustard (*Hirschfeldia incana*) are present in the orchard. Himalaya blackberry (*Rubus armeniacus*), English ivy (*Hedera helix*), and photinia (*Photinia* sp.) are present along the fencelines on the northern and southern boundaries of the Study Area. Developed and remnant orchard habitat is not specifically described by Sawyer et al. (2009).

Landscaped areas and the old orchard provide habitat for a number of common wildlife species, including raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), and black-tailed deer (*Odocoileus hemionus columbianus*), as well as foraging and nesting habitat for numerous bird species, including scrub jay (*Aphelocoma californica*), lesser goldfinch (*Carduelis psaltria*), house finch (*Carpodacus mexicanus*), western bluebird (*Sialia mexicana*), and dark-eyed junco (*Junco hyemalis*). Avian diversity is higher within the Study Area than is commonly found in a developed, suburban landscape due to the structural diversity and extensive cover in the mature landscape, the mix of large to small native and non-native, deciduous and coniferous trees on site, and the location of the Study Area adjacent to extensive open space to the west.

The barn and outbuildings within the Study Area provide suitable roosting habitat for several common and rare species of bats, including Townsend's big-eared bat (*Corynorhinus townsendii*) and pallid bat (*Antrozous pallidus*).

### **5.3 Eucalyptus Woodland**

A grove of mature blue-gum eucalyptus trees) is located along intermittent Drainage 2 in the southwest portion of the Study Area, and additional eucalyptus trees are located east of the office building. These stands would be classified as *Eucalyptus (globulus, camaldulensis)* Semi-Natural Woodland Stands in Sawyer et al. (2009), and as Eucalyptus Groves (11300) by Holland (1986).

Understory vegetation in the eucalyptus groves are sparse to non-existent. Scattered shrubs and vines of poison oak (*Toxicodendron diversilobum*) and small-stature California buckeye are present, and the ground is heavily littered with large to small limbs, exfoliated bark, and leaves. The eucalyptus along Drainage 1 are smaller and less dense than those along Drainage 2.

Birds expected to frequent the eucalyptus grove, including red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), yellow-rumped warbler (*Dendroica coronata*), ruby-crowned kinglet (*Regulus calendula*) and chestnut backed chickadee (*Poecile rufescens*).

#### 5.4 Seasonal Freshwater Wetlands/Intermittent Drainages

There are five areas of seasonal freshwater wetland and two intermittent drainages within the Study Area (Figure 3 and Appendix F, Mosaic Associates 2015).

The intermittent drainages flow in an easterly direction, conveying runoff seasonally from open space land to the west to the offsite storm drain system which ultimately drains to San Ramon Creek. Drainage 1, consisting of a vegetated wetland (Wetland 4) and an unvegetated section of other waters is located near the southern boundary of the Study Area. Drainage 2 is the larger of the two drainages on site, consisting of three segments of the same feature. It bisects the center of the Study Area. Portions of this feature were relocated in the past to skirt the entry drive and orchard. Much of it is lined with rock, and is situated within the mature horticultural landscape south and east of the residence. The channel is shallow, and lacks pools. Drainage 1 is smaller and more indistinct than the Drainage 2. It disappears in the old orchard at the east side of the property, dissipating into seasonal Wetlands 2 and 3.

Wetland 1 is located west of the residence, and appears to be associated with a drainage on the upper hillside outside the Study Area. Runoff from this drainage and Wetland 1 dissipates to sheet and subsurface flow within the Study Area. The dominant plant in Wetland 1 is spreading rush (*Juncus patens*). Wetland 2, located in the eastern portion of the Study Area, is associated with runoff from the office building, irrigated landscape and parking area as well as runoff from Drainage 1. Wetland 3 is located just east of Wetland 2, and is situated in a low-lying portion of the Study Area next to a culvert that conveys runoff from this area beneath a road and eventually to San Ramon Creek. Umbrella sedge (*Cyperus eragrostis*), spiny cocklebur (*Xanthium spinosum*), and Mediterranean barley (*Hordeum marinum*) are dominant in Wetland 2. Dominant plants in Wetland 3 are Italian ryegrass and Mediterranean barley. Wetlands 4 and 5 are on EBRPD property in the southwest corner of the Study Area. Wetland 4 is situated immediately upstream and in the same channel as Drainage 1. Italian ryegrass is the dominant species in this feature. Wetland 5 is in a small concave area just north of Wetland 4. Spreading rush is the dominant plant in Wetland 5.

Following the above-normal rainy season in 2011, the landowners excavated a shallow swale through the orchard in the west side of the Study Area. This was done to convey sheet flow runoff away from the neighboring residences north of the property. This excavated feature was examined during the wetland delineation and was determined to be an upland as it lacked wetland vegetation, hydrology or soils.

The seasonal wetlands and intermittent drainages provide very limited habitat value, given their location in a developed setting. Surface flow in the drainages is too episodic to provide habitat for aquatic species. The same wildlife species using other habitats within the Study Area would also be expected to use the seasonal wetlands and intermittent drainages.

## 5.5 Valley Oak Woodland/Savanna

Valley oak woodland is present on the hillslopes north of the residence, barn complex and office building as well as the steep hillside west of the developed portion of the Study Area. In addition to valley oak, California bay laurel, buckeye, coast live oak and flowering plum (*Prunus* sp.) contribute to the overstory in this type. Toyon (*Heteromeles arbutifolia*), poison oak, English ivy, periwinkle (*Vinca major*) and an assortment of non-native grasses are present in the understory. Much of the tree canopy on the slopes surrounding the developed portions of the Study Area would conform most closely to the Valley Oak Woodland (*Quercus lobata* Woodland Alliance) described in Sawyer et al. (2009), and a combination of California Bay Forest (81200) and Valley Oak Woodland (71130) as described in Holland (1986). Within the Study Area, this woodland is distinguished from the surrounding developed/orchard type due to the dominant cover of valley oaks and other native tree species.

Valley oak woodland provides foraging and nesting habitat for many species of birds, including acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), scrub jay, oak titmouse (*Baeolophus inornatus*), chestnut backed chickadee, spotted towhee (*Pipilo maculatus*), and white-breasted nuthatch (*Sitta carolinensis*). Cavities in the larger valley oaks provide roost habitat for several species of bats, including pallid bat and Townsend's big-eared bat. More densely vegetated portions of the wooded slope in the western portion of the Study Area also provide suitable foraging and denning habitat for San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), although no stick lodges were observed during the surveys conducted for this report. Woody debris, rocks and damp leaf litter in less disturbed areas provide cover for the California slender salamander (*Batrachoseps attenuatus*).

Two woodpiles were present in the western portion of the Study Area. Trees pruned during routine landscape maintenance activities on site have been cut for firewood and piled in these areas. While firewood is regularly added to and retrieved from these piles, they do provide basking and cover habitat for western fence lizard (*Sceloporus occidentalis*).

## 6.0 SPECIAL-STATUS SPECIES AND NATURAL COMMUNITIES

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described below in Section 7.0, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened or endangered (CNPS 2010). Collectively, these plants and animals are referred to as "special-status species."

Several special-status plants and animals have potential to occur on site or in the vicinity of the study area. Lists of these species are found in Appendix A and B. Special-status species with habitat requirements not met on the project site or vicinity were eliminated from further consideration.

A discussion of the potential for special-status species to occur in the Study Area and the presence of special-status natural communities is given below.

## 6.1 Special-status Plants

Seventy-one special-status plant species were evaluated for their potential to occur on site (Appendix A) due to records on their occurrence within a nine-quad search of the area surrounding the Study Area. Thirty-three plant species were eliminated from further consideration because suitable habitat is not present within the Study Area. Focused botanical surveys timed to coincide with the blooming period for the remaining target species were conducted on April 16, May 24, and September 28, 2012 and May 10, 2013 within the proposed residential development and potential wetland and riparian mitigation area. Additional focused botanical surveys in the proposed EBRPD staging area were conducted on April 14, 2015 and July 28, 2015. While rare plant surveys were conducted during the extended drought of 2012-2015, environmental conditions during the surveys were appropriate for the identification of rare plants.

