Appendix B:
Biological Resources Supporting Information

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B.1 - Biological Resources Evaluation

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June 8, 2017

Integrated Community Development
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BIOLOGICAL RESOURCES EVALUATION AND WETLAND DETERMINATION FOR SONOMA COUNTY APN 117-040-053-000, A ±28.4-ACRE PARCEL LOCATED IN CLOVERDALE, CALIFORNIA. MHBA FILE 0520-2017-3495.

INTRODUCTION

On May 31, 2017, NEPA/CEQA-level Biological Resource Evaluations and Wetland Determinations were conducted on a ±28.4-acre parcel of farmland located at 28195 Highway 101, Cloverdale, Sonoma County, California. The project site is located on the U.S. Geological survey (USGS) Cloverdale 7.5-minute topographic quadrangle, Township 11 North, Range 10 West. The property is further identified as Sonoma County Assessor parcel number (APN) 117-040-053-000. Elevation of the property ranges from 520 feet above mean sea level (msl) in the oak woodlands within the western portion of the property to 340 feet msl in the eastern portion of the property. The site is bounded on the north and northeast by commercial/industrial properties, on the northwest by residential properties, and to west, south and east by farmlands.

A records search was completed of the United States Fish & Wildlife Service's *Federal Endangered and Threatened Species List* (IPaC Resource List, May, 2017) and the *California Natural Diversity Database* (May, 2017) for the Cloverdale 7 ½ minute quadrangle and eight surrounding quadrangles. These documents list plants and wildlife that have Federal, State and California Native Plant Society (CNPS) special status. The records revealed several plant and wildlife species with a potential to occur onsite. Over two-thirds of the property has been farmed in oats and rye since the 1950's. The western one-third of the property is oak woodlands in relatively steep terrain, Due to the disturbed nature of the farmed portion of the property there is limited potential for any of the protected species identified by the USFWS or California Department of Fish & Wildlife to utilize two-thirds of the property. The oak woodlands within the western portion of the property, and the drainage ditch within the eastern portion of the property, provide relatively undisturbed habitats with potential to support a diverse amount of native plant and wildlife species.

Using the methodologies described in the *1987 Wetland Delineation Manual*, Marcus H. Bole & Associates found the roadside ditch along Sandholm Lane and the drainage ditch within the eastern portion of the property to be a federal jurisdictional "Waters of the United States" (WOUS). Onsite drainages takes stormwater flows to Icaria Creek a seasonal creek that flows to the Russian River.

Site soils were identified as a combination of Clear Lake Clay, Laughlin Loam and Positas Gravely Loam soils. Except for the immediate bed and banks of the roadside ditch and the drainage ditch, no wetland (hydric) soils were found within or near the property.

2.0 METHODOLOGY

Field surveys of biological resources included a reconnaissance-level inventory of plants and animals observed in the project area, habitat assessments for special status species, and a determination of jurisdictional wetlands. Biological and botanical surveys were conducted based on the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database (CNDDB, May 2017), the United States Fish & Wildlife Service's (USFWS) IPaC Resource List, and the California Native Plant Society's (CNPS) list of rare and endangered plants. All species lists were derived from the United States Geological Survey (USGS) "Cloverdale, Asti, Geyserville, Warm Springs, Tombs Creek, Big Foot Mountain, Yorkville, Hopland and Highland Springs" 7.5 minute quadrangles. Based on the results of the species lists, appropriate biological and botanical surveys were conducted. Species habitat surveys were conducted during May, 2017, by Marcus H. Bole & Associates (MHBA) senior wildlife biologist Marcus H. Bole. The species habitat surveys were conducted by walking all areas of the property (and surrounding 500 foot buffer) and evaluating potential habitat for special-status species based on vegetation composition and structure, surrounding area, presence of predatory species, microclimate and available resources (e.g. prey items, nesting burrows). A general botanical survey and habitat evaluation for rare plant botanical species was conducted during May, 2017 by MHBA's senior botanist Charlene J. Bole. The general botanical survey and habitat evaluation for rare plant botanical species was conducted by walking all areas of the property while taking inventory of general botanical species and searching for special-status plant species and their habitats. A delineation of Waters of the U.S. was also conducted on May 31, 2017 by Marcus H. Bole and was conducted under the guidelines of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2008).

2.1 Regulatory Requirements

The following describes federal, state, and local environmental laws and policies that are relevant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) review process.

Federal

<u>Federal Endangered Species Act</u>

The United States Congress passed the Federal Endangered Species Act (ESA) in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The ESA makes it unlawful to "take" a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct". Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife". Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife

by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

Waters of the United States, Clean Water Act, Section 404

The US Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (§404). The term "waters of the United States" is an encompassing term that includes "wetlands" and "other waters". Wetlands have been defined for regulatory purposes as follows: "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas." Other Waters of the United States (OWUS) are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4). The USACE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for permits issued for a particular project, as well as specific regional conditions that apply to each nationwide permit.

Clean Water Act, Section 401

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and OWUS. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Regional Water Quality Control Board (RWQCB) per the Clean Water Act (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, "species of special concern" receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Wildlife Code

The California Fish and Game Code (CFWC) (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) 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". Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFWC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto".

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The CNPS California Rare Plant Rank (CRPR) categorizes plants as the following:

Rank 1A: Plants presumed extinct in California;
Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
Rank 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
Rank 3: Plants about which we need more information; and
Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Wildlife Code §1913 exempts from the 'take' prohibition 'the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way".

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

3.0 SETTING

Regionally, the property is located west of the Russian River in the northeastern portion of Sonoma County, California. This region is characterized by rolling hills with instances of steep, rugged slopes that are densely vegetated with native grasses, trees and brush. Regional natural plant communities near the project site include those common to the Central Franciscan subsection of the Northern California Coast Ranges, such as mixed oak, mixed conifer forest, and needlegrass grassland. Climate is typically temperate and humid. Typical elevations within this ecological subsection range from 300 feet above sea level up to 6,175 feet at Big Signal Peak. Mean annual precipitation is approximately 35 to 110 inches. Mean annual temperature ranges from 40 to 58 degrees Fahrenheit. The project site covers approximately 28.4 rural acres located in the City of Cloverdale, Sonoma County. The project site is situated immediately west of Highway 101, and is bordered by Sanholm Lane on the northwest and Kelly Road to the southeast.

The vegetative community descriptions and nomenclature described in this section generally follow the classification system provided in Sawyer and Keeler-Wolf's *A Manual of California Vegetation* (1995) and Mayer and Laudenslayer's *A Guide to Wildlife Habitats of California* (1988). Rural & Urban Developed (houses, barns trailers, corporation yards, etc.), Agricultural Land (row crops) and Oak Woodlands are the dominant upland habitat types in the project area. A small area along the eastern boundary of the property is characterized as Riparian Scrub habitat. Bordering each of the above habitats are small areas of Non-Native Annual Grasslands. These habitats are further discussed in the following results section.

4.0 RESULTS

4.1 Description of the Existing Biological and Physical Conditions

The project is located in the City of Cloverdale, Sonoma County, California. The following describes the biological and physical conditions within the property and within the surrounding area.

4.1.1 Project Area

The project area includes the subject property consisting of APN 117-040-053-000 (±28.4-acres) and a 500 foot buffer around the parcel. The surrounding area consists of commercial/industrial to the north and northeast, residential properties to the northwest, and agricultural lands to the west, south and east.

4.1.2 Physical Conditions

Approximately 18.4-acres of the property consists of farmed fields that have traditionally been planted in red oats and rye for cattle feed. Approximately 9.2-acres of the property is dominated by steep terrain supporting mixed oak woodlands. A small, unnamed drainage ditch (±0.80-acres) flows from the north to the south along the eastern boundary of the property. The drainage carries stormwater towards Icaria Creek which flows in turn into the Russian River. Due to the nexus with the Russian River, the drainage ditch is a "Waters of the United States" subject to the jurisdiction of the United States Army Corps of Engineers. Historical aerial photos dating from the 1950's show the property in relatively the same configuration as it appears today. A rural residence is located within the oak woodlands with farm related out-buildings and trailers located just west of the oat/rye fields. A barn is located near the drainage ditch in the northeast corner of the property.

4.1.3 Biological Conditions

Outside of the rural residence and farm out-buildings, the subject property consists of predominately agricultural fields, oak woodlands and a small amount of scrub riparian habitat. Specific to this property, these onsite habitats and species are discussed as follows:

<u>Rural & Urban Developed</u>

Rural & Urban developed areas are those dominated by plant species introduced by humans and established or maintained by human disturbances or activities. Some are entirely artificial such as areas influenced by landscaping and planting. On such sites, the native vegetation has typically been removed by clearing in preparation for landscaping or homesite development. Within the project area, rural & urban areas include gravel driveways, rural residences, trailers, barns, and a farm corporation yard with a machine shop and vehicle storage yards. Planted ornamental trees and shrubs were noted near the rural residence with ruderal non-native species present in disturbed areas around the out-buildings and corporation yard. Plants noted included Italian thistle (*Carduus pycnocephalus*), rough pigweed (*Amaranthus retroflexus*), yellow star thistle (*Centaurea solstitialis*) spiny cocklebur (*Xanthium spinosum*), and teasel (*Dipsacus sativus*).

Native and introduced wildlife species that are tolerant of human activities often thrive in rural & urban habitats. Urban land use components such as buildings and domestic landscaping provide habitat for some wildlife species. Common birds such as the house finch (*Carpodacus mexicanus*) build their nests on structures, and less abundant species like black phoebe (*Sayornis nigricans*), and barn swallow (*Hirundo rustica*), also use these buildings, especially near seasonal drainages. Common wildlife such as killdeer (*Charadrius vociferous*), American robin

(*Turdus migratorius*), and American pipit (*Anthus rubescens*) are likely to use rural & urban landscaped areas. Mammals such as raccoon (*Procyon lotor*), Botta's pocket gopher (*Thomomys bottae*), and house mouse (*Mus musculus*) are common in rural and urban landscaped environments.

Non-Native Grasslands converted to Agricultural Lands: Oats & Rye

Within the Cloverdale area, agricultural lands generally occur in open areas that once supported native and non-native grasslands. Prior to agricultural conversion, non-native annual grasslands were generally found in open areas in valleys and foothills throughout coastal and interior California. Open grasslands typically occur on soils consisting of fine-textured loams or clays that are somewhat poorly drained. This vegetation type is dominated by non-native annual grasses and weedy annuals and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grasslands, scrub and woodland as a result of human disturbance. Scattered native wildflowers and grasses, representing remnants of the original vegetation may also be common. The conversion of native vegetation to agricultural lands has greatly reduced the wildlife species diversity and habitat value. The majority of the project area has been utilized for the production of feed for cattle. Although it has been planted with oats and rye, a diverse weedy flora is present consisting of wild oats (*Avena fatua*), Johnson grass (*Sorghum halepense*), annual ryegrass (*Lolium multiflorum*), barnyard grass (*Echinochloa crusgalli*), field mustard (*Brassica rapa*), fiddleneck (*Amsinckia menziesii var. intermedia*), filaree (*Erodium cicutarium*), soft chess (*Bromus hordeaceus*) ripgut brome (*Bromus diandrus*), Mediterranean barley (*Hordeium marinum ssp. gussoneanum*), hare barley (*Horedeum murinum ssp. leporinum*), big quaking grass (*Briza maxima*), medusa-head (*Taeniatherum caput-medusae*), hedgehog dogtail (*Cynosurus echinatus*), nitgrass (*Gastridium ventricosum*), common brodiaea (*Dichelostemma capitatum*), and rattail fescue (*Vulpia Myuros*), among others. Common nonnative forbs include English plantain (*Plantago laneolata*), field bindweed (*Convolvulus arvensis*), fiddle dock (*Rumex pulcher*), Italian thistle (*Carduus pycnocephalus*), yellow star thistle (*Centauria solstitialis*), bristly ox-tongue (*Picris echioides*), little hop clover (*Trifolium dubium*) birdfoot and trefoil (*Lotus corniculatus*) among others. Non-native Himalayan blackberry (*Rubus discolor*) is also present within the project area.

Many wildlife species use grassland/farmland habitats for foraging. Characteristic reptiles that breed in grasslands include the western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*) and western rattlesnake (*Crotalus viridis helleri*). Mammals typically found in this habitat include the black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher, western harvest mouse, California vole (*Microtus californicus*), and coyote (*Canis latrans*). Birds known to utilize such areas are horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), white-tailed kite (*Elanus leucurus*), and American kestrel (*Falco sparverius*).

Oak Woodlands

The western portion of property is comprised of mixed oak woodlands. This community is dominated by several species of oak trees, which frequently occur in pure, dense stands with a closed canopy. Oak woodland are distributed throughout Sonoma County, usually below 4,000 feet in elevation. Oak woodlands are extremely variable. The overstory consists of deciduous and evergreen hardwoods. Within Sonoma County oak woodlands are usually dominated by coast

live oak (*Quercus agrifolia*) and Valley oak (*Quercus lobata*). Typical plants in dense oak woodlands are shade tolerant shrubs such as California blackberry (*Rubus ursinus*), common snowberry (*Symphoricarpos albus*), toyon (*Herteromeles arbutifolia*), and herbaceous plants such as bracken fern (*Pteridium aquilinun*). Within the property, oak woodlands are present in a dense stand along the western boundary. The onsite oak woodlands are dominated by coast live oak, Valley oak, California bay and California buckeye (*Aesculus californica*). Native shrub species commonly found include toyon, manzanita (*Arctostaphylos spp.*) and poison oak (*Toxicoderdron diversilobum*).

Oak woodlands provide habitat for a variety of wildlife species. California quail (*Calipepla californica*) wild turkeys (*Meleagris gallopavo*), squirrels, and deer. The vegetation within oak woodlands represents suitable nesting habitat for raptors, including red-shoulder hawk (*Buteo lineatus*) and Cooper's hawk (*Accipiter cooperii*),and migratory birds that may forage in adjacent annual grasslands.

Scrub Riparian Habitats

The eastern portion of the property is characterized as a scrub riparian habitat consisting of a narrow drainage ditch (±0.80-acres) that receives stormwater from three underground culverts that drain properties to the northeast. The ditch carries stormwater runoff in a southerly direction. Additionally, stormwater is diverted into a roadside ditch (±0.15-acres) along the southern side of Sandholm Lane, a paved surface street that borders the northern boundary of the property. The roadside ditch flows in a northerly direction into the drainage ditch along the eastern boundary of the property. Surface stormwater runoff and landscape irrigation waters from the housing development to the northeast are the primary sources of hydrology that support the riparian and wetland vegetation within the roadside ditch and drainage ditch. Within these two wetland features, the vegetation is comprised of several species of willow (*Salix spp.*) and other fast-growing shrubs and vines that form open to impenetrable thickets. These plant communities typically occur along streams and drainages within the coastal fog incursion zone from Sonoma County into Oregon, usually below 1,000 feet elevation. Riparian scrub is generally considered early "seral," meaning that it typically precedes the development of other riparian woodland or forest communities in the absence of severe flooding. This broad leafed deciduous riparian community is typically dominated by California blackberry (*Rubus ursinus*), Himalayan blackberry (*Rubus discolor*), coyote brush (*Baccharis pilularis*), golden yarrow (*Eriophyllum confertiflorum*) toyon, and Arroyo willow (*Salix lasiolepis*). Within the drainage ditch along the eastern boundary of the property, the dominant overstory species include red willow (*Salix laevigata*), arroyo willow, shining willow (*Salix lucida spp. lasiandra*), Valley oak, coast live oak, California buckeye, box elder (*Acer negundo*), Oregon ash (*Fraximus latifolia*) and California bay. The understory consists of native species such as mugwort (*Artemisia douglasiana*), willow-herb (*Epilobium ciliatum ssp. ciliatum*) poison oak and coyote brush. Non-native understory species include klamathweed (*Hypericum perforatum*) and Himalayan blackberry. Riparian habitat is generally of high value for wildlife. Birds that typically inhabit these areas include Anna (*Calypte anna*) and Allen's (*Selasphorus sasin*) hummingbirds, western kingbirds (*Tyrranus verticalis*), Bewick's wren (*Thryomanes bewickii*), California quail, Nuttal's white crowned sparrow (*Zonotrichial leucophrys nuttalli*), wild turkey (*Meleagris gallopavo*), screech owl (*Megascops kennicotti*), and red-tailed hawk. Mammals that occur in these areas typically include white-tailed deer (*Odocoileus virginianus*), coyote, opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and western gray squirrel

(*Sciurus carolinensis*). Other wildlife species may include western fence lizard and western alligator lizard (*Elgaria coerulea).*

4.2 Regional Species and Habitats of Concern

The following table is a list of species that have the potential to occur within the project area and is composed of special-status species within the Cloverdale, Asti, Geyserville, Warm Springs, Tombs Creek, Big Foot Mountain, Yorkville, Hopland and Highland Springs 7.5 minute quadrangles. Species lists reviewed, and which are incorporated in the following table, include the CDFW, USFWS, and CNDDB species list for the Cloverdale area. Additionally, the California Native Plant Society (CNPS) has identified several rare plants that are endemic to Sonoma County. A large number of these rare plants (42%) are edaphic (soil) related, occurring in serpentine or on serpentine-related soils. The lack of nutrients, presence of heavy metals, sparse soil cover, and high erodibility discourage the growth of many species, leaving sufficient open space for plants that are serpentine-tolerant but unable to compete in heavily vegetated areas. It should be noted that there are no serpentine soils within the subject property. Species that have the potential to occur within the project area are based on an evaluation of suitable habitat to support these species, CNDDB occurrences within a five mile radius of the project area and observations made during biological surveys. Not all species listed within the following table have the potential to occur within the project area based on unsuitable habitat and/or lack of recorded observations within a five mile radius of the project area.

Table 1. Listed and Proposed Species potentially occurring on or near the project area.

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**General Habitat Description**	**Species Present/ Habitat Present**	**Rationale**
INVERTEBRATES				
California Freshwater Shrimp *(Synacaris pacifica)*	FE/SE/_	Shallow pools away from main streamflow. Winter: undercut banks w/exposed roots. Summer: leafy branches touching water	A/HA	No effect. No suitable habitat within project area. Project is outside of current known range.
Obscure bumble bee *(Bombus caliginosus)*	_/_/S1S2	Coastal areas from Santa Barbara County to North to Washington State. Food plant genera *Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.*	A/HA	No effect. No suitable habitat within project area. No plant genera observed. None observed.
REPTILES AND AMPHIBIANS				
Northwestern pond turtle *(Emys marmorata marmorata)*	_/SSC/_	Artificial ponds, pond margins, back waters of rivers, and sloughs vegetated by heavy riparian and/or emergent vegetation and basking areas.	A/HA	No effect. The onsite drainage ditch does not provide suitable habitat. None observed.

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**General Habitat Description**	**Species Present/ Habitat Present**	**Rationale**
California red-legged frog *(Rana draytonii)*	FT/SSC/_	Quiet pools of streams, marshes and occasionally ponds. (sea level - 4,500 ft elevation)	A/HA	No effect. The onsite drainage ditch does not provide suitable habitat. None observed.
Foothill yellow-legged frog *(Rana boylii)*	_/SSC/_	Shallow streams & riffles with a rocky substrate in a variety of habitats.	A/HA	No effect. The onsite drainage ditch does not provide suitable habitat. None observed.
California giant salamander *(Dicamptodon ensatus)*	_/_/S2S3	Found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	A/HA	No effect. The onsite drainage ditch does not provide suitable habitat. None observed.
Red-bellied newt *(Taricha rivularis)*	_/_/S2	Typically in streams with moderate flow and clean rocky substrate,	A/HA	No effect. The onsite drainage ditch does not provide suitable habitat. None observed.
FISH				
Central Valley Coast (DPS) steelhead *(Oncorhynchus mykiss irideus)*	FT/_/_	From Russian River, south to Soquel Creek, also San Francisco & San Pablo Bay Basins.	A/HA	No effect. The onsite drainage ditch does not provide suitable habitat. None observed. No potential downstream water quality effects.
BIRDS				
Marbled murrelet *(Brachyramphus marmoratus)*	FT/SE/_	Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir. Feeds near shore.	A/HA	No effect. No suitable nesting habitat within project area. Site experiences a high level of human disturbance.
Northern spotted owl *(Strix occidentalis caurina)*	FT/SC/SSC	Old growth forests or mixed stands of old growth & mature trees. High, multistory canopy, many trees with cavities or broken tops, woody debris & space under canopy.	A/HA	No effect. No suitable nesting habitat within project area. Site experiences a high level of human disturbance.

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**General Habitat Description**	**Species Present/ Habitat Present**	**Rationale**
MAMMALS				
Pallid bat *(Antrozous pallidus)*	_/_/S3	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting.	A/HA	No effect. No suitable nesting or roosting habitat within project area. Site experiences a high level of human disturbance.
Western red bat *(Lasiurus blossevillii)*	_/_/SSC	Prefers habitat edges & mosaics with trees that are protected from above & open below with open areas for foraging	A/HA	No effect. No suitable nesting or roosting habitat within project area. Site experiences a high level of human disturbance.
Townsend's big-eared bat *(Corynorhinus townsendii)*	_/_/S2	Roosts in the open, hanging from walls & ceilings. Roosting sites limiting, extremely sensitive to human disturbance.	A/HA	No effect. No suitable nesting or roosting habitat within project area. Site experiences a high level of human disturbance.
PLANTS				
Franciscan onion *(Allium peninsulare var. franciscanum)*	_/_/1B.2	Cismontane woodland, Valley and Foothill grassland. Serpentine barrens and chaparral with sparse *Quercus durata* thickets, perennial grassland with *Nassella spp*.	A/HA	No effect. No suitable habitat within project area. No serpentine soils on or near the property.
Serpentine cryptantha *(Cryptantha dissita)*	_/_/1B.2	Serpentine barrens and chaparral with sparse *Quercus durata* thickets, perennial grassland with *Nassella spp.*	A/HA	No effect. No suitable habitat within project area. No serpentine soils on or near the property.
Colusa layia *(Layia septentrionalis)*	_/_/1B.2	Cismontane woodland, Valley and Foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil.	A/HA	No effect. No suitable habitat within project area. No serpentine soils on or near the property.
Konocti manzanita *(Arctostaphylos*	_/_/1B.3	Cismontane woodland, chaparral, lower montane coniferous forest. Volcanic soils.	A/HA	No effect. No suitable habitat within project area. No volcanic soils on

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**General Habitat Description**	**Species Present/ Habitat Present**	**Rationale**
manzanita ssp. Elegans)				or near the property.
Rincon Ridge ceanothus *(Ceanothus confuses)*	_/_/1B.1	Cismontane woodland, chaparral, closed-cone coniferous forest. Volcanic or serpentine soils.	A/HA	No effect. No suitable habitat within project area. No volcanic or serpentine soils on or near the property.

