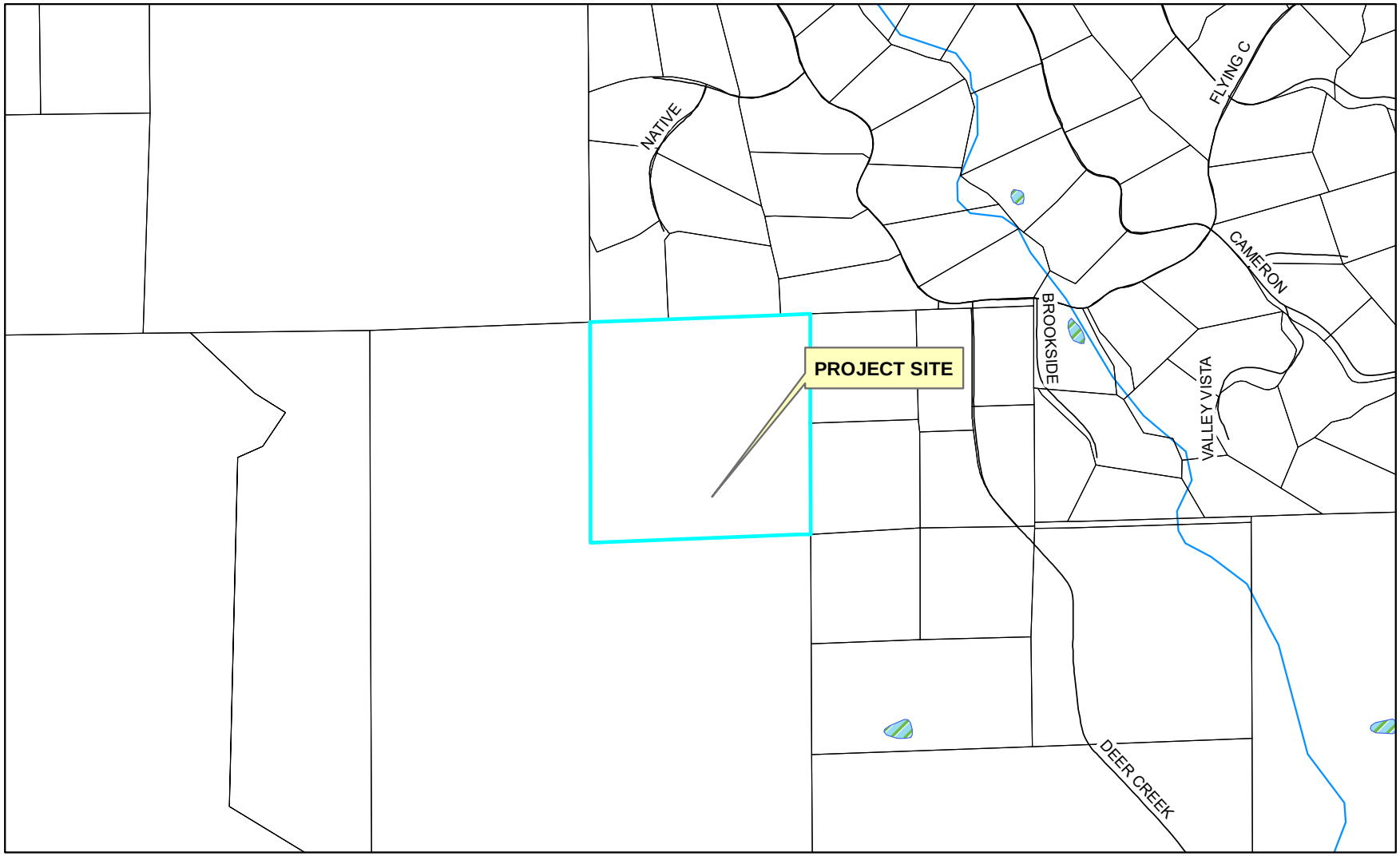
P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT A - LOCATION MAP



