



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

MC KISSICK PROPERTY BIOLOGICAL EVALUATION CONTRA COSTA COUNTY, CALIFORNIA

Prepared by

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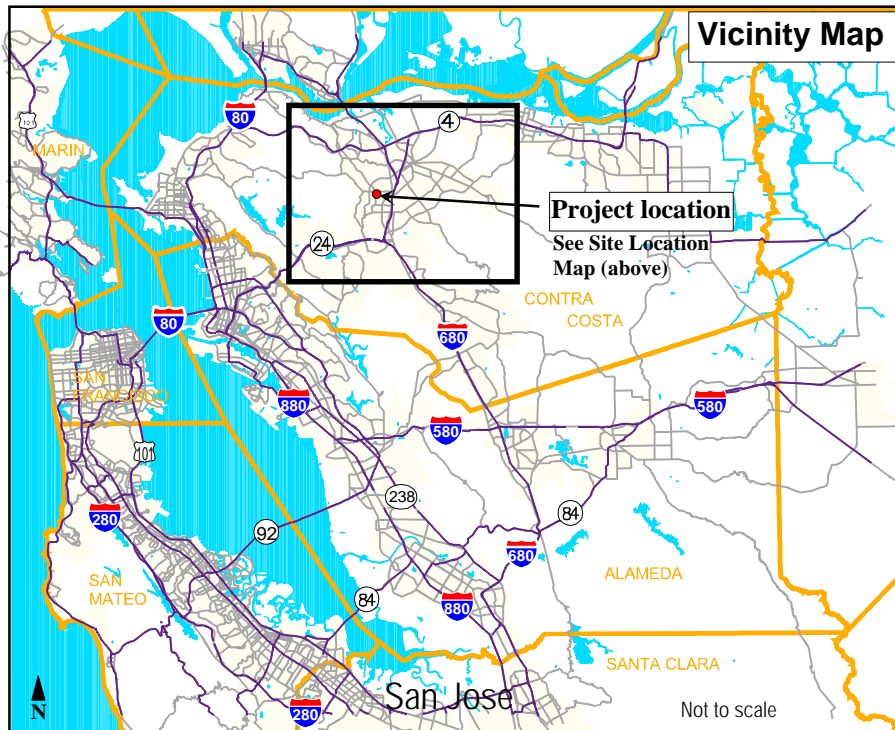
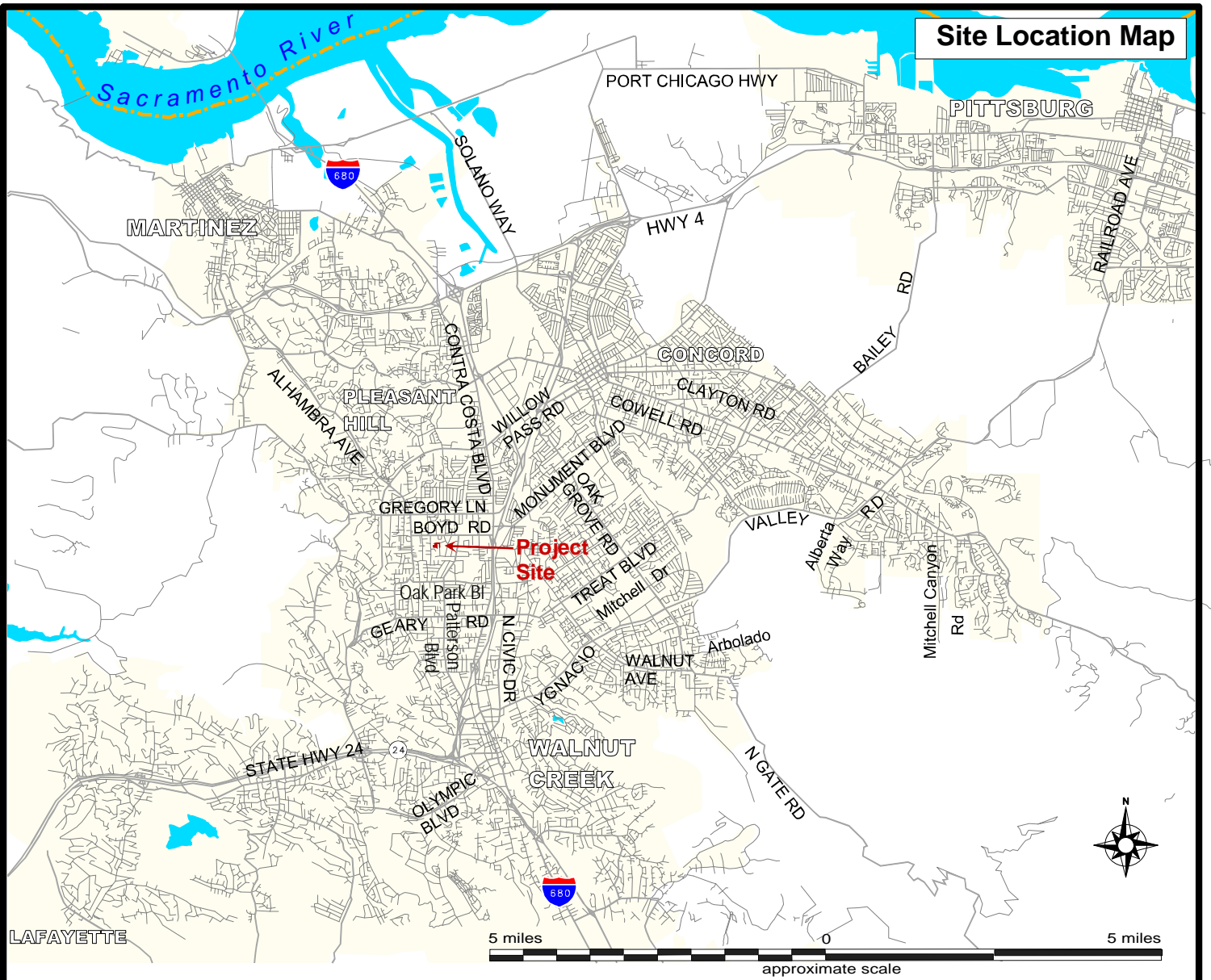
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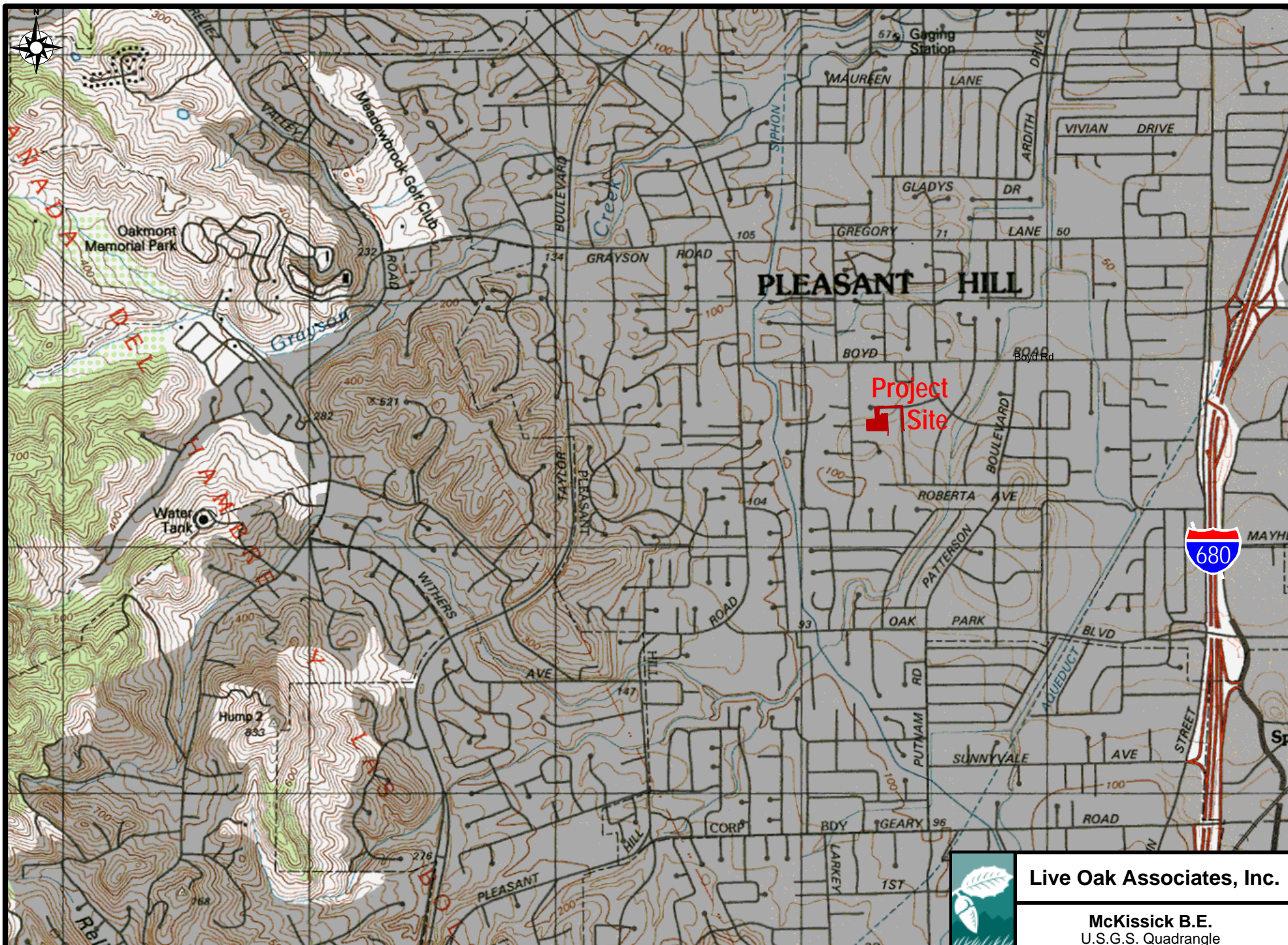
1 INTRODUCTION

Live Oak Associates, Inc. (LOA), has prepared the following report, which describes the biotic resources of the approximately 1.19-acre property located south of Mc Kissick Street in Pleasant Hill, Contra Costa County, California (APN 149-061-026 and 149-061-033; Figure 1), and evaluates likely impacts to these resources resulting from site development. The project site is located in the Walnut Creek 7.5" U.S. Geological Survey (USGS) quadrangle, and is described by the Public Land Survey system as being in Section 10, Township 2 North, Range 2 West (Figure 2).

Development activities can damage or modify biotic habitats used by sensitive plant and wildlife species. In such cases, these activities may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or covered by policies and ordinances of the Contra Costa County. This report addresses issues related to: 1) sensitive biotic resources occurring on the site; 2) the federal, state, and local laws regulating such resources, and 3) mitigation measures which may be required to reduce the magnitude of anticipated impacts. As such, the objectives of this report are to:

- Summarize all site-specific information related to existing biological resources;
- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range;
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development;
- Identify and discuss project impacts to biological resources likely to occur on the site within the context of CEQA or any state or federal laws; and
- Identify avoidance and mitigation measures that would reduce impacts to a less-than-significant level as identified by CEQA and that are generally consistent with recommendations of the resource agencies for affected biological resources.





From USGS
Walnut Creek 7.5' Quadrangle 1980

approximate scale



Live Oak Associates, Inc.

McKissick B.E.
U.S.G.S. Quadrangle

Date	Project #	Figure #
11/08/2018	2324-01	2

The analysis of impacts, as discussed in Section 3.0 of this report, is based on the known and potential biotic resources of the site, discussed in Section 2.0. Sources of information used in the preparation of this analysis included: 1) the *California Natural Diversity Data Base* (CDFW 2018), 2) the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2018), and 3) the *East Contra Costa County Habitat Conservation Plan*, and 4) manuals and references related to plants and animals of Contra Costa County. A reconnaissance-level field survey of the study area was conducted on November 8, 2018, by LOA ecologist Katrina Krakow, at which time the principal biotic habitats of the site were identified, and the constituent plants and animals of each were noted.

1.1 PROJECT DESCRIPTION

The site is situated south of Mc Kissick Street between Hubbard Avenue and Oakvue Road in southwest Pleasant Hill, Contra Costa County, California. The property consists of approximately 1.17 acres, designated by APNs 149-061-026 and 149-061-033. The site is currently vacant and consists of a non-producing walnut orchard in a single-family residential neighborhood. The topography of the site is relatively flat with a gentle downward slope to the southeast, and an elevation of ranging from approximately 79 feet above mean sea level in the southeast to 92 feet above in the northwest.