CODE DESIGNATIONS

FE = Federally-listed Endangered
FT = Federally-listed Threatened
FC = Federal Candidate Species
BCC = Federal Bird of Conservation Concern
MBTA = Protected by the federal Migratory Bird Treaty Act
SC = State Candidate Species
SE = State-listed Endangered
ST = State-listed Threatened
SR = State-listed Rare
SSC = State Species of Special Concern
S1 = State Critically Imperiled
S2 = State Imperiled
S3 = State Vulnerable
S4 = State Apparently Secure
SSC = CDFW Species of Special Concern
FP =CDFW Fully Protected Species
SNC = CDFW Sensitive Natural Community

A = Species Absent
P = Species Present
HA = Habitat Absent
HP = Habitat Present
CH = Critical Habitat
MH = Marginal Habitat
CNPS 1B = Rare or Endangered in California or elsewhere
CNPS 2 = Rare or Endangered in California, more common elsewhere
CNPS 3 = More information is needed
CNPS 4 = Plants with limited distribution
0.1 =Seriously Threatened
0.2 = Fairly Threatened
0.3 = Not very Threatened

Migratory Birds

Nesting birds are protected under the MBTA (16 USC 703) and the CFWC (3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. The CFWC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) 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". Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFWC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto".

Survey Results

During the migratory bird and raptor survey conducted during May 2017, there were no observed occupied nests within the project area. The oak woodlands within the western portion of the property provide suitable habitat for migratory birds, including raptors, for nesting and foraging. Red-tailed hawks were observed foraging near the project area; however, no occupied "stick nests" were noted. Although none of the existing "stick nests" observed during onsite surveys appeared to be occupied, the following mitigation measures should be incorporated into the project.

<u>The following are recommended avoidance and minimization measures.</u>

The following are avoidance and minimization measures for California avian species of special concern and species protected under the MBTA and the CFWC. Any vegetation removal and/or ground disturbance activities should begin during the avian non-breeding (September 1 – February 28) season so as to avoid and minimize impacts to avian species. If construction is to begin within the avian breeding season (March 1 – August 31) then a migratory bird and raptor survey shall be conducted within the project area, including the oak woodlands, by a qualified biologist. A qualified biologist shall: Conduct a survey for all birds protected by the MBTA and CFWC no later than fifteen (15) days prior to construction activities; map all nests located within 300 feet of construction areas; develop buffer zones around active nests as recommended by a qualified biologist. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored at least twice (2) per week and a report submitted to the California Department of Fish & Wildlife monthly. If construction activities stop for more than ten (10) days then another migratory bird and raptor survey shall be conducted no later than fifteen (15) days prior to the continuation of construction activities.

Monitoring

Prior to and during construction activities, weekly or as necessary monitoring will be conducted by a qualified biologist on and near the project site during the avian nesting season.

Project Impacts

With the implementation of avoidance and minimization measures there will be no direct or indirect impacts to avian species of special concern protected under the MBTA and CFWC. Direct impacts to avian species of special concern and species protected under the MBTA and CFWC will be avoided or minimized by beginning construction prior to the avian breeding season (March 1 – August 31) or conducting a pre-construction survey prior to the start of construction activities if construction activities will begin during the avian breeding season. By beginning construction prior to the avian breeding season there will be no active nests within the project area and direct impacts to avian species will not occur. Furthermore, beginning construction prior to the avian breeding season will also deter avian species from nesting within or within close proximity of the project area, which will also avoid impacts to species. If construction activities are to take place during the avian breeding season then a pre-construction survey will be conducted to determine the locations of active avian nests within and within close proximity to the project area (i.e 300 feet). If active avian nests are found then construction

buffers, as determined by a qualified biologist, will be established and no construction will occur within the buffer until the biologist has determined that the young have fledged. Establishing no-construction buffers around active nests will minimize direct impacts.

Cumulative Effects

There are no foreseeable new actions that have potential to threaten migratory birds within the project area or contribute to cumulative effects of migratory bird species.

Table 2. Impacts and Avoidance/Minimization Measures for APN 117-040-053-000.

Target Species/ Communities	Impacts	Avoidance/ Minimization/ Mitigation Measures
Natural Communities	**To Be Determined**	Two disturbed natural communities exist within the project. The oak woodlands along the western boundary and the drainage ditch along the eastern boundary of the property. Impacts to either of these communities will require further evaluation, permitting and mitigation in accordance with the California Department of Fish & Wildlife and the United States Army Corps of Engineers.
Special Status Plant / Wildlife Species	**Less Than Significant with Mitigation Incorporated**	If site preparation and tree removal/trimming include the spring bird nesting season (February through July), a preconstruction survey shall be conducted by a qualified professional within two weeks prior to removing/trimming any trees. If active nests (with eggs or living young) are found, no activity shall be permitted that might disturb or remove the active nests until the young birds are able to leave the nest and forage on their own. Empty nests may be removed. If eggs or young are present, the nests shall be left until the young birds leave. Setback buffers for the nests will vary depending on the species affected and the location of the nest. Buffer zones shall be determined on a case by case basis in consultation with a California Department of Fish and Wildlife approved biologist.

5.0 RESULTS: PERMITS AND TECHNICAL STUDIES FOR SPECIAL LAWS OR CONDITIONS

5.1 Federal Endangered Species Act Consultation Summary

The USFWS was contacted during May 2017, for a list of endangered, threatened, sensitive and rare species, and their habitats within the project area. The list was derived from special-status species that occur or have the potential to occur within the USGS Cloverdale 7.5" Quadrangle and eight surrounding quadrangles. The list was referenced to determine appropriate biological and botanical surveys and potential species occurrence within the project area.

5.2 Federal Fisheries and Essential Fish Habitat Consultation Summary

Essential fish habitat (EFH) means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (Magnuson-Stevens Fishery Conservation and

Management Act (MSA) §3). There is no habitat within the project area that provides "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," or special-status fish species managed under a fishery council (i.e chinook and coho). Therefore there is no EFH or the need for federal fisheries consultation.

5.3 California Endangered Species Act Consultation Summary

The CDFW was consulted during May, 2017, for a list of endangered, threatened, sensitive and rare species, and their habitats within the project area. The list was derived from special-status species that occur or have the potential to occur within the USGS Cloverdale 7.5" Quadrangle and eight adjacent quadrangles. The list was referenced to determine appropriate biological and botanical surveys and potential species occurrence within the project area.

5.4 Wetlands and Others Water Coordination Summary

MHBA conducted a determination of Waters of the U.S. within the project area. Surveys were conducted during May, 2017 by MHBA's Marcus H. Bole. The surveys involved an examination of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the *United States Army Corps of Engineers Wetlands Delineation Manual (1987); the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2008); the U.S. *Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007); the *U.S. Army Corps of Engineers Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region* (2011); and the *U.S. Army Corps of Engineers Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008).

5.6 Determination of Waters of the United States

The intent of this determination is to identify wetlands and “Other Waters of the United States” that are present within the project area that could fall under the regulatory jurisdiction of the U. S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act. The *1987 Corps of Engineers Wetlands Delineation Manual* identifies several methodologies and combinations of methodologies that can be utilized in making jurisdictional determinations. Marcus H. Bole & Associates has employed the Routine On-Site Determination methodology for this study (as supplemented by the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region,* dated December 2006). The Routine On-Site Determination method uses a three-parameter approach (vegetation, soils and hydrology) to identify and delineate the boundaries of jurisdictional wetlands. To be considered a wetland, all three positive wetland parameters must be present. These parameters include (1) a dominance of wetland vegetation, (2) a presence of hydric soils, and (3) hydrologic conditions that result in periods of inundation or saturation on the surface from flooding or ponding. Further description of these parameters is provided below:

1) Vegetation. Wetland vegetation includes those plants that possess physiological traits that allow them to grow and persist in soils subject to inundation and anaerobic soil conditions. Plant species are classified according to their probability of being associated with wetlands. Obligate (OBL) wetland plant species almost always occur in wetlands (more than 99 percent of the time),

facultative wetland (FACW) plant species occur in wetlands most of the time (67 to 99 percent), and facultative (FAC) plant species have about an equal chance (33 to 66 percent) of occurring in wetlands as in uplands. For this study, vegetation was considered to meet the vegetation criteria if more than 50% of the vegetative cover was FAC or wetter. Wetland and riparian plant species were observed within the roadside ditch (±0.15-acres) along Sandholm Lane and the drainage ditch (±0.80-acres) along the eastern boundary of the property. Outside of these features, there were no other wetland or riparian habitats identified on the property.

2) Hydric Soils. Hydric soils are saturated, flooded, or ponded in the upper stratum long enough during the growing season to develop anaerobic conditions and favor the growth of wetland plants. Hydric soils include gleyed soils (soils with gray colors), or usually display indicators such as low chroma values, redoximorphic features, iron, or manganese concretions, or a combination of these indicators. Low chroma values are generally defined as having a value of 2 or less using the Munsell Soil Notations (Munsell, 1994). For this study a soil was considered to meet the hydric soil criteria for color if it had a chroma value of one or a chroma of two with redoximorphic features, or if the soil exhibited iron or manganese concretions. Redoximorphic features (commonly referred to as mottles) are areas in the soils that have brighter (higher chroma) or grayer (lower chroma) colors than the soil matrix. Redoximorphic features are the result of the oxidation and reduction process that occurs under anaerobic conditions. Iron and manganese concretions form during the oxidation-reduction process, when iron and manganese in suspension are sometimes segregated as oxides into concretions or soft masses. These accumulations are usually black or dark brown. Concretions 2 mm in diameter occurring within 7.5 cm of the surface are evidence that the soil is saturated for long periods near the surface**.** Onsite soils were identified as a combination of Clear Lake Clay, Laughlin Loam and Positas Gravely Loam soils. Except for the immediate bed and banks of the roadside ditch and the drainage ditch, no wetland (hydric) soils were found within or near the property.

3) Hydrology. Wetlands by definition are seasonally inundated or saturated at or near the surface. In order for an area to have wetland hydrology, it has to be inundated or saturated for 5% of the growing season (approximately 12 days) (USDA, 1967). Indicators include visual soil saturation, flooding, watermarks, drainage patterns, encrusted sediment and plant deposits, cryptogrammic lichens, and algal mats. The hydrological features within the property include the drainage ditch and the roadside ditch. The drainage ditch takes seasonal flows (stormwater and irrigation waters from the residential properties to the northeast) to Icaria Creek a seasonal creek that flows to the Russian River. The roadside ditch carries stormwaters in a northerly direction and flows into the drainage ditch.

Wetland Determination Results

Using the methodologies described in the *1987 Wetland Delineation Manual*, Marcus H. Bole & Associates found seasonal wetland and perennial riparian habitats associated with a roadside ditch and a drainage ditch along the eastern boundary of the property. The roadside ditch and the drainage ditch are “adjacent” to Icaria Creek and thus the Russian River which is a “navigable water of the United States”. Impacts to these drainage features will require further evaluations, delineations, permitting and mitigation in accordance with the directives of the California Department of Fish & Wildlife and the United States Army Corps of Engineers.

CONCLUSIONS AND RECOMMENDATIONS

According to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) guidelines, a project is normally considered to have a significant impact on wildlife if it will interfere substantially with the movement of any resident or migratory fish or wildlife species; or substantially diminishes habitat quantity or quality for dependent wildlife and plant species. Impacts to special status species and their associated habitats are also considered significant if the impact would reduce or adversely modify a habitat of recognized value to a sensitive wildlife species or to an individual of such species. This guideline applies even to those species not formally listed as threatened, rare or endangered by the California Department of Fish & Wildlife and the United States Fish and Wildlife Service. Project implementation will not result in impacts to resident or migratory wildlife, special status plant or wildlife species, or any associated protected habitat. Project implementation may result in impacts to the roadside ditch along Sandholm Lane and the drainage ditch along the eastern boundary of the property. Impacts would be mitigated through appropriate wetland permits from the California Department of Fish & Wildlife and the United States Army Corps of Engineers.

This concludes our NEPA/CEQA-level Biological Resources Evaluation and Wetland Determination of the ±28.4-acre parcel of farmland located at 28195 Highway 101, Cloverdale, Sonoma County, California. The project site is located on the U.S. Geological survey (USGS) Cloverdale 7.5-minute topographic quadrangle, Township 11 North, Range 10 West. The property is further identified as Sonoma County Assessor parcel number (APN) 117-040-053-000. If you have any questions concerning our findings or recommendations please feel free to contact me directly at: Marcus H. Bole & Associates, Attn: Marcus Bole, 104 Brock Drive, Wheatland, CA 95692, phone 530-633-0117, fax 530-633-0119, email: mbole@aol.com.

Respectfully Submitted:



Charlene J. Bole, M.S, Botanist
Senior Wetland Scientist
Marcus H. Bole & Associates



Marcus H. Bole, M.S, Wildlife Biologist
Senior Wetland Scientist
Marcus H. Bole & Associates

LIST OF ATTACHMENTS:

APPENDIX A: MAPS AND PHOTO PLATES

APPENDIX B: NATURAL DIVERSITY DATA BASE & FEDERAL LIST

APPENDIX C: SOIL DATA

APPENDIX D: RESUMES OF SURVEYORS

6.0 REFERENCES

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APPENDIX A: MAPS AND PHOTO PLATES

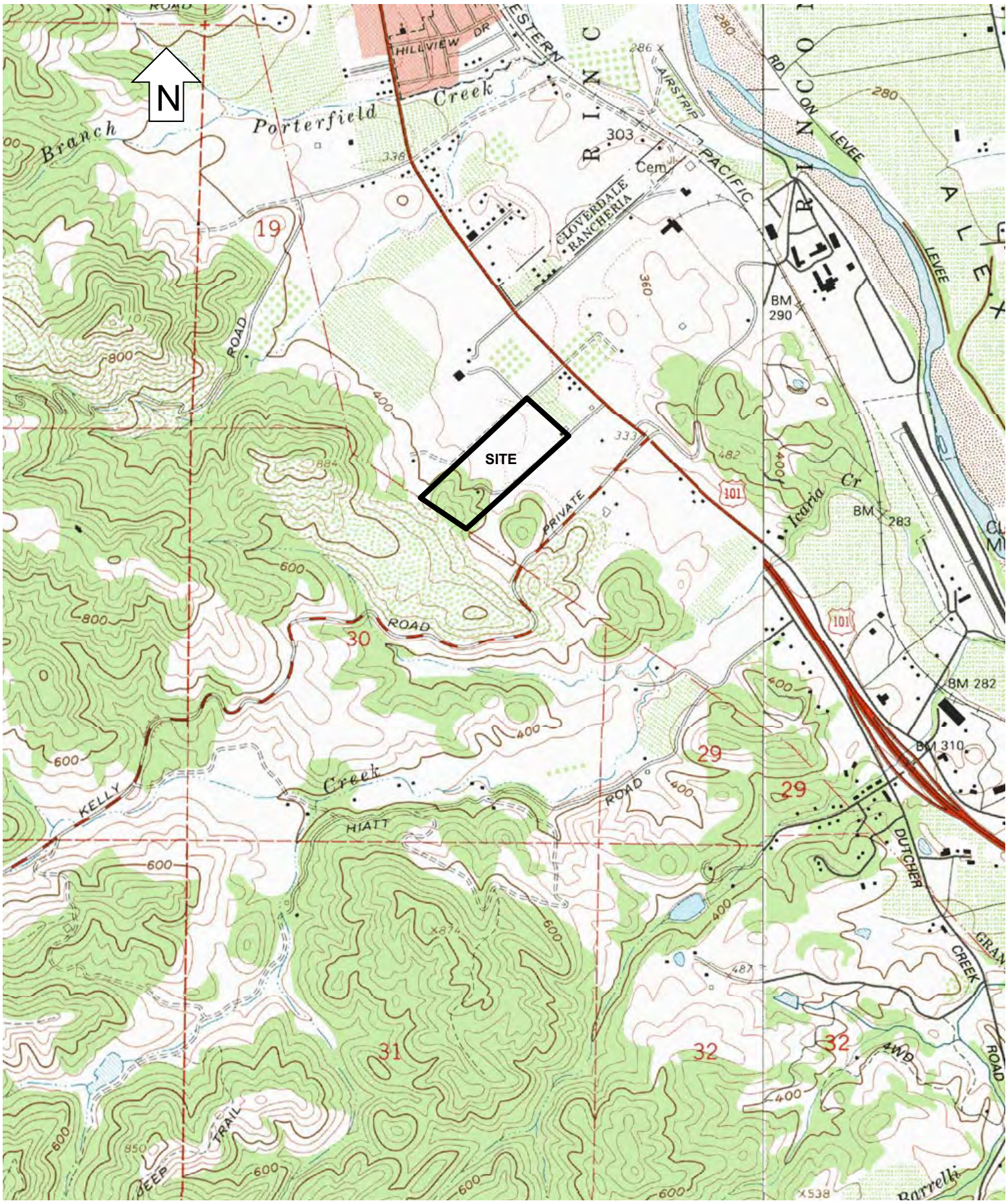


Figure 1: Vicinity Map, APN 117-040-053-000, 28195 Highway 101, Cloverdale, CA 95452. A 28.4± acre parcel located within Township 11 North, Range 10 West, of the Cloverdale USGS 7.5-minute topographic quadrangle map (USGS, 1980). Center of site located 38.778968N, -123.012322W.