Although a survey timed to coincide with the June-August blooming period of San Antonio Hills monardella (*Monardella antonina* ssp. *antonina*) was not conducted within the proposed residential development and potential wetland and riparian mitigation area, this area was thoroughly surveyed and plants were identified to species. San Antonio Hills monardella is a perennial rhizomatous plant, and has distinctive purple flowers and a low and compact growth habit. While it can easily be confused with coyote mint (*Monardella villosa* ssp. *villosa*), neither taxon was identified during the botanical surveys conducted within the Study Area. Given the number and scope of the surveys that were undertaken, if San Antonio Hills monardella were present, it would have been identified. Moreover, San Antonio Hills monardella is associated with chaparral and cismontane woodland (i.e. deciduous, evergreen or both types of trees). While these types of woodlands can be classified as sub-types of Valley Oak Woodlands, which are present within the Study Area, chaparral is absent from the project site, and no plants resembling this species were observed in the cismontane woodland. One special-status species, northern California black walnut (*Juglans californica* var. *hindsii*) was present on site, however, this plant grew from grafted rootstock associated with the old English walnut orchard. Northern California black walnut was widely used as the cultivated rootstock for English walnut, with which it readily hybridizes. Trees that germinated before the European introduction of English walnut in 1840 are considered native by the California Native Plant Society because they could not have hybridized with English walnut. Because the black walnut on site grew from grafted rootstock that was commercially produced long after 1840, the northern California black walnut on site is highly unlikely to be native and is most certainly not a remnant of an historic population. The black walnut present on site would therefore not be considered as a rare plant by the California Native Plant Society. No other special-status plant species were observed in the Study Area.

## 6.2 Special-status Animals

Fifty-four special-status animals were considered for their potential to occur on site due to records on their occurrence within a nine-quad search of the area surrounding the Study Area or were identified on IPaC species list (Appendix B). Forty-five species were eliminated from further consideration because suitable habitat is not present within the Study Area or they are unlikely to occur. Nine species are considered to have at least a low potential to occur within the Study Area, including the state and federal threatened Alameda whipsnake; California Species of Special Concern pallid bat, Townsend's big-eared bat, San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) and American badger (*Taxidea taxus*); CDFW Special Animal great blue heron (*Ardea herodias*); CDFW Watch List Cooper's hawk (*Accipiter cooperii*, nesting) and sharp-shinned hawk (*Accipiter striatus*, nesting); and the CDFW Special Animal Bridges' coast range shoulderband (*Helminthoglypta nickliniana bridgesi*). Additional information on these species is provided below.

The grassland, shrubs and trees on site also provide nesting habitat for a variety of birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC). The large trees in the open space west of the Study Area as well as mixed woodland and grassland in Las Trampas Regional Park to the west also provide suitable nesting habitat for MBTA and FGC-protected birds, including the golden eagle (*Aquila chrysaetos*) and the state threatened Swainson's hawk (*Buteo swainsoni*), although neither species is likely to nest within the Study Area.

### Alameda Whipsnake (AWS)

Based on information provided by CNDDDB staff (pers. comm. B. Acord CNDDDB zoologist, 4/1/16), there are 22 AWS occurrences within five miles of the site, including seven AWS within a two-mile radius of the site (Appendix C). The closest AWS occurrences are in the adjacent Las Trampas Regional Wilderness. Critical Habitat for this species was designated by the USFWS on October 2, 2006 on open space land west of the existing development (Figure 3). The only site disturbance proposed by the Project in the designated Critical Habitat is the wetland mitigation that may be created in the open space.

The AWS is federally- and state-listed as a Threatened species. Like all species within the genus *Masticophis*, it is a timid, fast moving, diurnal snake with large eyes and a high metabolism (Hammerson 1978, 1979; Stebbins 2003). It measures from three to five feet in length, with a fairly wide head and a slender neck. Unlike the other nominal subspecies, which ranges from northern California, west of the Sierra-Nevada crest, to Central Baja California (Jennings 1983), this sub-species is solely restricted to Alameda and Contra Costa counties within the San Francisco Bay region (Jennings 1983). This regional restriction corresponds to the distribution of coastal scrub and chaparral within the area (Stebbins 2003). This habitat restriction may reflect the subspecies preference for friable, well-drained soils.

Primary habitats for AWS include east, southeast, south and southwest facing slopes containing coastal scrub and chaparral, with rock outcrops within approximately 0.5 miles (Swaim 1994; Swaim, pers. comm.). Typical plant species within occupied habitats of scrub and chaparral communities include California sage (*Artemisia californica*), coyote brush (*Baccharis pilularis*),

poison oak, and sticky monkey flower (*Mimulus aurantiacus*). Canopy cover within these habitats is typically open (<75% cover of total area) with little to no herbaceous understory (Swaim 1994). “Primary constituent elements” for this snake (i.e. those habitat components that are essential for its primary biological needs, as identified by the USFWS) consist of scrub communities (including mixed chaparral, chamise-redshank chaparral, and coastal scrub) and annual grasslands and oak woodlands that lie adjacent to scrub habitats. Primary constituent elements may also include grasslands and various oak woodlands that are linked to scrub habitats by substantial rock outcrops in riverine corridors (USFWS 2006).

The average home range size for male AWS is approximately 13.6 acres, with spatial overlapping (Swaim 1994). Female AWS home range size is approximately 8.4 acres. Female home ranges were spatially overlapped with males. Activity is typically concentrated within a core area, with much of the remaining area not actively used. Movement distances have been recorded between 0.5 and 1.0 mile (Swaim, pers. comm.).

Overnight retreats and hibernacula retreats include small mammal burrows created by deer mice (*Peromyscus maniculatus*) and California voles (*Microtus californicus*) (Swaim 1994). California ground squirrel (*Spermophilus beecheyi*) burrows are rarely used. Other retreat areas include soil crevices, brush piles, woodpiles, and debris (i.e., corrugated metal roofing boards, metal boxes) [Hammerson 1979], although soil crevices and woodpiles were not used by telemetered snakes (Swaim 1994; Swaim, pers. comm.).

The main diet for this snake is composed of western fence lizards (Hammerson 1978, Ellis 1987). Because of special physiological features, AWS are able to warm up faster than their prey, and thus are able to catch most lizards in the early morning before they have had a chance to fully warm up themselves (Hammerson 1979). Other prey items eaten by striped racers include rodents, birds and other snakes (CDFG 1980, Stebbins 1985). Subadult and adult AWS have been reported as emerging in mid-April, with the males emerging from their hibernacula first (Hammerson 1978, 1979). Hatchlings emerge in the first part of August through November (Swaim, pers. comm.).

The oak-bay woodland habitats present west of the Study Area (and within the area of designated critical habitat) is considered suitable for AWS breeding, rearing, and hibernation, due to the presence of thickets of scrub vegetation and suitable rock outcrops within and adjacent to the woodland areas. There are also sufficient food resources present, especially western fence lizards.

The Study Area is considered unsuitable for AWS breeding, rearing and hibernation due to the lack of coastal scrub, chaparral or rock outcrop habitats typical of areas occupied by AWS. Additionally, western fence lizard populations are low in the Study Area and surrounding developed areas (Predation by domestic cats, well-established raccoon, and crow populations likely depress the local lizard population and other AWS potential food resources, thus deterring AWS from inhabiting the project site. Finally, the surrounding urban development on three sides of the Study Area limits the ability of AWS to move through or utilize the area.

The only potential areas for AWS within the Study Area are the two small woodpiles west of the residence that are actively used by the landowner. These woodpiles are located directly adjacent to the eastern edge of the oak-woodland (at the base of the hillside) that could be used for foraging activities. Although there are scattered small mammal burrows within the Study Area, they are too far away from any potential feeding areas (=woodpiles) to likely be used by AWS for cover. The potential for AWS to forage in or seek temporary cover within the Study Area is extant, but low.

### **Pallid Bat and Townsend's Big-eared Bat**

Pallid bats inhabit rocky terrain in open areas in lowlands, foothills and mountainous areas near water throughout California below 2,000 meters. They feed on crickets, beetles, scorpions and other large invertebrates, often on the ground. Pallid bats roost in caves, rock crevices, mines, hollow trees, buildings and bridges in arid regions in low numbers (<200). They are active from March through November (WBWG 2005).

Townsend's big-eared bats are moth specialists that inhabit caves and mines, but may also use bridges, buildings, rock crevices and tree hollows in coastal lowlands, cultivated valleys and nearby hills characterized by mixed vegetation throughout California below 3,300 meters. They exhibit high site fidelity and are highly sensitive to disturbance. They often forage along edge habitats near water and may travel long distances when foraging (WBWG 2005).