P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT B - AERIAL MAP

0 750 1,500 3,000 Feet

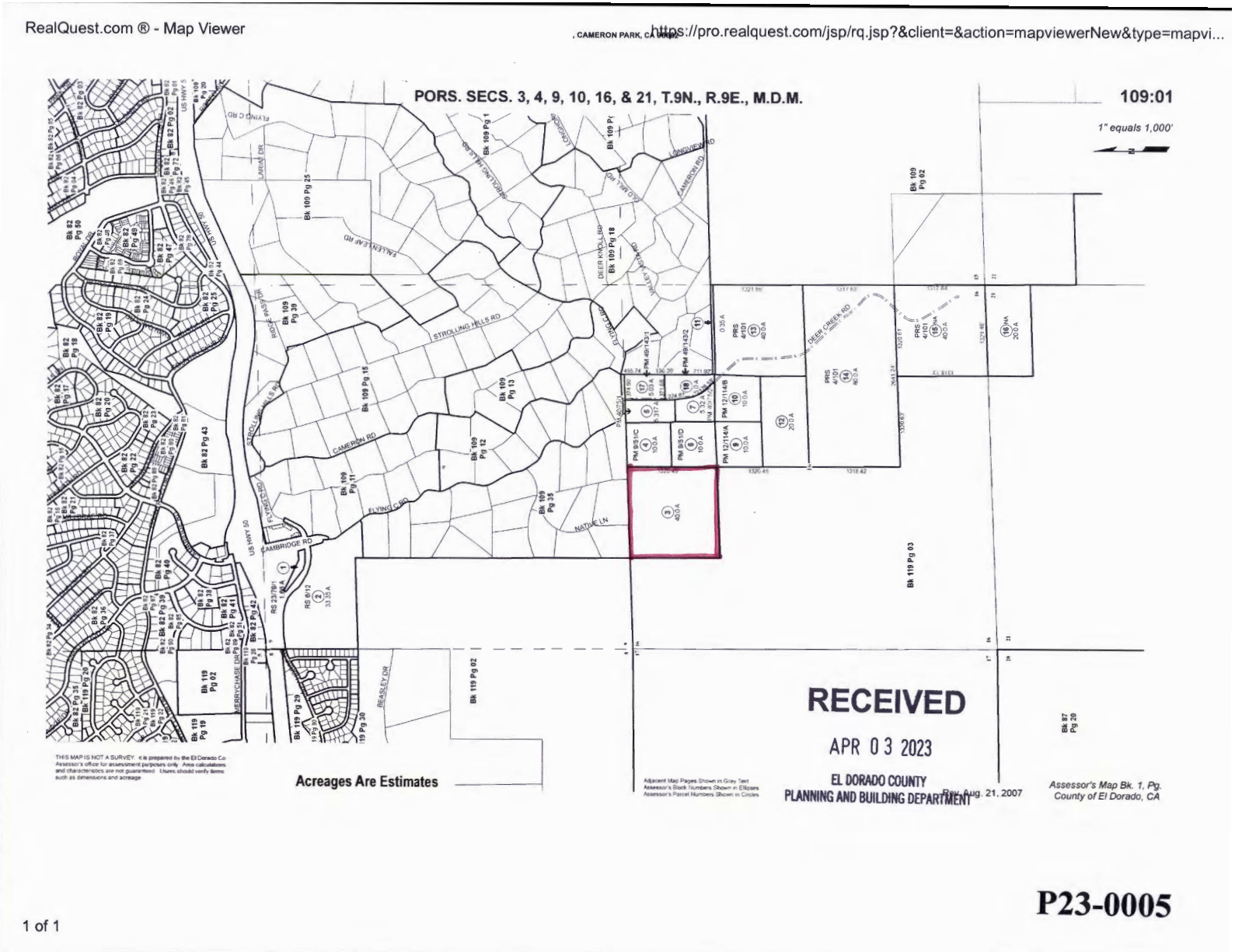
Legend

Parcels

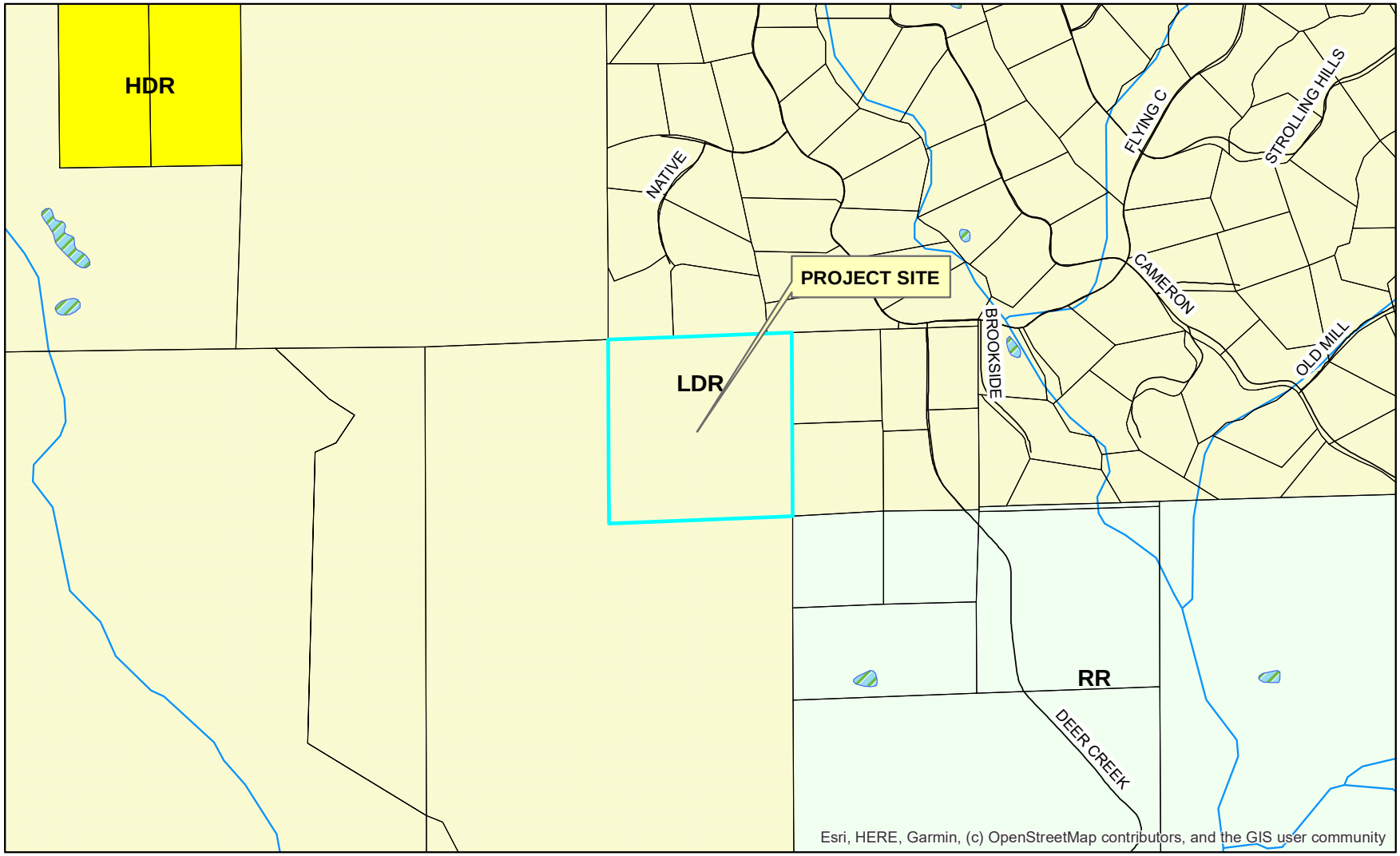
Roads

N

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT C - ASSESSOR'S PARCEL MAP



P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT D - GENERAL PLAN LAND USE MAP