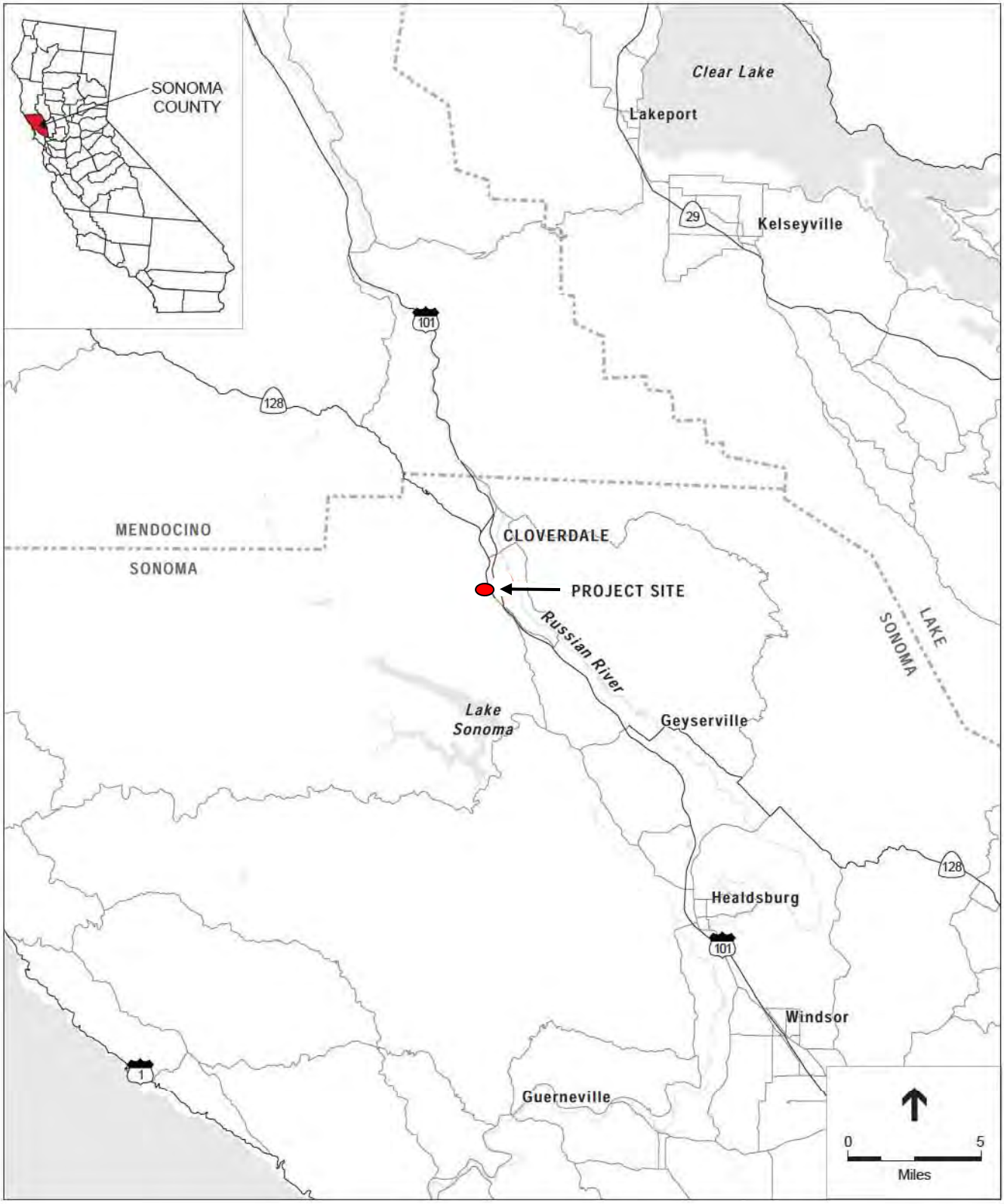
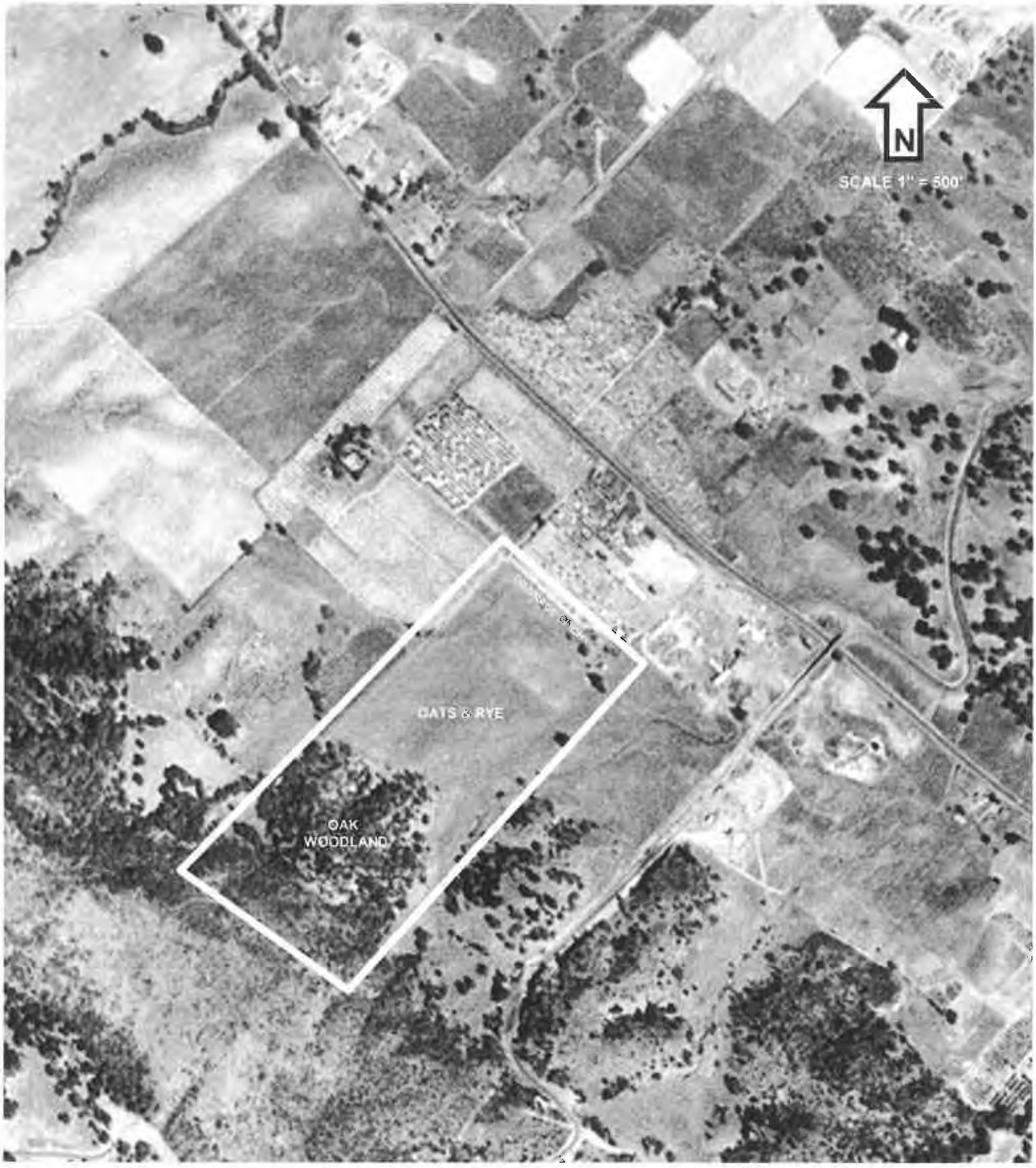


Figure 2: Regional Map, APN 117-040-053-000, 28195 Highway 101, Cloverdale, CA 95452. A 28.4± acre parcel located within Township 11 North, Range 10 West, of the Cloverdale USGS 7.5-minute topographic quadrangle map (USGS, 1980). Center of site located 38.778968N, -123.012322W.



Historical Aerial 1954, APN 117-040-053-000, 28195 Highway 101, Cloverdale, CA 95452. A 28.4± acre parcel located within Township 11 North, Range 10 West, of the Cloverdale USGS 7.5-minute topographic quadrangle map (USGS, 1980). Center of site located 38.778968N, -123.012322W. Aerial shows property as farmed agricultural parcel with oak woodlands within the western portion of the property.



Historical Aerial 1974, APN 117-040-053-000, 28195 Highway 101, Cloverdale, CA 95452. A 28.4± acre parcel located within Township 11 North, Range 10 West, of the Cloverdale USGS 7.5-minute topographic quadrangle map (USGS, 1980). Center of site located 38.778968N, -123.012322W. Aerial shows property as farmed agricultural parcel with oak woodlands within the western portion of the property. Seasonal drainage swale shown along eastern boundary of property.



Historical Aerial 1993, APN 117-040-053-000, 28195 Highway 101, Cloverdale, CA 95452. A 28.4± acre parcel located within Township 11 North, Range 10 West, of the Cloverdale USGS 7.5-minute topographic quadrangle map (USGS, 1980). Center of site located 38.778968N, -123.012322W. Aerial shows property as farmed agricultural parcel with oak woodlands within the western portion of the property. Seasonal drainage shown along eastern boundary of property.



Historical Aerial 2012, APN 117-040-053-000, 28195 Highway 101, Cloverdale, CA 95452. A 28.4± acre parcel located within Township 11 North, Range 10 West, of the Cloverdale USGS 7.5-minute topographic quadrangle map (USGS, 1980). Center of site located 38.778968N, -123.012322W. Aerial shows property as farmed agricultural parcel with oak woodlands within the western portion of the property. Seasonal drainage shown along eastern boundary of property.





MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: APN 117-040-053-000, Cloverdale
ITEM: Oats & Rye Field, recently harvested
DATE: 05/31/2017 PLATE: 1





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104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: APN 117-040-053-000, Cloverdale
ITEM: Oak Woodlands
DATE: 05/31/2017 PLATE: 2





MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: APN 117-040-053-000, Cloverdale
ITEM: Drainage Ditch, Eastern Boundary
DATE: 05/31/2017 PLATE: 3





MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: APN 117-040-053-000, Cloverdale
ITEM: Farm Corporation Yard
DATE: 05/31/2017 PLATE: 4





MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: APN 117-040-053-000, Cloverdale
ITEM: Roadside Ditch along Sandholm Ln.
DATE: 05/31/2017 PLATE: 5

APPENDIX B: CNDDB & USFWS DATABASES

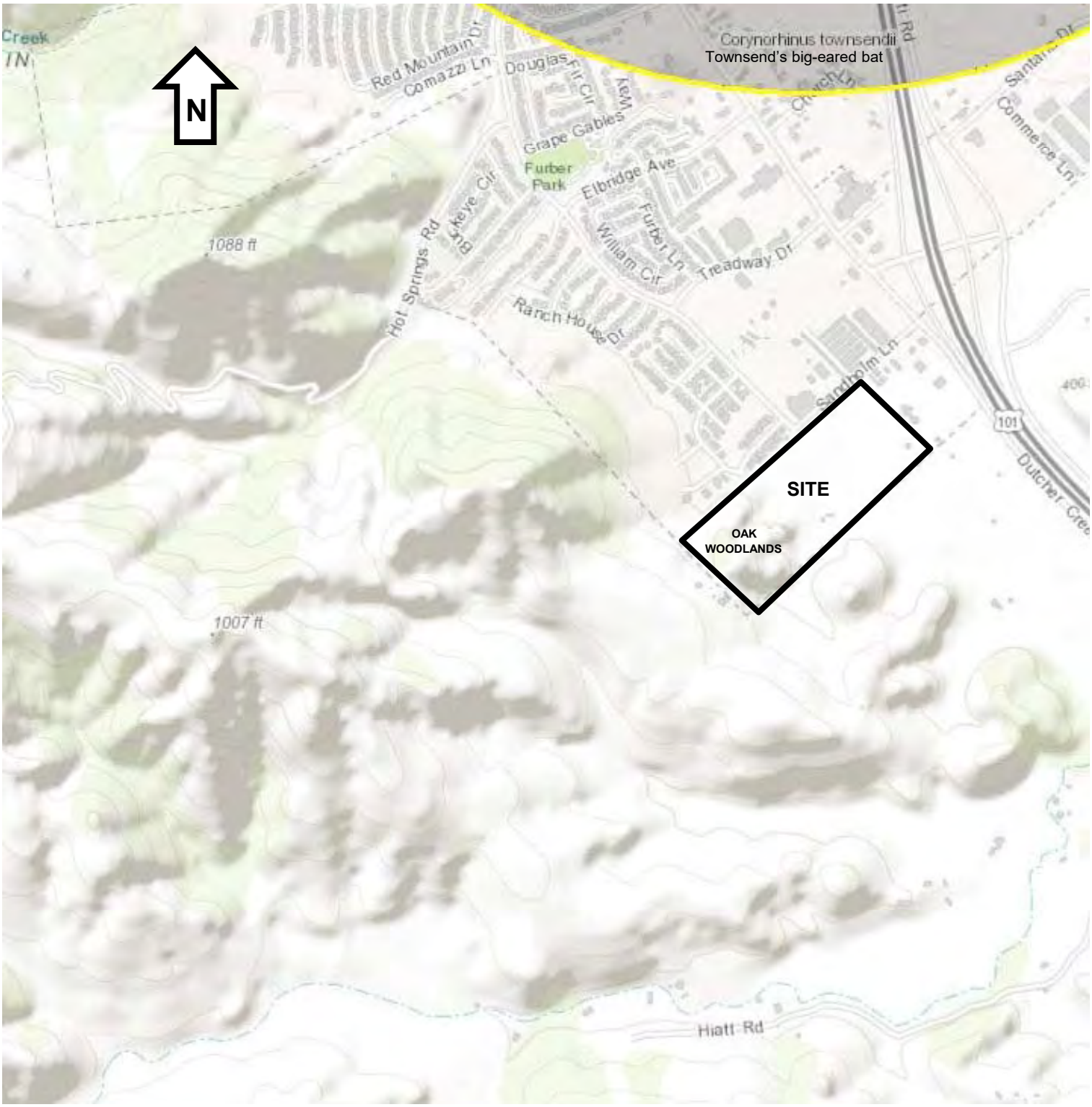


Figure 3: Summary Map, California Natural Diversity Database (CNDDB), APN 117-040-053-000, 28195 Highway 101, Cloverdale, CA 95452. A 28.4± acre parcel located within Township 11 North, Range 10 West, of the Cloverdale USGS 7.5-minute topographic quadrangle map (USGS, 1980). Center of site located 38.778968N, -123.012322W. CNDDB shows one occurrence of the Townsend's big-eared bat well north of the subject property. No other sensitive plant or wildlife species shown near the property. Onsite evaluations did not reveal the presence of federal or state listed plant or wildlife species on or near the property. The seasonal drainage along the eastern boundary of the property does not support fish or amphibian species. Oak woodlands along the western boundary of the property were surveyed. Numerous "stick nests" were found within the larger diameter oaks; however, none of the nests were occupied or showed signs of recent nesting activity.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Cloverdale (3812371) OR Asti (3812278))
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate OR All CNDDB element occurrences OR Delisted) OR State Listing Status IS (Endangered OR Threatened OR Rare OR All CNDDB element occurrences OR Delisted OR Candidate Endangered OR Candidate Threatened))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Allium peninsulare var. franciscanum Franciscan onion	G5T1 S1	None None	Rare Plant Rank - 1B.2	1,050 1,050	21 S:1	0	0	0	0	0	1	0	1	1	0	0
Antrozous pallidus pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	440 440	408 S:1	0	0	0	0	0	1	1	0	1	0	0
Arctostaphylos manzanita ssp. elegans Konocti manzanita	G5T3 S3	None None	Rare Plant Rank - 1B.3		69 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus caliginosus obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	300 300	181 S:1	0	0	0	0	0	1	1	0	1	0	0
Ceanothus confusus Rincon Ridge ceanothus	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	1,300 1,300	33 S:1	0	0	0	0	0	1	1	0	1	0	0
Corynorhinus townsendii Townsend's big-eared bat	G3G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	320 320	625 S:1	0	0	0	0	0	1	1	0	1	0	0
Cryptantha dissita serpentine cryptantha	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	450 1,050	10 S:2	0	0	0	0	0	2	0	2	2	0	0
Dicamptodon ensatus California giant salamander	G3 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	880 880	229 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	500 650	1236 S:3	1	2	0	0	0	0	0	3	3	0	0
Lasiurus blossevillii western red bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	300 300	122 S:1	0	0	0	0	0	1	1	0	1	0	0
Layia septentrionalis Colusa layia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	600 600	57 S:1	0	0	0	0	0	1	1	0	1	0	0
Oncorhynchus mykiss irideus steelhead - central California coast DPS	G5T2T3Q S2S3	Threatened None	AFS_TH-Threatened	1,500 1,500	39 S:1	1	0	0	0	0	0	0	1	1	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	260 1,150	888 S:10	5	3	1	0	0	1	0	10	10	0	0
Taricha rivularis red-bellied newt	G4 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	510 650	136 S:2	0	0	0	0	0	2	2	0	2	0	0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: June 01, 2017
Consultation Code: 08ESMF00-2017-SLI-2231
Event Code: 08ESMF00-2017-E-06038
Project Name: APN 117-040-053

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2017-SLI-2231

Event Code: 08ESMF00-2017-E-06038

Project Name: APN 117-040-053

Project Type: DEVELOPMENT

Project Description: 28.42 Farmland

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.77809182681505N123.0131842133942W



Counties: Sonoma, CA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
Marbled Murrelet *(Brachyramphus marmoratus)* Population: U.S.A. (CA, OR, WA) There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *(Strix occidentalis caurina)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *(Rana draytonii)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Steelhead *(Oncorhynchus (=Salmo) mykiss)* Population: Northern California DPS There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1007	Threatened

Crustaceans

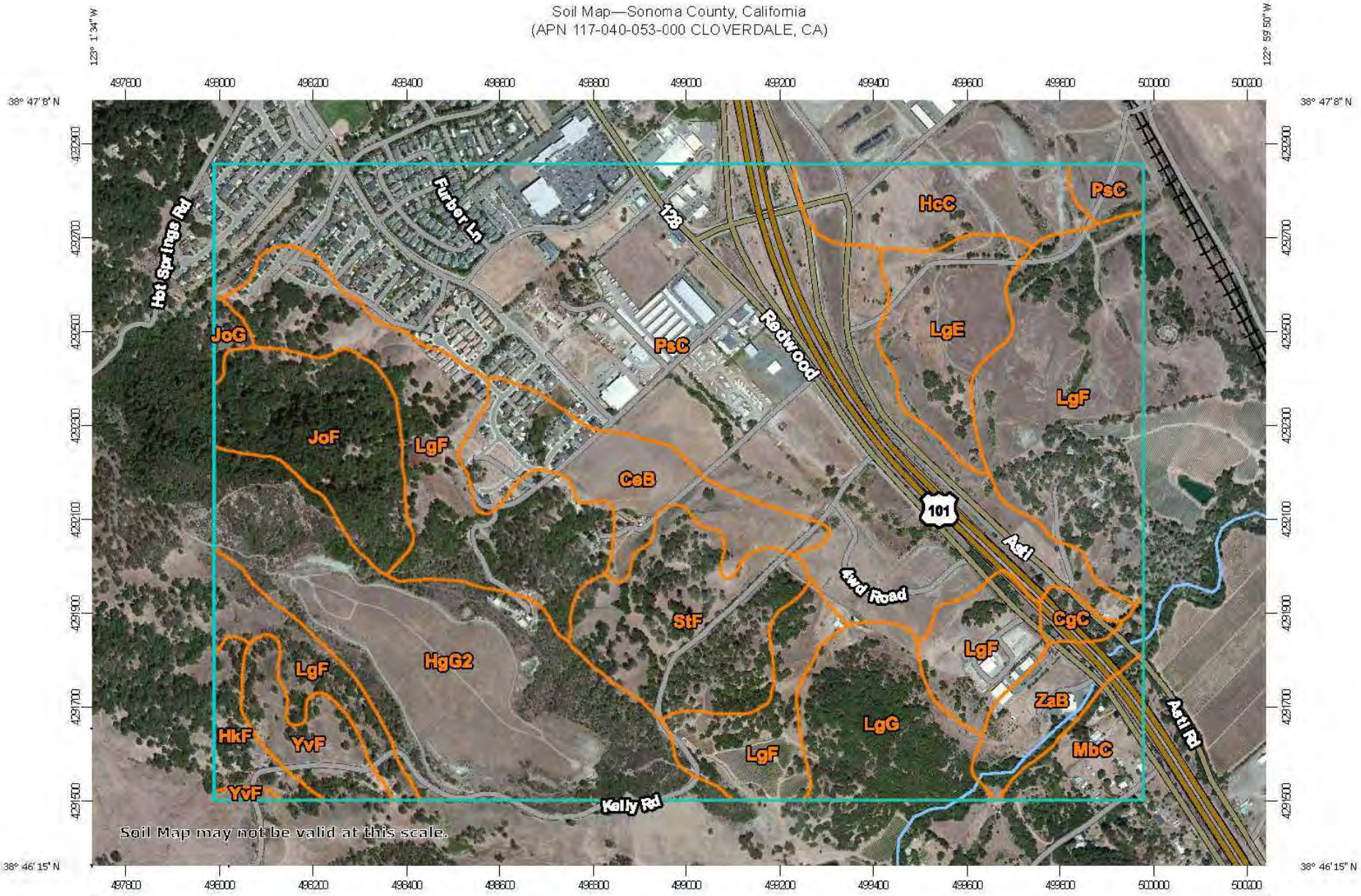
NAME	STATUS
California Freshwater Shrimp *(Syncaris pacifica)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered

Critical habitats

There are no critical habitats within your project area.