The orchard, woodlands, and structures (barns and outbuildings) within the Study Area provide potentially suitable foraging and roosting habitat for pallid bat and Townsend's big-eared bat. The buildings present within the Study Area are in use however, and there is also frequent landscape maintenance across the site. Given the level of on-going disturbance within the Study Area, and the sensitivity of these bats to disturbance the potential for both bat species to occur is low.

### **San Francisco Dusky-footed Woodrat**

The San Francisco dusky-footed woodrat, a California Species of Special Concern, is fairly common and widespread throughout the Coast Range and the northern interior of California. It is one of 11 subspecies of woodrat, and is restricted to the San Francisco Bay area.

San Francisco dusky-footed woodrats are highly arboreal, often associated with evergreen or live oaks and other trees and shrubs as well as with chaparral and coastal scrub plant communities. They generally prefer a moderate canopy with a brushy understory for protection from predators. They build stick lodges from branches of trees and shrubs at the base of, or in a tree or shrub. Houses may measure up to eight feet in diameter and height, and can be used generation after generation. This species is nocturnal, feeding on nuts and fruits, fungi, foliage and some forbs (Linsdale and Tevis 1951).

While there is extensive tree cover in the Study Area, the limited and discontinuous area of brushy understory vegetation makes the site only marginally suitable for this species. No woodrat lodges were observed on site.

## **American Badger**

American badgers are heavy bodied, short-legged, grayish mammals that have a white medial stripe from nose over the top of the head and down the back. Badgers have a black nose, white cheeks, and black spot in front of each ear. Their feet are black with extremely long front claws. The belly and the short tail are yellowish (Burt and Grossenheider 1980).

This mammal is most commonly found in the drier open stages of most shrub, forest, and herbaceous habitats in areas with friable soils. They are usually absent from mature chaparral (Quinn 2006). Badgers are generally associated with treeless regions, prairies, park lands and cold desert areas (Lindzey 1982). Badgers may avoid areas of human habitation (Lay 2008). Badgers dig burrows in friable soils for cover.

American badgers are carnivorous and feed on fossorial rodents including ground squirrels (*Spermophilus beecheyi*), cottontail rabbits (*Sylvilagus* spp.), jackrabbits (*Lepus* spp.), small rodents and pocket gophers (*Thomomys* spp.) (Ahlborn 2005).

Suitable habitat is located to the west of the Study Area in the open oak woodland and there are no barriers to prevent individuals from ranging into the Study Area. The extensive tree cover present on site, relatively heavy clay content of the soils and the presence of existing development on three sides of the Study Area however, limit the suitability of the Study Area for American badger. Therefore this species is considered to have a low potential to occur on site. No potential badger dens or evidence of badger occupancy were observed within the Study Area.

## **Great Blue Heron**

The great blue heron is a relatively common year-round resident in much of California, feeding on small fish, rodents, amphibians, snakes, lizards, crustaceans and insects (CDFG 1995). They forage by standing motionless or walking slowly when searching for prey in shallow water or, less commonly, in open fields. Herons perch and roost in tall and often secluded trees, and typically nest in colonies in tops of secluded large snags or live trees, usually among the tallest available. Persistence of colony site use increases substantially at sites with at least 20 active nests (Kelly et al. 2007). Courtship and nest building begin shortly after February and the eggs are laid in late February or March (Pratt 1970, Pratt and Winkler 1985, and Audubon Canyon Ranch unpubl. data). Clutch size can be one to eight eggs, but averages three or four. The incubation of these eggs takes about 28 days at which time the hatched young are cared for by both adults. The young may fly by seven weeks but still return to the nest for two to three weeks after that and may continue to be fed by the adults for another week or so (CDFG 1995).

The great blue heron is designated as a “Special Animal” by the California Department of Fish and Wildlife. The California Department of Forestry classifies the great blue heron as a “sensitive species”. The Board of Forestry assigns this classification to species that warrant special protection during timber operations. The 2010 Forest Practice Rules (Sections 919.3, 939.3, 959.3(b)(3) and 961.1(a)(C)) specify that a buffer of 300 feet around a tree or trees containing five or more active nests shall be observed during timber harvest operations, leaving the nest tree(s) standing and unharmed. Permission to remove a live tree constituting a rookery during timber harvest operations must be granted by the Department of Fish and Wildlife.

A partially dead blue gum eucalyptus tree adjacent to the office parking lot along the southern boundary of the Study Area supported roosting and nesting habitat for the great blue heron through 2012. The presence of the heron rookery within the Study Area was noted in a study conducted by Audubon Canyon Ranch (Kelly et al. 2007). Due to the tree's hazardous condition as determined by ISA certified arborist Joe McNeil (personal communication) and its proximity to a public trail, the top third of the tree, including the dead limbs supporting the nests were removed in late 2012, outside the nesting season and when the nest was not occupied.

Due to this species' propensity to utilize the same nests year after year, removal of the portion of the eucalyptus that had supported nesting in the past has reduced the likelihood of future nesting by this species within the Study Area. While other eucalyptus trees that provide potential nest habitat for this species are present within and adjacent to the Study Area, these trees have not been utilized for nesting in the past. Accordingly, the potential for great blue heron to nest within the Study Area is considered to be low.

### **Cooper's Hawk**

The Cooper's hawk is a crow-sized woodland raptor that breeds throughout much of the United States, southern Canada, and northern Mexico. Despite being widely distributed, it is a secretive, inconspicuous species, particularly in the breeding season and even in areas where it is a common nester.

The Cooper's hawk breeds in extensive forests and smaller woodlots of deciduous, coniferous, and mixed pine-hardwoods, as well as in pine plantations, in both suburban and urban habitats. It captures a variety of prey, mainly medium-sized birds and mammals such as doves, jays, robins, and rodents. While the CDFW has placed the Cooper's hawk on its statewide Watch List, this species is relatively common in the Bay Area, and is known to nest in urban neighborhoods in numerous East Bay cities.

Suitable nesting and foraging habitat is present in the eucalyptus woodland and the valley oak woodland/savanna habitats within the Study Area. The likelihood of Cooper's hawk to nest is moderate.

### **Sharp-shinned Hawk**

The sharp-shinned hawk is a small, slender accipiter with short, rounded wings and a long, narrow tail that feeds almost entirely on small birds.

This raptor is widely dispersed in North America, breeding in large stands of deciduous, coniferous and mixed pine-hardwood forests. The secretive nature of this bird during nesting and the dense vegetation in nesting habitat has limited an understanding of nesting behavior (Bildstein and Meyer 2000).

While sharp-shinned hawks are frequently observed in wooded habitats in Contra Costa County and elsewhere in the Bay Area, most are migrants observed outside the nesting season (eBird accessed 1/13/16). The Breeding Bird Atlas of Contra Costa County (Glover 2009) reports only five confirmed nests out of a combined 20 confirmed, probable and possible nest sightings.

Suitable nesting and foraging habitat is present in the woodland habitat within the Study Area. Given the rarity of documented nests in Contra Costa County, the likelihood of nesting is low. Migrants may pass through and forage within the Study Area outside the nesting season.

### **Bridges' Coast Range Shoulderband**

This small native land snail is generally described as an inhabitant of grasslands, rock piles, and woodland edges. It is most often found associated with tall grasses and weeds or in piles of rocks. It is distributed through portions of Alameda and Contra Costa counties. Little else is known about this snail. Small areas of grassland that contain logs or rocks may provide habitat for this species.

This snail has no specified protection under the state or federal endangered species regulations. However, it is listed as a “Special Animal” by the California Department of Fish and Wildlife (CDFG 2011). There is insufficient information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. The nearest known occurrences are approximately 8.6 miles northeast of the Study Area in Mount Diablo State Park, and 11.7 miles northwest in Berkeley (CNDDDB 2012). There is a potential for the presence of this species in the small open grassy openings along the western perimeter of the Study Area.

## **6.3 Special-status Natural Communities**

Special-status natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (*i.e.*, §404 and 401 of the Clean Water Act, the CDFW §1600 *et seq.* of the California Fish and Game Code, and/or the Porter-Cologne Act). In addition, the CNDDDB has designated a number of communities as rare; these communities are given the highest inventory priority (Holland 1986, CDFG 2010). While three special-status natural communities occur within the nine-quad region surrounding the Study Area, including Northern Coastal Salt Marsh, Northern Maritime Chaparral and Serpentine Bunchgrass, none of these communities are present within the Study Area.