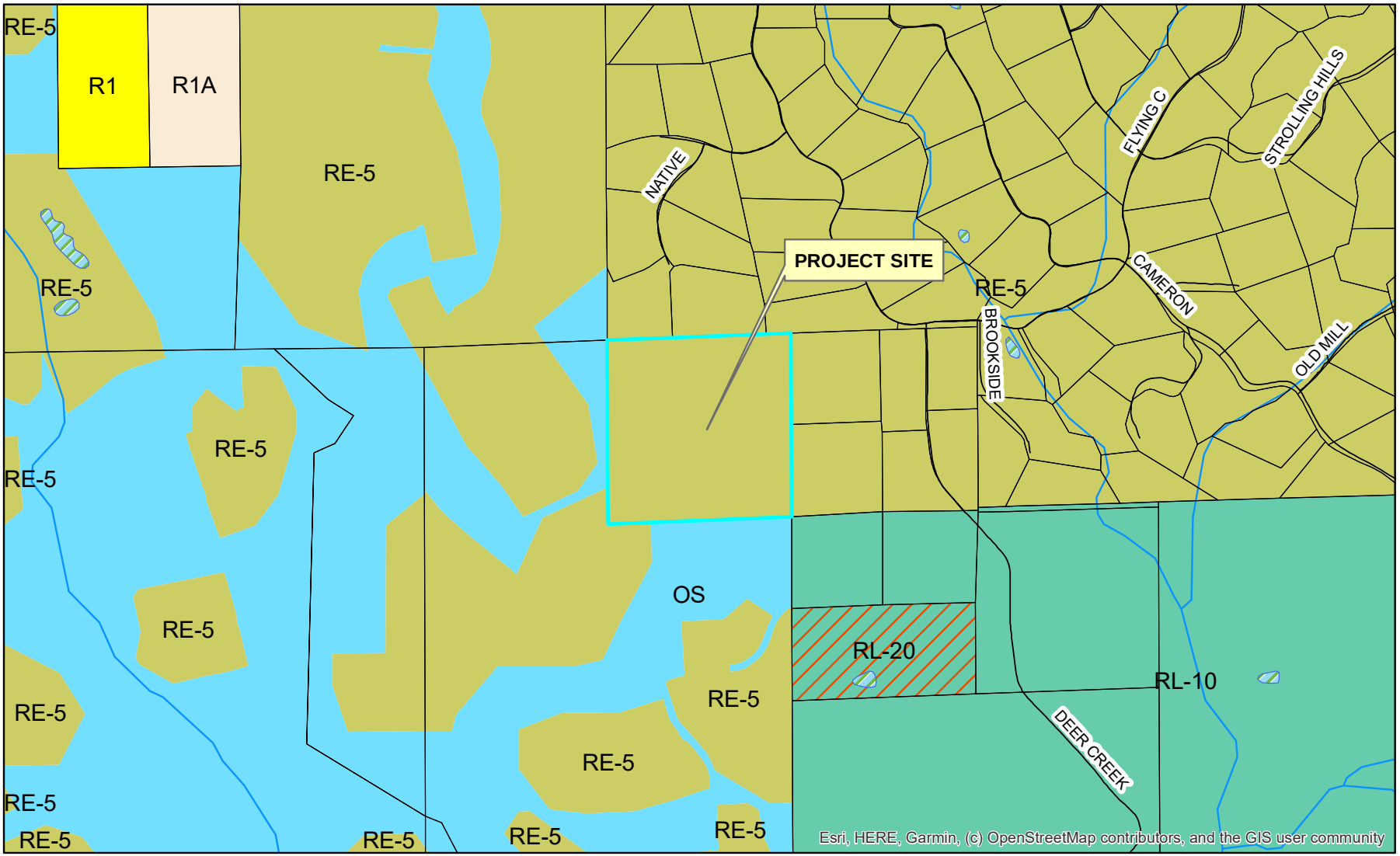
0 600 1,200 2,400 Feet

Legend

- High Density Residential
- Low Density Residential
- Rural Residential
- Parcels
- Roads

N

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT E - ZONING MAP



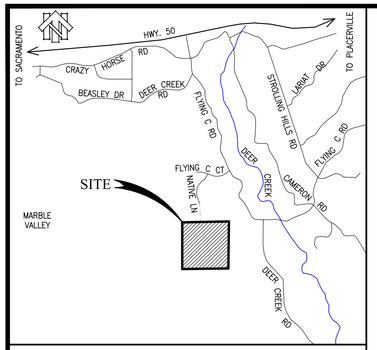
0 245490 980 1,470 1,960
Feet

N

OS = Open Space
R1 = Residential Single Unit
R1A = Residential 1 Acre
RE-5 = Residential Estate 5 Acres
RL-10 = Rural Land 10 Acres
RL-20 = Rural Land 20 Acres

TENTATIVE PARCEL MAP
NATIVE LANE PARCEL MAP

COUNTY OF EL DORADO — MARCH, 2023 — STATE OF CALIFORNIA



VICINITY MAP
NOT TO SCALE

OWNER OF RECORD/APPLICANT

DEUBEL ENTERPRISES, LP
PO BOX 4257
EL DORADO HILLS, CA. 95762

MAP PREPARED BY

cta Engineering & Surveying
Civil Engineering ■ Land Surveying ■ Land Planning
3233 Monier Circle, Rancho Cordova, CA 95742
T (916) 638-0919 • F (916) 638-2479 • www.ctaeng.net

MAP SCALE

1" = 100'

CONTOUR INTERVAL

CONTOUR INTERVAL = 2 FOOT

SOURCE OF TOPOGRAPHY

AERIAL PHOTOGRAMMETRY

SECTION, TOWNSHIP and RANGE

NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 16, T.9 N., R.9 E M.D.M.