APPENDIX C: SOIL DATA

Soil Map—Sonoma County, California
(APN 117-040-053-000 CLOVERDALE, CA)



Map Scale: 1:11,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sonoma County, California
Survey Area Data: Version 10, Sep 27, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 14, 2011—Aug 15, 2011

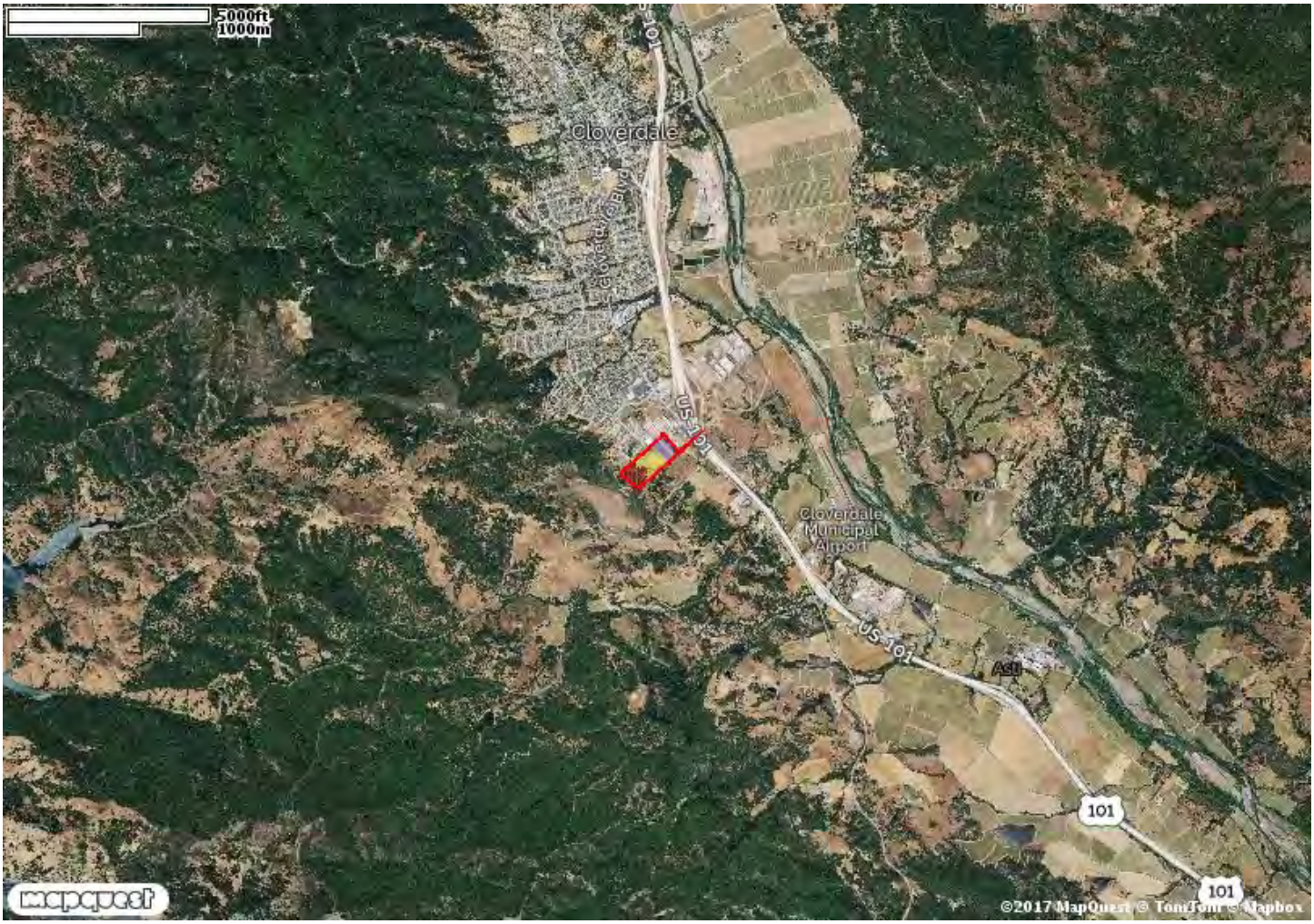
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Sonoma County, California (CA097)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CeB	Clear Lake clay, drained, 2 to 5 percent slopes, MLRA 14	30.2	4.5%
CgC	Clough gravelly loam, 2 to 9 percent slopes	3.4	0.5%
HcC	Haire clay loam, 0 to 9 percent slopes	24.2	3.6%
HgG2	Henneke gravelly loam, 30 to 75 percent slopes, eroded	82.7	12.4%
HkF	Hugo very gravelly loam, 30 to 50 percent slopes	7.8	1.2%
JoF	Josephine loam, 30 to 50 percent slopes	30.2	4.5%
JoG	Josephine loam,50 to 75 percent slopes	2.0	0.3%
LgE	Laughlin loam, 2 to 30 percent slopes	24.0	3.6%
LgF	Laughlin loam, 30 to 50 percent slopes	149.5	22.3%
LgG	Laughlin loam, 50 to 75 percent slopes	28.0	4.2%
MbC	Manzanita gravelly silt loam, 0 to 9 percent slopes	12.6	1.9%
PsC	Positas gravelly loam, 0 to 9 percent slopes	211.1	31.5%
StF	Suther loam, 30 to 50 percent slopes	35.9	5.4%
YvF	Yorkville-Laughlin complex, 30 to 50 percent slopes	13.5	2.0%
ZaB	Zamora silty clay loam, 2 to 5 percent slopes	14.4	2.1%
Totals for Area of Interest		**669.4**	**100.0%**

SOILS REPORT

28195 HWY 101 CLOVERDALE CA 95425







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SOILS REPORT

28195 HWY 101 CLOVERDALE CA 95425

USDA Soils Legend

Symbol	Name	Slope Grade	Irr. Cap. Class	Non-Irr. Cap. Class	Storie Index	Acres	Parcel %
	0CeB CLEAR LAKE CLAY, 2 TO 5 PERCENT SLOPES	4	2	3	41	10.445	36.39
	1LgF LAUGHLIN LOAM, 30 TO 50 PERCENT SLOPES	40		6		9.224	32.13
	2PsC POSITAS GRAVELLY LOAM, 0 TO 9 PERCENT SLOPES	6	3	3	31	8.876	30.92
	3StF SUTHER LOAM, 30 TO 50 PERCENT SLOPES	40		6	19	.160	.56
					Total Acres:	28.705	

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Visit us: www.ParcelQuest.com
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APPENDIX D: RESUMES OF SURVEYORS

Marcus H. Bole & Associates

An Environmental Consulting Firm

MARCUS H. BOLE, Senior Wildlife Biologist

EXPERTISE:
Wildlife & Natural Resource Management
Environmental Site Assessments (NEPA & CEQA-level)
Wetland Delineation, Mitigation, and Permitting

EDUCATION:
Master's Degree in Environmental Science
North Dakota State University, Fargo, 1976
Baccalaureate in Wildlife Biology
California State University, Sacramento, 1970
Registered Environmental Property Assessor (REPA, #647913)
Certified (OSMB) Disabled Veteran Business Enterprise (DVBE)
California Department of General Services (#0000847)
Service Disabled Veteran Owned Small Business (VA)
Awarded GSA Contract Number: GS10F101BA Environmental
Schedule 899, DUNS Number 943646430

PROFESSIONAL HISTORY:
Bole & Associates, Principal, 1993 - Present
U. S. Federal Government Manager of Environmental Engineering,
Compliance and Community Planning, 1970 - 1993
California State Division of Forestry, Engineer, 1966 - 1970

REPRESENTATIVE EXPERIENCE:
Mr. Bole has over forty years of experience in environmental project management and wildlife biology. He has supervised work forces of professional engineers, scientists and technicians responsible for pollution monitoring, permitting, abatement, environmental impact analysis, natural resource evaluation and restoration programs and preserve habitat management. As a biologist, Mr. Bole has conducted numerous Biological Assessments in accordance with United States Fish & Wildlife Service and California Department of Fish & Wildlife protocols and regulations. He has conducted wetland delineations in accordance with the United States Army Corps of Engineers regulations throughout California. Mr. Bole has conducted hundreds of raptor (hawk, owl and bat) assessments in accordance with California Department of Fish and Wildlife and United States Fish and Wildlife Service protocols. As lead environmental scientist for the Department of Veterans Affairs, National Cemetery Administration, he has been directly responsible for coordinating environmental assessments and the Environmental Management System (EMS) for over 160 National Cemeteries in the United States. As Chief, Environmental Management Division, Beale AFB, California, he managed compliance issues and the restoration of natural resources within a 23,000 acre federal military installation, retiring in 1993 in the rank of Lieutenant Colonel. As Principal, Marcus H. Bole & Associates, he manages allocation of personnel, client development and strategic planning.



Marcus H. Bole & Associates

An Environmental Consulting Firm

CHARLENE J. BOLE, Senior Botanist

EXPERTISE:
Threatened and Endangered Species, Botanical Surveys
Wetland Delineation, Mitigation and Permitting
Environmental Project Management

EDUCATION:
Masters Degree in Environmental Science
North Dakota State University, Fargo, 1979
Baccalaureate in Biology
California State University, Sacramento, 1974
Graduate Course work in Environmental Sciences, Botany & Wildlife Biology
Registered Environmental Property Assessor (REP# 229436)
State of California Standard Teaching Credential, Science
California Community College Credential, Environmental Science

PROFESSIONAL HISTORY:
Marcus H. Bole & Associates (MHB&A), Principal, 1991 - Present
Consultant, Veterans Administration, National Cemetery Administration, 2005-Present
Consultant, Regulatory Permitting, US Army, Department of Defense, Belgium, 1988 - 1991
Senior Project Manager, Environmental Development Center, Belgium, 1988 - 1991
Environmental Consultant for Department of Defense, Japan, 1985 - 1987
Science and Math Instructor, Wheatland School District, CA, 1980 - 1984

REPRESENTATIVE EXPERIENCE:
Ms. Bole has over thirty-five years of experience in environmental project management, wildlife biology and avian surveys. A recognized expert in research development and management, she has supervised work forces of professional scientists and technicians responsible for a wide array of environmental issues in overseas locations and throughout California. Ms. Bole has conducted numerous Botanical Assessments in accordance with United States Fish & Wildlife Service and California Department of Fish & Wildlife protocols and regulations. She has conducted wetland delineations in accordance with the United States Army Corps of Engineers regulations throughout California. Her areas of expertise include botany, wildlife ecology, regulatory compliance, natural resource and habitat conservation planning, and the delineation of waters of the United States. She is a Senior Environmental Scientist under contract with the Department of Veterans Affairs, National Cemetery Administration, responsible for the environmental review of cemetery expansions at over 160 Veterans Administration National Cemeteries. She is currently Senior Botanist responsible for restoration planning and monitoring for the Caltrans San Francisco-Oakland Bay Bridge East Span Project. She is also Senior Botanist for the Department of Water Resources Clifton Court Forebay habitat restoration project. Her organizational skills have consistently resulted in finding the most cost effective means for project implementation and completion.

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B.2 - CNDDB Results

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Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Cloverdale (3812371))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
California giant salamander *Dicamptodon ensatus*	AAAAH01020	None	None	G3	S2S3	SSC
Colusa layia *Layia septentrionalis*	PDAST5N0F0	None	None	G2	S2	1B.2
congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	PDAST4R065	None	None	G5T2	S2	1B.2
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Franciscan onion *Allium peninsulare var. franciscanum*	PMLIL021R1	None	None	G5T2	S2	1B.2
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	PDERI04271	None	None	G5T3	S3	1B.3
North American porcupine *Erethizon dorsatum*	AMAFJ01010	None	None	G5	S3	
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G4?	S1S2	
red-bellied newt *Taricha rivularis*	AAAAF02020	None	None	G4	S2	SSC
Rincon Ridge ceanothus *Ceanothus confusus*	PDRHA04220	None	None	G1	S1	1B.1
serpentine cryptantha *Cryptantha dissita*	PDBOR0A0H2	None	None	G2	S2	1B.2
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G3G4	S2	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC

Record Count: 13

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B.3 - CNPS Inventory Results

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CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

1 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1B, 2B], FESA is one of [Endangered, Threatened], CESA is one of [Endangered, Threatened, Rare], Found in Quads 3812382, 3812381, 3812288, 3812372, 3812371, 3812278, 3812362 3812361 and 3812268;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Cordylanthus tenuis ssp. capillaris	Pennell's bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.2	S1	G4G5T1

Suggested Citation

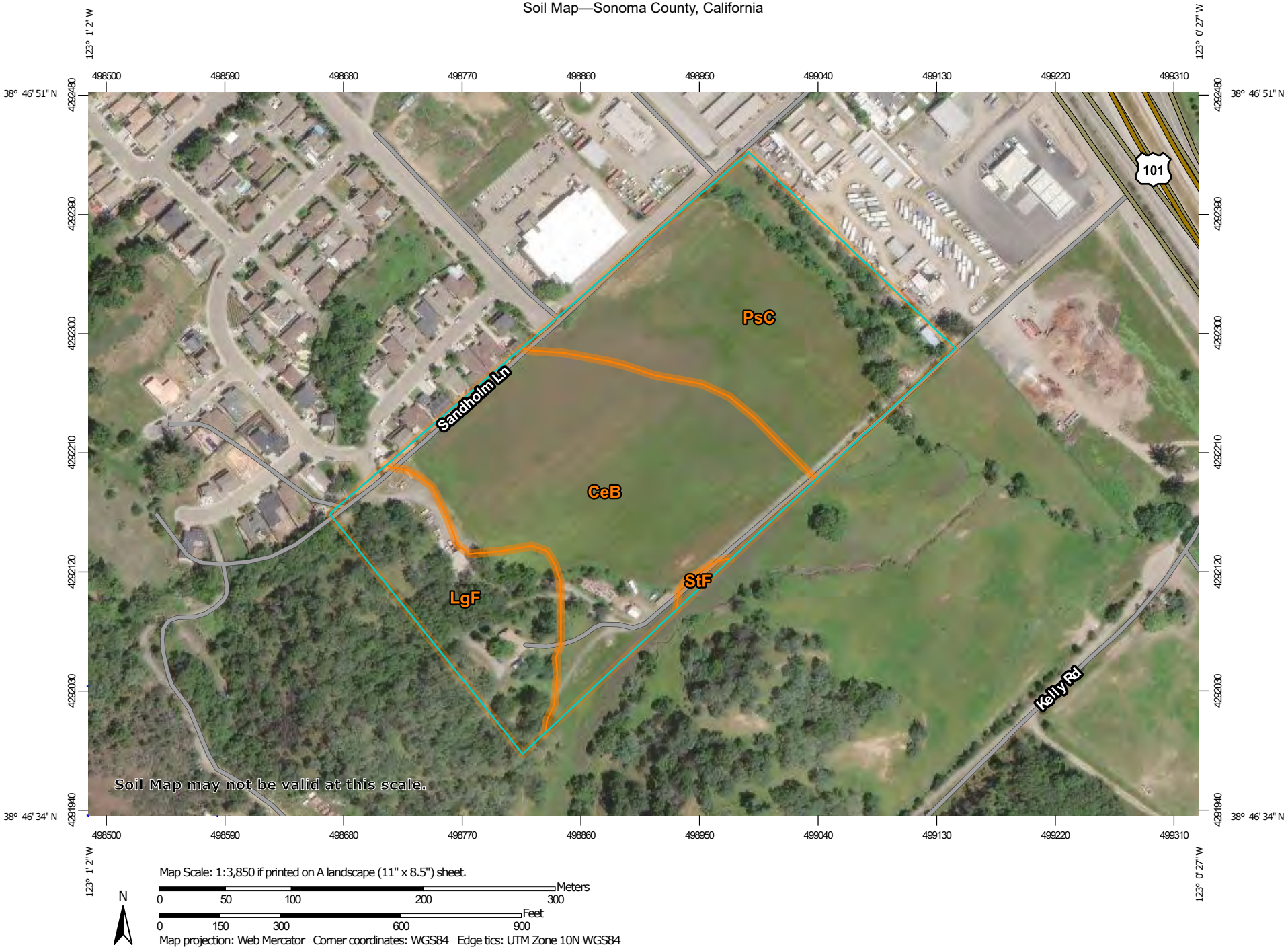
California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 14 March 2019].

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B.4 - USDA Soil Map of the Project Site

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Map Scale: 1:3,850 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sonoma County, California
Survey Area Data: Version 12, Sep 13, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 31, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeB	Clear Lake clay, drained, 2 to 5 percent slopes, MLRA 14	10.7	44.2%
LgF	Laughlin loam, 30 to 50 percent slopes	4.3	17.9%
PsC	Positas gravelly loam, 0 to 9 percent slopes	9.0	37.4%
StF	Suther loam, 30 to 50 percent slopes	0.1	0.4%
Totals for Area of Interest		**24.1**	**100.0%**

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B.5 - Cloverdale Oak Tree Report

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Oak Tree Report

Project:

Baumgardner Ranch
28195 Highway 101
Cloverdale, California 95425

Prepared for:

Attention: Jake Lingo
Integrated Community Development
21031 Ventura Boulevard, Suite 200
Woodland Hills, California 91364
(818) 974-2966

Prepared by:

Kay J. Greeley
Registered Landscape Architect 4035
Board Certified Master Arborist WC-1140B
5328 Alhama Drive
Woodland Hills, California 91364
(805) 577-8432

Date:

April 17, 2019

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Oak Tree Report

Baumgardner Ranch
28195 Highway 101
Cloverdale, California 95425

INTRODUCTION

This Oak Tree Report was prepared at the request of Mr. Jake Lingo, Integrated Community Development. Integrated Community Development seeks approval from the City of Cloverdale, California to construct a mixed-housing project, to include 79 single-family homes, 60 two-story rowhouses and 166 apartments. The project site is located at 28195 Highway 101, Cloverdale, California. It presently contains a single-family home and several outbuildings. The lower portion of the site to the east was historically used for agricultural purposes. The westerly, hillside portion of the site is in a relatively natural state.

The City of Cloverdale General Plan includes “Goal LU 3”, which states “Preserve and enhance Cloverdale’s small-town character and experience of its natural boundaries and setting. Cloverdale – a small town on the valley floor with undeveloped hills to the west, north, and south, and the Russian River as an urban development boundary to the east and protect important farmlands from urban development.” To accomplish this goal, the General Plan limits development in the R-1 zoning district to elevations below 400 feet. The portion of the subject site above 400 feet in elevation includes approximately 6.3 acres of hillside that will be set aside as a preservation zone.

The General Plan also includes “Goal CDO 6”, which states “Develop an urban forest plan to preserve existing trees on hillsides and the valley floor. Enhance the tree canopy with new planting.” The preservation zone noted above contains the historic ranch home, but otherwise contains a vibrant oak woodland that will be preserved in its entirety. In addition, apart from improvement of a dirt road along the southerly side of the site, the riparian habitat and its associated oak trees along the drainage on the easterly side will also be preserved.

The purpose of this Oak Tree Report is to document findings related to a ground level visual analysis of oak trees within the potential development area on the site and to provide a project impact analysis, tree photographs and tree location map. The City of Cloverdale does not yet have a tree preservation ordinance in place. Integrated Community Development was asked to document the oak trees within the potential development area as part of the entitlement process.

The potential development area below the 400-foot elevation contains 139 oak trees, comprised of two coast live oak (*Quercus agrifolia*), 22 California black oak (*Q. kelloggii*), 114 valley oak (*Q. lobata*), and one interior live oak (*Q. wislizenii*). At the time of the field investigation, the City of Cloverdale was considering a preservation ordinance protecting native oak trees measuring 24 inches in diameter at breast height (dbh) or greater. Of the 139 oak trees inventoried, 25 were at least 24 inches dbh. Of these 25 trees, 12

would be removed to construct the project as proposed. Seven of the 139 trees were dead. The remaining 107 oak trees were less than 24 inches dbh.

This Oak Tree Report was prepared in accordance with the standards of the International Society of Arboriculture. The analysis reflects the most current version of the Best Management Practices with respect to Managing Trees During Construction.

SCOPE OF WORK

The species, trunk diameter, average canopy diameter, approximate height, health, appearance, and condition of 139 oak trees were observed and recorded in April 2017. Each tree was tagged on the north side an identifying number. Numbers used were '1 through '139', sequentially. Tree #'s 1 through 100 were tagged with round aluminum tags stamped with the identifying number. Tree #'s 101 through 139 were tagged with fluorescent green survey tape, marked with permanent ink.

A photograph of each tree is provided in Appendix B for general reference and record purposes. A Tree Location Map is included in Appendix C. The tree map is incorporated within the Civil Site plan supplied by Walsh Engineering, the project civil engineer.

All information provided by the preparer is certified to be true and correct as of the date of the field observations.

TREE CHARACTERISTICS AND SITE CONDITIONS

As noted above, 139 trees were inventoried within the study area, which contains 139 oak trees, comprised of two coast live oak (*Quercus agrifolia*), 22 California black oak (*Q. kelloggii*), 114 valley oak (*Q. lobata*), and one interior live oak (*Q. wislizenii*). At the time of the field investigation, the City of Cloverdale was considering a preservation ordinance protecting native oak trees measuring 24 inches in diameter at breast height (dbh) or greater. The site also contains many California bay (*Umbellularia californica*) trees in the westerly hillside areas.

Oak trees on the easterly side of the parcel are concentrated along a drainage that meanders north to south through the site. There are also some fruiting cherry trees and one black walnut (*Juglans nigra*) in the area. The oak trees on the westerly side of the site mainly grow throughout the steep hillside, mixed with California bay. There are a few non-native ornamental trees surrounding the single-family residence on the hill.

The subject trees' scientific name, common name, diameter at breast height, average canopy width, overall height, health rating, appearance rating, and significant comments are summarized in the Oak Tree Inventory contained in Appendix A. The health and appearance ratings are expressed using a letter scale from "A" – excellent to "F" – dead.

IMPACT ANALYSIS

Forty-two of the subject trees will experience impacts for the overall pad grading and for the installation of Street A along the southerly side of the property, as . A total of 31 oak trees will be removed and another 11 trees will experience encroachment within their

designated Tree Protection Zone (TPZ). The TPZ is a defined area surrounding the trunk intended to protect roots within the Critical Root Zone (CRZ) and beyond, to ensure future tree health and stability. The CRZ is the area immediately adjacent to the trunk where roots essential for tree health and stability are located.

For this project, a trunk diameter method was used to establish a TPZ for each tree. Based on the maturity and the typical relative construction tolerance of the subject oak species, a TPZ of one foot per inch of diameter was utilized. The TPZ is shown on the Tree Location Map in Appendix C as a dashed red line surrounding the trunk around each tree. For the 11 trees that will experience encroachment, the amount of the TPZ impacted was nominal and generally on the downhill side of trees on the westerly slope. If the work is performed carefully in accordance with the following General Recommendations section, these trees should be able to remain on the site with no long-term adverse impacts to their health.

The 31 trees to be removed may be summarized as follows:

Species	<24" dbh	24" dbh +	Total
coast live oak	0	0	0
California black oak	0	3	3
valley oak	19	9	28
interior live oak	0	0	0
Total	**19**	**12**	**31**

MITIGATION TREES

The City of Cloverdale draft Tree Preservation Ordinance proposes that protected oak trees be replaced with a tree or trees having a minimum size of four inches. The replacement quantity would be determined by the Community Development Director. Trees having poor health or structure would not require replacement.

As noted in the Oak Tree Inventory in Appendix A, tree #37, #74, #75, and #125 have significant structural defects and may therefore be excluded from the draft mitigation requirement. Therefore, a total of eight trees would require mitigation under the draft ordinance.

GENERAL RECOMMENDATIONS

The following general recommendations should be followed to establish and maintain a healthy cultural environment for California oak trees. It must be understood that these recommendations apply to California oak trees in general; specific questions should always be referred to the project arborist.

WORK WITHIN THE TREE PROTECTION ZONE

The tree protection zone is an area surrounding a tree and varies by tree age, size and species. Great care must be taken when work is conducted within the tree protection zone. Given the high sensitivity of oak trees, great care must be taken when work is conducted within the tree protection zone. Specifically:

Observation -- All work conducted within the tree protection zone should be performed within the presence of a qualified arborist. This will help to ensure that work is performed in a manner that will not harm the tree.

Hand Tools -- All work within the tree protection zone should be accomplished with the use of hand tools only. Except under special circumstances, tractors, backhoes and other vehicles cannot be operated in a manner that will preserve major tree roots, minimize soil compaction, and insure the safety of both the vehicle operator and the tree.