Main Project Site. The proposed development consists of four single family lots served by a private street perpendicular to Mc Kissick Street. Lot 1 and Lot 2 are mostly fill lots with a retaining wall about 5 feet high along the east property line. A small retaining wall along the south property line of Lot 2 is needed for the grading of the lots. Lot 3 and Lot 4 are cut pads, and the difference in elevation will be made up of a 3:1 slope at the western property lines. All the trees and vegetation will be removed prior to pad grading. The proposed replacement trees are California Live Oak and Arbutus Standard. Front yards will be landscaped with native plants.

Stormwater. The existing stormwater flow from Mc Kissick Street cuts across the Ludlow property to the north (APN 149-061-025), then onto the project property and the neighboring property to the east. The current flow from the Ludlow property and the project property continues onto the neighboring property to the east, then onto Hubbard Avenue, ending at Matson Creek. Since the flow pattern will be altered by undergrounding the stormwater on the

project property to a underground drainage system, Mr. Ludlow requested the project include raising his back yard to match his patio, and also include his stormwater into the proposed system. This should prevent surface water from crossing properties.

Stormwater will be diverted to individual bio-retention ponds for filtering before entering the proposed underground storm drain pipes. The pipes will carry the stormwater to Matson Creek under the street pavement of Mc Kissick Street and Hubbard Avenue. The discharge is proposed to go through the headwall of the existing culvert under Hubbard Street. The outfall structure is drawn on sheet C-05. (Appendix A) The 18" storm pipe invert will be at elevation 62.5' with the existing flowline elevation at 62.46'.

In the unlikely event of the failure of the storm drain system, we propose an overland concrete v-ditch outlet at the southeastern corner of the property. The detail of this system is on sheet C-11 (Appendix A). The concrete v-ditch will be constructed on the neighbor's property to the south (APN 149-171-04) within an existing storm drain easement (DOC#2006-0324886) and discharge to an existing concrete lined portion of Matson Creek. Site Plans are attached as Appendix A.

2 EXISTING CONDITIONS

The project site is located south of Mc Kissick Street in Pleasant Hill, Contra Costa County, California (APN 149-061-026 and 149-061-033). The site is surrounded by residential development. The site is generally level in elevation from approximately 40 to 60 feet (12-18 meters) National Geodetic Vertical Datum (NGVD). The main project site consists of a retired walnut orchard with an understory of non-native California grassland. Matson Creek bends near the southeastern corner of the project site. Surrounding land uses are primarily residential.

One soil type—Tierra loam, 2 to 9 percent slopes, MLRA 14—was identified on the project site (NRCS 2018). This soil type is considered to be moderately well-drained, have a parent material of alluvium from sedimentary rocks. This soil type is not considered to be hydric. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Under sufficiently wet conditions, hydric soils support the growth and regeneration of hydrophytic vegetation. Soils of the site are not serpentine or alkaline soils; therefore, the site would not support special status plant species that are endemic to serpentine or alkaline soils.

The East Bay has a Mediterranean climate with warm to hot, dry summers and cool winters. Annual precipitation in the general vicinity of the site is highly variable from year to year. Average annual rainfall is approximately 16 inches, most of which falls between October and April.

2.1 BIOTIC HABITATS

Three biotic habitats and one land use were identified on the project site (Figure 3), and for the purposes of this report, the habitats have been classified as Orchard, California annual grassland, and Riparian, while the land use is developed.

2.1.1 Orchard

The majority of the site supports a retired walnut orchard. Trees present consist mainly of walnut (*Juglans* sp.) with a lesser amount of cottonwood (*Populus* sp.), privet (*Ligustrum* sp.), prunus (*Prunus* sp.), almond (*Prunus dulcis*), coast live oak (*Quercus agrifolia*), Valley oak (*Quercus lobata*), and elm (*Ulmus* sp.) with some shrubs and vines including cotoneaster (*Cotoneaster*

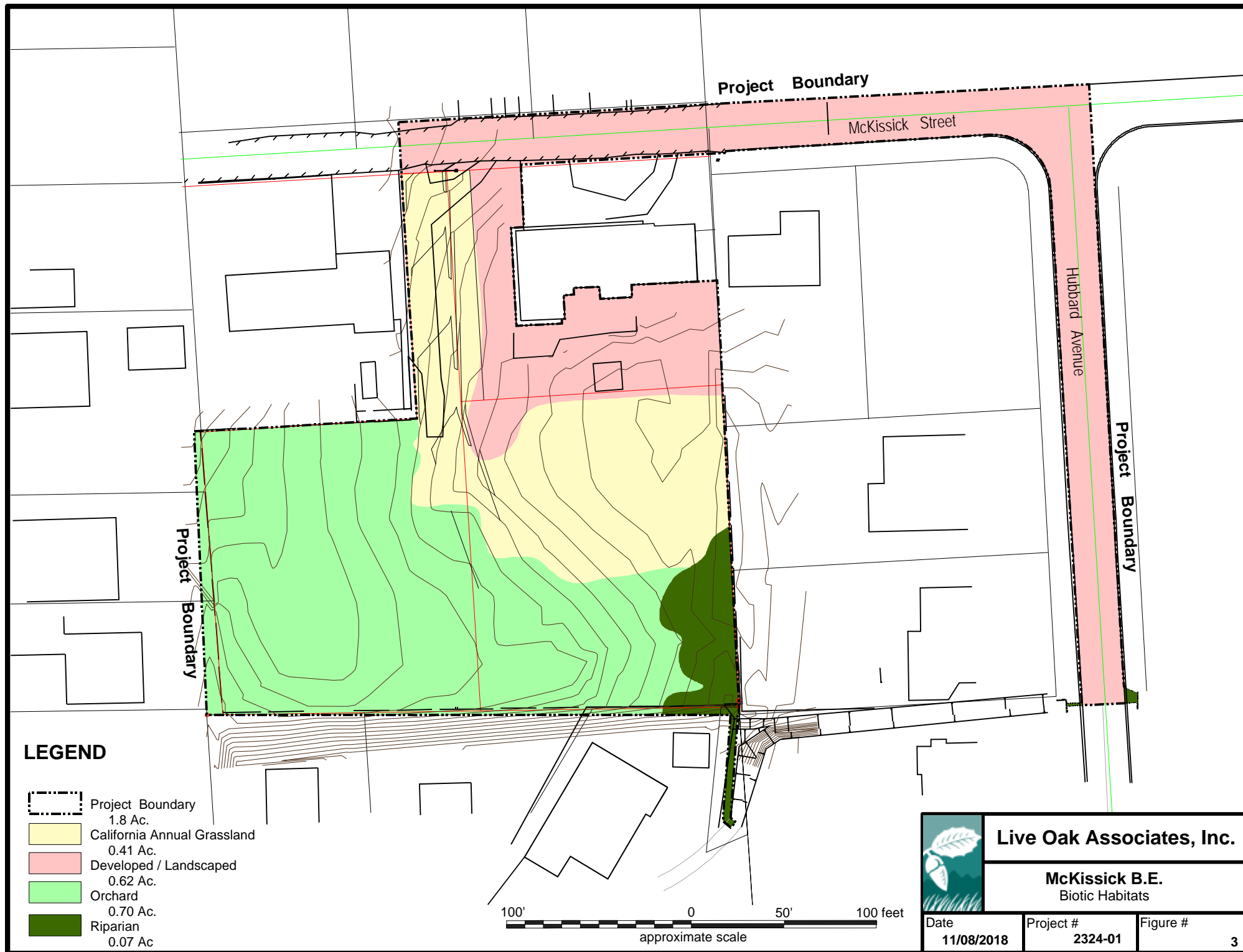
sp.), English ivy (*Hedera helix*), toyon (*Heteromeles arbutifolia*), Himalayan blackberry (*Rubus armeniacus*), and wisteria (*Wisteria sp.*), with an understory consistent with California annual grassland species, including wild oats (*Avena sp.*), periwinkle (*Catharanthus roseus*), ripgut brome (*Bromus diandrus*), bindweed (*Convolvulus arvensis*), Bermuda grass (*Cynodon dactylon*), bristly oxtongue (*Helminthotheca echinoides*), morning glory (*Ipomoea sp.*), prickly lettuce (*Lactuca serriola*), alkali mallow (*Malvella leprosa*), curly dock (*Rumex crispus*), hedge parsley (*Torilis arvensis*), and vetch (*Vicia sp.*). The understory of the orchard was disked at the time of the November 2018 site visit.

Animals observed within this habitat during the November 2018 site visit was limited to Brewer's blackbird (*Euphagus cyanocephalus*), mourning dove (*Zenaida macroura*), and a black-tailed deer (*Odocoileus hemionus columbianus*) bed.

2.1.2 California Annual Grassland

The non-orchard areas of the main project site consist of California annual grassland, including the same species as above: wild oats, ripgut brome, bindweed, bristly oxtongue, prickly lettuce, alkali mallow, curly dock, hedge parsley, and vetch.

Animals observed in adjacent habitats are also likely to occur in this habitat.



2.1.3 Riparian

Riparian habitat exists along Matson Creek near the southeast corner of the main portion of the project site as well as where the overflow and outfall will empty into. The channel adjacent to the southeast corner of the site and where the outfall is proposed has stacked rock sides (banks) which are nearly vertical and a pebble/river stone bottom. The area near the southeast corner of the site also has curb-like concrete along the opposite bank of the channel. Where the overflow will empty into, the creek is completely lined with cement. The dominant vegetation of these sections of the creek are privet and English ivy, with few coast live oaks.

At the time of the November survey, the creek was completely dry. The width between the top of the banks was estimated at approximately 6-8 feet with a depth of approximately 3 feet.

Riparian systems serve as dispersal corridors and islands of habitat for a number of wildlife species, particularly for smaller vertebrates such as amphibians and reptiles. This creek conveys water to provide a seasonal source of drinking water for species occurring in the surrounding habitats and, when wet, also provides potential breeding habitat for Pacific chorus frogs. Many resident and migratory bird species occur in riparian habitats. No birds or other animals were observed in the riparian habitat during the November 2018 site visit.

Wildlife inhabiting the surrounding habitats would also be expected to occur within this habitat.

2.1.4 Developed/Landscaped

Developed/Landscaped areas of the site include developed areas of the Ludlow's backyard, including a paved porch, garden area, a shed, and trailers, as well as the gravel and paved Mc Kissick Street and paved Hubbard Avenue.

Wildlife inhabiting the surrounding habitats would also be expected to occur within this habitat.

2.2 MOVEMENT CORRIDORS

Habitat corridors are vital to terrestrial animals for connectivity between core habitat areas (i.e., larger intact habitat areas where species make their living). Connections between two or more core habitat areas help ensure that genetic diversity is maintained, thereby diminishing the probability of inbreeding depression and geographic extinctions. This is especially true in fragmented landscapes and the surrounding urbanized areas.

The quality of habitat within the corridors is important. “Better” habitat consists of an area with minimal human interference (e.g., roads, homes, etc.) and is more desirable to more species than areas with sparse vegetation and high-density roads. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. With increasing encroachment of humans on wildlife habitats, it has become important to establish and maintain linkages, or movement corridors, that allow animals to access locations containing various biotic resources essential to maintaining their life cycles.

Healthy riparian areas that support structural diversity, (i.e., understory species to saplings to mature riparian trees) have a high biological value. They not only support a rich and diverse wildlife community but have also been shown to facilitate regional wildlife movement. Riparian areas can vary from tributaries winding through scrubland to densely vegetated riparian forests.

A riparian zone can be defined as an area that has a source of fresh water (e.g., rill, stream, river), a defined bank, and upland areas consisting of moist soils (e.g., wetter than would be expected from seasonal rainfall). These areas support a characteristic suite of vegetative species, many of which are woody, that are adapted to more moist soils. Such vegetation in the vicinity of the project site include California buckeye (*Aesculus californica*), elderberry (*Sambucus* sp.), walnut (*Juglans* sp.), California laurel (*Umbellularia californica*), toyon (*Heteromeles arbutifolia*), oaks (*Quercus* sp.), and willow (*Salix* sp.).