ASSESSOR'S PARCEL NUMBER

109-010-003

PRESENT ZONING

RE-5

TOTAL AREA

39.99 ACRES

TOTAL NUMBER OF PARCELS

4 PARCELS

MINIMUM PARCEL AREA

5.25 ACRES

WATER SUPPLY and SEWAGE DISPOSAL

PRIVATE – WELL & SEPTIC ON EACH PARCEL

PROPOSED STRUCTURAL FIRE PROTECTION

EL DORADO COUNTY FIRE PROTECTION DISTRICT

DATE OF PREPARATION

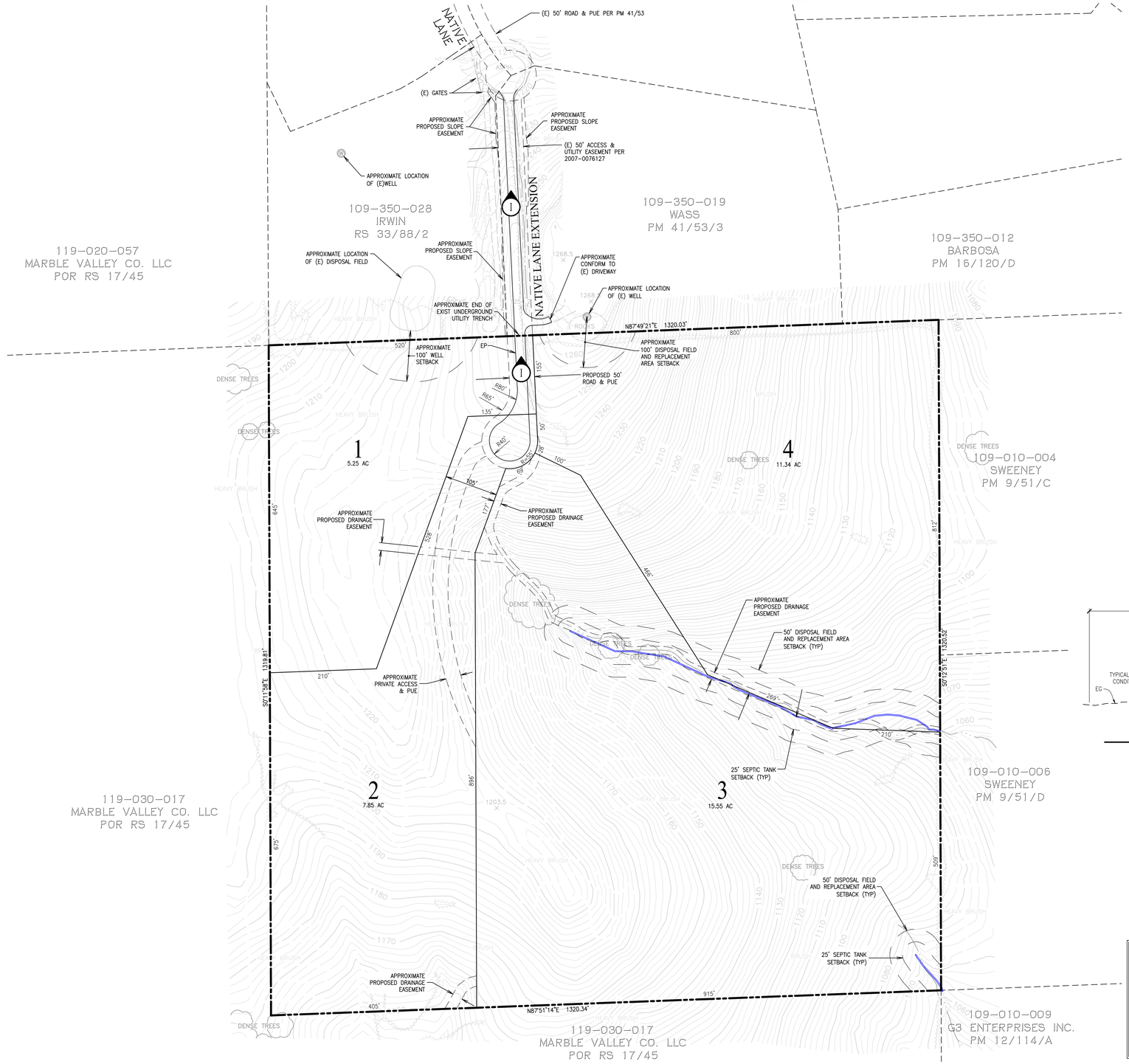
MARCH, 2023

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THE LAND DEVELOPMENT KNOWN AS "NATIVE LANE PARCEL MAP" HAS BEEN DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS AND GUIDELINES ESTABLISHED BY THE COUNTY OF EL DORADO.

REGISTERED PROFESSIONAL ENGINEER — BRIAN M. ALLEN — 60764 — Exp.12/31/24 — CIVIL — STATE OF CALIFORNIA

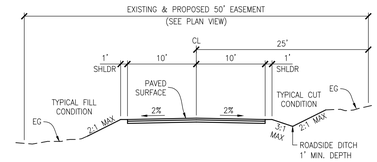
3/31/23
BRIAN M. ALLEN P.E. 60764 — DATE



0 50' 100' 200'
SCALE: 1" = 100'

LEGEND

- PROJECT BOUNDARY
- EP
- EASEMENT
- LOT LINE
- EPHEMERAL DRAINAGE SEE BRA PREPARED BY MADRONE ECOLOGICAL CONSULTING, LLC
- (E) LOT LINE
- DIRECTION OF SECTION
- ROAD SECTION DESIGNATION



NATIVE LANE EXTENSION (1)
SCALE: 1" = 10'

PHASING PLAN NOTICE

THE SUBDIVIDER MAY FILE MULTIPLE PARCEL MAPS FOR THIS PROJECT. THE SUBDIVIDER SHALL NOT BE REQUIRED TO DEFINE THE NUMBER OR CONFIGURATION OF THE PROPOSED MULTIPLE PARCEL MAPS. (PER THE SUBDIVISION MAP ACT, SECTION 66463.1)

ZONING ADMINISTRATOR: _____

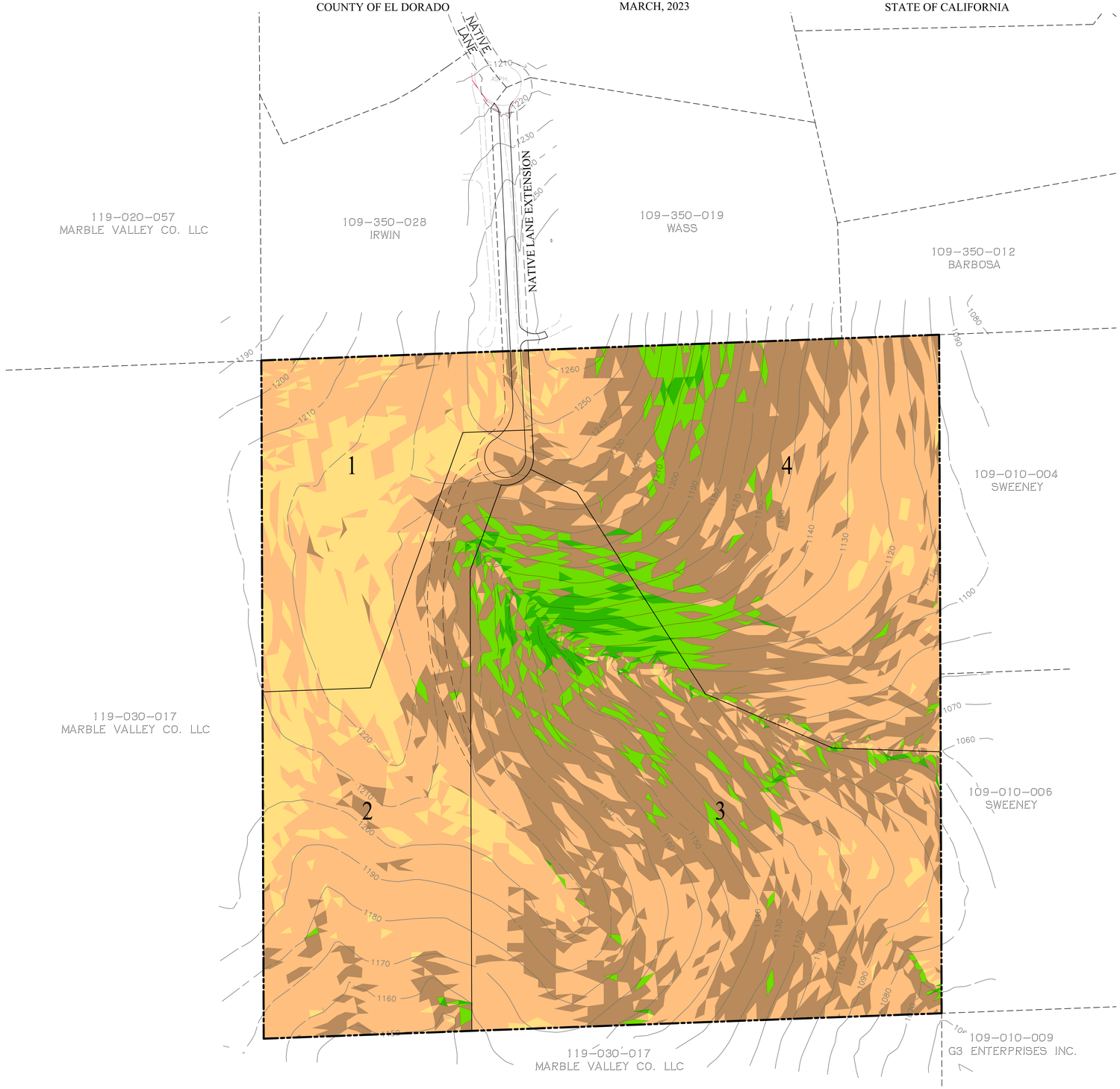
APPROVAL/DENIAL DATE: _____

BOARD OF SUPERVISORS: _____

APPROVAL/DENIAL DATE: _____

SLOPE MAP
NATIVE LANE PARCEL MAP

COUNTY OF EL DORADO | MARCH, 2023 | STATE OF CALIFORNIA



0 50' 100' 200'
SCALE: 1" = 100'