WORK OUTSIDE OF THE TREE PROTECTION ZONE

To protect trees within the vicinity of major construction, trees should be temporarily fenced at the edge of the tree protection zone prior to the beginning of construction operations on a site. The fence should be constructed of chain link material or orange safety fencing, a minimum of 4 feet in height. The fencing should be placed one foot per each inch of trunk diameter away from the trunk, at the edge of the TPZ shown on the Tree Location Map in Appendix C. For example, fencing should be placed ten feet away from the trunk of a ten-inch diameter tree. The fence may be removed at the completion of the construction upon approval by the City of Cloverdale.

PLANTING WITHIN THE TREE PROTECTION ZONE

Planting within the tree protection zone of an oak tree is discouraged. Ideally, the leaf litter from the tree should be allowed to collect beneath the tree, creating a natural mulch and fertilizer. If planting is necessary or the natural leaf litter is removed, the following should be considered:

Plant Material -- Only drought tolerant plantings should be utilized. All plantings should be compatible with native oak trees. A good reference for compatible plant material is Compatible Plantings Under and Around Oaks by the California Oak Foundation.

Irrigation -- No spray-type irrigation systems should be used within the dripline. It is important that sprinkler systems do not throw water against the trunk of any tree. A continuously wet soil condition near the root crown, the area where the tree trunk meets the ground, favors the growth of predatory disease organisms. The two most prominent organisms in Southern California are avocado root rot (*Phytophthora cinnamomi*) and oak root fungus (*Armillaria mellea*). As an absolute minimum, all irrigation should be at least 15 feet from the trunk.

Resistant Varieties -- Avoid plants that are susceptible to either avocado root rot or oak root fungus. Oak trees are particularly susceptible to these diseases in developed areas. Avoiding other plants susceptible to these diseases will also help to keep the diseases in a dormant state. Consult publications by the University of California Cooperative Extension for plant lists.

Mulch -- Place a 4-inch thick layer of organic mulch throughout the protected zone of each tree. Aesthetically pleasing options include crushed walnut hulls and shredded bark. These mulches are beneficial when the natural leaf litter is not available, minimizing evaporation and providing weed control.

TREE MAINTENANCE AND PRUNING OPERATIONS

Most California native trees require very little pruning, except for periodic dead wooding. However, if a tree has a major defect, the employment of proper pruning practices may be more desirable than the uncontrolled damage that could otherwise occur. Always consult qualified professionals for advice.

Ornamental or Aesthetic Pruning -- Removal of live tissue for the purpose of altering the appearance of California native tree is not desirable and is generally not allowed under local ordinances. Activities such as thinning out, heading up, or other similar practices contribute to the onset of insect and disease attacks.

Dead wooding -- Removal of dead tissue, regardless of size, may usually be performed without a permit. All pruning should follow standards endorsed by the International Society of Arboriculture.

Other Pruning Operations -- Branches that are unsafe due to decay, cavities, cracks, physical imbalance, fire damage, disease, or insects should be referred to a qualified oak tree consultant for inspection, especially if the branches exceed 2 inches in diameter. A permit is generally required to remove such branches. A brief written report will be prepared by the arborist to provide the basis for the request.

Cavities and Hollows -- Cavities and hollows should be kept free of loose debris. Some contain decayed wood; these should generally be referred to a qualified arborist for treatment. Concrete or other materials should not be used to seal or fill in cavities or hollows. These materials create a haven for diseases and insects over time. Openings may be covered with screening to prevent debris build-up.

Wound Seal -- Pruning wounds should generally not be sealed with any type of compound. Over time, these materials crack and create entry points for disease and insects. A proper pruning cut will heal naturally over a short period of time.

WATERING AND FERTILIZATION

Winter rains should be enough to provide the water needed for California native trees in natural areas. Native trees in landscaped areas will usually receive enough water from adjacent plantings. If you suspect that your tree needs supplemental water, contact a qualified arborist for advice.

Watering -- If supplemental water is required, use a water probe, such as a "Ross Root Feeder" to apply the water. Alternatively, a low volume soaker hose could be utilized. Apply the water at various locations, just outside the dripline of the tree. A total of 15 to 20 hours of low volume application should suffice. Repeat this watering cycle every one to two months as needed. Water should generally not be applied in the summer, as most oak trees are dormant and cannot accept the water.

Fertilization -- Fertilizer can be applied along with the water. A total of 0.75 pound of actual nitrogen per inch of trunk diameter per year is a basic rule-of-thumb. However,

ask your local certified nurseryman for a specific recommendation and follow the manufacturer's directions carefully. Over-fertilization can be deadly.

Aeration -- Ventilation of the root system can be very beneficial in areas where soil has been compacted. Hand dig holes 6 inches in diameter to a depth of 2 feet. Do not cut any roots in excess of 1 inch in diameter. Dig the holes 2 feet on center, in concentric circles around the trunk, throughout the dripline. If possible, add holes outside of the dripline. Fill the holes with an organic matter. If leaf litter is not available, a mixture such as 50 percent "Kellogg's Nitrohumus" and 50 percent nitrolized redwood shavings will be beneficial. This organic matter will be decomposed, producing a year-round source of fertilizer for the oak tree.

DISEASES AND INSECTS

Effective pest control starts with observation by the homeowner. Changes, such as abnormal leaf drop, oozing sap, and discolored or dying leaves indicate that something has changed, and expert inspection is required. Homeowners should be very careful when using pesticides around an oak tree. Herbicides should never be utilized within one hundred feet of California native tree, unless applied by a certified pesticide applicator. Misuse of these compounds can lead to the death of beneficial organisms or even to the death of the tree.

GRADE CHANGES

Any change to the grade at the root crown of an oak tree can have a negative impact. As little as 6 inches can lead to the death of the tree. Drainage patterns should be maintained to prevent water from flowing and ponding at the base of a tree. If fill soil exists, use a shovel to remove the excess soil. The flare at the root crown should just be visible.

INSPECTION

California native trees should be inspected on a periodic basis by a qualified arborist. The inspection basis should be determined by the relative hazard value of the tree. For example, trees surrounding a high-use business should be inspected on a quarterly basis, whereas trees located within a low-use open space might only require bi-annual inspection. It is the responsibility of the property owner to establish and implement an appropriate inspection schedule upon the recommendation provided by the oak tree consultant.

WARRANTY

The trees discussed herein were generally reviewed for physical, biological, functional, and aesthetic conditions. This examination was conducted in accordance with presently accepted industry procedures: an at-grade, macro-visual observation only. No extensive microbiological, soil/root excavation, upper crown examination, nor internal tree investigation was conducted and therefore, the reportings herein reflect the overall visual appearance of the trees on the date reviewed. No warranty is implied as to the potential failure, health or demise of any part or the whole of any tree described in this report.

Clients are advised that should physical or biological concerns be evidenced for any specimen within this report, prudent further investigation, detailed analysis or remedial action may be required.

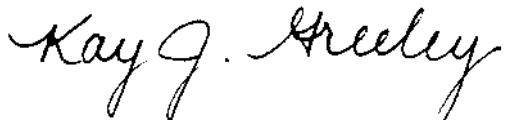
As living organisms, plants continually exhibit growth and response to environmental changes that influence the development, health and vigor of the specimen. These influences may not be externally visible and may be present or develop over various time periods depending on the site conditions.

It is recommended that due to the general nature of plant development and continued environmental and physical influences on vegetation at a specific site, regular monitoring by a qualified arborist is scheduled.

Locations of property lines or exact tree locations, site amenities, structures or easements are assumed to be as illustrated on any enclosed maps. They are a composite of information provided by the client, records of fact and/or on-site field review. No investigation was made to verify these conditions.

This report represents the independent opinion of the preparer and was conducted per the client's scope of request. The report is therefore limited to the extent described herein.

Respectfully submitted,



Kay J. Greeley
Landscape Architect 4035
Board Certified Master Arborist WE-1140B

CREDENTIALS



CALIFORNIA ARCHITECTS BOARD
LANDSCAPE ARCHITECTS TECHNICAL COMMITTEE
2420 DEL PASO ROAD, SUITE 105
SACRAMENTO, CA 95834
916 575-7230

STATE OF CALIFORNIA
DCA
DEPARTMENT OF CONSUMER AFFAIRS

Landscape Architect

CERTIFICATE NO. 4035

EXPIRATION 08/31/19

KAY JEWELL GREELEY
100 BRADY LANE
HAMILTON MT 59840

Signature Kay Jewell Greeley

RECEIPT NO. 72190487

BOARD-CERTIFIED MASTER ARBORIST ISA

International Society of Arboriculture
BOARD-CERTIFIED MASTER ARBORIST
Kay J. Greeley

Certificate Number: WE-1140B
Expiration Date: Dec 31, 2018

recertification pending by 4/30/19

APPENDIX A –TREE INVENTORY

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
1	*Quercus lobata*	valley oak	9 est.	25	30	B	B	co-dominant scaffolds, behind chain link fence, slightly one-sided to west	preserve	
2	*Quercus lobata*	valley oak	10, 9	30	35	B	C	co-dominant scaffolds, past apple gall, minor dead wood	encroach	bio-swale
3	*Quercus lobata*	valley oak	10	30	35	B	C	co-dominant scaffolds, one-sided to west	encroach	bio-swale
4	*Quercus lobata*	valley oak	22 est.	60	40	B	B	minor dead wood	preserve	
5	*Quercus lobata*	valley oak	10.5	25	35	C	C	minor dead wood, one-sided to west, co-dominant scaffolds	preserve	
6	*Quercus lobata*	valley oak	10 est.	30	35	C	C	apple gall, somewhat epicormic growth	preserve	
7	*Quercus lobata*	valley oak	12 est.	25	40	C	C	epicormic growth, past apple gall, minor dead wood, limited structure	preserve	
8	*Quercus lobata*	valley oak	12	25	35	C	C	moderate apple gall, co-dominant scaffolds, minor dead wood	preserve	
9	*Quercus lobata*	valley oak	7	15	20	C	C	one-sided to north, minor dead wood	preserve	
10	*Quercus lobata*	valley oak	13	20	35	B	C	one-sided to south, minor dead wood	preserve	
11	*Quercus lobata*	valley oak	9, 9	2	35	C	C	many co-dominant scaffolds	preserve	
12	*Quercus lobata*	valley oak	9	15	30	C	C	co-dominant scaffolds	preserve	
13	*Quercus lobata*	valley oak	9	20	30	C	C	co-dominant scaffolds	preserve	
14	*Quercus wislizenii*	interior live oak	11	25	25	C	C	minor co-dominant scaffolds, leans to east, one-sided to east	preserve	
15	*Quercus lobata*	valley oak	12	20	35	B	C	co-dominant scaffolds	preserve	
16	*Quercus lobata*	valley oak	18	30	35	C	C	co-dominant leaders, somewhat epicormic growth	remove	Street A
17	*Quercus lobata*	valley oak	13	25	35	C	C	co-dominant leaders, past apple gall	remove	Street A
18	*Quercus lobata*	valley oak	15	20	30	C	D	growing into barbed wire fence, under power lines, topped	remove	Street A
19	*Quercus lobata*	valley oak	13	25	15	C	D	barbed wire fence wired to tree, hot wire post embedded in trunk, under power line, topped	remove	Street A

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
20	*Quercus lobata*	valley oak	6.5, 6.5, 4	20	15	C	D	topped, under powerline, co-dominant trunks	remove	Street A
21	*Quercus lobata*	valley oak	50 est.	50	50	F	F	dead, hazardous, to be removed by PG&E, conks	dead	Street A
22	*Quercus lobata*	valley oak	10, 7.5	25	15	C	D	topped, under powerline, co-dominant scaffolds, past apple gall	remove	Street A
23	*Quercus lobata*	valley oak	15	20	25	C	C	co-dominant scaffolds with included bark	remove	Street A
24	*Quercus lobata*	valley oak	40 est.	100	60	B	C	may be hollow at co-dominant main scaffolds	encroach	Street A
25	*Quercus lobata*	valley oak	40	80	60	C	D	major dead wood, co-dominant scaffolds, dead limbs on south side, epicormic growth	preserve	
26	*Quercus lobata*	valley oak	31	60	50	C	C	co-dominant scaffolds, vigorous new growth	preserve	
27	*Quercus agrifolia*	coast live oak	10.5	25	30	B	C	leans to south, vigorous new growth	preserve	
28	*Quercus lobata*	valley oak	11.5	20	25	C	C	co-dominant scaffolds, shrubby form, dead wood, one-sided to north	preserve	
29	*Quercus lobata*	valley oak	9	15	30	C	C	past and new apple gall, co-dominant scaffolds, epicormic growth	preserve	
30	*Quercus lobata*	valley oak	13.5	25	30	C	C	co-dominant scaffolds, minor dead wood	preserve	
31	*Quercus lobata*	valley oak	8	15	25	C	C	one-sided to east, co-dominant main scaffolds, die-back	preserve	
32	*Quercus agrifolia*	coast live oak	7	15	15	C	C	leans to west	preserve	
33	*Quercus lobata*	valley oak	9.5, 6.5	20	30	C	C	co-dominant trunks with included bark, minor dead wood	preserve	
34	*Quercus lobata*	valley oak	14	15	35	C	C	co-dominant scaffolds and branches, one-sided to south	preserve	
35	*Quercus lobata*	valley oak	11.5	20	35	C	C	co-dominant scaffolds with included bark, some epicormic growth	preserve	
36	*Quercus lobata*	valley oak	7	15	30	D	C	co-dominant scaffolds, one-sided to north	preserve	
37	*Quercus kelloggii*	California black oak	32	25	35	C	D	hollow and decayed trunk, re-sprout	remove	Street A
38	*Quercus lobata*	valley oak	15.5, 13.5	25	40	C	C	near trailers, in fill, co-dominant trunks with included bark	remove	pad grading

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
39	*Quercus lobata*	valley oak	16.5	40	35	C	C	old scar at base where trunk removed	preserve	
40	*Quercus kelloggii*	California black oak	8.5, 5.5	40	25	C	C	one-sided to north, co-dominant trunks, hollow at root crown	preserve	
41	*Quercus lobata*	valley oak	21, 5	60	45	C	C	5-inch trunk dead, compartmentalizing	preserve	
42	*Quercus lobata*	valley oak	11.5	20	45	C	C	trunk girdled with wire, high canopy	preserve	
43	*Quercus lobata*	valley oak	7	20	45	C	C	high canopy	preserve	
44	*Quercus lobata*	valley oak	10	30	45	C	C	somewhat high canopy	preserve	
45	*Quercus lobata*	valley oak	28.5	40	50	B	C	co-dominant scaffolds, minor dead wood	remove	Street A
46	*Quercus lobata*	valley oak	27	30	45	C	C	possible decay at root collar	encroach	Street A
47	*Quercus lobata*	valley oak	20	25	30	C	C	co-dominant scaffolds	preserve	
48	*Quercus lobata*	valley oak	13.5, 11.5	20	40	C	C	co-dominant trunks, one-sided to south	preserve	
49	*Quercus lobata*	valley oak	10, 7.5, 4	20	40	C	C	co-dominant trunks with included bark, 4-inch snag	preserve	
50	*Quercus lobata*	valley oak	10, 8, 5, 4	25	40	C	C	co-dominant trunks with included bark, 5-inch and 4-inch snags	preserve	
51	*Quercus lobata*	valley oak	10.5	15	35	C	C	co-dominant trunk with included bark	preserve	
52	*Quercus lobata*	valley oak	11.5	30	35	C	C	one-sided to south	preserve	
53	*Quercus lobata*	valley oak	11.5	20	40	C	C	sparse canopy	preserve	
54	*Quercus lobata*	valley oak	11.5, 7	25	30	C	C	co-dominant trunks from root crown, third trunk decayed, one-sided to east	preserve	
55	*Quercus lobata*	valley oak	9.5	25	35	C	C	suppressed	preserve	
56	*Quercus lobata*	valley oak	22	50	55	C	C	distorted trunk, moderate dead wood, self-corrected lean	preserve	
57	*Quercus lobata*	valley oak	8	20	25	C	C	near Douglas fir, one-sided to south, split bark	preserve	

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
58	*Quercus lobata*	valley oak	8	15	20	C	C	leans to south	preserve	
59	*Quercus lobata*	valley oak	15, 14.5	40	55	C	C	co-dominant trunks with include bark	preserve	
60	*Quercus lobata*	valley oak	9	15	35	C	C	suppressed, wire growing in trunk	preserve	
61	*Quercus lobata*	valley oak	7.5	20	35	C	C	heavily suppressed, leans to northeast, wire in trunk, sparse canopy	preserve	
62	*Quercus lobata*	valley oak	6, 3	15	20	C	C	co-dominant trunks from root crown	preserve	
63	*Quercus lobata*	valley oak	8, 7	20	25	C	C	co-dominant trunks from root crown	preserve	
64	*Quercus lobata*	valley oak	14, 10.5	35	45	C	C	co-dominant trunks from root crown with included bark, somewhat sparse canopy	preserve	
65	*Quercus lobata*	valley oak	8	20	35	C	C	suppressed	preserve	
66	*Quercus kelloggii*	California black oak	10, 8 (est.)	25	25	C	D	heavily decayed at root crown, co-dominant trunks with included bark	preserve	
67	*Quercus lobata*	valley oak	14	20	25	C	C	one-sided to west	preserve	
68	*Quercus lobata*	valley oak	18 (est.)	50	60	C	C	co-dominant scaffolds	preserve	
69	*Quercus kelloggii*	California black oak	7 (est.)	20	15	C	C	co-dominant scaffolds with included bark	preserve	
70	*Quercus lobata*	valley oak	7 (est.)	10	25	D	D	wire through trunk, dead wood, limited structure	preserve	
71	*Quercus lobata*	valley oak	13, 8 (est.)	30	15	F	F	dead, covered in poison oak	dead	
72	*Quercus lobata*	valley oak	21	35	60	C	C	apple gall	remove	pad grading
73	*Quercus kelloggii*	California black oak	6	20	25	C	C	one-sided to east	preserve	
74	*Quercus kelloggii*	California black oak	12, 10, 8, 8	25	25	C	D	7-inch dead trunk, hollow under tree, decaying roots	remove	pad grading
75	*Quercus lobata*	valley oak	12, 12	20	25	C	D	co-dominant trunks with included bark, topped for power lines	remove	pad grading
76	*Quercus lobata*	valley oak	10.5	40	25	C	C	leans to south, old gall	remove	pad grading

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
77	*Quercus lobata*	valley oak	27	35	50	C	C	high canopy, sparse	remove	pad grading
78	*Quercus lobata*	valley oak	10.5	25	40	C	C	high canopy, sparse	remove	pad grading
79	*Quercus kelloggii*	California black oak	10, 7	25	35	C	C	co-dominant trunks from root crown	remove	pad grading
80	*Quercus lobata*	valley oak	8	20	20	C	C	leans to north	remove	pad grading
81	*Quercus lobata*	valley oak	20	60	40	C	C	somewhat sparse canopy, spigot at base	remove	pad grading
82	*Quercus lobata*	valley oak	12	30	30	C	C	wound on trunk, dead wood	remove	pad grading
83	*Quercus lobata*	valley oak	10	20	40	C	C	heavily suppressed	remove	pad grading
84	*Quercus lobata*	valley oak	13, 12.5	40	45	C	C	co-dominant trunks from root crown, sparse canopy	remove	pad grading
85	*Quercus lobata*	valley oak	14.5	40	45	C	C	co-dominant main scaffolds, sparse canopy	remove	pad grading
86	*Quercus lobata*	valley oak	19	50	50	C	C	co-dominant main scaffolds	remove	pad grading
87	*Quercus lobata*	valley oak	28	70	60	C	C	dead wood, nice specimen	remove	pad grading
88	*Quercus lobata*	valley oak	13	20	45	C	C	foliage only at top	preserve	
89	*Quercus lobata*	valley oak	12, 11	20	35	C	C	leans to southwest, foliage only near top	encroach	pad grading
90	*Quercus lobata*	valley oak	8.5	20	40	C	C	lower scaffolds dead, old apple gall	preserve	
91	*Quercus lobata*	valley oak	8	20	40	C	C	suppressed	preserve	
92	*Quercus lobata*	valley oak	12.5	30	25	C	C	suppressed, leans to southeast	preserve	
93	*Quercus kelloggii*	California black oak	11.5, 9	40	25	C	C	suppressed	preserve	
94	*Quercus lobata*	valley oak	10.5	40	40	C	C	suppressed, leans to northeast	preserve	
95	*Quercus kelloggii*	California black oak	10	20	40	F	F	dead	dead	

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
96	*Quercus lobata*	valley oak	20	30	50	C	C	high canopy, co-dominant main scaffolds with included bark	encroach	pad grading
97	*Quercus lobata*	valley oak	25	30	50	C	C	high canopy, co-dominant main scaffolds with included bark	remove	pad grading
98	*Quercus lobata*	valley oak	13	40	50	C	C	leans to northeast, suppressed, high canopy	encroach	pad grading
99	*Quercus lobata*	valley oak	12.5	25	40	C	C	leans to north, suppressed, high canopy	preserve	
100	*Quercus lobata*	valley oak	13.5	25	40	C	C	leans to north, suppressed, high canopy	preserve	
101	*Quercus kelloggii*	California black oak	18, 14, 9	30	55	D	D	declining, 9-inch trunk dead, decay at root crown	preserve	
102	*Quercus lobata*	valley oak	8	40	35	C	C	sparse canopy, leans to south	preserve	
103	*Quercus lobata*	valley oak	14.5	40	50	C	C	sparse canopy, dead branches	preserve	
104	*Quercus lobata*	valley oak	9.5	15	40	C	C	extremely suppressed	preserve	
105	*Quercus kelloggii*	California black oak	11	50	40	C	C	leans to north, suppressed	preserve	
106	*Quercus kelloggii*	California black oak	12.5	40	40	C	C	leans to north, suppressed	preserve	
107	*Quercus lobata*	valley oak	22	40	40	C	C	small leaves	preserve	
108	*Quercus lobata*	valley oak	19	0	0	F	F	dead	dead	
109	*Quercus kelloggii*	California black oak	10.5	40	35	C	C	leans to west, suppressed	preserve	
110	*Quercus kelloggii*	California black oak	11, 11	30	40	C	C	co-dominant trunks with included bark from root crown	preserve	
111	*Quercus lobata*	valley oak	14	30	50	C	C	inside chicken coop, suppressed, co-dominant scaffolds with narrow angle	encroach	pad grading
112	*Quercus lobata*	valley oak	16, 13.5	40	50	C	C	wooden brace for chicken coop nailed to tree, co-dominant scaffolds, dead stub	encroach	pad grading
113	*Quercus lobata*	valley oak	18	40	50	C	C	barbed wire in trunk, many dead branches	remove	pad grading
114	*Quercus lobata*	valley oak	13, 12, 9.5	30	35	C	C	co-dominant trunks with included bark at root crown	encroach	pad grading