Five functions of corridors, rather than physical traits, are relevant when analyzing the value of linkages (Beier and Loe, 1992). These five functions used to evaluate the suitability of a given property for use as a habitat corridor are as follows:

- a. Wide ranging mammals can migrate and find mates;
- b. Plants can propagate within the corridor and beyond;
- c. Genetic integrity can be maintained;
- d. Animals can use the corridor in response to environmental changes or a catastrophic event;
- e. Individuals can recolonize areas where local extinctions have occurred.

A corridor is “wide enough” when it meets these functions for the suite of animals in the area. It is important to note that landscape linkages are used differently by different species. For

instance, medium to large mammals (or some bird species) may traverse a corridor in a matter of minutes or hours, while smaller mammals or other species may take a longer period of time to move through the same corridor (e.g., measured in days, weeks and even years). Landscape linkages are not simply highways that animals use to move back and forth. While linkages may serve this purpose, they also allow for slower or more infrequent movement. Width and length must be considered in evaluating the value of a landscape linkage. A long narrow corridor would most likely only be useful to wide ranging animals such as cougars and coyotes when moving between core habitat areas. To the extent practicable, conservation of linkages should address the needs of “passage species” (those species that typically use a corridor for the express purpose of moving from one intact area to another) and “corridor dwellers” (slow moving species such as plants and some amphibians and reptiles that require days or generations to move through the corridor).

Matson Creek and its riparian habitat just south of the main part of the project site will be impacted in two locations. The first location is an emergency spillway which will be a concreted ditch connecting with the concrete lined portion of Matson Creek just south of the main part of the site. The second location is an outfall on the eastern side of the intersection of Matson Creek and Hubbard Avenue. This creek’s habitat is more consistent with habitats typically identified as wildlife corridors, although the banks of the creek is built of riprap and rock stacking into nearly vertical banks.

The Conservation Lands Network (accessed November 7, 2018), which provides GIS data regarding critical linkages for wildlife, does not identify the site to be within a Critical Linkage.

Many wildlife linkages are broad areas of regional movement corridors for wildlife that generally includes a wide swath of land used for movement between two or more core areas for multiple regional species.

2.3 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural, urban, and other uses. As described more fully in Section 3.2, state and federal laws

have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The CDFW and California Native Plant Society (CNPS) have developed their own set of lists (i.e., California Rare Plant Ranks, or CRPR) of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as “special status species.”

A number of special status plants and animals occur in the site’s vicinity (Figure4). These species and their potential to occur in the study area are listed in Table 2 on the following pages. Sources of information for this table included *California Natural Diversity Data Base* (CDFW 2018), *Listed Plants* and *Listed Animals* (USFWS 2018), *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2018), *The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2018), *California Bird Species of Special Concern* (Shuford and Gardall 2008), and *California Amphibian and Reptile Species of Special Concern* (Thompson et al. 2016). This information was used to evaluate the potential for special status plant and animal species that occur on the site. Figure 4 depicts the location of special status species found by the California Natural Diversity Data Base (CNDDB).

A search of published accounts for all relevant special status plant and animal species was conducted for the Walnut Creek USGS 7.5” quadrangle in which the project site occurs and for the eight surrounding quadrangles (Benicia, Vine Hill, Honker Bay, Briones Valley, Clayton, Oakland East, Las Trampas Ridge, and Diablo) using the California Natural Diversity Data Base Rarefind5 (CDFW 2018). All species listed as occurring in these quadrangles on CRPR Lists 1A, 1B, 2, 3, or 4 were also reviewed.

Because serpentine and alkaline soils are absent from the site, those species that are uniquely adapted to serpentine or alkaline conditions, such as the alkali milk-vetch (*Astragalus tener* var. *tener*), chaparral harebell (*Campanula exigua*), Franciscan thistle (*Cirsium andrewsii*), presidio clarkia (*Clarkia franciscana*), Mt. Diablo bird’s-beak (*Cordylanthus nidularius*), Tiburon

buckwheat (*Eriogonjum luteolum* var. *caninum*), Loma Prieta hoita (*Hoita strobilina*), woodland woollythreads (*Monolopia gracilens*), adobe sanicle (*Sanicula maritima*), most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*) and caper-fruited tropidocarpum (*Tropidocarpum capparideum*) are considered absent from the site. Other plant species occur in habitats not present in the study area (e.g., brackish and freshwater marshes, coastal scrub, etc.), outside the range of the project site, or significantly above or below elevations of the site (24 to 28 meters), and, therefore, are also considered absent from the site. These species include the slender silver moss (*Anomobryum julaceum*), Mt. Diablo manzanita (*Arctostaphylos auriculata*), Contra Costa manzanita (*Arctostaphylos manzanita* ssp. *laevigata*), soft salty bird's-beak (*Chloropyron mole* ssp. *molle*), robust spineflower (*Chorizanthe robusta* var. *robusta*), Bolander's water hemlock (*Cicuta maculata* var. *bolanderi*), Point Reyes bird's-beak (*Cordylanthus maritimum* ssp. *palustre*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), Lime Ridge eriastrum (*Eriastrum ertterae*), Contra Costa wallflower (*Erysimum capitatum* var. *angustatum*), minute pocket moss (*Fissidens pauperculus*), dark-eyed gilia (*Gilia millefoliata*), Toren's grimmia (*Grimmia torenii*), Kellogg's horkelia (*Horkelia cuneata* var. *sericea*), Carquinez goldenbush (*Isocoma arguta*), Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Delta mudwort (*Limosella australis*), Hall's bush mallow (*Malacothamnus hallii*), Oregon meconella (*Meconella oregana*), Lime Ridge navarretia (*Navarretia gowenii*), Antioch Dunes evening primrose (*Oenothera deltoids* ssp. *howellii*), Mt. Diablo phacelia (*Phacelia phacelioides*), Marin knotweed (*Polygonum marinense*), rock sanicle (*Sanicula saxatilis*), chaparral ragwort (*Senecio aphanactis*), long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*), Mt. Diablo jewel-flower (*Streptanthus hispidus*), slender-leaved pondweed (*Stuckenia filiformis*), Suisun Marsh aster (*Symphyotrichum lentum*), coastal triquetrella (*Triquetrella californica*), and oval-leaved viburnum (*Viburnum ellipticum*).

Animals that would also be absent from the site due to unsuitable habitat conditions include the Bay checkerspot butterfly (*Euphydryas editha bayensis*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), tidewater goby (*Eucyclobovius newberryi*), giant gartersnake (*Thamnophis gigas*), yellow rail (*Coturnicops noveboracensis*), saltmarsh common yellowthroat (*Geothlypis triches sinuosa*), Suisun song sparrow (*Melospiza melodia maxillaris*), Alameda song sparrow

(*Melospiza melodia pusillula*), San Pablo song sparrow (*Melospiza melodia pusillula*), Alameda island mole (*Scapanus latimanus parvus*), Suisun shrew (*Sorex ornatus sinuosus*).

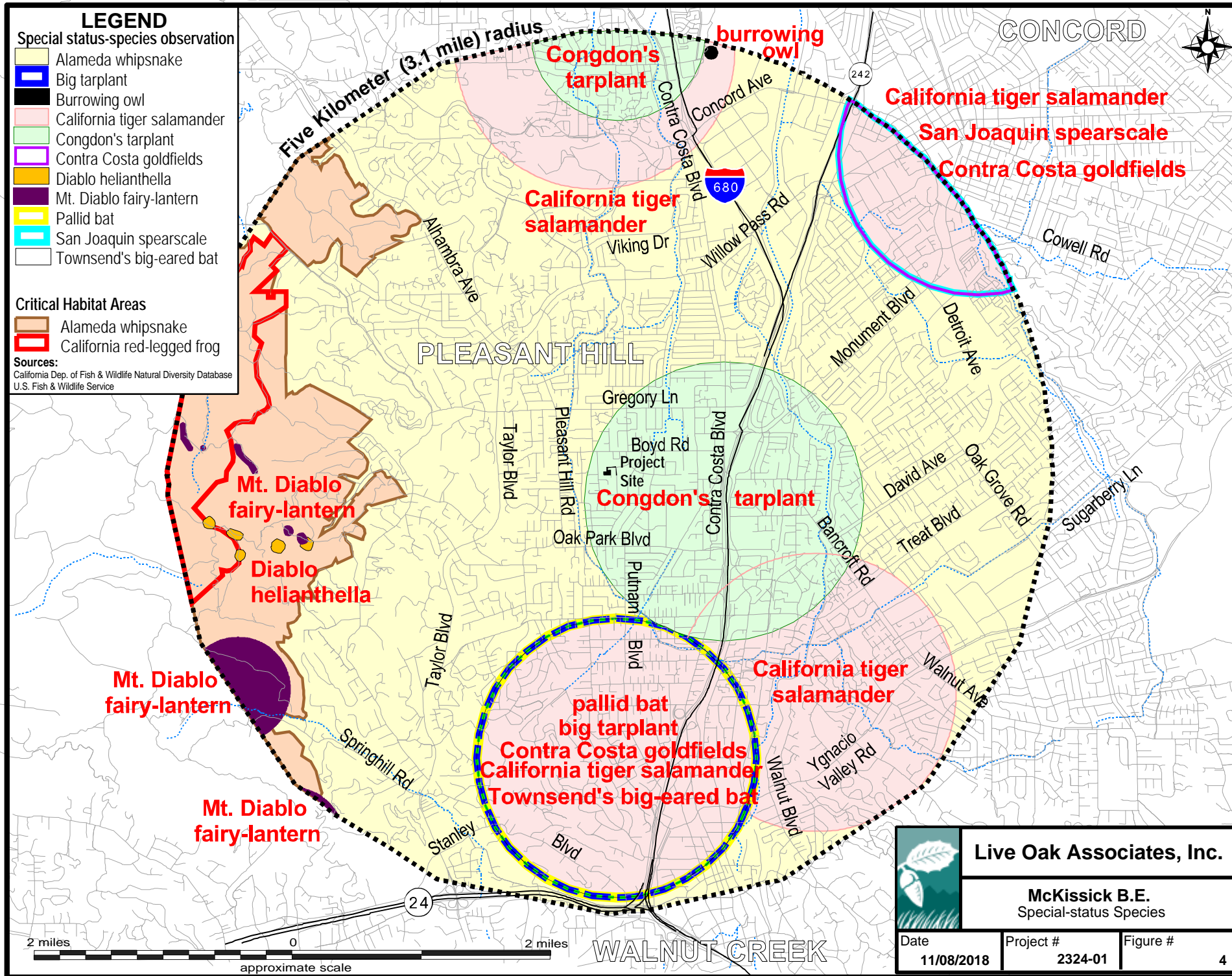


Table 2: Special status species that could occur in the project vicinity.**PLANTS (adapted from CDFW 2018 and CRPR 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Pallid manzanita (<i>Arctostaphylos pallida</i>)	CT, FE, CRPR 1B	<u>Habitats</u> : Occurs in sandy or gravelly siliceous shale, in broadleaved upland forest, chaparral, cismontane woodland, and coastal scrub. Known from less than 10 locations in the Contra Costa Hills of the Diablo Range. <u>Elevation</u> : 185-465 meters. <u>Blooms</u> : December-March.	Absent. The site is outside the range of this species, and suitable habitat for this species does not exist onsite.
Santa Cruz tarplant (<i>Holocarpha macradenia</i>)	FT, CE, CRPR 1B	<u>Habitat</u> : Occurs in coastal prairie, coastal scrub, and valley and foothill grasslands, often in clay or sandy soils. <u>Elevation</u> : 10-220 meters. <u>Blooms</u> : June-October.	Absent. The site supports poor habitat for this species due to ongoing human disturbance and surrounding development. The site occurs too far inland (i.e., more than ten miles) from the known range of this species.
Contra Costa goldfields (<i>Lasthenia conjugens</i>)	FE, CRPR 1B	<u>Habitat</u> : Alkaline soils in mesic valley and foothill grasslands and vernal pools. <u>Elevation</u> : 0-470 meters. <u>Blooms</u> : Annual herb; March-June.	Absent. Vernal pools and mesic soils are absent from the site. The most recent documented occurrence of this species within ten miles of the site is from 1946.
San Francisco popcornflower (<i>Plagiobothrys diffusus</i>)	CE, CRPR 1B	<u>Habitat</u> : Occurs in coastal prairie and valley and foothill grassland. <u>Elevation</u> : 60-360 meters. <u>Blooms</u> : March-June.	Absent. This species historically occurs near the coast or in areas with marine influence. The nearest documented occurrence of this species is more than ten miles southwest of the site.