COLOR	SLOPE RANGE		AREA	PERCENT OF AREA SHOWN
	BEGINNING	END		
	0%	10%	4.50 AC.	11.25%
	10%	20%	18.62 AC.	46.56%
	20%	30%	13.65 AC.	34.14%
	30%	40%	2.64 AC.	6.60%
	40% +		0.58 AC.	1.45%

AVERAGE SLOPES

LOT #	PERCENT
1	9.72%
2	15.35%
3	22.65%
4	21.13%

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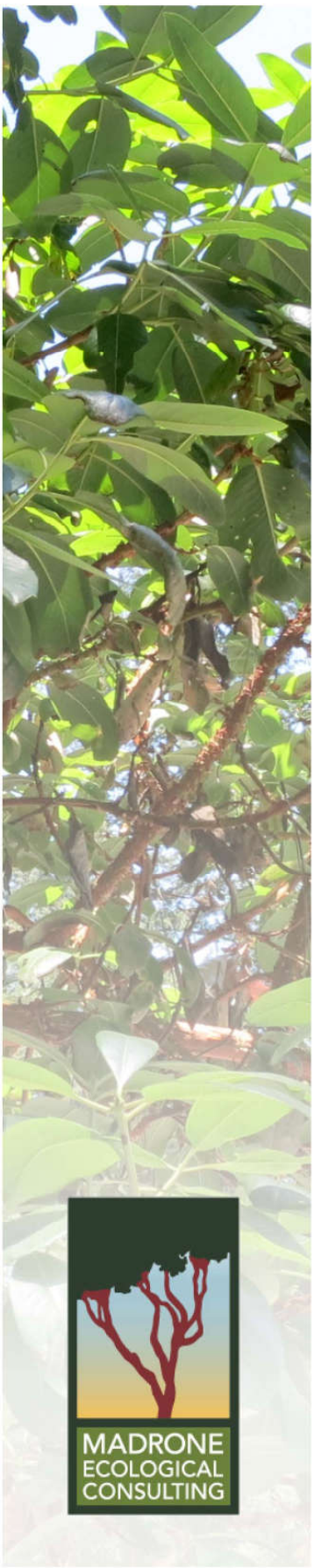

Biological Resources Assessment

Native Lane

El Dorado County
March 2023

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Prepared for:
CTA Engineering & Surveying
3233 Monier Circle
Rancho Cordova, California 95742

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2023. *Biological Resources Assessment for Native Lane*. Prepared for CTA Engineering & Surveying. Published on 4 March 2023.

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

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Native Lane

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P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

1.0 INTRODUCTION

This report presents the results of a Biological Resources Assessment (BRA) conducted for the approximately 40-acre Native Lane Property. The Native Lane Property (Study Area) is located generally south of the southern end of Native Lane and west of Deer Creek Road in unincorporated El Dorado County, California. The Study Area is located within a portion of Section 16, Township 9 North, Range 9 East (MDB&M) of the "Shingle Springs, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**).

2.0 REGULATORY SETTING

This section describes federal, state and local laws and policies that are relevant to this assessment of biological resources.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized "take."

2.1.2 Clean Water Act, Section 404

Section 404 of the Federal Clean Water Act requires that a Department of the Army permit be issued prior to the discharge of any dredged or fill material into waters of the United States, including wetlands. The U. S. Army Corps of Engineers (USACE) administers this program, with oversight from the U. S. Environmental Protection Agency. Waters of the United States include all navigable waters; interstate waters and wetlands; all intrastate waters and wetlands that could affect interstate or foreign commerce; impoundments of the above; tributaries of the above; territorial seas; and wetlands adjacent to the above.

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11.). Likewise, Section 3513 of the California Fish & Game Code prohibits the "take or possession" of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

2.2 State Regulations

2.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires evaluations of project effects on biological resources. Determining the significance of those effects is guided by Appendix G of the CEQA guidelines. These evaluations must consider direct effects on a biological resource within the project site itself, indirect effects on adjacent resources, and cumulative effects within a larger area or region. Effects can be locally important but not significant according to CEQA if they would not substantially affect the regional population of the biological resource. Significant adverse impacts on biological resources would include the following:

- Substantial adverse effects on any species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) (these effects could be either direct or via habitat modification);
- Substantial adverse impacts to species designated by the California Department of Fish and Game (2009) as Species of Special Concern;
- Substantial adverse effects on riparian habitat or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW and USFWS;
- Substantial adverse effects on federally protected wetlands defined under Section 404 of the Clean Water Act (these effects include direct removal, filling, or hydrologic interruption of marshes, vernal pools, coastal wetlands, or other wetland types);
- Substantial interference with movements of native resident or migratory fish or wildlife species population, or with use of native wildlife nursery sites;
- Conflicts with local policies or ordinances protecting biological resources (e.g. tree preservation policies); and
- Conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

2.2.2 State Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e. that for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code Section 2081).

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes

some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.2.4 Clean Water Act, Section 401

Section 401 of the Clean Water Act requires any applicant for a 404 permit in support of activities that may result in any discharge into waters of the United States to obtain a water quality certification with the Regional Water Quality Control Board (RWQCB). This program is meant to protect these waters and wetlands by ensuring that waste discharged into them meets state water quality standards. Because the water quality certification program is triggered by the need for a Section 404 permit (and both programs are a part of the Clean Water Act), the definition of waters of the United States under Section 401 is the same as that used by the Corps under Section 404.

2.2.5 California Water Code, Porter-Cologne Act

The Porter Cologne Act, from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge requirements (WDRs). "Waters of the state" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state.

2.2.6 California Fish and Game Code, Section 1600 – Streambed and Lake Alteration

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, it will require that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

2.2.7 California Fish and Game Code, Section 3503.5 - Raptor Nests

Section 3503.5 of the Fish and Game Code makes it unlawful to take, possess, or destroy hawks or owls, unless permitted to do so, or to destroy the nest or eggs of any hawk or owl.

2.3 Local Regulations

2.3.1 El Dorado County Oak Resources Conservation Ordinance

Chapter 130.39 of the El Dorado County Code requires mitigation for impacts to native oak trees in all portions of unincorporated El Dorado County below 4,000 feet in elevation. This Chapter requires documentation of all Oak Woodlands, Individual Native Oak Trees, and Heritage Native Oak Trees (collectively, Oak Resources) on a site if any oak impacts are proposed on that site. Furthermore, an Oak Resources Technical Report must be prepared as stipulated in the Chapter. Mitigation for impacts to Oak Resources is typically accomplished through payment of an in-lieu fee to the Oak Woodland Conservation Fund.