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
115	*Quercus kelloggii*	California black oak	24, 9	60	30	C	C	co-dominant trunks with included bark, sprawling form	preserve	
116	*Quercus lobata*	valley oak	13	20	40	C	C	suppressed, high canopy	preserve	
117	*Quercus lobata*	valley oak	8.5, 8, 7	10	25	F	F	dead	dead	
118	*Quercus lobata*	valley oak	9	25	25	C	C	hollow at root crown, one-sided to east	preserve	
119	*Quercus lobata*	valley oak	12.5	25	30	C	C	one-sided to west	preserve	
120	*Quercus lobata*	valley oak	12, 8	30	20	C	C	co-dominant trunks with included bark, leans to west	preserve	
121	*Quercus kelloggii*	California black oak	13, 6, 6	10	20	F	F	dead	dead	
122	*Quercus lobata*	valley oak	9, 9	20	35	C	C	co-dominant trunks with included bark, co-dominant scaffolds	preserve	
123	*Quercus lobata*	valley oak	7	15	30	C	C	suppressed	preserve	
124	*Quercus kelloggii*	California black oak	16.5, 7	40	30	C	C	co-dominant trunks with included bark	encroach	pad grading
125	*Quercus kelloggii*	California black oak	20, 17	40	30	C	D	large hollow on east side, decay at root crown	remove	pad grading
126	*Quercus kelloggii*	California black oak	12	30	30	C	C	suppressed, sweeps in co-dominant scaffolds	preserve	
127	*Quercus lobata*	valley oak	18	50	50	C	C	moderate dead wood in scaffolds, nicer specimen	remove	pad grading
128	*Quercus lobata*	valley oak	5	20	30	C	C	suppressed, leans to west	preserve	
129	*Quercus lobata*	valley oak	12 (est.)	40	40	C	C	extensive dead wood in scaffolds	preserve	
130	*Quercus lobata*	valley oak	8	10	25	C	C	large tree above has fallen into this tree, suppressed	preserve	
131	*Quercus lobata*	valley oak	7	15	25	C	C	suppressed	preserve	
132	*Quercus lobata*	valley oak	29.5	60	55	C	D	hazardous due to many dead scaffolds, needs aerial inspection if to remain	preserve	
133	*Quercus lobata*	valley oak	13, 13 (est.)	30	35	C	C	barbed wire in trunk, co-dominant trunks	remove	pad grading

OAK TREE INVENTORY

Tree Number	Species		Trunk dBH (inches)	Canopy (feet)	Height (feet)	Health	Appearance	Comments	Disposition	Comments
	Scientific Name	Common Name								
134	*Quercus lobata*	valley oak	14 (est.)	25	30	C	C	barbed wire in trunk, some dead scaffolds	remove	pad grading
135	*Quercus kelloggii*	California black oak	13.5	40	40	C	D	decay at root crown, fill at trunk, leans to south dead scaffolds	preserve	
136	*Quercus kelloggii*	California black oak	13	30	35	C	D	decay at root crown, fill at trunk, old stub at base, leans to north	preserve	
137	*Quercus lobata*	valley oak	14.5	40	35	C	D	leans to southwest, missing bark	preserve	
138	*Quercus lobata*	valley oak	6	15	25	C	C	slight lean to southwest	preserve	
139	*Quercus kelloggii*	California black oak	26	30	35	C	C	some dead scaffolds, suppressed	preserve	

Ratings:	
A	excellent
B	above average
C	average
D	declining
F	dead

Tree Disposition Summary	
Preserve	91
Encroach	11
Remove	31
Dead	6
Total	**139**

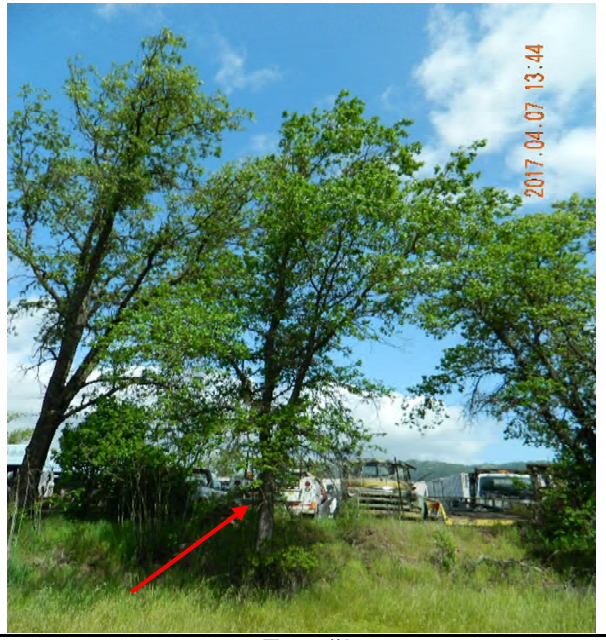
APPENDIX B – PHOTOGRAPHS



Tree #1



Tree #2



Tree #3



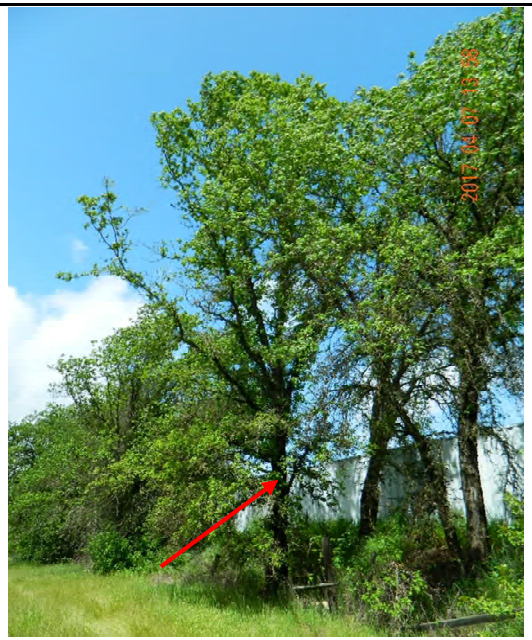
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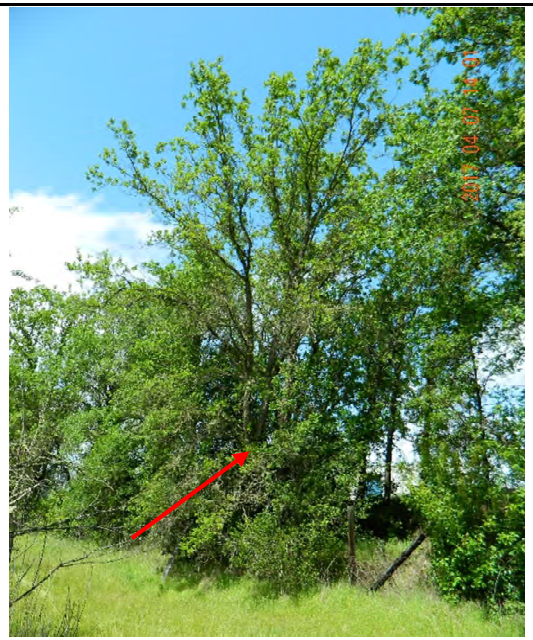
Tree #5



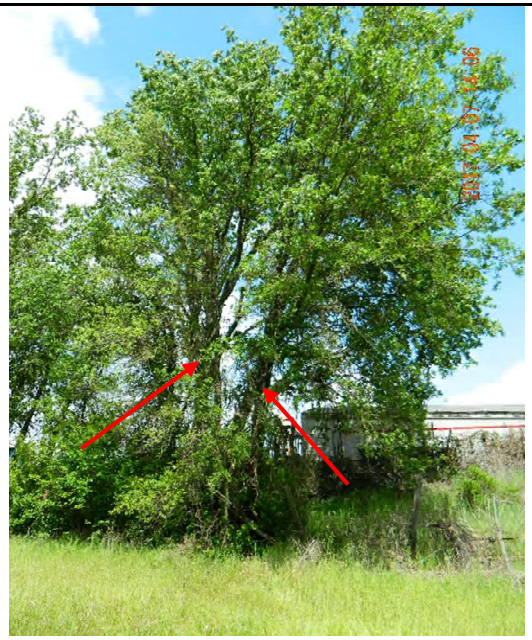
Tree #6



Tree #7



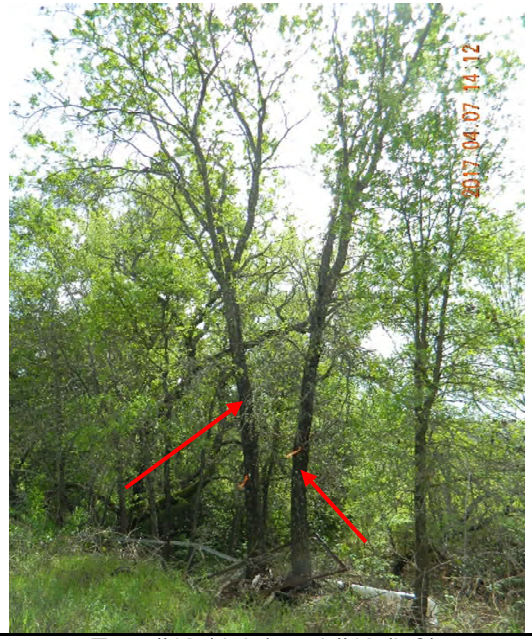
Tree #8



Tree #9 (left) and #10 (right)



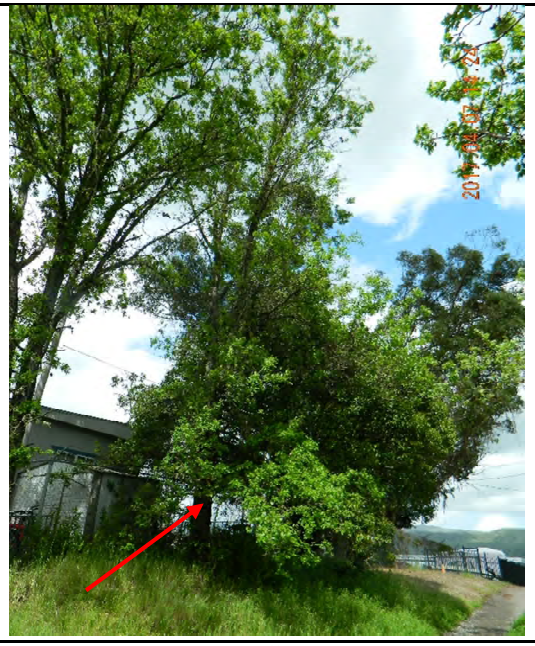
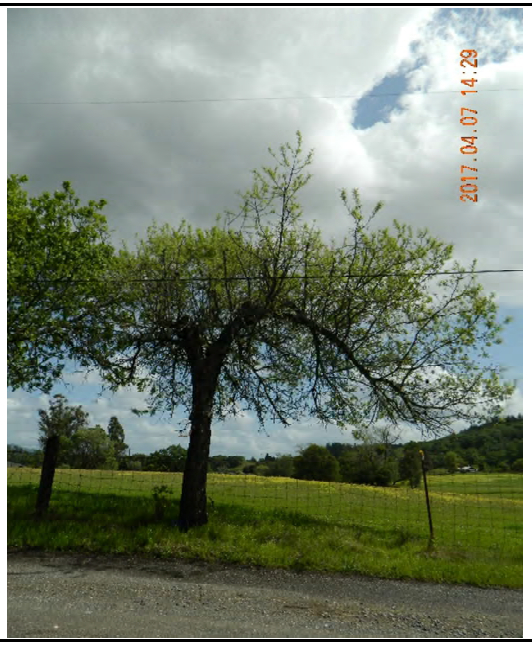
Tree #11

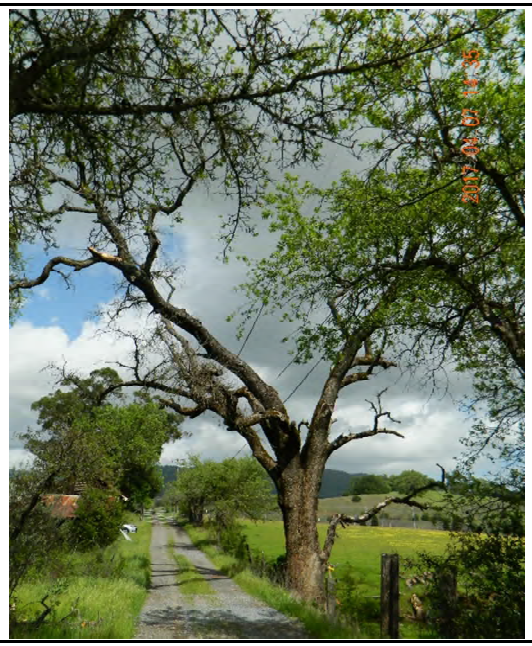
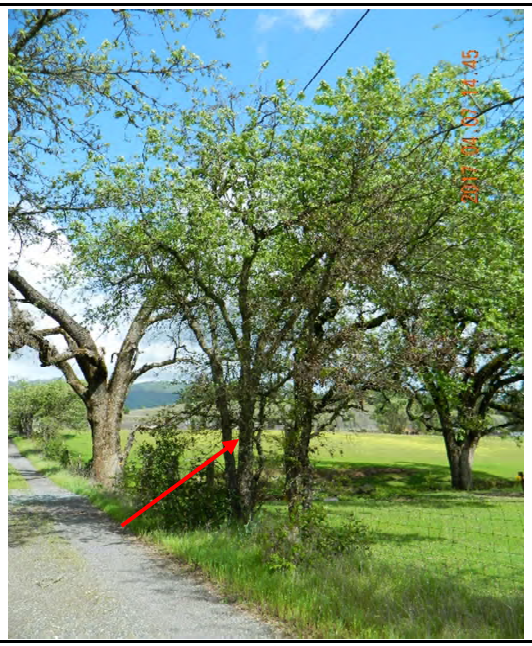


Tree #12 (right) and #13 (left)



Tree #14

		
Tree #15	Tree #16	Tree #17
		
Tree #18	Tree #19	Tree #20

		
Tree #21	Tree #22	Tree #23
		
Tree #24	Tree #25	Tree #26



Tree #27



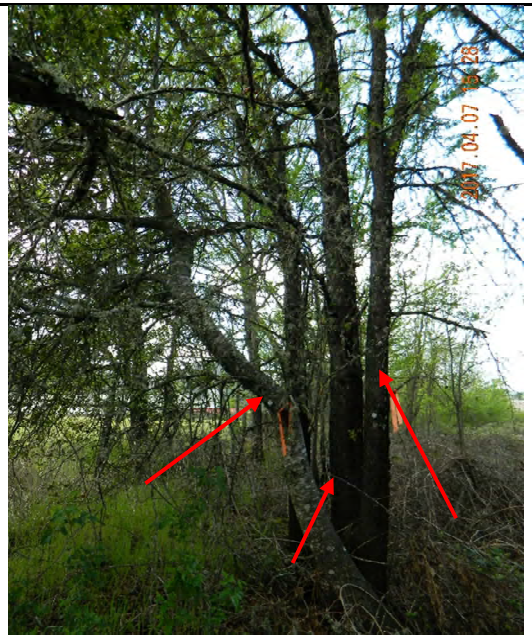
Tree #28



Tree #29



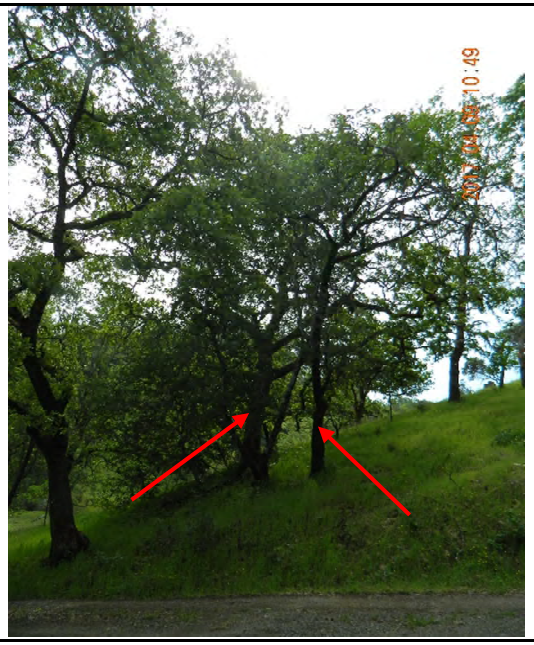
Tree #30



Tree #31 (middle), #32 (left) and #33 (right)



Tree #34

		
Tree #35	Tree #36	Tree #37
		
Tree #38	Tree #39	Tree #40 (right) and #41 (left)



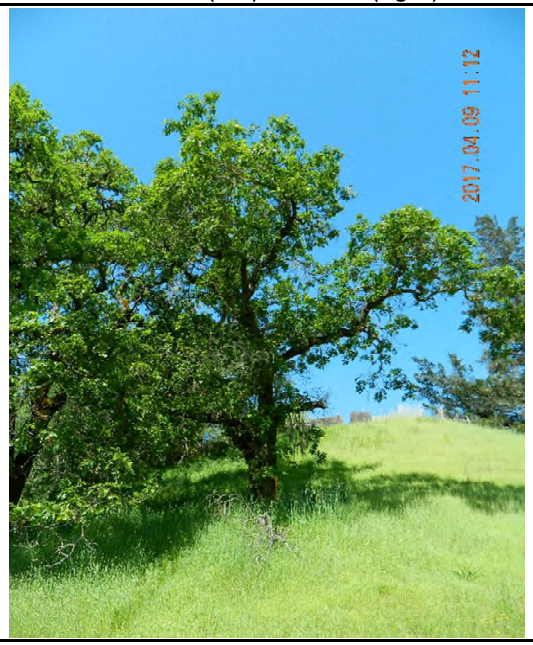
Tree #42 (left) and #43 (right)