## **7.0 RELEVANT GOALS, POLICIES, AND LAWS**

### **7.1 Threatened and Endangered Species**

State and federal legislation has provided the CDFW and USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. The Federal Endangered Species Act (FESA) protects listed animal species from harm or “take” which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. The USFWS has jurisdiction over federally listed threatened and endangered wildlife and plant species under FESA.

The California Endangered Species Act (CESA) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. “Take” is defined by the state of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch,

capture or kill”. The CDFW has jurisdiction over State-listed species, and also maintains lists of “Species of Special Concern” that are defined as species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats.

Authorization may be required from the USFWS and/or CDFW if activities associated with a proposed project will result in the “take” of a listed species. Federal authorization for incidental take of a listed species is afforded through the Section 7 or the Section 10 process. The basis for incidental take authorization under CESA is described in Section 2081 (b) and (c) of California Fish and Game Code, while Section 2080.1 provides for a consistency determination when a federal incidental take statement has been issued pursuant to Section 7 or Section 10 of FESA.

The CDFW and the USFWS are responsible agencies under the California Environmental Quality Act (CEQA). Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

## **7.2 Migratory Birds**

State and federal law protect most bird species. The Migratory Bird Treaty Act (MBTA: 16 U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, their occupied nests and eggs.

## **7.3 Birds of Prey**

Birds of prey are protected in California under provisions of the State Fish and Game Code, Section 3503.5 (1992), which states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

## **7.4 Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (16 U.S.C., scc. 668-668c) prohibits the take of bald or golden eagles, including their parts, nests, or eggs, unless authorized under a federal permit. The act prohibits any disturbance that directly affects an eagle or an active eagle nest as well as any disturbance caused by humans around a previously used nest site during a time when eagles are not present such that it agitates or bothers an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

## 7.5 Waters of the U.S. and State

Section 404 of the Clean Water Act (CWA) of 1972 regulates activities that result in the discharge of dredged or fill material into waters of the U.S., including wetlands. The primary intent of the CWA is to authorize the U.S. Environmental Protection Agency (EPA) to regulate water quality through the restriction of pollution discharges. The U.S. Army Corps of Engineers (USACE) has the principal authority to regulate discharges of dredged or fill material into waters of the U.S.

Pursuant to Section 401 of the Clean Water Act, an applicant for a federal permit to conduct any activity which may result in discharge into navigable waters must provide a certification from the Regional Water Quality Control Board (RWQCB) that such discharge will comply with the state water quality standards (Cal. Code Regs. Tit. 23, §§3830 *et seq.*).

Under the Porter-Cologne Water Quality Control Act (Cal. Water Code §§13000-14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. "Waste" is broadly defined by the Porter-Cologne Act to include "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature...." (Cal. Water Code §13050).

The CDFW exercises jurisdiction over wetland and riparian resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1600 to 1607. The CDFW has the authority to regulate work that will substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. Areas subject to CDFW's jurisdiction over rivers, streams, creeks or lakes are usually bounded by the top-of-bank or the outermost edges of riparian vegetation.

## 7.6 Local Policies

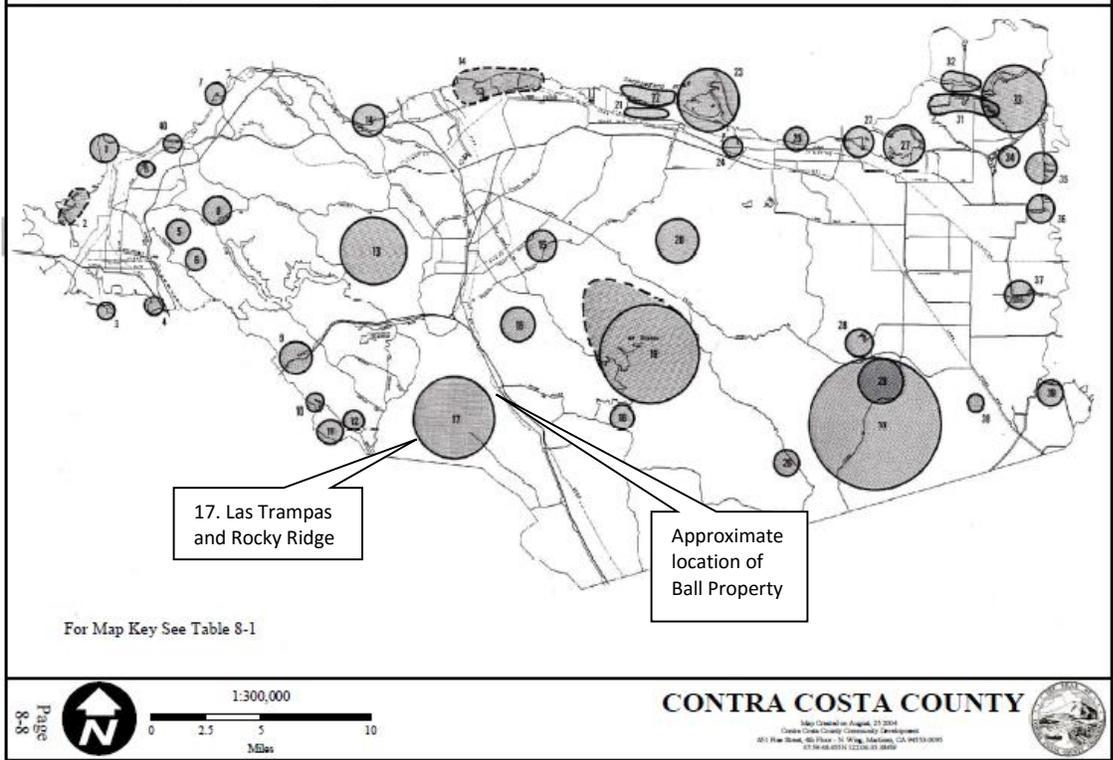
Contra Costa County has identified certain goals and policies relating to the protection of natural resources in the General Plan 2005-2020 (January 2005). A review of pertinent sections of the Conservation Element (Chapter 8) of the General Plan was conducted for this report. Goals and policies relevant to the proposed project are listed below, as well as pertinent elements of the County's tree ordinance.

### Map and Inventory of Significant Ecological Resource Areas

The General Plan contains a map and inventory of significant ecological resource areas. The Study Area is in the vicinity of County Significant Ecological Resource #17, Las Trampas and Rocky Ridges, and is described as follows:

17. Las Trampas and Rocky Ridge Large area of rugged terrain, high ridges and steep slopes. Grassland, scrub/brushland, chaparral, rock outcrops, open oak woodland, broadleaf evergreen forest, and riparian woodland. Habitat for Alameda whipsnake, black-chinned sparrow, prairie falcon, golden eagle, ringtail, badger, bobcat and mountain lion.

Figure 8-1 Significant Ecological Areas and Selected Locations of Protected Wildlife and Plant Species Areas



From: Contra Costa County General Plan 2005-2020

### Vegetation and Wildlife Policies

- 8-6 Significant trees, natural vegetation, and wildlife populations generally shall be preserved.
- 8-11. The County shall utilize performance criteria and standards which seek to regulate uses in and adjacent to significant ecological resources.
- 8-21. The planting of native trees and shrubs shall be encouraged in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are sustained in urban areas.
- 8-28 All efforts shall be made to identify and protect the County's mature native oak, bay, and buckeye trees.

### Development Review Process

- 8-f Prepare a list of standard mitigation measures from which the County could select appropriate measures to mitigate the effect of projects in or adjacent to significant ecological resource areas.

## Wetland Areas

- 8-j A setback from the edge of any wetland area may be required for any new structure. The breadth of any such setback shall be determined by the County after environmental review examining (a) the size and habitat value of the potentially affected wetland, and (b) potential impact on the wetland, and adjacent uplands, arising out of the development and operation of the new structure. Unless environmental review indicates that greater or lesser protection is necessary or adequate, setbacks generally will be between 50 and 100 feet in breadth. Expansions or other modifications of non-habitable agriculturally-related structures existing as of 1990 shall be exempt from this setback requirement. Parcels which would be rendered un-buildable by application of this standard shall also be exempt.
- 8-1 The County shall require avoidance, minimization and/or compensatory mitigation techniques to be employed with respect to specific developments projects having a potential to affect a wetland. In evaluating the level of compensation to be required with respect to any given project, (a) on-site mitigation shall be preferred to off-site and in-kind mitigation shall be preferred to out-of-kind, (b) functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan, and (c) acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied. To the extent permitted by law, the County may require 3:1 compensatory mitigation of any project affecting a “Significant Wetland”.