Table 2: Special status species that could occur in the project vicinity. (Cont'd.)**PLANTS (adapted from CDFW 2018 and CRPR 2018)****Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Bent-flowered fiddleneck (<i>Amsinckia lunaris</i>)	CRPR 1B	<u>Habitat</u> : Coastal bluff scrub, cismontane woodland, and valley and foothill grasslands. <u>Elevation</u> : 3-500 meters. <u>Blooms</u> : Annual herb; March-June.	Absent. The site supports poor habitat for this species due to ongoing human disturbance and surrounding development. The nearest documented occurrences of this species are more than four miles east and south of the site.
Big tarplant (<i>Blepharizonia plumosa</i>)	CNPS 1B	<u>Habitats</u> : Valley and foothill grassland, usually on clay soil. <u>Elevation</u> : 30-505 meters. <u>Blooms</u> : Annual herb; July-October.	Unlikely. The site supports marginal to poor habitat for this species due to ongoing human disturbance and surrounding development. The nearest documented occurrence is from 1937, and the next closest occurrences are more than four miles from the site.

Table 2: Special status species that could occur in the project vicinity. (Cont'd.)
PLANTS (adapted from CDFW 2018 and CRPR 2018)
Other special status plants listed by CRPR

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Mt. Diablo fairy lantern (<i>Calochortus pulchellus</i>)	CRPR 1B	<u>Habitat</u> : On woody and brushy slopes within chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. <u>Elevation</u> : 45-840 meters. <u>Blooms</u> : Bulbiferous herb; April–June.	Absent. Suitable habitat for this species does not exist onsite. All documented occurrences of this species in the region occur in the hills more than three miles to the east and west of the site.
Congdon's tarplant (<i>Centromadia parryi</i> ssp. <i>congonii</i>)	CRPR 1B	<u>Habitat</u> : Occurs on valley and foothill grasslands on alkaline soils. <u>Elevation</u> : 0-230 meters. <u>Blooms</u> : Annual herb; May–November.	Unlikely. Suitable habitat occurs onsite, however, it was not observed onsite during the November 2018 site visit when it would have been observable. This species was documented less than one mile of the site back in 1933; that population is presumed to be extirpated.
Santa Clara red ribbons (<i>Clarkia concinna</i> ssp. <i>automixa</i>)	CRPR 4	<u>Habitat</u> : Chaparral and cismontane woodland. <u>Elevation</u> : 90-1500 meters. <u>Blooms</u> : Annual herb; April–July.	Absent. Suitable habitat for this species does not exist onsite. The nearest documented occurrences are more than 3 miles from the site.
Western leatherwood (<i>Dirca occidentalis</i>)	CRPR 1B	<u>Habitats</u> : Found in mesic habitats such as broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, and riparian woodland. <u>Elevation</u> : 30-395 meters. <u>Blooms</u> : January–April.	Absent. The site supports poor habitat for this species due to ongoing human disturbance and surrounding development. The nearest documented occurrences of this species are more than eight miles west of the site.
Mt. Diablo buckwheat (<i>Eriogonum truncatum</i>)	CRPR 1A	<u>Habitat</u> : Sandy soils of chaparral, coastal scrub, valley and foothill grassland. <u>Elevation</u> : 3-350 meters. <u>Blooms</u> : Annual herb; April–September.	Absent. Suitable habitat for this species does not exist onsite. All documented occurrences of this species in the region are more than four miles to the east of the site.
Jepson's coyote-thistle (<i>Eryngium jepsonii</i>)	CRPR 1B	<u>Habitat</u> : Occurs in valley and foothill grassland and vernal pools on clay soils. <u>Elevation</u> : 3-300 meters. <u>Blooms</u> : Perennial herb; April–August.	Absent. Vernal pools and clay soils are absent from the study area. The site supports poor habitat for this species due to ongoing human disturbance and surrounding development. The nearest documented occurrence of this species is more than five miles from the site.
San Joaquin spearscale (<i>Extriplex joaquinana</i>)	CRPR 1B	<u>Habitat</u> : Occurs in chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands on alkaline soils. <u>Elevation</u> : 1-835 meters. <u>Blooms</u> : Annual herb; April–October.	Unlikely. Alkaline soils are absent from the site. The nearest documented occurrence is nearly 3 miles to the northeast of site.

Table 2: Special status species that could occur in the project vicinity. (Cont'd.)
PLANTS (adapted from CDFW 2018 and CRPR 2018)
Other special status plants listed by CRPR

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Fragrant fritillary (<i>Fritillaria liliacea</i>)	CRPR 1B	<u>Habitat</u> : Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grasslands. Often occurs on serpentinite. <u>Elevation</u> : 3-410 meters. <u>Blooms</u> : Bulbiferous herb; February–April.	Absent. Suitable habitat for this species does not exist onsite, and serpentine soils are absent from the site. The nearest documented occurrences are more than 3 miles from the site.
Diablo helianthella (<i>Helianthella castanea</i>)	CRPR 1B	<u>Habitat</u> : Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. <u>Elevation</u> : 60-1300 meters. <u>Blooms</u> : Perennial herb; March–June.	Absent. Although potentially suitable habitat is present on the site, this perennial species would have been identifiable during the November survey if it was present and it was not observed. The nearest documented occurrences are approximately 2.5 miles to the west of the site.
Brewer's western flax (<i>Hesperolinon breweri</i>)	CRPR 1B	<u>Habitat</u> : Usually occurs on serpentine soils of chaparral, cismontane woodland, and valley and foothill grassland. <u>Elevation</u> : 30-900 meters. <u>Blooms</u> : Annual herb; May–July.	Absent. Habitats of the site are not suitable for this species and serpentine soils are absent from the site. The nearest documented occurrences of this species are more than 3 miles from the site.
Northern California black walnut (<i>Juglans hindsii</i>)	CRPR 1B	<u>Habitat</u> : Occurs in riparian woodland and riparian forest. <u>Elevation</u> : 0-440 meters. <u>Blooms</u> : April–May.	Absent. Only one confirmed native occurrence is known. Native status is unknown for other locations. This species was formerly cultivated as a rootstock for walnut orchards, and readily hybridizes with agricultural walnuts. It is widely naturalized in cismontane habitats. Walnut trees onsite are planted walnuts and are a part of a retired walnut orchard.
Showy golden madia (<i>Madia radiata</i>)	CRPR 1B	<u>Habitat</u> : Occurs in cismontane woodland, valley and foothill grassland <u>Elevation</u> : 25-900 meters. <u>Blooms</u> : Annual herb; March-May.	Unlikely. Habitats of the site are extremely marginal for this species. The last known occurrence of this species in the region was from 1938, more than eight miles east of the site.
Shining navarretia (<i>Navarretia nigelliformis</i> ssp. <i>radians</i>)	CRPR 1B	<u>Habitat</u> : Occurs in cismontane woodlands, valley and foothill grasslands, and vernal pools. <u>Elevation</u> : 76-1000 meters. <u>Blooms</u> : Annual herb; April–July.	Absent. Habitats of the site are marginal to poor for this species. The nearest documented occurrence of this species is more than ten miles southeast of the site near Mt. Diablo.
Saline clover (<i>Trifolium hydrophilum</i>)	CRPR 1B	<u>Habitat</u> : Marshes and swamps, valley and foothill grasslands on mesic or alkaline soils, and vernal pools. <u>Elevation</u> : 0-300 meters. <u>Blooms</u> : Annual herb; April–June.	Absent. Suitable habitat for this species does not exist onsite. The nearest documented occurrences are more than 3 miles from the site.

Table 2: Special status species that could occur in the project vicinity.**ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Callippe silverspot butterfly (<i>Speyeria callippe callippe</i>)	FE	Occurs on grassy hills surrounding the San Francisco Bay that support the host plant <i>Viola pedunculata</i> .	Absent. Although grasslands exist onsite, the site is not within the current home range of this species. Additionally, the nearest recorded observation of this species is more than 3 miles from the site.
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	FE	Occurs in large, deep vernal pools and lakes of California with water into June at elevations from 5 to 145 meters.	Absent. The site lacks suitable habitat in the form of vernal pools. Additionally, the nearest recorded observation of this species is more than 3 miles from the site.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Vernal pools of California's Central Valley.	Absent. The site lacks suitable habitat in the form of vernal pools. Additionally, the nearest recorded observation of this species is more than 3 miles from the site.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	Occurs in vernal pools of California. Vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	Absent. The site lacks suitable habitat in the form of vernal pools. Additionally, the nearest recorded observation of this species is more than 3 miles from the site.
Longfin smelt (<i>Spirinchus thaleichthys</i>)	CT, CSC	Andromous. In California, occurs in Sacramento-San Joaquin estuary and one record from Monterey Bay. Spawns in sandy to gravely substrates near the ocean November to June; some populations are landlocked.	Absent. The site does not support estuary or bay habitats.
Steelhead - Central Valley ESU (<i>Oncorhynchus mykiss irideus</i>)	FT	Spawn in freshwater rivers or streams in the spring and spend the remainder of their life in the ocean.	Unlikely. Although barriers do not exist between the San Francisco Bay and Grayson Creek (which Matson Creek is a tributary of) within the Walnut Creek Watershed, they have not been recorded within Grayson Creek (Leidy 2005). Additionally, the nearest recorded observation of this species is more than 3 miles from the site.
California tiger salamander (<i>Ambystoma californiense</i>)	FT, CT	Breeds in vernal pools and stock ponds of central California. Adults aestivate in grassland habitats adjacent to the breeding sites.	Absent. The site does not support breeding habitat. Matson Creek likely only holds water during and immediately after storm events, and as it is an engineered channel, lacks pooling a natural channel may have provided. Therefore, breeding habitat is absent from the site. The surrounding land consists of residential development and breeding ponds are not known to exist within a mile of the site. The epicenter of the nearest recorded observation of this species is approximately two miles to the south of the site with the record's buffer being approximately one mile to the south of the site.

Table 2: Special status species that could occur in the project vicinity.**ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Foothill yellow-legged frog (<i>Rana boylei</i>)	CSC CCT	Occurs in swiftly flowing streams and rivers with rocky substrate with open, sunny banks in forest, chaparral, and woodland habitats, and can sometimes be found in isolated pools.	Absent. The reach of Matson Creek (ephemeral) onsite is not suitable habitat of the FYLF. The nearest documented observation of this species is more than 3 miles from the site.
California red-legged frog (<i>Rana draytonii</i>)	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills and coast range, preferring pools with overhanging vegetation.	Absent. The ephemeral creek onsite lacks deep pools of water required for breeding and potential breeding ponds do not exist onsite or within the local vicinity of the site; as the site is surrounded by residential development, this species is not expected to find its way to the site. Critical Habitat designated by the USFWS for the CRLF occurs 2.5 miles to the west of the site and the nearest documented observation of this species is more than 3 miles from the site.
Alameda whipsnake (<i>Masticophis lateralis euryxanthus</i>)	FT, CT	Ranges from the inner coast range in western and central Contra Costa and Alameda counties. Typically occurs in chaparral and scrub habitats with rock outcrops and talus pilings. Also occurs in scrub communities, grasslands, oak, and oak/bay woodlands.	Absent. Suitable habitat does not exist onsite and the site is isolated from suitable habitat as it is surrounded by residential development. The nearest recorded observations of the Alameda whipsnake are restricted to the hills approximately 2 miles to the west of the site (CDFW 2018). Critical Habitat for this species is approximately 1.5 miles to the west of the site.
Swainson's hawk (nesting) (<i>Buteo swainsonii</i>)	CT	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Unlikely. Foraging habitat is available throughout the project area and moderate-quality breeding habitat for Swainson's hawk exists onsite and adjacent to the site, however, the nearest documented observation of this species is approximately 10 miles to the east of the site. This species may fly over the site from time to time.
Bald eagle (nesting & nonbreeding/wintering) (<i>Haliaeetus leucocephalus</i>)	CE, CP	Breeding habitat is usually within 4 km of a water source in a tall tree or cliffs; roosting in large numbers in winter is common.	Unlikely. The site does not support suitable nesting or foraging habitat for this species, although it may fly over the site from time to time during normal movement. The nearest documented observation of this species is more than 3 miles from the site.
Tricolored blackbird (<i>Agelaius tricolor</i>)	CCE	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in grassland and cropland habitats.	Unlikely. Breeding habitat is absent from the site. Marginal foraging habitat is present on the site. The nearest documented occurrence of this species is more than 3 miles from the site.