2.3.2 El Dorado County Ecological Preserves Ordinance

Chapter 130.71 of the El Dorado County Code requires mitigation or payment of a fee in-lieu of mitigation for development of any property within Mitigation Areas 0, 1, or 2. This fee is commonly referred to as the Rare Plant Mitigation fee, and is to be paid in full upon issuance of a building permit, for all new developments within County. "Mitigation Area 0" means lands within the Gabbro Soils Rare Plant Ecological Preserve, as shown on maps on file in the Department, adopted by Ordinance 4500. "Mitigation Area 1" means lands outside of Mitigation Area 0 but within the area described as the "rare soils study area" on the same map, and "Mitigation Area 2" means lands outside of Mitigation Areas 0 and 1 but within the El Dorado Irrigation District service area, excluding those lots served by wells. The Study Area is located within Mitigation Area 1, and the mitigation fee is $885 per acre.

3.0 METHODOLOGY

3.1 Literature Review

A list of special-status species with potential to occur within the Study Area was developed by conducting a query of the following databases:

- California Natural Diversity Database (CNDDB) (CNDDB 2021) query of the Study Area and a 5-mile radius around the Study Area (**Figure 2**);
- USFWS Information for Planning and Conservation (IPaC) (USFWS 2021) query for the Study Area (**Attachment A**);
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2021) query of the "Shingle Springs, California" USGS topo quadrangle, and the eight surrounding quadrangles (**Attachment B**); and

- Western Bat Working Group (WBWG) Species Matrix (WBWG 2021).

In addition, any special-status species that are known to occur in the region, but that were not identified in any of the above database searches were also analyzed for their potential to occur within the Project area.

For the purposes of this Biological Resources Assessment, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species or species of special concern by CDFW;
- identified as Medium or High priority species by the WBWG (WBWG 2021); and
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1, 2, and 3]:
  - CRPR 1A: Plants presumed extinct.
  - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
  - CRPR 2A: Plants extirpated in California, but common elsewhere.
  - CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
  - CRPR 3: Plants about which the CNPS needs more information – a review list.

3.2 Field Surveys

Madrone biologists Daria Snider and Matt Shaffer conducted a reconnaissance-level field survey of the Study Area on 24 May 2021 to assess the suitability of habitats on-site to support special-status species. In addition, during that survey visit, the biologists conducted a protocol-level special-status plant survey and an aquatic resources delineation in accordance with USACE protocols. The Study Area was comprehensively surveyed on foot by walking through all accessible openings in the dense chaparral. Vegetation communities were classified in accordance with *The Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and Evens 2009), and plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2021). A list of all wildlife species observed during the survey is included as **Attachment C**.

The special-status plant survey was conducted in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), the *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001), and *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). A report detailing the methods and results of this survey is included as **Attachment D**.

The aquatic resources delineation was conducted by Ms. Snider in accordance with the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). All aquatic resources found on-site were mapped with a GPS unit capable of sub-meter accuracy (Arrow 100).

4.0 EXISTING CONDITIONS

The Study Area is almost entirely occupied by a whiteleaf manzanita (*Arctostaphylos viscida*) chaparral. The only areas not occupied by this chapparal are small openings in the chaparral, a dirt road that is maintained (to varying degrees) around eastern, north, and western edges of the Study Area, and a dirt access road that connects the Study Area to Native Lane. The dirt access road was in active construction during the field survey (apparently associated with the adjacent property to the north), and a 3-foot-deep trench had been dug within the alignment. The only aquatic resources found within the Study Area are two narrow ephemeral drainages (**Figure 3**). The Study Area is comprised of a hilltop, and somewhat steep slopes with a mostly eastern aspect. Elevations within the Study Area range from approximately 1,100 feet to approximately 1,250 feet above Mean Sea Level. Surrounding properties to the east, south, and west are similarly undeveloped dense chaparral, while to the north are rural residences.

The whiteleaf manzanita chaparral is almost entirely comprised of whiteleaf manzanita and chamise (*Adenostoma fasciculatum*). Other shrubs such as toyon (*Heteromeles arbutifolia*), Yerba santa (*Eriodictyon californicum*), and sticky-leaf monkeyflower (*Diplacus aurantiacus*) occur occasionally. A few grey pines (*Pinus sabiniana*) are scattered near the center of the Study Area. Herbaceous vegetation is almost entirely lacking below the closed canopy of the chaparral, but is present in openings and along roadsides within the Study Area. Common herbaceous plant species in chaparral openings and roadsides within the Study Area include a variety of diminutive native forbs, such as knotweed spineflower (*Chorizanthe polygonoides ssp. polygonoides*), thin-stemmed navarretia (*Navarretia filicaulis*), Sierra milkwort (*Polygala cornuta var. cornuta*), small-flowered western flax (*Hesperolinon micranthum*), dwarf evax (*Hesperevax acaulis var. acaulis*), and small tarweed (*Madia exigua*); as well as native and non-native grasses, such as squirrel-tail grass (*Elymus elymoides*), California melic (*Melica californica*), scribneria (*Scribneria bolanderi*), red brome (*Bromus madritensis*), ripgut brome (*B. diandrus*), soft brome (*B. hordeaceus*), wild oats (*Avena fatua*), brome fescue (*Festuca bromoides*), and six-weeks fescue (*Festuca microstachys*). No oak trees were observed within the Study Area; however, it is possible that an isolated oak tree could be present in currently inaccessible portions of the site.

Two sections of ephemeral drainage occur within the Study Area, totaling 0.04 acre (**Figure 3**). Ephemeral drainages convey stormwater runoff for short periods of time directly after precipitation events. These drainages are entirely unvegetated due to the scouring effects of water. These features drain east into intermittent Deer Creek.

4.1 Soils

The Natural Resources Conservation Service has mapped the entire Study Area as (SaF) Serpentine rock land (**Figure 4**) (NRCS 2021), and serpentine rocks were observed throughout the Study Area.

5.0 RESULTS

Table 1 provides a list of special-status species that were evaluated, including their listing status, habitat associations, and their potential to occur in the Study Area. The following set of criteria was used to determine each species' potential for occurrence on the site:

- Present: Species occurs on the site based on CNDDB records, and/or was observed on the site during field surveys.
- High: The site is within the known range of the species and suitable habitat exists.
- Moderate: The site is within the known range of the species and very limited suitable habitat exists.
- Low: The site is within the known range of the species and there is marginally suitable habitat or the species was not observed during protocol-level surveys conducted on-site.
- Absent/No Habitat Present: The site does not contain suitable habitat for the species, the species was not observed during protocol-level floristic surveys conducted on-site, or the site is outside the known range of the species.

Figure 2 is an exhibit displaying CNDDB occurrences within five miles of the Study Area. Below is a discussion of all special-status plant and animal species with potential to occur on the site.

5.1 Plants

5.1.1 Jepson's Onion

Jepson's onion is not listed under the federal or California Endangered Species Act; however, it is designated as a CRPR List 1B.2 plant. Jepson's onion is found in chaparral, cismontane woodland, and lower montane coniferous forests on serpentine or volcanic soils (CNPS 2021). It is a bulbiferous perennial, and it blooms from April through August at elevations from 980 feet to 4,330 feet (CNPS 2021).