## Policies to Protect and Maintain Riparian Zones

- 8-78 Where feasible, existing natural waterways shall be protected and preserved in their natural state, and channels which already are modified shall be restored. A natural waterway is defined as a waterway which can support its own environment of vegetation, fowl, fish and reptiles, and which appears natural.
- 8-79 Creeks and streams determined to be important and irreplaceable natural resources shall be retained in their natural state whenever possible to maintain water quality, wildlife diversity, aesthetic values and recreation opportunities.
- 8-80 Wherever possible, remaining natural watercourses and their riparian zones shall be restored to improve their function as habitats.
- 8-82 Riparian habitat shall be protected by providing channel cross-sections adequate to carry 100-year flows, as per policies contained in the Public Facilities/Services Element. If it is not possible to provide a channel cross-section sufficient to carry the 100-year flow, then detention basins should be developed.

## Policies for New Development Along Natural Watercourses

- 8-85 Natural watercourses shall be integrated into new development in such a way that they are accessible and provide a positive visual element.
- 8-86 Existing native riparian habitat shall be preserved and enhanced by new development unless public safety concerns require removal or habitat for flood control or other public purposes.
- 8-87 On-site water control shall be required of major new developments so that no increase in peak flows occurs relative to the site’s pre-development condition, unless the Planning

- Agency determines that off-site measures can be employed which are equally effective in preventing adverse downstream impacts.
- 8-88 New development which modifies or destroys riparian habitat because of needed flood control, shall be responsible for restoring and enhancing an equivalent amount of habitat within or near the project area.
- 8-89 Setback areas shall be provided along natural creeks and streams in areas planned for urbanization. The setback areas shall be of a width adequate to allow maintenance and to prevent damage to adjacent structures and the loss of private property.
- 8-90 Deeded development rights for lands within established setback areas along creeks or streams shall be sought to assure creek preservation and to protect adjacent structures and the loss of private property.
- 8-91 Grading, filling and construction activity near watercourses shall be conducted in such a manner as to minimize impacts from increased runoff, erosion, sedimentation, biochemical degradation, or thermal pollution.
- 8-92 Revegetation of a watercourse shall employ native vegetation, providing the type of vegetation is compatible with the watercourse's maintenance program and does not adversely alter channel capacity.

#### Contra Costa County Tree Preservation Ordinance

Contra Costa County has adopted a tree protection and preservation ordinance (Ordinances 94-59, 94-22) that defines "protected trees" and regulates their removal. Trees meeting all of the following criteria are "protected trees":

- 1) Trees native to Contra Costa County;
- 2) Trees at least 20 inches in circumference as measured 4.5 feet above the ground; and
- 3) Trees occurring on any properties in unincorporated areas of the County, developed properties within any commercial district, or any areas designated on the General Plan as recreational or open space.

Persons wishing to remove or alter protected trees from their property must first obtain a permit from the County. The County will regulate the removal of trees from properties proposed for development by setting the conditions for removal when approving project applications. All protected trees to be affected by development must be shown on all grading, site and development plans. A tabulation of all trees proposed for removal must also be provided to the County.

## **8.0 POTENTIAL IMPACTS AND MITIGATION MEASURES**

Standards used to assess the significance of impacts of the project, impacts, and suggested mitigation measures are listed below. Impacts of the project would be rendered less-than-significant with implementation of the mitigation measures described below.

### **8.1 Significance Criteria**

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The impact analysis contained in this section assumes that the site will be developed in a manner and scale substantially similar to the depiction in the site plan (Figure 4) and as described in Section 2.0. Minor modifications of the proposed project would not require a reassessment of project impacts. However, any proposal that results in substantial revisions to the location or scale of development would need to be reevaluated to ensure that environmental assessment consistent with CEQA is completed.

## **8.2 Impacts to Special-Status Plants**

Special-status plant species were not detected during focused botanical surveys conducted in the Study Area. The Study Area has been subject to ongoing disturbance for decades, and much of it is actively maintained. While construction activities may be phased over a period of several years, the location of the Study Area and history of disturbance make it highly unlikely that rare plants would colonize the site, even if construction occurs more than five years after the completion of the surveys reported in Appendix C. The results of the botanical surveys reported in Appendix C support a conclusion that the project would have no impact on special-status plants. No mitigation is required.

## **8.3 Impacts to Special-Status Animals**

Of the 54 special-status animals known from the nine-quad area surrounding the Study Area, there is at least a low potential for nine special-status species to occur within the Study Area, including the state and federally threatened Alameda whipsnake (AWS); California Species of

Special Concern pallid bat, Townsend's big-eared bat, San Francisco dusky-footed woodrat and American badger; CDFW Watch List Cooper's hawk and sharp-shinned hawk (nesting); and the CDFW Special Animals great blue heron and Bridges' coast range shoulderband snail. Great blue heron was determined to be present in 2012, however the portion of the tree in which the nest was located was removed in 2012 to abate the hazard of the dead limbs falling onto the trail. Removal of habitat occupied by the Bridges' coast range shoulderband snail, if present within the Study Area, would not result in a significant or adverse impact under CEQA guidelines due to the small area of suitable habitat that would be disturbed and the presence of abundant suitable habitat in the open space habitat to the west of the Study Area. No further action is warranted.

Suitable nesting habitat for Cooper's hawk, sharp-shinned hawk and other birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code is present in the trees, shrubs, and buildings in the Study Area. The large trees in the open space west of the Study Area as well as mixed woodland and grassland in Las Trampas Regional Park to the west also provide suitable nesting habitat for MBTA and FGC-protected birds, including the golden eagle (*Aquila chrysaetos*), and trees within the Study Area and to the west also provide suitable nesting habitat for the state threatened Swainson's hawk (*Buteo swainsoni*), although nesting by these species is unlikely.

Removal of existing structures, vegetation, wood piles and other habitat features and earthwork required for construction of the proposed project could result in a take of special-status animals or active nests of birds afforded protection under the MBTA, California Fish and Game Code or BAGEPA, if present at the time of construction. Some trees and other habitat features would be removed because retention conflicts with the site development plan, while others, such as the eucalyptus trees south of the office parking lot may be removed because they would pose a hazard to the residences that are proposed in that area. Portions of the eucalyptus grove west of the residence may be removed to facilitate wetland restoration or for hazard abatement. A more detailed description of potential impacts to each of the special-status species with potential to occur within the Study Area is presented below, followed by proposed mitigation measures.

### **Alameda Whipsnake**

**Impact 1.** The project site is considered unsuitable for AWS due to the lack of coastal scrub, chaparral or rock outcrop habitats typical of areas occupied by AWS. Although suitable breeding, foraging and hibernation habitat for AWS is present in the designated open space and Critical Habitat to the west of the Study Area, there is no breeding, rearing or hibernation habitat within the Study Area, and the only potential foraging habitat for AWS is present in the two small woodpiles west of the residence.

Because of the lack of suitable breeding, rearing, and estivation/hibernation habitats, the presence of marginal food resources, and the high probability of predation for AWS in the Study Area and adjacent wooded hillside areas from existing raccoon, domestic cats, and other predatory animals that frequent urban environments, this species likely does not stray onto the study area from the adjacent wooded hillside. In any case, the large number of domestic cats and raccoons already inhabiting the neighborhood and foraging in the adjacent area of critical habitat

is already at a high enough level that AWS food resources have been reduced to extremely low levels, removing the incentive for AWS to forage on site. Accordingly, there is no potential for significantly increasing negative effects to AWS within this portion of the critical habitat. Therefore, the Project will not result in a loss of suitable habitat for AWS.

While unlikely to be present, construction has the potential to adversely affect an individual AWS if a snake attempted to forage in or seek temporary cover in one of the 2 small woodpiles that is currently present along the western boundary of the Project site.

Although the potential for harm to AWS is very low for the reasons described above, impacts to AWS would be considered significant. With respect to any AWS that forages or seeks cover in the woodpiles, the implementation of Mitigation Measure 1(b) and other mitigations set forth below will ensure that impacts to AWS are less than significant. And while the likelihood of AWS inhabiting the project site is extremely low, to the extent construction activities or the creation and use of new paved roadways on the eastern half of the project site could pose any increased risk to AWS, implementation of the mitigation measures described below will ensure that the potential impact of the proposed project on AWS would be less than significant.