Table 2: Special status species that could occur in the project vicinity.**ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Frequents annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing and suitable prey base. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat. May forage in adjacent agricultural habitats.	Absent. The site is outside of the range of the San Joaquin kit fox. The nearest documented occurrence of this species is more than 10 miles from the site.

Table 2: Special status species that could occur in the project vicinity.**ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Sacramento perch (<i>Archoplites interruptus</i>)	CSC	Occurs in sloughs, slow-moving rivers, and large lakes. They are not known from their historic range, and most known locations are locations where this species has been planted. Less than 25 populations are known (CDFW species accounts).	Absent. Of the three known populations of this species in Contra Costa County (Calaveras Reservoir (extirpated), Jewel Lake, and Lake Anza (extirpated), only one, Jewel Lake, had this species present as of 2008 (CDFW species accounts). Jewel lake is on the western side of the county from the project site, therefore, this species is absent from the project site.
Sacramento splittail (<i>Pogonichthys macrolepidotus</i>)	CSC	Endemic to lakes and rivers of the Central Valley. Occurs in estuaries along the San Francisco Bay and associated bays and marshes, and can survive high salinity and low dissolved oxygen (CDFW species accounts).	Possible. In 1998, a study found this species to be the most abundant in a gill-net survey in tidal reaches of lower Walnut Creek in Contra Costa County (CDFW species accounts), and has been observed in Grayson Creek. Matson Creek eventually flows into Grayson Creek, which flows into Walnut Creek, therefore, even though Matson Creek was dry at the time of the site visit, it does seasonally connect to reaches of creek where this species occurs, therefore, this species has the potential to occur in the onsite reaches of Matson Creek.
Northern California legless lizard (<i>Anniella pulchra</i>)	CSC	The NCLL (previously called silvery legless lizard) occurs mostly underground in warm moist areas with loose soil and substrate. The NCLL occurs in habitats including sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	Absent. The site does not support sandy substrate. The nearest recorded observation more than 3 miles from the site.

Table 2: Special status species that could occur in the project vicinity.**ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Coast horned lizard (<i>Phrynosoma blainvillii</i>)	CSC	Occur in grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	Absent. Habitats onsite are of poor quality for coast horned lizards. The nearest documented observation of this species is more than 3 miles from the site.
Western pond turtle (<i>Actinemys marmorata</i>)	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields for egg laying.	Unlikely. Moderately suitable habitat exists onsite for the WPT in ephemeral Matson Creek when water is present. This species would not be expected to utilize the site for nesting or hibernation/estivation. WPT would most likely use Matson Creek onsite from time to time as a movement corridor when the creek holds water. The nearest documented occurrence of this species is more than 3 miles from the site.
Northern harrier (<i>Circus cyaneus</i>)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	Possible. Potentially suitable breeding and foraging habitat for this species is present on the site.
American peregrine falcon (nesting) (<i>Falco peregrines anatum</i>)	CP	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	Unlikely. Although potentially suitable breeding habitat is absent from the site, suitable foraging habitat for this species is present onsite. This species would likely fly over the site from time to time. The nearest documented occurrence of this species is more than 3 miles from the site.
Golden eagle (<i>Aquila chrysaetos</i>)	CP	Typically frequents rolling foothills, mountain areas, woodland areas, sage-juniper flats, and desert habitats.	Unlikely. Although potentially suitable breeding habitat is absent from the site, suitable foraging habitat for this species is present onsite. This species would likely fly over the site from time to time. The nearest documented occurrence of this species is more than 3 miles from the site.
Short-eared owl (nesting) (<i>Asio flammeus</i>)	CSC	Occur in wide open spaces including marshes, open shrublands, grassland, prairie, and agricultural field habitats, and need dense ground cover to conceal nests.	Unlikely. short-eared owls may use site as foraging area, but unlikely as the nearest recorded observation is more than 3 miles from the site.

Table 2: Special status species that could occur in the project vicinity.**ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Burrowing owl (<i>Athene cunicularia</i>)	CSC	Open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. Often associated with California ground squirrels.	Unlikely. Burrowing owls are known to be within the local vicinity with the closest known recorded occurrence being nearly 3 miles to the north of the site. Although the site provides potentially suitable foraging habitat for this species, suitable burrows were not observed onsite. Should ground squirrels move onto the site or other suitable burrows become apparent, potentially suitable habitat would be present for this species, therefore, to be prudent, surveys for burrowing owls should be conducted.
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	CSC	Migrant bats using elevations from 0-2600 meters. Roosts in rock crevices cliffs as well as in buildings, caves, and tree cavities.	Possible. Although suitable roosting habitat is presumed absent from the site, big free-tailed bats may forage on the site from time to time. The nearest record is more than 3 miles from the site.
Townsend's Big-eared bat (<i>Corynorhinus townsendii</i>)	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats.	Possible. Although suitable roosting habitat is presumed absent from the site, Townsend's big-eared bats may forage on the site from time to time. The nearest record is more than 3 miles from the site.
Pallid bat (<i>Antrozous pallidus</i>)	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas that provide roosting opportunities.	Possible. Although suitable roosting habitat is presumed absent from the site, pallid bats may forage on the site from time to time. The epicenter of the nearest record is approximately 2 miles south of the site, with the record's buffer being approximately 1 mile south of the site.
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	CSC	Hardwood forests, oak riparian and shrub habitats.	Absent. Woodrat nests were not observed during the survey and were not in the riparian area or the main portion of the site. The nearest documented occurrence of this species is more than 3 miles from the site.
American badger (<i>Taxidea taxus</i>)	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	Absent. Badger sign was not observed during the 2018 site visit, and suitable habitat does not exist onsite for badgers, additionally, the site is surrounded by residential development. The nearest documented occurrence of this species is more than 3 miles from the site.
Ringtail (<i>Bassariscus astutus</i>)	CP	Rocky or talus slopes in semi-arid or riparian habitats.	Unlikely. Marginally suitable habitat is restricted to the riparian habitat onsite, which is narrow and consists mostly of planted privet trees with some coast live oak trees intermixed. Ringtails have not been documented within three miles of the site.

*Explanation of Occurrence Designations and Status Codes

Present: Species observed on the sites at time of field surveys or during recent past.

Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the sites, but it could occur there from time to time.

Unlikely: Species not observed on the sites, and would not be expected to occur there except, perhaps, as a transient.

Absent: Species not observed on the sites, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CR	California Rare
FC	Federal Candidate	CP	California Protected
CSC	California Species of Special Concern		
CRPR	California Rare Plant Rank		
1A	Plants Presumed Extinct in California	3	Plants about which we need more information – a review list
1B	Plants Rare, Threatened, or Endangered in California and elsewhere	4	Plants of limited distribution – a watch list
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere		

2.4 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the California Regional Water Quality Control Board (RWQCB). See Section 3.2.6 of this report for additional information.

A formal wetland delineation and waters of the U.S. analysis has not been completed for the site. However, jurisdictional waters are presumed to be present on the site in the form of Matson Creek, an ephemeral stream which the emergency spillway south of the main part of the site and the outfall at the eastern side of the intersection of Matson Creek and Hubbard Avenue will empty into.

The limit of USACE jurisdiction, as well as that of the RWQCB, over Matson Creek determined to be jurisdictional tributary waters is the ordinary high water mark. This creek would also be subject to the jurisdiction of the CDFW which regulates the bed-and-bank of streams, creeks or channels.

No wetlands occur on the site. Wetlands are only considered to be jurisdictional by the USACE if they connect to other Waters of the United States per the U.S Supreme Court decision *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC Decision) and *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers* (referred together as the Rapanos decision).

3 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

Approval of general plans, area plans, and specific projects is subject to the provisions of the California Environmental Quality Act (CEQA). The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are carried out. CEQA is concerned with the significance of a proposed project's impacts. For example, a proposed development project may require the removal of some or all of a site's existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on the site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed.

Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest."

Specific project impacts to biological resources may be considered "significant" if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a “mandatory findings of significance” if the project has the potential to

Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 Threatened and Endangered Species

State and federal “endangered species” legislation has provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as “species of special status.” Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the “take” of a listed species. “Take” is defined by the state of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86). “Take” is more broadly defined by the federal Endangered Species Act to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under the California Environmental Quality Act (CEQA). Both

agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.2 Migratory Birds

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

3.2.3 Birds of Prey

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

3.2.4 Bats

Sections 2000 and 4150 of the California Fish and Game Code states that it unlawful to take or possess a number of species, including bats, without a license or permit as required by Section 3007. Additionally, Title 14 of the California Code of Regulations states it is unlawful to harass, herd, or drive a number of species, including bats. To harass is defined as “an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering”. In addition, the Townsend’s big-eared bat is currently proposed to be listed in the state of California as Endangered. The Townsend’s big-eared bat is currently under a 1-year review with CDFW, during which time, it will be afforded full protections as other Endangered species until the Commission has finalized their ruling.

3.2.5 The Bald and Golden Eagle Protection Act

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as

follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (72 FR 31132; 50 CFR 22.3).

3.2.6 Wetlands and Other Jurisdictional Waters

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. Natural drainage channels and adjacent wetlands may be considered “Waters of the United States” or “jurisdictional waters” subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations and clarified in federal courts.

On June 29, 2015, the Environmental Protection Agency and USACE jointly issued the Clean Water Rule as a synthesis of statute, science, and U.S. Supreme Court decisions. The Clean Water Rule defines Waters of the U.S. to include the following:

1. All waters used in interstate or foreign commerce (also known as traditional navigable waters), including all waters subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. The territorial seas;
4. All impoundments of Waters of the U.S.;
5. All tributaries of waters defined in Nos. 1 through 4 above, where “tributary” refers to a water (natural or constructed) that contributes flow to another water and is characterized by the physical indicators of a bed and bank and an ordinary high water (OHW) mark;
6. Adjacent waters, defined as either (a) located in whole or in part within 100 feet of the OHW mark of waters defined in Nos. 1 through 5 above, or (b) located in whole or in part within the 100-year floodplain and within 1,500 feet of the OHW mark of waters defined in Nos. 1 through 5 above;
7. Western vernal pools, prairie potholes, Carolina bays and Delmarva bays, pocosins, and Texas coastal prairie wetlands, if determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above;

8. Waters that do not meet the definition of adjacency, but are determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above, and are either (a) located in whole or in part within the 100-year floodplain of waters defined in Nos. 1 through 3 above, or (b) located within 4,000 feet of the OHW mark of waters defined in Nos. 1 through 5 above.

The 2015 rule also redefines exclusions from jurisdiction, which include:

1. Waste treatment systems;
2. Prior converted cropland;
3. Artificially irrigated areas that would revert to dry land should application of irrigation water to the area cease;
4. Groundwater;
5. Stormwater control features constructed to convey treat or store stormwater created in dry land; and
6. Three types of ditches: (a) ditches with ephemeral flow that are not a relocated or excavated tributary, (b) ditches with intermittent flow that are not a relocated or excavated tributary or that do not drain wetlands, and (c) ditches that do not flow, either directly or through another water, to a traditional navigable water.

A ditch may be a water of the U.S. only if it meets the definition of “tributary” and is not otherwise excluded under the provision.

All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“Waters of the State”). Nine RWQCBs oversee water quality at the

local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The RWQCB also administers the Construction Stormwater Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Stormwater Program. A prerequisite for this permit is the development of a Stormwater Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, stormwater, or other pollutants into a Water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.2.7 Local Ordinances, Policies, and Habitat Conservation Plans

3.2.7.1 City of Pleasant Hill General Plan (2003)

The Natural Resources section of the City of Pleasant Hill General Plan (2003) identifies a tree ordinance and establishes three Community Development Goals. These are quoted below.

Tree Protection: “The City Zoning Ordinance protects trees, as measured 24 inches above the ground, as follows: (1) native oaks and other indigenous trees one foot or more in diameter, and (2) non-native trees (primarily eucalyptus and redwood) two feet or more in diameter. Protected

species include native oak, alder, bay/laurel, black walnut, buckeye, elderberry, madrone, maple and sycamore trees.”

Community Development Goals:

“Community Development Goal 20. Preserve open space areas, hillsides and natural features.

Community Development Policy 20A. Ensure that open space and undeveloped hillsides remain free of future development.

- *Community Development Program 20.1.* Establish a land acquisition fund in the CIP to acquire significant open space and undeveloped hillside areas that may be threatened by development.
- *Community Development Program 20.2.* Amend the Zoning Ordinance to establish reasonable aesthetic and land coverage constraints on new land divisions in open space and undeveloped hillside areas.