Tree #44



Tree #45



Tree #46

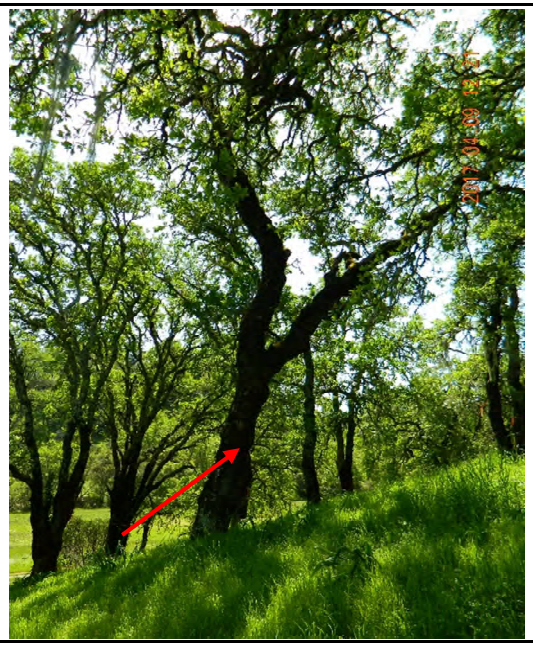


Tree #47

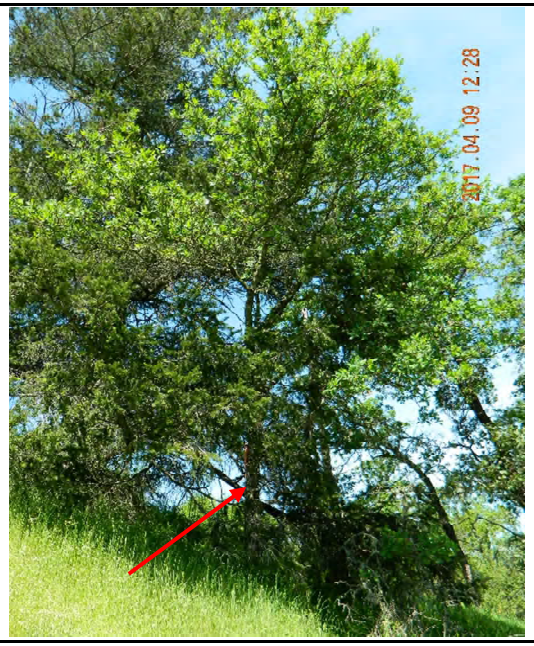


Tree #48

		
Tree #49	Tree #50	Tree #51
		
Tree #52 (left) and #53 (right)	Tree #54	Tree #55



Tree #56



Tree #57



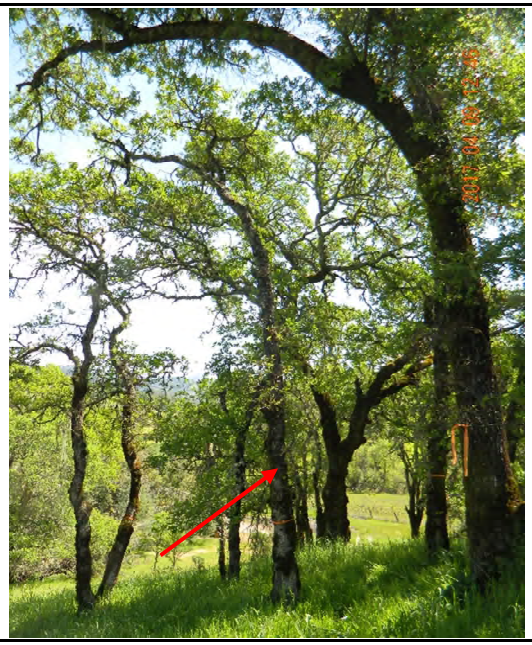
Tree #58



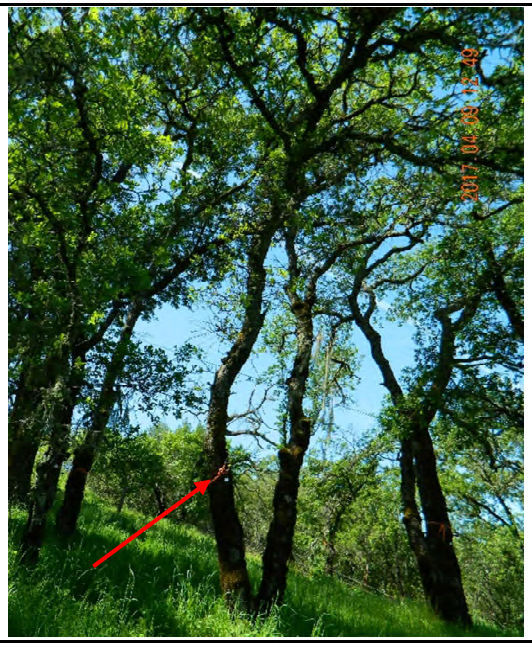
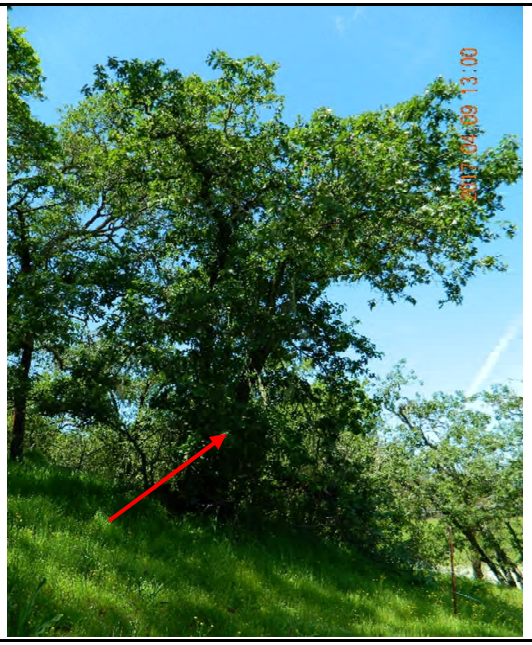
Tree #59

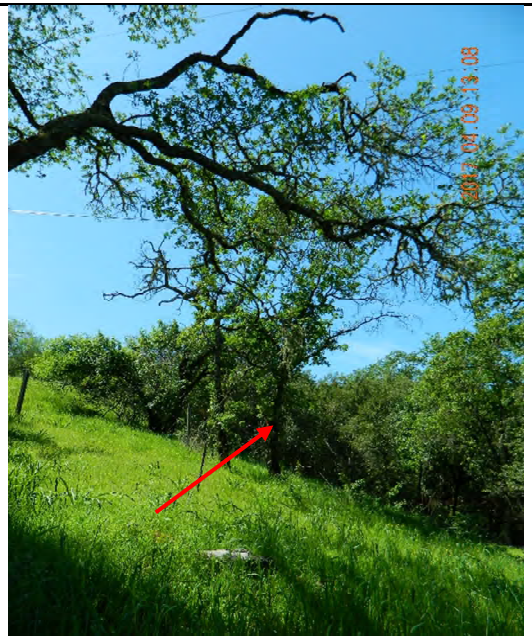
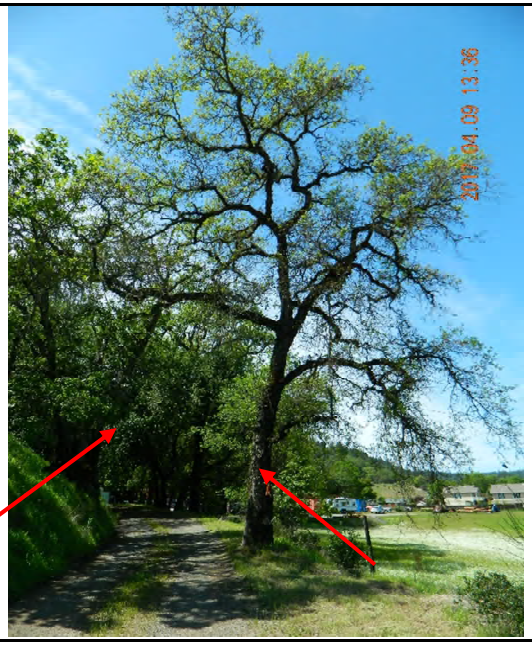


Tree #60



Tree #61

		
Tree #62	Tree #63	Tree #64
		
Tree #65	Tree #66	Tree #67

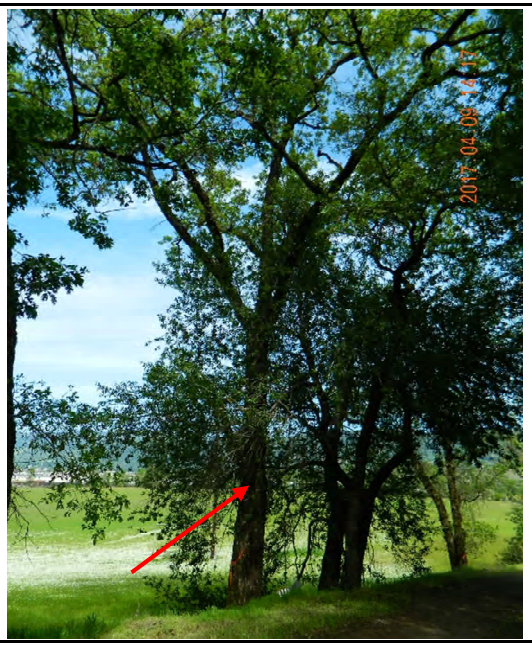
		
Tree #68	Tree #69	Tree #70
		
Tree #71	Tree #72 (right) and #73 (left)	Tree #74



Tree #75



Tree #76



Tree #77



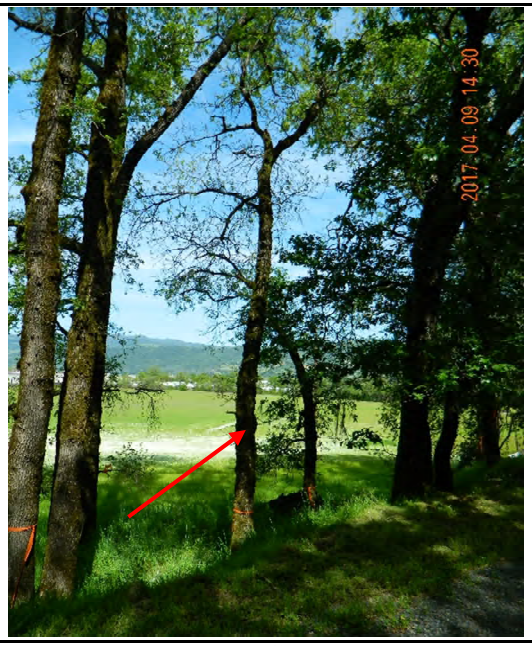
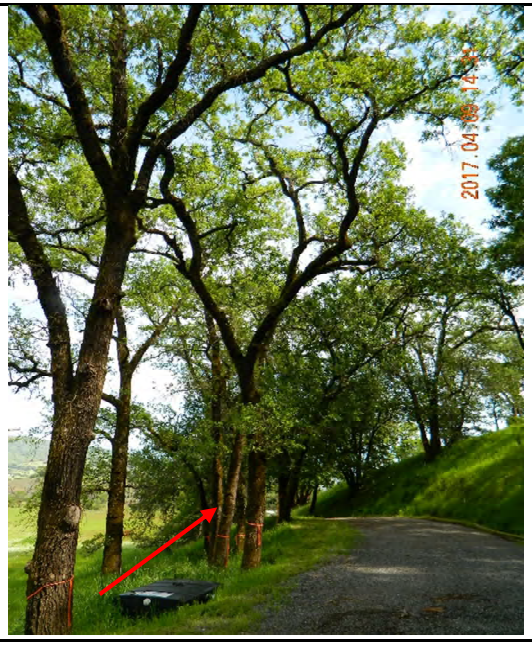
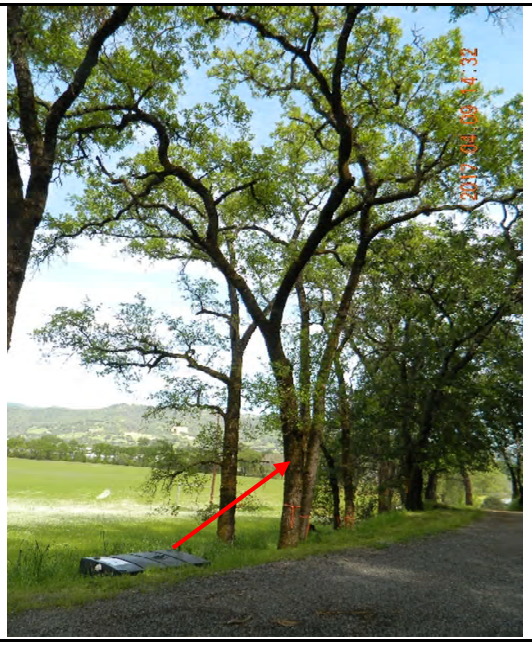
Tree #78



Tree #79

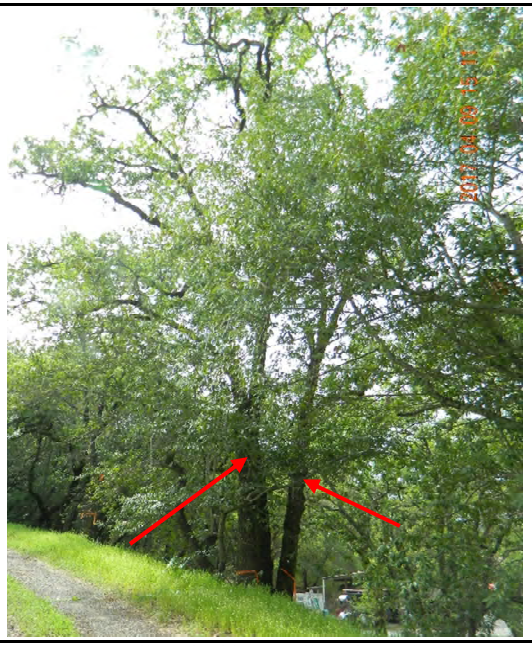


Tree #80

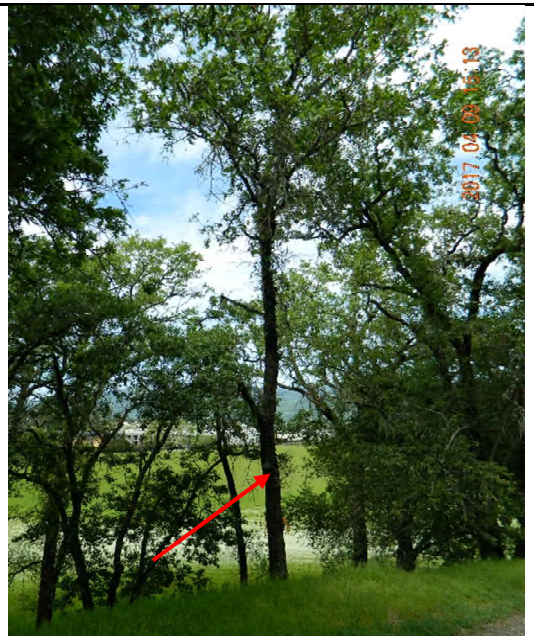
		
Tree #81	Tree #82	Tree #83
		
Tree #84	Tree #85	Tree #86



Tree #87



Tree #88 (left) and #89 (right)



Tree #90



Tree #91



Tree #92



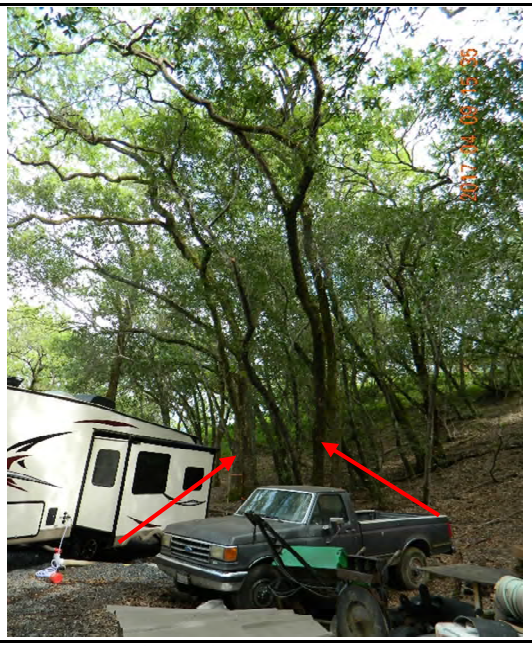
Tree #93 (left) and #94 (right)



Tree #95 (left) and #96 (right)



Tree #97 (left), #98 (middle) and #99 (right)



Tree #100 (left) and #101 (right)



Tree #102



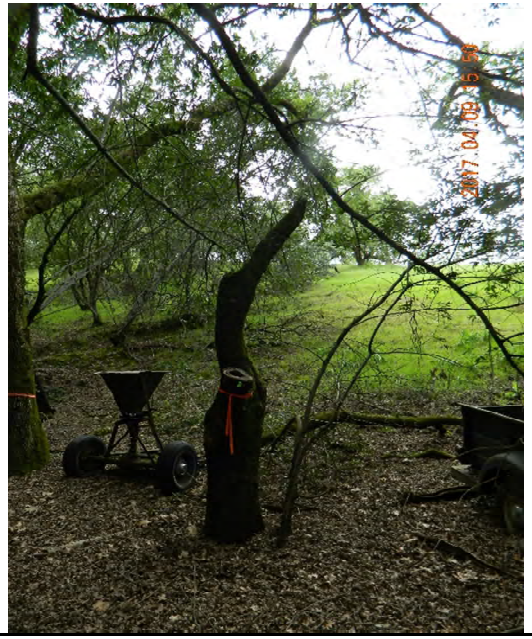
Tree #103 (left) and #104 (right)



Tree #105 (left) and #106 (right)



Tree #107



Tree #108



Tree #109 (left) and #110 (right)