**Mitigation Measure 1(a).** The project sponsor shall consult with the USFWS and CDFW regarding potential impacts of the proposed project on AWS, and shall obtain the appropriate take authorization (Section 7 Biological Opinion and/or 2081 permit or 2080.1 consistency determination) as specified by the USFWS and CDFW prior to initiation of construction activities. The project sponsor shall comply with all terms of the endangered species permits including any mitigation requirements and provide proof of compliance to the County prior to issuance of a grading permit.

**Mitigation Measure 1(b).** In order to allow any snakes and lizards that currently use the small woodpiles west of the residence to seek alternative cover, the woodpiles shall be removed gradually and under the supervision of an agency approved biologist prior to the start of construction. Depending upon the size of the woodpiles, a quarter to a third of the piles should be manually removed every five days.

The agency approved biologist shall monitor removal of the eucalyptus trees and construction of the wetland mitigation area in the western portion of the Study Area, if wetland restoration is conducted in this area or tree removal in this area is conducted.

**Mitigation Measure 1(c).** A preconstruction survey for AWS shall be conducted by a 10(a)(1)(A) permitted biologist not more than 24 hours prior to the start of any site disturbance activities. All suitable habitat features that may be used by AWS shall be identified, marked and mapped during the preconstruction survey. The removal or destruction of suitable habitat features and all initial ground disturbances (e.g. clearing and grubbing) shall be conducted under the direct supervision of the agency approved biologist prior to the onset of site grading. If AWS are detected within the project work area, site disturbance shall be halted until the snake has been relocated by a 10(a)(1)(A) permitted biologist as approved and directed by the USFWS and CDFW. Terms of the salvage shall be established in consultation with USFWS and CDFW prior to initiation of construction activities, and approved relocation may be in suitable habitat in the Open Space and Critical

Habitat west of the project site.

**Mitigation Measure 1(d).** Upon completion of the preconstruction survey, a snake exclusion fence not less than four feet in height with one-way exit funnels (to allow AWS to passively move out of the construction zone), and buried at least four inches in the ground will be installed around the southern and western boundaries of the project development site. The fence shall be installed under the guidance of an agency approved biologist who is knowledgeable about AWS, and shall be maintained until all vegetation removal and earthwork for the project has been completed. The fence shall be inspected by the construction team on a daily basis (i.e. every work day), and repairs shall be made immediately if the integrity of the fence is compromised.

**Mitigation Measure 1(e).** All construction personnel shall attend an informational training session conducted by an agency approved biologist prior to the start of any site disturbance activities, including demolition. This session will cover identification of the species and procedures to be followed if an individual is found on site, as well as biology and habitat needs of this species. Handouts will be provided and extra copies will be retained on site. Construction workers will sign a form stating that they attended the program and understand all protection measures for the AWS. Additional training sessions will be provided to construction new personnel during the course of construction.

**Mitigation Measure 1(f).** Trenches or pits greater than one foot deep that are created during earthwork for the project shall be covered with plywood or an earthen ramp will be made each night after work so no organisms are trapped. Trenches and pits shall be inspected by a designated member of the construction team who has been trained by the agency approved biologist prior to the start of earthwork each day and any vertebrate organisms observed in such areas allowed to escape to the safety of adjacent cover.

**Mitigation Measure 1(g).** Best Management Practices also shall be implemented to minimize the potential mortality, injury or other impacts to AWS. Erosion control materials shall not include small-mesh plastic netting, which could result in entanglement within the material and death of AWS. All food trash items shall be removed from the project site daily to reduce the potential for attracting predators of AWS which could scavenge uncovered snakes.

**Mitigation Measure 1(h).** An agency approved biological monitor knowledgeable about AWS will be the point of contact for the construction team. The USFWS will be notified (916-414-6625) immediately if AWS are detected within the project site. The CDFW will also be notified (707-944-5500) after contacting the USFWS.

## **Nesting Birds**

**Impact 2.** The trees, shrubs, and developed area/orchard within the Study Area provide suitable nesting and foraging habitat for a number of migratory bird species and birds of prey, including Cooper's hawk and sharp-shinned hawk, and the larger trees within the Study Area provide

suitable nesting habitat for the great blue heron. Suitable nesting habitat for golden eagle is present within one mile to the west of the Study Area. Suitable nesting habitat for Swainson's hawk is present on and within 1,000 feet of the Study Area. Construction of the project during the nesting season has the potential to result in a "take" of tree- or ground-nesting migratory birds and/or birds of prey or create disturbance that could result in nest abandonment. This impact would be significant, but implementation of the mitigation measure described below would reduce impacts to less than significant.

**Mitigation Measure 2.** If site disturbance commences between February 1 and August 31, a qualified biologist shall conduct a pre-construction bird nesting survey. If nests of either migratory birds or birds of prey are detected on or adjacent to the site, a no-disturbance buffer (generally 50 feet for passerines and 300 feet for raptors, 1,000 feet for Swainson's hawk and one-half mile for golden eagle) in which no new site disturbance is permitted shall be observed until August 31, or the qualified biologist determines that the young are foraging independently. The size of the no-disturbance buffer shall be determined by a qualified biologist, and shall take into account local site features and existing sources of potential disturbance. If more than 15 days elapses between the survey and the start of construction, the survey shall be repeated. If vegetation removal, building demolition and earthwork are phased over multiple years, the pre-construction survey and nest-avoidance measures described above would need to be repeated.

### **Pallid Bat and Townsend's Big-eared Bat**

**Impact 3:** The barn and other abandoned structures as well as some of the large trees within the Study Area provide suitable foraging and roosting habitat for the California Species of Special Concern pallid bat and the Townsend's big-eared bat. Building demolition and tree removal could result in a take of roosting bats, including a maternity colony, if present. Take of a maternity colony or roosting special-status bats would be considered a significant impact. This impact would be significant, but implementation of the mitigation measures described below would reduce this impact to a less than significant level.

**Mitigation Measure 3(a).** A qualified biologist, knowledgeable about local bat species and experienced with bat survey methods, shall inspect all structures and trees that could support bats in the project area prior to the start of site disturbance (e.g. demolition, vegetation removal and earthwork). Surveys should be conducted during appropriate weather to detect bats (not in high winds or during heavy rain events). One daytime and up to two nighttime surveys (starting at least 1 hour prior to dusk) should be conducted to determine if bats are present. If bats are detected, additional surveys utilizing acoustic monitoring or other methods may be necessary depending on the recommendations of the bat biologist.

**Mitigation Measure 3(b).** Preconstruction surveys for bats should be conducted within two weeks prior to the removal of any trees or structures that are deemed to have potential bat roosting habitat. If bats are detected on-site and would be impacted by the project, then appropriate mitigation measures would be developed with approval from CDFW. Mitigation measures would include one or more of the following methods: using one-way doors to exclude non-breeding bats, opening up roof areas of structures to allow airflow that would

deter bats from roosting, and taking individual trees down in sections to encourage bats to relocate to another roost site. Typically this work is conducted in the evening when bats are more active, and this work should be conducted under the guidance of an experienced bat biologist.

**Mitigation Measure 3(c).** Mitigation for impacts to a maternity bat roost, if detected, would be determined through consultation with CDFW, and may include construction of structures that provide suitable bat roosting habitat (i.e. bat houses, bat condos) for the particular species impacted.

### **San Francisco Dusky-footed Woodrat**

**Impact 4:** The eucalyptus and valley oak woodland habitats within the Study Area provide marginally suitable denning habitat for the California Species of Special Concern San Francisco dusky-footed woodrat, although no woodrat lodges were observed on site. However, if woodrat lodges become established within the area subject to disturbance, vegetation removal and earthwork for the project could result in the take of an active woodrat lodge. This impact would be significant, but implementation of the mitigation measure described below would reduce this impact to less than significant.

**Mitigation Measure 4.** Not more than 30 days before initial ground disturbance, a qualified biologist shall conduct a survey of the project site to determine whether San Francisco dusky-footed woodrat lodges have been constructed within the work area. If no woodrat lodges are present within the work area, no further mitigation is required. If San Francisco dusky-footed woodrat lodges are observed within the area subject to ground disturbance, a woodrat mitigation plan describing habitat enhancement and relocation of the lodge(s) to an area not subject to site disturbance within the study area or the remainder parcel shall be prepared and submitted to CDFW for approval prior to the start of ground disturbance.