Community Development Goal 21. Preserve and reclaim streams, wetlands and riparian areas to function as open space.

Community Development Policy 21A. Require reclamation of degraded streams, wetlands and riparian areas, including wildlife migration corridors, where possible in cooperation with the Flood Control District.

- *Community Development Program 21.1.* Establish guidelines for preserving and reclaiming streams, wetlands and riparian areas in conjunction with new or modified development.
- *Community Development Program 21.2.* Comply with directives from environmental regulatory authorities to update the Zoning Ordinance and other ordinances, standards and regulations to incorporate stormwater quality and watershed protection measures to limit impacts to aquatic ecosystems and preserve and restore the beneficial uses of natural water bodies and wetlands in the city.

- *Community Development Program 21.3.* For new development, consider alternatives to impermeable surfaces that will promote gradual infiltration of precipitation.

Community Development Goal 22. Protect native species and their habitat.

Community Development Policy 22A. Minimize the impacts of development on plants and animals, including sensitive habitat and migration corridors.

- *Community Development Program 22.1.* Require mitigation for potential environmental impacts of development on native species and their habitat, including migration corridors.
- *Community Development Program 22.2.* Require construction activities to avoid disturbance to natural features, including wildlife migration corridors, as much as possible.
- *Community Development Program 22.3.* Continue to enforce the tree protection provisions of the Zoning Ordinance.
- *Community Development Program 22.4.* In areas of documented occurrence of the California Tiger Salamander, require site-specific study and mitigation of potential impact, which may include avoidance of habitat, reduction of habitat disturbance, and offsite or onsite restoration or protection of similar habitat.
- *Community Development Program 22.5.* Support efforts of the County to determine the feasibility of constructing fish bypass facilities for flood control drop structures in area creeks.”

All General Plan policies should be followed.

3.2.7.2 City of Pleasant Hill Municipal Code – Tree Preservation

Per Chapter 18.50.110 of the City of Pleasant Hill’s Municipal Code, Heritage Trees and Protected Trees are illegal to remove within the City unless a tree permit has been issued by the City pursuant to the provisions of this article (Ord. 890 §§ 28, 29, 2015; Ord. 880 § 2, 2014). The City’s municipal code defines a Protected tree as:

- a. “Any native oak tree with a trunk diameter measurement of nine inches or larger.

- b. Any indigenous tree with a trunk diameter measurement of nine inches or larger. Indigenous trees include but are not limited to: *Alnus Oregona* (Red Alder), *Acer Macrophyllum* (Bigleaf Maple), *Aesculus Californica* (California Buckeye), *Arbutus Menziesii* (Madrone), *Umbellularia Californica* (California Bay or Laurel), *Juglans Hindsii* (California Black Walnut), *Platanus Racemosa* (California Sycamore), or *Sambucus Mexicana* (Elderberry).

Note: The California Native Plant Society list of indigenous/native trees for the Bay Area can also be referenced to determine whether a tree is considered native or indigenous to the region.

- c. A nonnative tree (not including Eucalyptus) with a trunk diameter measurement of 18 inches or larger. Nonnative trees include species such as *Sequoia Sempervirens* (Coastal Redwood), *Pinus Canariensis* (Canary Island Pine), *Pinus Halepensis* (Aleppo Pine), *Pinus Pinea* (Italian Stone Pine), *Pinus Radiata* (Monterey Pine), *Ulmus Americana* (American Elm), *Ulmus Parvifolia* (Chinese Elm), *Ulmus Pumila* (Siberian Elm), *Liquidambar Styraciflua* (American Sweet Gum), *Cedrus Deodara* (Deodar Cedar), *Cedrus Atlantica* (Atlas Cedar), *Fraxinus Uhdei* (Shamel Ash), *Fraxinus American* (White Ash), *Fraxinus Augustifolia* (Raywood Ash), *Cupressus* (Cypress species), *Morus Alba* (Fruit/Fruitless Mulberry), Chinese Pistache, *Robinia Pseudoacacia* (Black Locust), *Pyrus Calleryana* (Bradford Pear), *Cinnamomum Camphora* (Camphor).
- d. Any tree shown to be preserved on an approved tentative map, development or site plan or required to be retained as a condition of approval or environmental mitigation measure.
- e. Any tree required to be planted as a replacement for an unlawfully removed tree.
- f. Any tree designated as a “heritage tree” pursuant to subsection E of this section.

Note: See subsection G of this section for definition of trunk diameter measurement.”

Trunk diameter measurements are measured: “starting at 54 inches (DBH) above the existing ground surface adjacent to the trunk of the tree, measure the width of the tree from one side of the trunk to the opposite side, or alternatively, measure the circumference of the tree’s trunk (in inches) at that point and divide by Pi (3.14). For trees located on a slope, this measurement is taken from the midpoint between the lowest and highest point of existing grade adjacent to the tree trunk. For trees with more than one trunk, the combined diameter of all trunks measured at 54 inches (DBH) above the ground will determine the diameter of that individual tree.”

The City’s municipal code defines a Heritage tree as:

1. “Eligibility. Any tree in the city with a trunk diameter measurement of 16 inches or more or any tree grouping in the city with at least one tree of this diameter is eligible for enrollment in the heritage tree program, with the consent of the property owner.
2. Enrollment. The zoning administrator shall review and approve applications for enrollment in the heritage tree program unless an eligible tree or tree grouping is unhealthy and cannot be saved. Upon approval of an application, the zoning administrator shall:
 - a. Record the location and the plant number of each tree or tree grouping.
 - b. Obtain a color photograph of the tree or tree grouping at the time of its enrollment.
 - c. Affix a plaque on the tree or tree grouping identifying:
 - i. The scientific name of the tree(s);
 - ii. The common name of the tree(s);
 - iii. The plaque number (i.e., Heritage Tree No. ____); and
 - iv. The name of the owner.
 - d. Award a certificate to each property owner enrolling a tree or tree grouping in the program, expressing the appreciation of the city and its citizens.

Notwithstanding any other provisions of this chapter, a tree which is enrolled in the city’s heritage tree program may not be removed, relocated, damaged or demolished, and no permit or tree preservation and replacement plan authorizing such action may be issued, unless the zoning administrator or other applicable city decision-making body determines that there exists a hazard to property or danger of disease or infection to surrounding healthy trees.”

3.2.7.3 City of Pleasant Hill Municipal Code – Creek Setback

Per Chapter 18.50.150 of the City of Pleasant Hill’s Municipal Code (Ord. 844 § 2, 2010), the City has established stream setbacks from the top of the creek bank based on the depth of the creek. The below table is from this ordinance.

DEPTH OF CREEK	CREEK SETBACK AREA, FROM TOP OF CREEK BANK
Up to 5 feet	5 feet
Over 5 – 10 feet	10 feet
Over 10 – 15 feet	15 feet
Over 15 feet	subject to city engineer review

3.2.7.4 HCPs/NCCPs

The site is outside the boundary of the East Contra Costa Habitat Conservation Plan. No known habitat conservation plans are in effect for this property.

3.3 IMPACTS AND MITIGATIONS SPECIFIC TO THE PROJECT SITE

The proposed development consists of four single family lots served by a private street perpendicular to Mc Kissick Street. Associated retaining walls, detention ponds, The project will also grade a portion of the adjacent Ludlow property.

The project will underground the stormwater on the project property to a underground drainage system and stormwater will be diverted to individual bio-retention ponds for filtering before entering the proposed underground storm drain pipes. The pipes will carry the stormwater to Matson Creek under the street pavement of Mc Kissick Street and Hubbard Avenue. The discharge is proposed to go through the headwall of the existing culvert under Hubbard Street.

In the unlikely event of the failure of the storm drain system, the project also includes an overland concrete v-ditch outlet at the southeastern corner of the property as well as on the neighbor's property to the south (APN 149-171-04) within an existing storm drain easement (DOC#2006-0324886) and discharge to an existing concrete lined portion of Matson Creek.

3.3.1 Loss of Habitat for Special Status Plants

Potential Impacts. All 20 special status plant species that occur, or once occurred, within the project region are considered absent from the site or unlikely to occur there because habitat is absent or marginal on the site for these species, the species is not known to occur in the immediate project vicinity, the species is a species that could be ruled out as occurring on the site during the November 2018 survey, and/or it has not been observed in the region in many decades (Table 2).

Mitigation. Mitigation measures are not warranted.

3.3.2 Loss of Habitat for Special Status Animals

Potential Impacts. Thirty special status animal species occur, or once occurred, regionally (Table 2). Of these, 25 would be absent from or unlikely to occur on the site due to unsuitable habitat conditions, including the Callippe silverspot butterfly, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, longfin smelt, Sacramento perch, steelhead, California tiger salamander, Foothill yellow-legged frog, California red-legged frog, Alameda whipsnake, American peregrine falcon, Swainson's hawk, golden eagle, bald eagle, short-eared owl, burrowing owl, tricolored blackbird, western pond turtle, northern California legless lizard, Coast horned lizard, San Francisco dusky-footed woodrat, American badger, ringtail, and San Joaquin kit fox.

The remaining five species may occur more frequently as regular foragers or may be resident on the site, including Sacramento splittail, northern harrier, Townsend's big-eared bat, big free-tailed bat, and pallid bat.

These species either occur on the site incidental to home range and migratory movements, thus using the site infrequently, or may forage on the site year-round or during migration. Project buildout would have a minimal effect on the breeding success of these species and would, at most, result in a relatively small reduction of foraging and/or nesting habitat that is abundantly available regionally. Therefore, the loss of habitat for these species would be considered less than significant.

Construction activities may result in injury of individuals of these species, which would be considered significant.

Mitigation. Mitigation measures for potential impacts to these species are discussed in Sections 3.3.3 through 3.3.6.

3.3.3 Disturbance to Nesting Raptors and Migratory Birds

Potential Impacts. Trees, shrubs, and grasslands throughout the site provide suitable nesting habitat for both listed and non-listed nesting raptors and migratory birds. If a raptor or other

migratory bird, regardless of its federal or state status, were to nest on or adjacent to the site prior to or during proposed construction activities, such activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state and federal laws and would be considered a significant impact under CEQA.

Mitigation. The below measures would be necessary to reduce the impact to nesting birds and raptors to a less-than-significant impact.

- To the maximum extent practicable, trees planned for removal should be removed during the non-breeding season (September 1 through January 31). If it is not possible to avoid tree removal or other disturbances during the breeding season (February 1 through August 31), a qualified biologist should conduct a pre-construction survey for tree-nesting raptors and other tree- or ground-nesting migratory birds in all trees or other areas of potential nesting habitat within the construction footprint and within 250 feet of the footprint, if such disturbance will occur during the breeding season. This survey should be conducted no more than 14 days prior to the initiation of demolition/construction activities during the breeding season.
- If nesting raptors or migratory birds are detected on the site during the survey, a suitable construction-free buffer should be established around all active nests. The precise dimension of the buffer (up to 250 feet) would be determined at that time and may vary depending on location and species. Buffers should remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. Pre-construction surveys during the non-breeding season are not necessary, as the birds are expected to abandon their roosts during construction activities. Implementation of the above measures would mitigate impacts to tree-nesting raptors and other migratory birds to a less-than-significant level.

3.3.4 Impacts to Burrowing Owls

Potential Impacts. Although burrowing owls and suitable burrows such as ground squirrel burrows or other suitable nesting burrows were not observed on the site during the 2018 site visit, should ground squirrels move onto the site or should suitable habitat be made onsite,

burrowing owls may move onto the site. Therefore, to be prudent, surveys for burrowing owls should be conducted. If a burrowing owl were to nest or occupy a burrow in the proposed development area prior to the start of construction, construction activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success or result in mortality of individual owls constitute a violation of state and federal laws and would be considered a significant impact under CEQA.

Mitigation. In order to avoid impacts to active burrowing owl nests, a qualified biologist should conduct pre-construction surveys for burrowing owls according to the CDFW's *Staff Report on Burrowing Owl Mitigation* within the construction footprint and within 250 feet of the footprint with the first survey no more than 14 days prior to the onset of ground disturbance and the last survey within 24 hours prior to ground disturbance. These surveys should be conducted in a manner consistent with accepted burrowing owl survey protocols.

3.3.5 Impacts to Sacramento Splittail

Potential Impacts. The Sacramento splittail may occur in Matson Creek. The overflow and outfall work could cause a significant effect on individual fish.