Tree #111



Tree #112



Tree #113



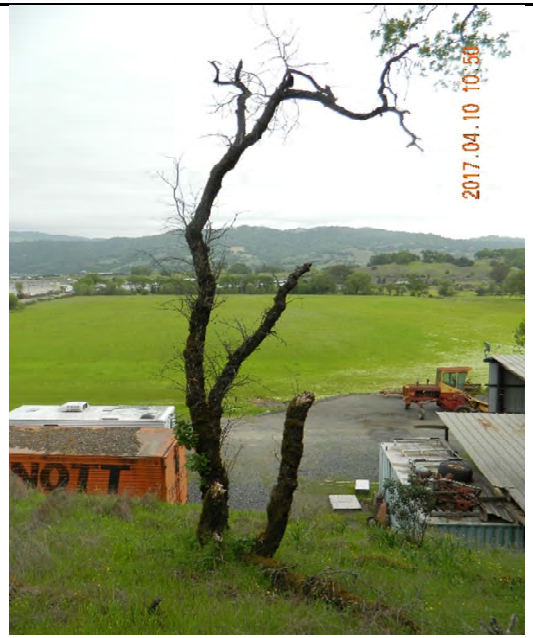
Tree #114



Tree #115



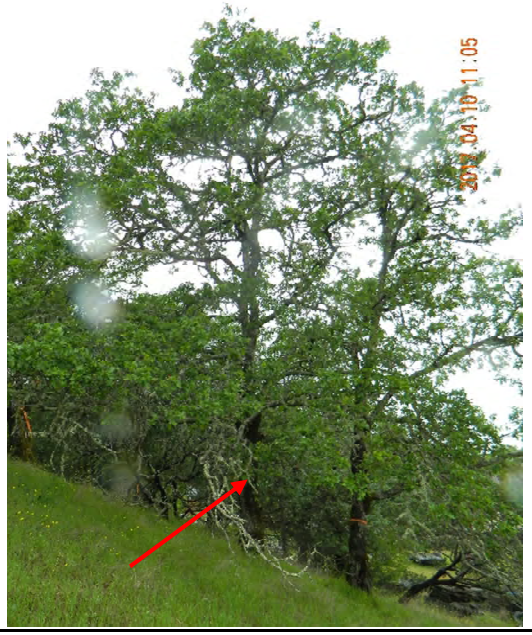
Tree #116



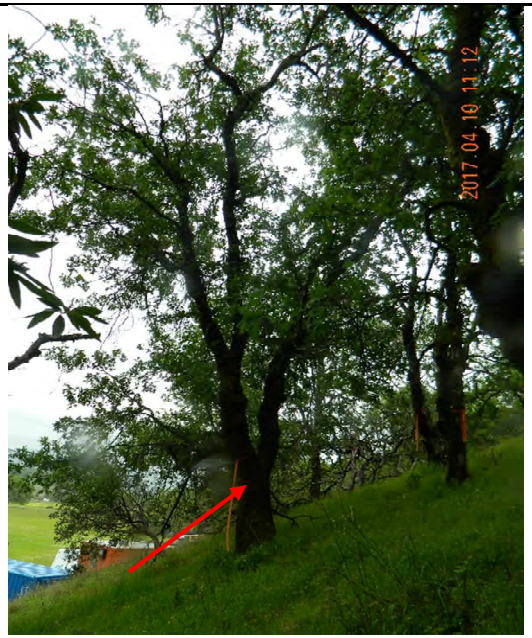
Tree #117



Tree #118

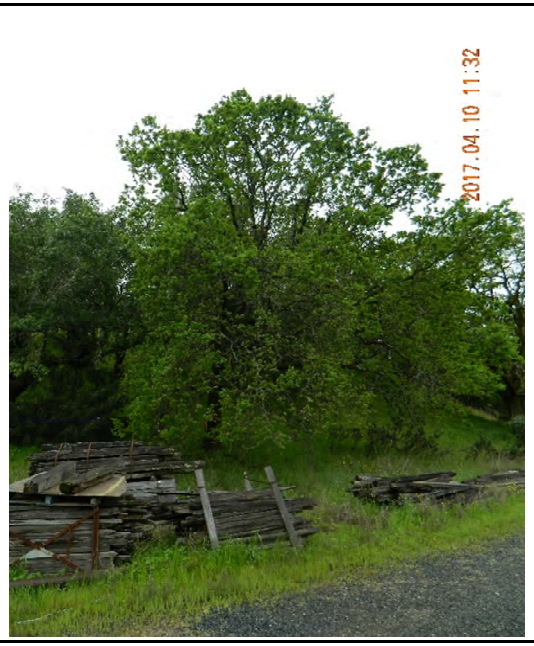


Tree #119

		
Tree #120	Tree #121	Tree #122
		
Tree #123	Tree #124	Tree #125



Tree #126



Tree #127



Tree #128



Tree #129



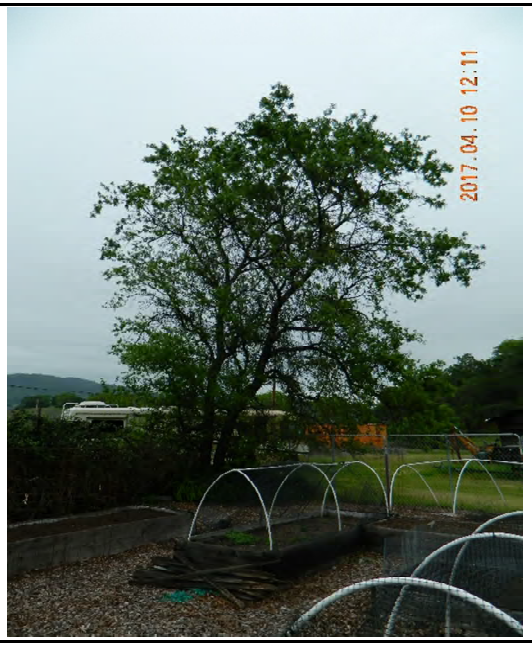
Tree #130



Tree #131



Tree #132



Tree #133



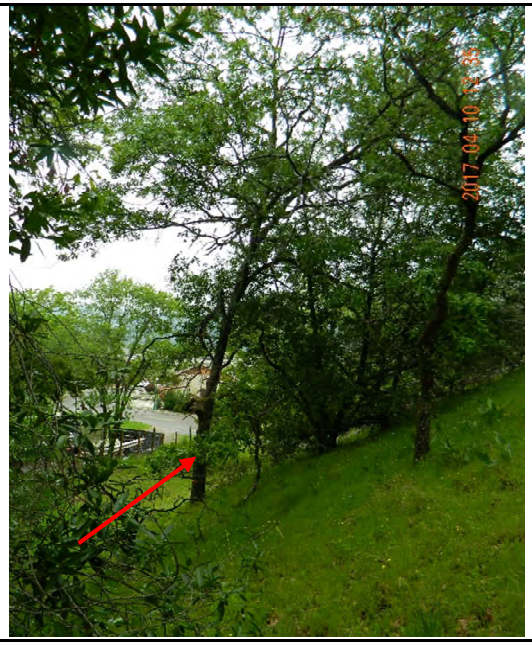
Tree #134



Tree #135



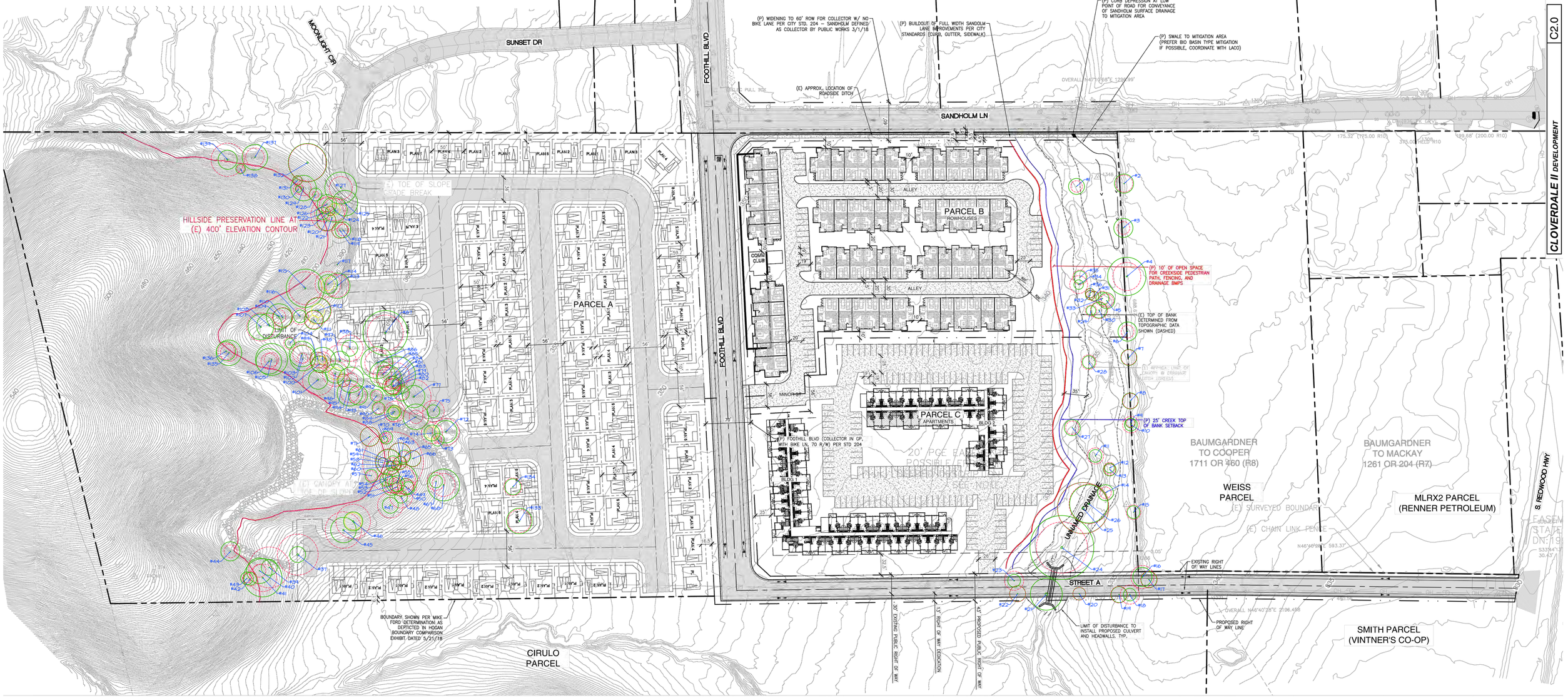
Tree #136



Tree #137

	
Tree #138	Tree #139

APPENDIX C – PROTECTED TREE LOCATION MAP



C2.0

CLOVERDALE II DEVELOPMENT

GENERAL LEGEND

- EXISTING/PROPOSED CENTERLINE (℄)
- EXISTING PROPERTY LINE (EX. ℄)
- PROPOSED PROPERTY LINE (℄)
- PROPOSED SETBACK LINE
- EXISTING/PROPOSED EASEMENT
- PROPOSED SAWCUT
- GUTTER FLOWLINE
- PROPOSED CURB AND GUTTER
- PROPOSED SLOTTED CURB
- PROPOSED RETAINING WALL. HEIGHT PER PLAN.
- PROPOSED CONCRETE PAVEMENT/HARDSCAPE
- PROPOSED ASPHALT CONCRETE PAVEMENT
- PROPOSED GRAVEL
- DEEPENED FOUNDATION WALL. RETAINED HEIGHT PER PLAN. SEE STRUCTURAL PLANS BY OTHERS FOR CONSTRUCTION DETAILS.
- RAISED FOUNDATION WALL. RETAINED HEIGHT PER PLAN. SEE STRUCTURAL PLANS BY OTHERS FOR CONSTRUCTION DETAILS.

GRADING LEGEND

- GB BRIDGE HINGE — GRADE BREAK
- CUT / FILL — DAYLIGHT OF GRADING LIMITS (CUT/FILL LINE)
- LIMIT OF DISTURBANCE
- SWALE
- 100 — CONTOUR MAJOR
- 100 — CONTOUR MINOR
- TOP OF SLOPE
- TOE OF SLOPE
- OVERLAND RELEASE PATH

SITE INFORMATION

SITE ADDRESS: 28195 HIGHWAY 101, CLOVERDALE, CA 95425
APN 117-040-053/084

GROSS SITE AREA =	28.5 ACRES +/-
PRESERVATION AREA =	8.173 ACRES

PROJECT ZONING (FROM TABLE 18.04.050-A):
- R-2 DENSITY = 8 UNITS/ACRE
- R-3 DENSITY = 16 UNITS/ACRE
- FLOOR AREA RATIO (MAX) FOR SITE > 4,000 SF = 0.40 (R2 AND R3)
- MAX BUILDING HEIGHT = 35' FOR 2 STORIES, WHICHEVER IS LESS (R2 AND R3)
- DISTANCE B/T BUILDING = 10' (R2 AND R3)
- PUBLIC OPEN SPACE PER UNIT = 100 SF (R2 AND R3)
- PRIVATE OPEN SPACE PER UNIT = 60 SF (R2 AND R3)

PARKING REQUIREMENTS (FROM TABLE 18.11.050-A):
- FOR CLUSTER OWNERSHIP HOUSING (SINGLE-FAMILY DWELLING IN A SMALL LOT PUD, TOWNHOUSES, CONDOMINIUMS, AND ATTACHED HOUSING):
  - 1 COVERED SPACE PER UNIT; PLUS 1.5 UNRESTRICTED SHARED PARKING SPACES PER UNIT; PLUS 0.5 PARKING SPACE PER UNIT, WHICH MAY BE RESTRICTED TO SPECIFIC UNITS OR MAY BE UNRESTRICTED

PARCEL A - SINGLE FAMILY HOMES

GROSS AREA =	17.659 ACRES
PRESERVATION AREA =	6.249 ACRES
*STREET DEDICATION AREA =	0.581 ACRES
NET AREA =	10.828 ACRES

UNIT COUNT = 79 UNITS
DENSITY = 79 UNITS/17.659 AC = 4.47 UNITS/AC

** BUILDING SETBACKS = AS SHOWN **

PLAN 1: 3 BED, 2.5 BATH, 1,363 SF NET x 13 UNITS TOTAL =	17,719 SF
PLAN 2: 4 BED, 2.5 BATH, 1,525 SF NET x 12 UNITS TOTAL =	18,300 SF
PLAN 3: 4 BED, 3.5 BATH, 1,700 SF NET x 18 UNITS TOTAL =	30,600 SF
PLAN 4: 4 BED, 2.5 BATH, 1,800 SF NET x 18 UNITS TOTAL =	32,400 SF
PLAN 5: 3 BED, 3.5 BATH, 1,880 SF NET x 18 UNITS TOTAL =	33,840 SF
TYPICAL GARAGE (TWO CARS) = 440 SF x 79 UNITS TOTAL =	34,760 SF
TOTAL BUILDING AREA =	167,620 SF

BUILDING SITE COVERAGE = 167,620 SF/ (17.659 AC x 43,560 SF/AC) = 22%

PROVIDED PARKING:
- ATTACHED GARAGES = 2 COVERED PARKING SPACES/UNIT x 79 UNITS = 158 COVERED GARAGE SPACES
- SITE PARKING = 1 ON STREET SPACE/UNIT x 79 UNITS = 79 SPACES
- ** TOTAL PARKING = 237 SPACES **

PARCEL B - ROWHOUSES (2-STORY)

GROSS AREA =	4.947 ACRES
PRESERVATION AREA =	0.866 ACRES
*STREET DEDICATION AREA =	0.512 ACRES
NET AREA =	3.570 ACRES

UNIT COUNT = 60 UNITS
DENSITY = 60 UNITS/4.947 AC = 12.1 UNITS/AC
1 COMMUNITY CLUBHOUSE

** BUILDING SETBACKS = 10' **

BUILDING AREA = 6,890 SF/BUILDING x 6 BUILDINGS = 41,340 SF

BUILDING SITE COVERAGE = 41,340 SF/ (4.947 AC x 43,560 SF/AC) = 19%

PROVIDED PARKING:
- ATTACHED GARAGES = 2 COVERED PARKING SPACES/UNIT X 60 UNITS = 120 COVERED GARAGE SPACES
- SITE PARKING = 35 SHARED PARKING SPACES
- ** TOTAL PARKING = 155 SPACES **

PARCEL C - APARTMENTS

GROSS AREA =	5.892 ACRES
PRESERVATION AREA =	1.058 ACRES
*STREET DEDICATION AREA =	1.176 ACRES
NET AREA =	3.658 ACRES

UNIT COUNT = 166 UNITS
DENSITY = 166 UNITS/5.892 AC = 28.2 UNITS/AC
1 COMMUNITY CLUBHOUSE

** BUILDING SETBACKS = 25' **

BUILDING 1 AREA =	24,940 SF
BUILDING 2 AREA =	16,935 SF
TOTAL BUILDING AREA =	41,875 SF

BUILDING SITE COVERAGE = 41,875 SF/ (3.658 AC x 43,560 SF/AC) = 16%

** TOTAL PARKING = 184 SPACES **

TOTAL SITE AREAS

GROSS AREA =	28.50 ACRES
PRESERVATION AREA =	8.173 ACRES
*STREET DEDICATION AREA =	2.269 ACRES
NET AREA =	18.06 ACRES

TOTAL UNIT COUNT = 305 UNITS
DENSITY = 305 UNITS/28.50 AC = 10.70 UNITS/AC
2 COMMUNITY CLUBHOUSES

SURVEY AND MAPPING

THE TOPOGRAPHIC SURVEY AND MAPPING INFORMATION, INCLUDING BUT NOT LIMITED TO EXISTING SURFACE FEATURES, PROPERTY LINES, RIGHT-OF-WAY, CENTERLINE, EASEMENTS, AND RECORD INFORMATION, SHOWN ON THESE PLANS WERE PROVIDED BY THE SURVEYS BELOW.

TITLE: "TOPOGRAPHIC MAP", DATED: 08/01/2017; BY HOGAN LAND SERVICES, 1702 4TH STREET, SANTA ROSA, CA 95404

ADDITIONAL SURVEY BOUNDARY: RECORDS OF SURVEY; COMPILATION OF HOGAN LAND SERVICES R.O.S. AND MICHAEL FORD R.O.S. WORK IN PROGRESS AS OF 7/16/2018 SUBJECT TO FINAL BOUNDARY DETERMINATION.

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5. CONTOUR DATA SHOWN IN BASED ON THE SONOMA COUNTY VEGMAP LIDAR DATA ORIGINALLY MEASURED IN 2013, ANY CHANGES SINCE THEN ARE NOT REFLECTED. THIS CONTOUR INFORMATION IS PROVIDED FOR DISCUSSION PURPOSES ONLY AND IS NOT INTENDED TO BE USED FOR DESIGN.

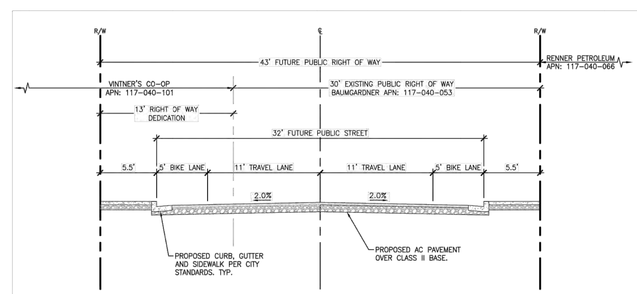
SITE IMPORT/EXPORT

EARTHWORKS:
THE GRADING ACTIVITIES FOR THE PROPOSED DEVELOPMENT SHALL RESULT IN BALANCED EARTHWORKS.

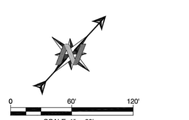
MATERIAL EXPORT:
THE MATERIAL RESULTING FROM THE DEMOLITION OF THE EXISTING BUILDINGS LOCATED ONSITE SHALL BE EXPORTED OFFSITE, TO AN APPROVED DISPOSAL SITE. THE APPROXIMATE EXPORTED VOLUME IS 1,250 CUBIC YARDS.

OAK TREE LOCATION MAP
PREPARED BY:
KAY, J. GREELEY, BCMA
5328 ALHAMA DRIVE
WOODLAND HILLS, CALIFORNIA 91364
(805) 571-8432

LEGEND
- TRUNK LOCATION / TREE TAG #
- TREE PROTECTION ZONE
- AVERAGE CANOPY SPREAD



TYPICAL MODIFIED ROADWAY CROSS SECTION - STREET A
1"=6'



811 Know what's below. Call 811 before you dig.

NOTE: UTILITIES SHOWN WERE PLOTTED FROM OBSERVED EVIDENCE AND PLANS OBTAINED FROM UTILITY PROVIDERS. EXACT LOCATIONS AND QUANTITIES MAY VARY. THE CONTRACTOR SHALL CALL 811 FOR UTILITY LOCATING SERVICES PRIOR TO EXCAVATION AND USE EXTREME CAUTION WHEN EXPOSING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

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REGISTERED PROFESSIONAL ENGINEER MATTHEW R. WALSH C 79026 NOT FOR CONSTRUCTION CIVIL STATE OF CALIFORNIA

Integrated Community Development

CIVIL SITE PLAN

CLOVERDALE II DEVELOPMENT
SANDHOLM LANE
CLOVERDALE, CA 95425
INTEGRATED COMMUNITY DEVELOPMENT

21031 VENTURA BOULEVARD, SUITE 200
WOODLAND HILLS, CALIFORNIA 91364
TELEPHONE: (818) 905-2430
FACSIMILE: (818) 905-2440

REVISIONS

DATE	4/4/2019
SCALE	AS NOTED
DRAWN	KG
JOB no.	2017240
SHEETS	

SHEET NUMBER
C2.0

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B.6 - Tree Disposition Map

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CLOVERDALE II DEVELOPMENT



GENERAL LEGEND

- EXISTING/PROPOSED CENTERLINE (℄)
- EXISTING PROPERTY LINE (EX. ℄)
- PROPOSED PROPERTY LINE (℄)
- PROPOSED SETBACK LINE
- EXISTING/PROPOSED EASEMENT
- PROPOSED SAWCUT
- GUTTER FLOWLINE
- PROPOSED CURB AND GUTTER
- PROPOSED SLOTTED CURB
- PROPOSED RETAINING WALL. HEIGHT PER PLAN.
- PROPOSED CONCRETE PAVEMENT/HARDSCAPE
- PROPOSED ASPHALT CONCRETE PAVEMENT
- PROPOSED GRAVEL
- DEEPENED FOUNDATION WALL. RETAINED HEIGHT PER PLAN. SEE STRUCTURAL PLANS BY OTHERS FOR CONSTRUCTION DETAILS.
- RAISED FOUNDATION WALL. RETAINED HEIGHT PER PLAN. SEE STRUCTURAL PLANS BY OTHERS FOR CONSTRUCTION DETAILS.

GRADING LEGEND

- GB RIDGE HINGE — GRADE BREAK
- CUT / FILL — DAYLIGHT OF GRADING LIMITS (CUT/FILL LINE)
- LIMIT OF DISTURBANCE
- SWALE
- 100 — CONTOUR MAJOR
- 100 — CONTOUR MINOR
- TOP OF SLOPE
- TOE OF SLOPE
- OVERLAND RELEASE PATH

SITE INFORMATION

SITE ADDRESS: 28195 HIGHWAY 101, CLOVERDALE, CA 95425
APN 117-040-053/084
GROSS SITE AREA = 28.5 ACRES +/-
PRESERVATION AREA = 8.173 ACRES

PROJECT ZONING (FROM TABLE 18.04.050-A):
R-2 DENSITY = 8 UNITS/ACRE
R-3 DENSITY = 16 UNITS/ACRE
FLOOR AREA RATIO (MAX) FOR SITE > 4,000 SF = 0.40 (R2 AND R3)
MAX BUILDING HEIGHT = 35' FOR 2 STORIES, WHICHEVER IS LESS (R2 AND R3)
DISTANCE B/T BUILDING = 10' (R2 AND R3)
PUBLIC OPEN SPACE PER UNIT = 100 SF (R2 AND R3)
PRIVATE OPEN SPACE PER UNIT = 60 SF (R2 AND R3)

PARKING REQUIREMENTS (FROM TABLE 18.11.050-A):
FOR CLUSTER OWNERSHIP HOUSING (SINGLE-FAMILY DWELLING IN A SMALL LOT PUD, TOWNHOUSES, CONDOMINIUMS, AND ATTACHED HOUSING):

1 COVERED SPACE PER UNIT; PLUS 1.5 UNRESTRICTED SHARED PARKING SPACES PER UNIT; PLUS 0.5 PARKING SPACE PER UNIT, WHICH MAY BE RESTRICTED TO SPECIFIC UNITS OR MAY BE UNRESTRICTED

PARCEL A - SINGLE FAMILY HOMES

GROSS AREA = 17.659 ACRES
PRESERVATION AREA = 6.249 ACRES
*STREET DEDICATION AREA = 0.581 ACRES
NET AREA = 10.828 ACRES

UNIT COUNT = 79 UNITS
DENSITY = 79 UNITS/17.659 AC = 4.47 UNITS/AC

** BUILDING SETBACKS = AS SHOWN **

PLAN 1: 3 BED, 2.5 BATH, 1,363 SF NET x 13 UNITS TOTAL = 17,719 SF
PLAN 2: 4 BED, 2.5 BATH, 1,525 SF NET x 12 UNITS TOTAL = 18,300 SF
PLAN 3: 4 BED, 3.5 BATH, 1,700 SF NET x 18 UNITS TOTAL = 30,600 SF
PLAN 4: 4 BED, 2.5 BATH, 1,800 SF NET x 18 UNITS TOTAL = 32,400 SF
PLAN 5: 3 BED, 3.5 BATH, 1,880 SF NET x 18 UNITS TOTAL = 33,840 SF
TYPICAL GARAGE (TWO CARS) = 440 SF x 79 UNITS TOTAL = 34,760 SF
TOTAL BUILDING AREA = 167,620 SF

BUILDING SITE COVERAGE = 167,620 SF/ (17.659 AC x 43,560 SF/AC) = 22%

PROVIDED PARKING:
ATTACHED GARAGES = 2 COVERED PARKING SPACES/UNIT x 79 UNITS = 158 COVERED GARAGE SPACES
SITE PARKING = 1 ON STREET SPACE/UNIT x 79 UNITS = 79 SPACES
** TOTAL PARKING = 237 SPACES **

PARCEL B - ROWHOUSES (2-STORY)

GROSS AREA = 4.947 ACRES
PRESERVATION AREA = 0.866 ACRES
*STREET DEDICATION AREA = 0.512 ACRES
NET AREA = 3.570 ACRES

UNIT COUNT = 60 UNITS
DENSITY = 60 UNITS/4.947 AC = 12.1 UNITS/AC
1 COMMUNITY CLUBHOUSE

** BUILDING SETBACKS = 10' **

BUILDING AREA = 6,890 SF/BUILDING x 6 BUILDINGS = 41,340 SF

BUILDING SITE COVERAGE = 41,340 SF/ (4.947 AC x 43,560 SF/AC) = 19%

PROVIDED PARKING:
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COVERED GARAGE SPACES
SITE PARKING = 35 SHARED PARKING SPACES
** TOTAL PARKING = 155 SPACES **

PARCEL C - APARTMENTS

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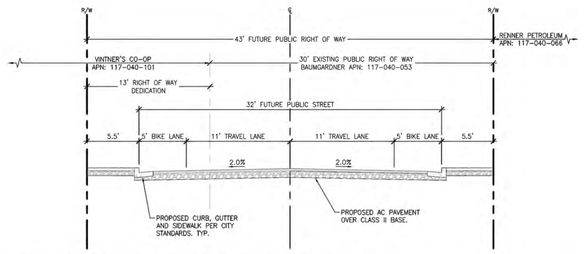
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OAK TREE LOCATION MAP
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(805) 577-5432

LEGEND:
- TRUNK LOCATION / TREE TAG #
- TREE PROTECTION ZONE
- AVERAGE CANOPY SPREAD
- TREES TO BE REMOVED (31 TOTAL)



TYPICAL MODIFIED ROADWAY CROSS SECTION - STREET A 1"=6'

0 60' 120'
SCALE: 1" = 60'

811 Know what's below. Call 811 before you dig.

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CLOVERDALE II DEVELOPMENT

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