### **American Badger**

**Impact 5.** While there exists suitable habitat for the American Badger west of the project study area, there was no evidence of the American badger on the project site. Still, because there are no barriers to prevent individual badgers from entering the project site, construction activities have the potential to injure American badger or destroy an active den. This impact would be significant, but implementation of the mitigation measures described below would reduce this impact to a less than significant level.

**Mitigation Measure 5.** A qualified biologist shall conduct a preconstruction survey for the American badger within 14 days prior to the start of construction. If no potential dens are found, no additional measures are required. If an active badger den is found, consultation with CDFW would be required. Construction would be halted within 100 feet of the den during the breeding season (summer through early fall), and hand excavation of dens during the non-breeding period would be required subject to CDFW approval.

## 8.4 Impacts to Riparian Trees, Other Waters and Wetlands (Waters of the U.S.)

**Impact 6.** Two intermittent stream channels are present within the Study Area. These channels support an interrupted canopy of native and non-native trees that provide riparian cover. Five areas of seasonal freshwater wetland are also present within the Study Area. The Project would require the relocation, fill and restoration of sections of existing creek channel as well as the fill of seasonal wetlands that are present within the residential development area. Approximately 223 linear feet of seasonal creek would be filled in order to create buildable lots, while 295 linear feet of creek channel would be created where the creeks would be relocated and restored through the removal of existing culverts. Some of the trees and shrubs lining the drainages would be removed to reduce safety hazards and facilitate development, resulting in a loss of riparian vegetation and associated cover. Approximately 0.173 acre of seasonal wetlands in the southeast corner of the site would be filled to allow development in this area. The creek channels on site would be enhanced with new native riparian plantings.

Temporary disturbance to portions of Drainage 2 in the western portion of the Study Area may occur if mitigation to compensate for impacts to wetlands and other waters elsewhere in the Study Area is constructed in this area.

Authorization for the discharge of fill into waters of the U.S. and state will be required under Sections 401 (RWQCB) and 404 of the Clean Water Act (Corps of Engineers), and Section 1600 of the California Fish and Wildlife Code (CDFW). The removal of riparian vegetation is also regulated by CDFW under Section 1600 of Fish and Wildlife Code. State and federal agencies will require avoidance, minimization and compensatory mitigation for the loss of wetland habitat.

The discharge of fill material into seasonal wetlands and unvegetated other waters in Drainages 1 and 2, and removal of riparian trees would be considered a potentially significant adverse environmental impact. This impact would be significant, but implementation of the mitigation measures described below would reduce this impact to a less than significant level.

**Mitigation Measure 6(a).** The removal of riparian trees and shrubs along Drainages 1 and 2 will be avoided and minimized to the extent feasible. Hazard reduction associated with structurally unsound trees, and the risks of failure given proximity to improvements proposed in the project shall be considered and addressed through tree removals and pruning specified by a certified arborist. Mitigation to compensate for the removal of riparian trees shall be accomplished through replacement plantings of locally native trees at not less than a 3:1 replacement to loss ratio within the Study Area or at an alternative location approved by CDFW.

A riparian restoration plan detailing the following elements shall be prepared:

- The number, species and location of riparian mitigation plantings that will be planted in the restoration area;
- Performance standards that will be required for the restoration effort to be deemed a success, including survival, vigor and growth of riparian mitigation trees;

- The time of year for planting and method of supplemental watering during the establishment period;
- The monitoring period, which shall be not less than ten years for riparian restoration;
- Adaptive management procedures that may be employed as needed to ensure the success of the restoration project. These include but are not limited to remedial measures to address invasive species, insufficient hydrology to support the attainment of performance standards, and wildlife damage;
- Management and maintenance activities, including weeding, supplemental irrigation, site protection; and
- Responsibility for maintaining, monitoring and ensuring the preservation of the mitigation site in perpetuity.

**Mitigation Measure 6(b).** The fill of jurisdictional wetlands and unvegetated other waters will be avoided and minimized to the extent feasible. Authorization for the fill of waters of the U.S. and state shall be obtained by the applicant prior to the start of construction. Mitigation for the fill of wetlands and other waters shall be accomplished through the creation of seasonal freshwater wetlands and unvegetated other waters at not less than a 1:1 replacement to loss ratio within the Study Area, at an approved wetland mitigation bank or at another location within the Walnut Creek watershed approved of by the Corps, RWQCB and CDFW. The mitigation goal should be to create and enhance aquatic habitats with habitat functions and values greater than or equal to those that will be impacted by the proposed project.

Wetland mitigation within the Study Area or at another location within the Walnut Creek watershed would be described in a wetland mitigation plan that would:

- Be prepared consistent with the Final Regional Compensatory Mitigation and Monitoring Guidelines (USACE 2015) and the Compensatory Mitigation for Losses of Aquatic Resources: Final Rule (USACE 2008);
- Define the location of all restoration and creation activities;
- Describe measures that would ensure that adjacent land uses would not adversely affect the ecological functions and values of the wetland mitigation area. Such measures may include the use of appropriately-sized buffers between the wetland mitigation area and any adjacent development, the use of fencing or walls to prevent unauthorized access, lighting in adjacent development designed to avoid light spillage into the wetland mitigation area, landscape-based Best Management Practices for adjacent development prior to discharge into the wetland mitigation area, and signage describing the sensitive nature of the wetland mitigation area.
- Provide evidence of a suitable water budget to support restored and created wetland habitats;
- Identify the species, quantity, and location of plants to be installed in the wetland habitats;
- Identify the time of year for planting and method for supplemental watering during the establishment period;
- Identify the monitoring period, which shall be not less than five years for wetland restoration;

- Define success criteria that will be required for restoration efforts to be deemed a success;
- Identify adaptive management procedures that may be employed as needed to ensure the success of the mitigation project. These include but are not limited to remedial measures to address invasive species, insufficient hydrology to support the attainment of performance standards, and wildlife damage;
- Define management and maintenance activities, including weeding, supplemental irrigation, site protection; and
- Define responsibility for maintaining, monitoring and ensuring the preservation of the mitigation site in perpetuity.

The project sponsor shall comply with all terms of the permits issued by these agencies, including mitigation requirements, and shall provide proof of compliance to the County prior to issuance of a grading permit.

**Impact 7.** Development of the project could result in the degradation of water quality in the intermittent drainages and in downstream waters. Site development will require the construction of roads, driveways, building pads and associated facilities. Construction will require grading that leaves the soil in construction zones barren of vegetation and vulnerable to sheet or gully erosion. Eroded soil can be carried as sediment in surface runoff to be deposited in creeks. In addition to construction-related impacts, urban runoff may be polluted with grease, oil, residues of pesticides and herbicides, and heavy metals. These pollutants may be carried to sensitive habitats in downstream locations. The deposition of pollutants and sediments in sensitive habitats would be considered a potentially significant adverse environmental impact. This impact would be significant, but implementation of the mitigation measure described below would reduce this impact to a less than significant level.

**Mitigation Measure 7.** Adverse impacts to water quality shall be avoided and minimized by implementing the following measures:

- Prior to the start of site disturbance activities, construction barrier fencing and silt fencing shall be installed around the perimeters of wetlands and drainages that are to be protected during construction of the proposed project to prevent movement of sediments into these features. Any debris that is inadvertently deposited into these features during construction shall be removed in a manner that minimizes disturbance.
- All construction within jurisdictional features shall be conducted consistent with permits issued by the Corps, RWQCB and CDFW. Construction activities within these features shall be completed promptly to minimize their duration and resultant impacts.
- Contractors shall be required to implement a Storm Water Pollution Prevention Plan (SWPPP) that describes Best Management Practices including the conduct of all work according to site-specific construction plans that minimize the potential for sediment input to the aquatic system, avoiding impacts to areas outside the staked and fenced limits of construction, covering bare areas prior to storm events and protecting disturbed areas with approved erosion control materials.

- Bioretention planters, vegetated swales and other landscape-based Best Management Practices to catch and filter runoff from impervious surfaces shall be implemented throughout the project to protect water quality in receiving waters.

## **8.5 Interference with Movement of Native Fish, Wildlife, Established Wildlife Corridors**

The project will not interfere with the movement of native fish or wildlife, nor will it reduce the suitability of the riparian habitat along the creek or in the potential wetlands as movement corridors. While the Study Area is a relatively open, anthropogenically-influenced site with low to moderate wildlife habitat value, and the project contemplates development of this area, the project site is surrounded on three sides by urban development and does not provide an established wildlife movement corridor from westerly hillsides to any other open space area. There is no impact and no mitigation is required.