Mitigation. As the creek is ephemeral and overflow and outfall work should be able to be completed fairly quickly, work should be conducted in the creek only between April 16 and October 14 during the non-rainy season and when the creek channel is dry.

3.3.6 Impacts to Bats

Potential Impacts. Bats may roost onsite in the crevices and hollows of onsite trees and forage over the site. If tree removal work is conducted during the maternity or overwintering seasons, this work could cause a significant effect on individual bats or a maternity colony.

Mitigation. A bat assessment should be conducted outside of maternity season and outside of overwintering season when humane eviction can occur (March 1-April 15 or August 15-October 15). Should trees be planned for removal, this is the season when they should be removed after a bat assessment. Tree removal, and humane eviction, should be done as a two-step removal under the direction of a qualified biologist.

3.3.7 Disturbance to Waters of the United States or Riparian Habitats

Potential Impacts. A formal wetland delineation of the site was not conducted as a part of this evaluation. No wetlands were observed on the site during the November 2018 survey, however, potentially jurisdictional waters are present on the site in the form of Matson Creek, an intermittent creek, along the southern portion of the site which is proposed to have an overflow and an outfall empty into. This hydrologic feature would be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) and any fill being placed within the creek as a result of the project would require permits from some or all of these agencies. Generally, the jurisdiction of the USACE is the Ordinary High Water mark (OHWM) on opposing banks, in the absence of adjacent wetlands, and the jurisdiction of the RWQCB and CDFW is the top of bank or the dripline of woody riparian vegetation, whichever is greater. Additionally, impacts to the bed, bank or associated woody riparian vegetation may be considered a significant impact under CEQA.

Mitigation. Should the project require impacts within the bed and bank of the creek, or disturbance to woody riparian vegetation, the project should implement avoidance, minimization, and/or compensation measures to reduce impacts to jurisdictional waters and riparian habitats to a less-than-significant level.

Avoidance. The preferred method of mitigation would be avoidance of all waters of the U.S. and State by designing the project so that it avoids the placement of fill within potential jurisdictional waters and impacts to riparian habitat.

Minimization. If full avoidance is not possible, actions should be taken to minimize impacts to aquatic and riparian habitats. The project should be designed to the extent possible to minimize impacts to the most sensitive aquatic habitat by not impacting the creek within the Ordinary High Water (OHW) channel and to minimize removal of woody riparian vegetation. Measures taken during construction activities should include placing construction fencing around the riparian areas to be preserved to ensure that construction activities do not inadvertently impact these areas.

As part of project build-out, all proposed lighting near the riparian corridor should be designed to avoid light and glare impacts to the riparian corridor to be avoided. Light sources should not be visible from riparian areas and should not illuminate riparian areas or cause glare on the opposite side of the channels (e.g., to neighboring properties). Additionally, proposed development activities should be designed and situated to avoid the loss of trees within any riparian areas to the maximum extent practicable.

Compensation. If significant impacts to the riparian corridor cannot be avoided, then an onsite restoration plan should be developed to compensate for impacts. It is expected that all mitigation measures can be accommodated on the site. If the preserved area cannot fully accommodate the mitigation measures, then off-site restoration would be necessary. Mitigation measures would either result in the creation of new habitat as replacement for habitat lost or enhance the quality of existing habitat for native plants and wildlife. Mitigation measures should include replacement of riparian habitat as well as reseeding or replanting of vegetation in temporarily disturbed areas according to a site-specific mitigation plan. At a minimum, this plan should identify mitigation areas, a planting plan, site maintenance activities, success criteria and remedial measures to compensate for lack of success. The mitigation goal should be to create and enhance riparian habitats with habitat functions and values greater than or equal to those existing in the impact zone.

A detailed monitoring plan, including specific success criteria, should be developed and submitted to permitting agencies during the permit process. The mitigation area would be monitored in accordance with the plan approved by those permitting agencies. The basic components of the monitoring plan consist of final success criteria, performance criteria, monitoring methods, data analysis, as-built plans, monitoring schedule, contingency/remedial measures, and reporting requirements.

A Habitat Mitigation and Monitoring Plan should be prepared that at a minimum:

- Defines the location of all restoration/creation activities;
- Provides evidence of a suitable water budget to support any created wetland and riparian habitats;

- Identifies the species, amount and location of plants to be installed;
- Identifies time of year for planting and method for supplemental watering during the establishment period;
- Identifies the monitoring period which should be not less than 5 years for wetland restoration and not less than 5 years for riparian restoration, defines success criteria that will be required for the wetland restoration to be deemed a success;
- Identifies adaptive management procedures that accommodate the uncertainty that comes with restoration projects. These include (but not limited to) measures to address colonization by invasive species, unexpected lack of water, excessive foraging of installed wetland plants by native wildlife, etc.;
- Defines management and maintenance activities (weeding of invasive, providing for supplemental water, repair of water delivery systems, etc.); and
- Provides for surety in funding the monitoring and ensuring that the created wetland and riparian habitats fall within lands to be preserved and managed into perpetuity.
- The above mitigation measures when implemented would reduce any impacts on waters of the U.S. and state and sensitive riparian habitats to a less-than-significant level.

Regulatory issues. The applicant will also need to comply with all state and federal regulations related to construction work that will impact aquatic habitats occurring on the site. The applicant may be required to obtain a Section 404 Clean Water Act permit from the USACE, Section 401 Water Quality Certification from the RWQCB, and Section 1600 Streambed Alteration Agreement from the CDFW prior to initiating any construction within these habitats.

3.3.8 Tree Removal Impacts

Potential Impacts. The proposed project may require the removal of trees. The number of trees to be removed will depend on the final project plans. The removal of protected trees would constitute a significant impact. The City of Pleasant Hill requires a permit to remove of protected trees or Heritage tree as defined in Section 3.2.7. above. An arborist Tree Survey should be conducted to identify Protected and Heritage trees onsite.

Mitigation. A tree preservation and replacement plan should be prepared for the project identifying all protection and mitigation measures to be taken. These measures should remain in place for the duration of construction activities at the project site. Replacement trees are required. The tree ordinance includes a section for subdividers which says that “A subdivider or developer need not obtain a separate tree removal permit to remove, relocate or demolish a tree designated as “To Be Removed” on an approved subdivision map (tentative map or parcel map) or development plan provided that the tree removal has been reviewed and approved by the decision-making body for the subdivision map and/or development plan based on the criteria in subsection A.3 of this section and a tree preservation and replacement plan has been approved pursuant to subsection C of this section.”

Implementation of the above mitigation measures would reduce the loss of trees to a less-than-significant level.

3.3.9 Loss of Habitat for Native Wildlife

Potential Impacts. The habitats of the site are likely to comprise only a portion of most wildlife’s entire home range or territory. As such, some species may disperse through the site, but most wildlife presently using the site do so as part of their normal movements for foraging, mating, and caring for young. Wildlife species presently occupying the site would be displaced or lost from the proposed development area.

The proposed development would affect a small area. This development would primarily result in the loss of non-native grassland and retired orchard habitats. But will also have small impacts to the creek.

The proposed project, when considered by itself, will neither result in a wildlife population dropping below self-sustaining levels nor threaten to eliminate an animal community. Furthermore, mitigations have been proposed for a number of species previously discussed to adequately off-set habitat losses.

Therefore, impacts to native wildlife due to the loss of habitat resulting from the proposed project are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

3.3.10 Interference with the Movement of Native Wildlife

Potential Impacts. The site is surrounded by residential development and Matson Creek is not expected to be a significant movement corridor in the region. Following project buildout, wildlife species presently using the site are expected to continue to use the yards of the properties and within the riparian corridor after project build-out. Therefore, impacts to wildlife movements would not be considered significant.

Mitigation. Mitigation measures are not warranted.

3.3.11 Degradation of Water Quality in Seasonal Drainages, Stock Ponds, and Downstream Waters

Potential Impacts. Proposed construction activities may result in soils left barren in the development footprint. Additionally, extensive grading often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to sheet, rill, or gully erosion. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. These pollutants may eventually be carried to sensitive wetland habitats used by a diversity of native wildlife species.

The applicant is expected to comply with the provisions of a grading permit, including standard erosion control measures that employ best management practices (BMPs). Projects involving the grading of large tracts of land must also be in compliance with provisions of a General Construction permit (a type of NPDES permit) available from the California Regional Water Quality Control Board. Compliance with the above permit(s) should result in no impacts to water quality in seasonal creeks, reservoirs, and downstream waters from the proposed project and should not result in the deposition of pollutants and sediments in sensitive riparian and wetland habitats.

Mitigation. Mitigation measures are not warranted.

3.3.12 Local Ordinances, Conservation Strategies or Habitat Conservation Plans

Potential Impacts. With the exception of local ordinances previously discussed, no local ordinances, HCPs, or NCCPs are known to be in effect for this project; the project is outside the boundary of the East Contra Costa County Habitat Conservation Plan.

Mitigation. Additional mitigation measures are not warranted.

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APPENDIX A: SITE PLANS

OAKVUE ROAD

CENTER LINE

CENTERLINE
McKISSICK ST.

CENTERLINE
HUBBARD AVE

2:1 slope

approx. daylight
line

retaining
wall

retaining
wall

2:1 slope

grading on
adjacent
property

BUILDING

HOUSE

DRIVEWAY

OPEN CHANNEL

12" SD EASE

CL ROAD

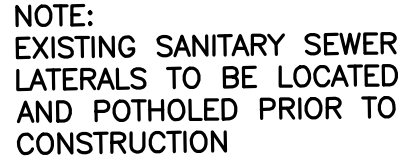
ROW LINE

8" SS LINE

5' SS EASE

5' SS EASE

S021140"E 1C



NOTE:
EXISTING SANITARY SEWER
LATERALS TO BE LOCATED
AND POTHOLED PRIOR TO
CONSTRUCTION

JES ENGINEERING, Inc.
4047 First Street, Ste. 201
Livermore, CA 94551
www.jesengineering.com
925.449.1735
FAX: 925.449.4990