The chaparral on serpentine soils throughout the Study Area provides suitable habitat for this species. Jepson's onion has not been documented within five miles of the Study Area in the CNDDB (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom. The vast majority of the Study Area is currently impenetrable chaparral that precludes establishment of herbaceous species. If the site were to burn, or experience some other large-scale disturbance, there is a chance that this species could become established in the new openings.

5.1.2 Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herbaceous species that occurs in chaparral, cismontane woodland and valley and foothill grasslands between 295 and 4,600 feet (CNPS 2021). Big-scale balsamroot

Table 1. Special-Status Species Potential for Occurrence within the Native Lane Study Area

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Plants				
Allium jepsonii Jepson's onion	--	CRPR 1B.2	Prefers cismontane woodland or lower montane coniferous forests associated with serpentine soils or volcanic slopes from 985 - 4,330 ft.	**Low.** Suitable habitat is present; however, this species was not found on-site during protocol-level surveys.
Arctostaphylos nissenana Nissenan manzanita	--	CRPR 1B.2	Found in rocky areas in chaparral and closed-cone coniferous forest from 1,475 - 3,610 ft.	**No Habitat Present.** The Study Area is outside of the elevational range of the species.
Balsamorhiza macrolepis Big-scale balsamroot	--	CRPR 1B.2	Occurs in chaparral, cismontane woodland, and valley and foothill grasslands between 150 and 5,100 ft. Often associated with serpentine soils.	**Low.** Suitable habitat is present; however, this species was not found on-site during protocol-level surveys.
Calystegia stebbinsii Stebbin's morning glory	FE	CE, CRPR 1B.1	Openings in chaparral and cismontane woodland, often on Gabbro soils between 605 and 3,575 feet.	**No Habitat Present.** Gabbro soils do not occur within the Study Area.
Calystegia vanzuukiae Van Zuuk's morning glory	--	CRPR 1B.3	Openings in chaparral and cismontane woodland on Gabbro and serpentine soils between 1,640 and 3,870 feet.	**No Habitat Present.** The Study Area is outside of the elevational range of the species.
Carex cyrtostachya Sierra arching sedge	--	CRPR 1B.2	Found in marshes, meadows, seeps, and other mesic areas in lower montane coniferous forests and riparian woodlands between 2,000 and 4,460 feet.	**No Habitat Present.** The Study Area is outside of the elevational range of the species, and mesic areas are not present.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Carex xerophila Chaparral sedge	--	CRPR 1B.2	Chaparral, cismontane woodland, and lower coniferous forests on Gabbro and serpentine soils between 1,445 and 2,525 feet.	**Low.** Marginally suitable habitat is present as the site is almost 200 feet lower than known range; however, this species was not found on-site during protocol-level surveys.
Ceanothus roderickii Pine Hill ceanothus	FE	CR, CRPR 1B.1	Foothill chaparral and cismontane woodland associated with Gabbro soils of the Pine Hill formation between 805 and 3,575 feet.	**No Habitat Present.** Gabbro soils do not occur within the Study Area.
Chlorogalum grandiflorum Red Hills soaproot	--	CRPR 1B.2	Chaparral, cismontane woodland, and lower montane coniferous forests associated with Gabbro or serpentine soils at elevations between 800 feet and 5,500 feet.	**Low.** Suitable habitat is present; however, this species was not found on-site during protocol-level surveys.
Crocanthemum suffrutescens Bisbee Peak rush rose	--	CRPR 3.2	Burned or disturbed areas in chaparral, often on Gabbro or Ione soils at elevations between 245 and 2,200 feet.	**Low.** Suitable habitat is present; however, this species was not found on-site during protocol-level surveys.
Eryngium pinnatisectum Tuolumne button-celery	--	CRPR 1B.2	Found in vernal pools and other mesic areas in cismontane woodland and lower montane coniferous forests between 230 and 3,000 ft.	**No Habitat Present.** No mesic areas are present within the Study Area.
Fremontodendron decumbens Pine Hill flannelbush	FE	CR, CRPR 1B.2	Foothill chaparral and cismontane woodland associated with rocky serpentine and Gabbro soils from 1,395 to 2,495 feet.	**Low.** Marginally suitable habitat is present as the site is almost 150 feet lower than known range; however, this species was not found on-site during protocol-level surveys.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Galium californicum ssp. *sierrae* El Dorado bedstraw	FE	CR, CRPR 1B.2	Foothill chaparral, cismontane woodland, and lower montane coniferous forest. Found on Gabbro soils between 330 and 1,920 feet.	**No Habitat Present.** Gabbro soils do not occur within the Study Area.
Horkelia parryi Parry's horkelia	--	CRPR 1B.2	Occurs in chaparral and cismontane woodland on Ione Formation and other soils between 260 and 3,510 ft.	**Low.** Suitable habitat is present; however, this species was not found on-site during protocol-level surveys.
Packera layneae Layne's ragwort	FT	CR, CRPR 1B.2	Foothill chaparral and cismontane woodland on serpentine or Gabbro soils between 655 and 3,560 ft.	**Low.** Suitable habitat is present; however, this species was not found on-site during protocol-level surveys.
Sagittaria sanfordii Sanford's arrowhead	--	CRPR 1B.2	Emergent marsh habitat, typically associated with drainages, canals, or irrigation ditches from sea level to 2,135 feet.	**No Habitat Present.** No mesic areas are present within the Study Area.
Viburnum ellipticum Oval-leaved viburnum	--	CRPR 2B.3	Found in chaparral, cismontane woodlands, and lower cismontane coniferous forests generally on north-facing slopes or otherwise more mesic areas at elevations from 700 feet to 4,600 feet.	**No Habitat Present.** The chaparral within the Study Area is not sufficiently mesic to support this species.
Wyethia reticulata El Dorado County mule ears	--	CRPR 1B.2	Foothill chaparral, cismontane woodland, and lower montane coniferous forest. Found on Gabbro soils of the Pine Hill Formation from 605 to 2,065 feet.	**No Habitat Present.** Gabbro soils do not occur within the Study Area.