## **8.6 Conflict with Local Policies or Ordinances**

The proposed project does not conflict with local policies or ordinances related to biological resources. The removal of “protected” trees may be required, as per the Contra Costa County Tree Ordinance.

**Impact 8.** Approximately 455 trees would be removed by the proposed project, including approximately 247 native trees and 208 exotic trees. Approximately 310 trees will be retained, including 168 native trees and 152 exotic trees. Some of those trees may be protected by Contra Costa County’s General Plan. This impact would be significant, but implementation of the mitigation measures described below would reduce this impact to a less than significant level.

**Mitigation Measure 8.** A tree removal permit from Contra Costa County shall be acquired. A tree replacement plan that describes the number, species, container size and location of tree plantings shall be prepared by a qualified arborist. Replacement plantings shall consist of locally-appropriate native species and non-invasive exotic species. Tree species identified as a pest species<sup>4</sup> by the California Invasive Plant Council shall not be used as replacement plantings. The tree replacement plan shall be submitted to and approved by the County prior to the issuance of a grading permit.

## **8.7 Conflict with Local, Regional or Statewide Habitat Conservation Plans**

No local, regional or statewide habitat conservation plans have been adopted for the area in which the proposed project is located. The Las Trampas Ridge Significant Ecological Resource Area designated by the Contra Costa County General Plan is to the west of, but does not include the Study Area.

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<sup>4</sup> The California Invasive Plant Council’s “Don’t Plant a Pest” brochure is accessed at: <http://www.cal-ipc.org/landscaping/dpp/planpage.php?region=bayarea&type=Trees>

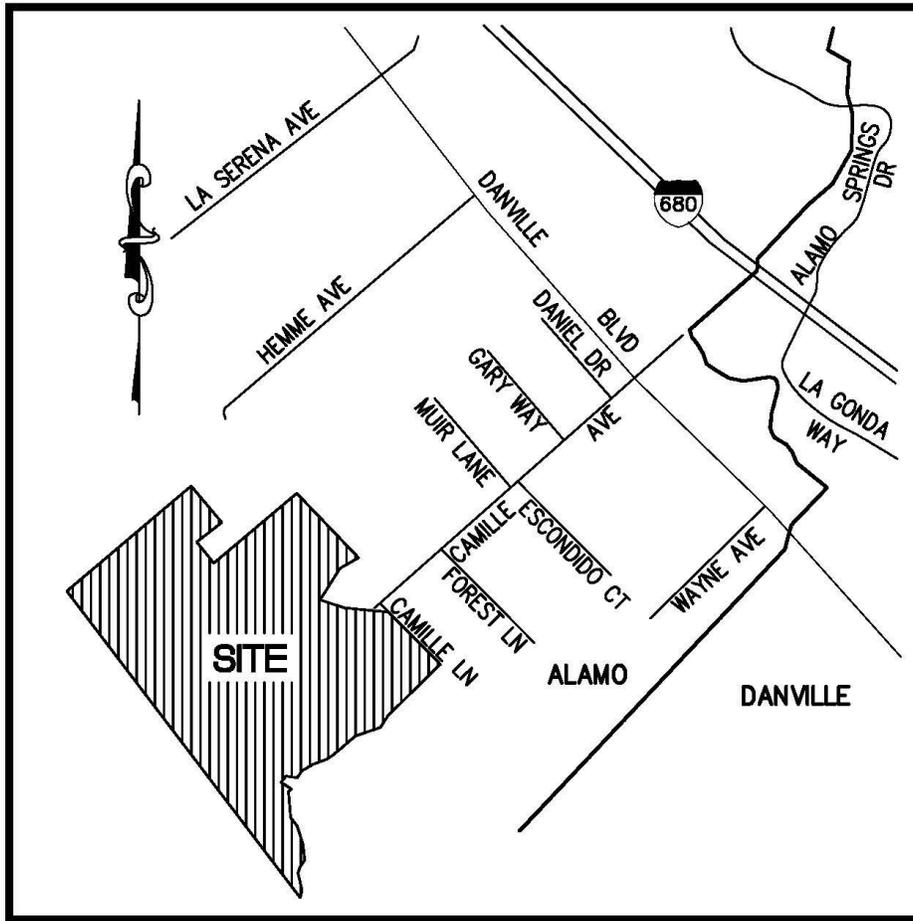
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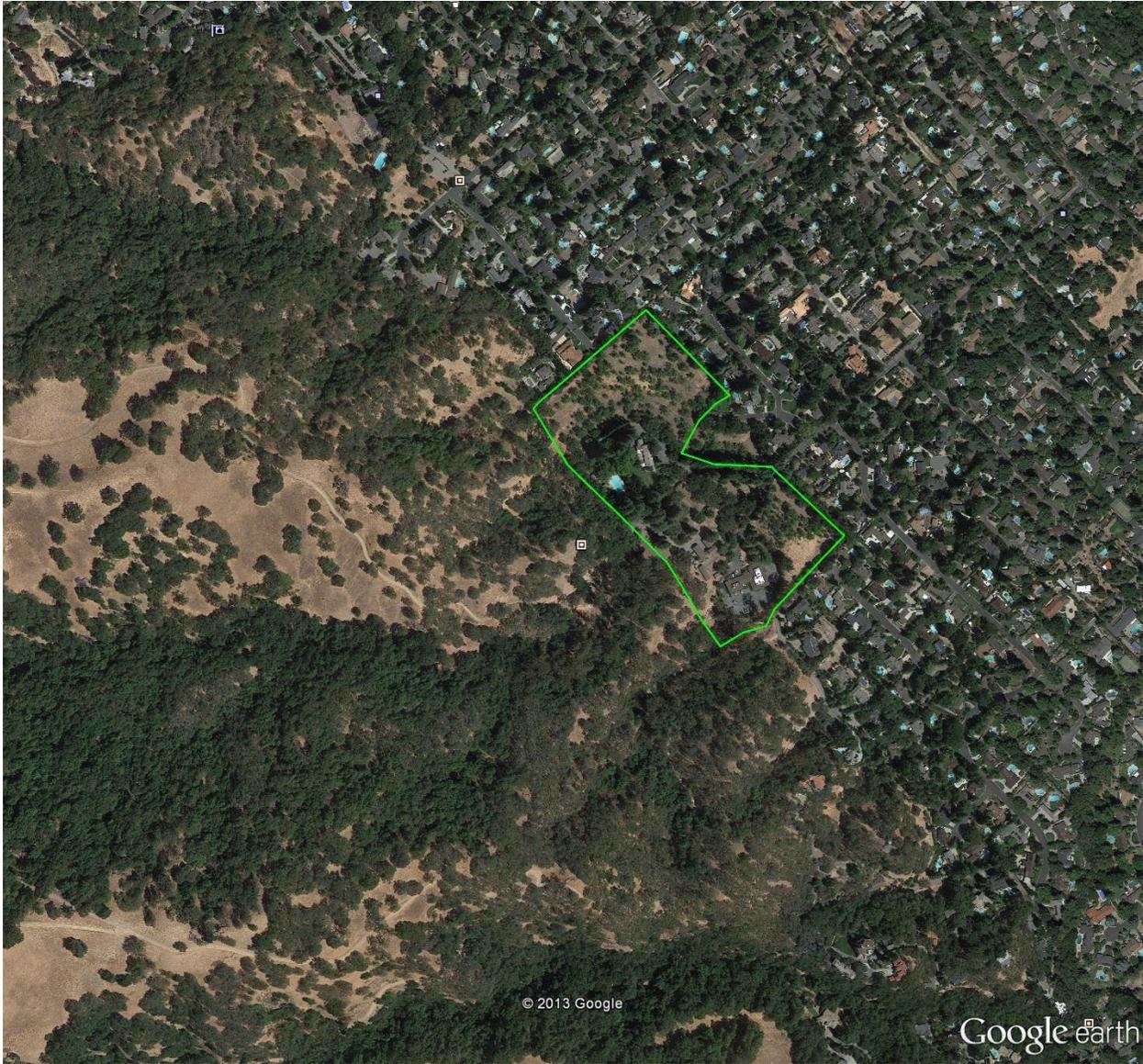
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**Figure 1. Project Location Map**



**VICINITY MAP**  
NO SCALE



**Figure 2. Ball Project Area**

— Development Project Boundary