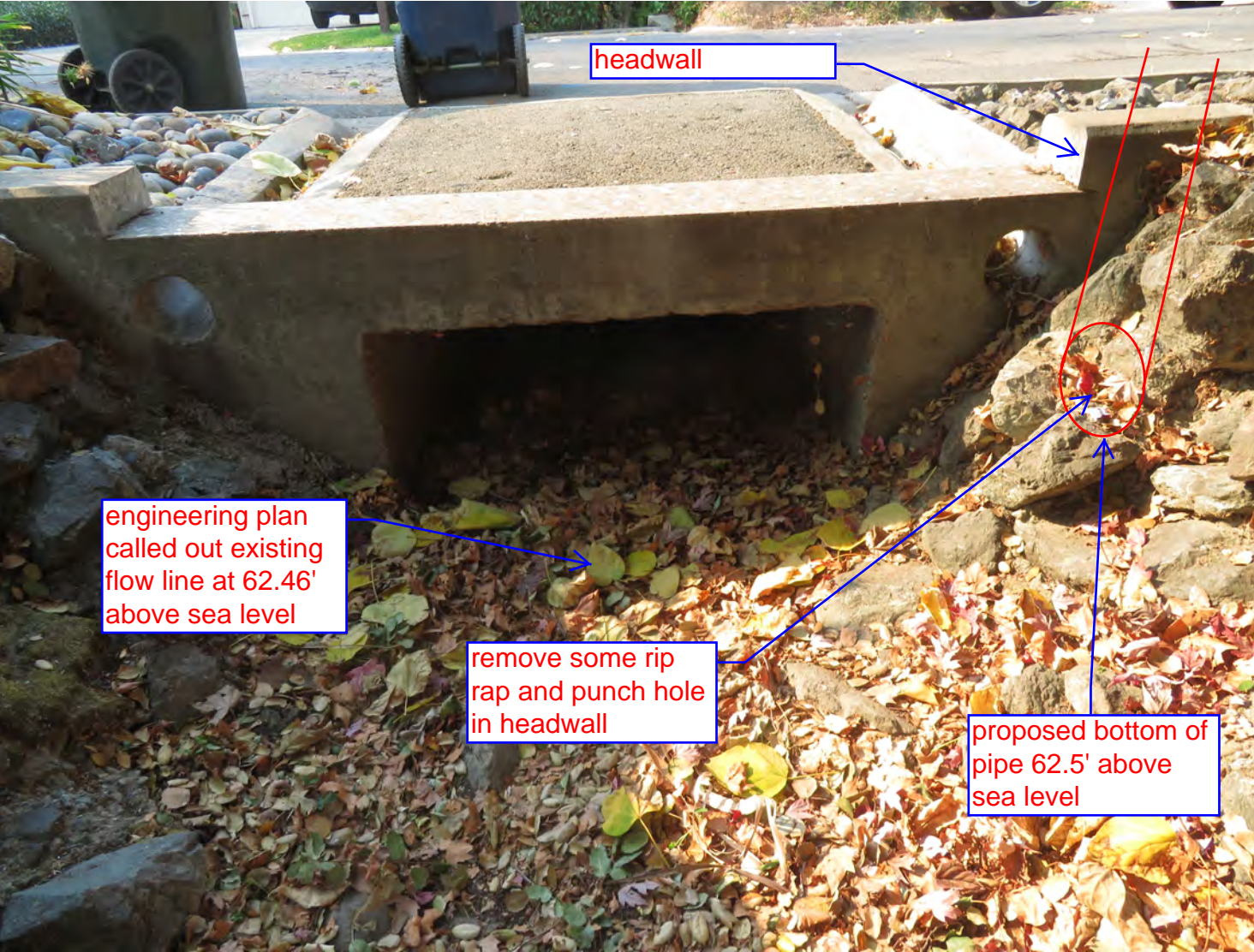


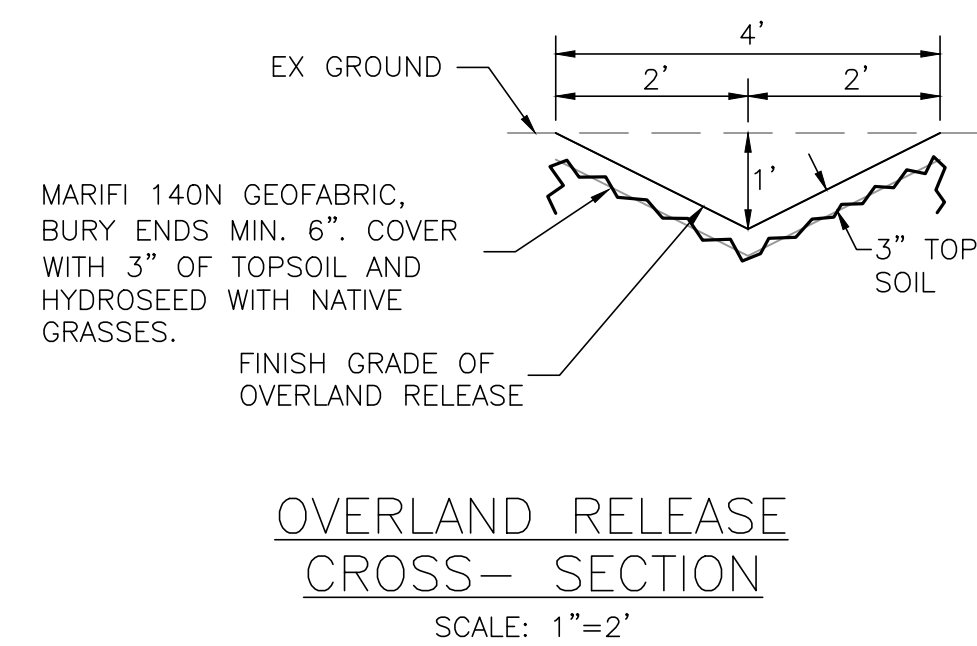
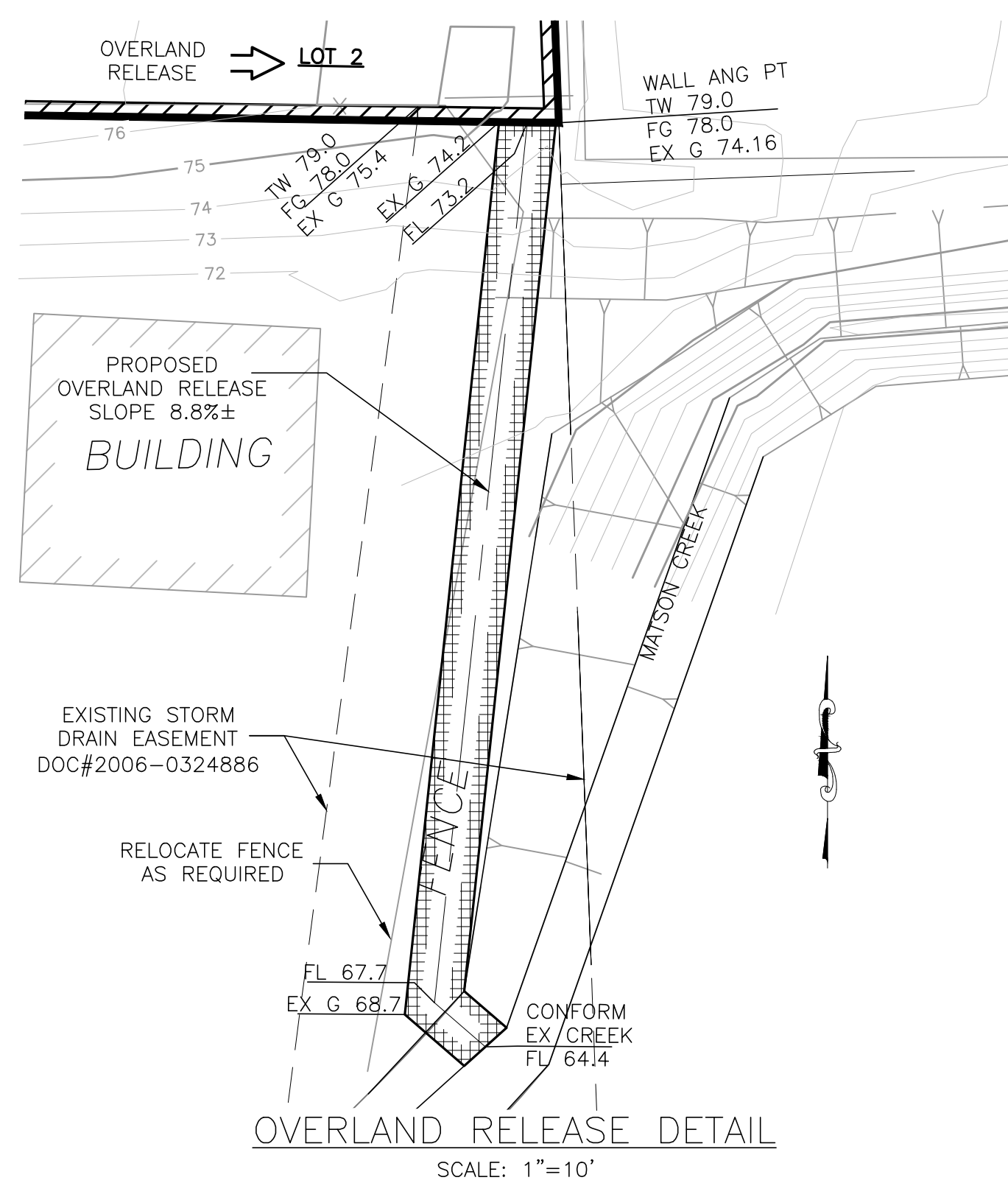
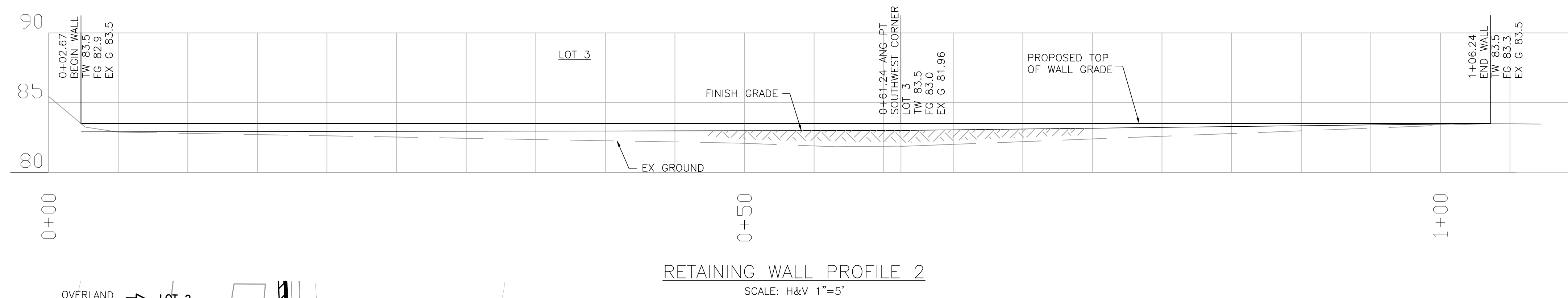
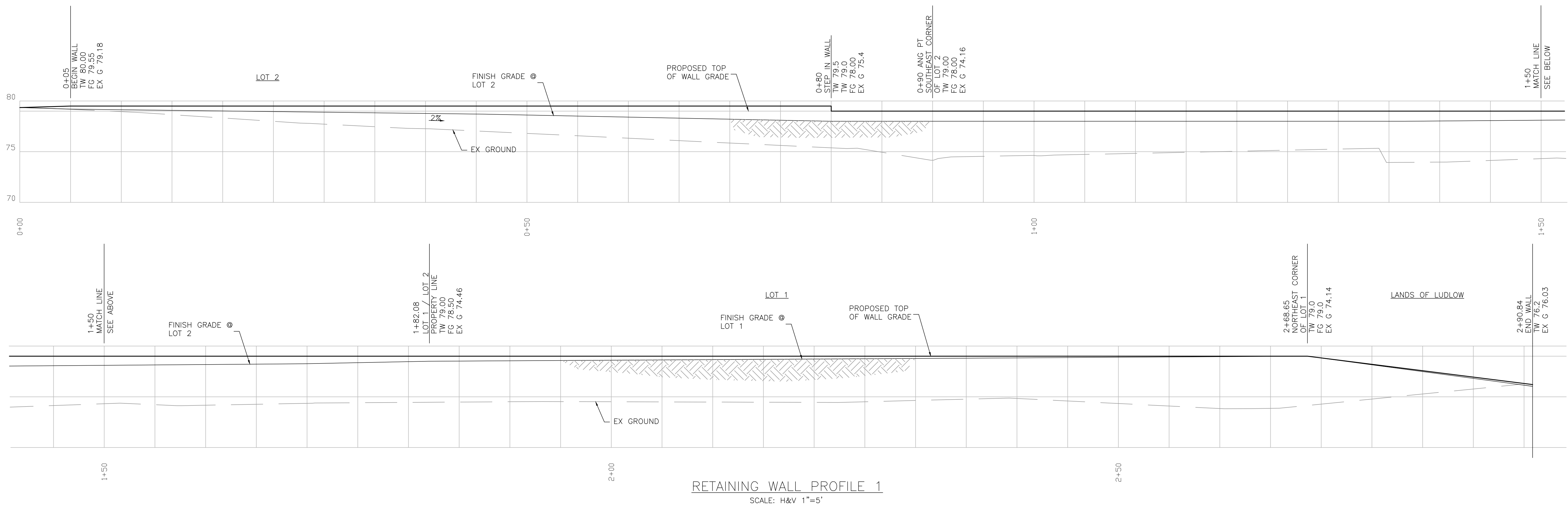
REVISIONS				
	NO.	DATE	DESCRIPTION	BY
	A	4-9-18	CITY COMMENTS	CL
	B	4-26-18	CCCSO SUBMITTAL	CL
	C	8-8-18	VESTING TENTATIVE MAP	CL
	D	10-03-18	CITY COMMENTS	CL
	D	10-15-18	REV BLDG AREA	CL

~~UTILITY PLAN~~

McKissick Street
Pleasant Hill, CA

DRAWN BY:	CL
DATE:	12-28-17
JOB NO:	15127
SCALE:	AS SHOWN





REVISIONS				
NO.	DATE	DESCRIPTION	BY	CL
A	4-9-18	CITY COMMENTS	CL	CL
B	4-26-18	CCCSD SUBMITTAL	CL	CL
C	8-8-18	VESTING TENTATIVE MAP	CL	CL
D	10-03-18	CITY COMMENTS	CL	CL
D	10-15-18	REV BLDG AREA	CL	CL

CROSS SECTIONS
McKissick Street
Pleasant Hill, CA