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Invertebrates				
Danaus plexippus Monarch butterfly	FC	--	Migratory species. Found throughout California spring through early fall, and along the immediate central and southern California coast year-round. Nectaries on numerous floral resources, but is dependent upon milkweed (*Asclepias* species) plants as their exclusive larval host. Requires diverse floral resources with interspersed milkweed plants during the dispersal and breeding season (spring through fall).	**No Habitat Present.** Milkweed plants are not present within the Study Area.
Fish				
Hypomesus transpacificus Delta smelt	FT	CE	Adults are found in the brackish open surface waters of the Delta and Suisun Bay. Though spawning has never been observed, it is believed to occur in tidally influenced sloughs and drainages on the freshwater side of the mixing zone.	**No Habitat Present.** No tidally influenced sloughs or drainages are present within the Study Area.
Amphibians				
Rana draytonii California red-legged frog	FT	CSC	Breeds in permanent to semi-permanent aquatic habitats including lakes, ponds, marshes, creeks, and other drainages.	**No Habitat Present.** No permanent to semi-permanent aquatic habitats are present within the Study Area.
Reptiles				
Actinemys marmorata Western pond turtle	--	CSC	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	**No Habitat Present.** No permanent to semi-permanent aquatic habitats are present within the Study Area.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Phrynosoma blainvillii Blainville's (Coast) horned lizard	--	CSC	Diverse habitat associations, but normally a low land species associated with sandy scrub habitat.	**High.** The roadsides and larger chaparral openings represent suitable habitat for this species.
Birds				
Agelaius tricolor Tricolored blackbird	--	CE, CSC	Colonial nester in dense vegetation, such as cattails, bulrush, or blackberries associated with marsh habitats.	**No Habitat Present.** No suitable nesting or foraging habitat is present within the Study Area.
Athene cunicularia Burrowing owl	--	CSC	Nests in abandoned ground squirrel burrows associated with open grassland habitats.	**No Habitat Present.** No ground squirrel burrows were observed within the Study Area, and the chaparral vegetation density precludes this species' use of the site.
Laterallus jamaicensis coturniculus California black rail	--	CT	Nests and forages in salt, brackish, and fresh marshes with abundant vegetative cover.	**No Habitat Present.** No marshes are present within the Study Area.
Haliaeetus leucocephalus Bald eagle	FD	CE	Nest in large trees within 1 mile of lakes, rivers, or larger streams.	**No Habitat Present.** Suitable foraging habitat is absent and the site is greater than 1 mile from large lakes, rivers, and large streams.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Mammals				
Antrozous pallidus Pallid bat	--	CSC, WBWG H	Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and Valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings (WBWG 2021).	**Low.** Marginally suitable roosting habitat for this species may be present in under exfoliating bark on the few grey pine trees within the Study Area.
Corynorhinus townsendii townsendii Townsend's big-eared bat	--	CSC, WBWG H	Roosts in caves and cave analogues, such as abandoned mines, buildings, bridges, rock crevices and large basal hollows of trees. Extremely sensitive to human disturbance (WBWG 2021).	**No Habitat Present.** No caves or cave analogues are present within the Study Area.

Status Codes:

CE - CDFW Endangered
CFP - CDFW Fully Protected
CR - CDFW Rare
CRPR - California Rare Plant Rank
CSC - CDFW Species of Concern
CT - CDFW Threatened
FD - Federally Delisted
FT - Federally Threatened
WBWG M - Western Bat Working Group Medium Threat Rank
WBWG H - Western Bat Working Group High Threat Rank

blooms from March through June and may be found on serpentine soils, though it is known to grow on other soil types as well (CNPS 2021).

The chaparral throughout the Study Area provides suitable habitat for this species. Big-scale balsamroot has not been documented within five miles of the Study Area in the CNDDB (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom. The vast majority of the Study Area is currently impenetrable chaparral that precludes establishment of herbaceous species. If the site were to burn, or experience some other large-scale disturbance, there is a chance that this species could become established in the new openings.

5.1.3 Chaparral Sedge

Chaparral sedge is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herb that is found in chaparral, cismontane woodland, and lower coniferous forests on serpentine or gabbroic soils (CNPS 2021). Chaparral sedge blooms from March through June at elevations from 1,500 feet to 2,500 feet (CNPS 2021).

The chaparral on serpentine soils throughout the Study Area provides suitable habitat for this species. Four occurrences of chaparral sedge have been documented within five miles of the Study Area in the CNDDB, the nearest of which (CNDDB Occurrence #2) is approximately two miles northeast of the Study Area on gabbroic soils of the Pine Hill Formation (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been identifiable at least to genus. The vast majority of the Study Area is currently impenetrable chaparral that precludes establishment of herbaceous species. If the site were to burn, or experience some other large-scale disturbance, there is a chance that this species could become established in the new openings.

5.1.4 Red Hills Soaproot

Red Hills soaproot is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. Red Hills soaproot occurs in chaparral, cismontane woodland, and lower montane coniferous forest on gabbro, serpentine, and other soils (CNPS 2021). This perennial blooms from May to June and is found from approximately 800 feet to 3,300 feet (CNPS 2021).

The chaparral throughout the Study Area provides suitable habitat for this species. Five occurrences of Red Hills soaproot have been documented within five miles of the Study Area in the CNDDB, the nearest of which (CNDDB Occurrence #19) is approximately 2.5 miles northeast of the Study Area on gabbroic soils of the Pine Hill Formation (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity. The vast majority of the Study Area is currently impenetrable chaparral that precludes establishment of herbaceous species. If the site were to burn, or experience some other large-scale disturbance, there is a chance that this species could become established in the new openings.

5.1.5 Bisbee Peak Rush Rose

Bisbee Peak rush-rose (*Crocanthemum suffrutescens*) is not federally or state listed, but it is classified as a CRPR List 3.2 plant. Bisbee Peak rush-rose occurs in burned or otherwise disturbed areas in chaparral often on Ione Formation or Gabbro soils, but also on other soils (CNPS 2021). This perennial blooms from April through August and is found from approximately 245 feet to 2,200 feet (CNPS 2021).

The chaparral throughout the Study Area provides marginally suitable habitat for this species. Five occurrences of Bisbee Peak rush-rose have been documented within five miles of the Study Area in the CNDDB, the nearest of which (CNDDB Occurrence #31) is approximately two miles north of the Study Area on gabbroic soils of the Pine Hill Formation (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity. The vast majority of the Study Area is currently impenetrable chaparral that precludes establishment of herbaceous species. If the site were to burn, or experience some other large-scale disturbance, there is a chance that this species could become established in the new openings.

5.1.6 Pine Hill Flannelbush

Pine Hill flannelbush (*Fremontodendron decumbens*) is listed as endangered under the federal Endangered Species Act, as a California rare species, and is classified as a CRPR List 1B.2 plant. Pine Hill flannelbush is a sprawling, low-growing shrub that is known from Pine Hill in El Dorado County and potentially from an isolated population in Nevada County. The species favors foothill chaparral and cismontane woodland with rocky Gabbro or serpentine soils between 1,395 and 2,495 feet. It blooms from April to June.

The chaparral on serpentine soils throughout the Study Area provides marginally suitable habitat for this species, as it is largely tightly restricted to the Pine Hill Formation. Two occurrences of Pine Hill flannelbush have been documented within five miles of the Study Area in the CNDDB, the nearest of which (CNDDB Occurrence #12) is approximately 4.7 miles north of the Study Area on gabbroic soils of the Pine Hill Formation (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom. The vast majority of the Study Area is currently impenetrable chaparral with minimal diversity. If the site were to burn, or experience some other large-scale disturbance, there is a very slight chance that this species could become established.

5.1.7 Parry's Horkelia

Parry's horkelia (*Horkelia parryi*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. Parry's horkelia occurs in chaparral and cismontane woodland on Ione Formation and other soils (CNPS 2021). This perennial blooms from April through September and is found from approximately 250 to 3,500 feet (CNPS 2021).

The chaparral throughout the Study Area provides suitable habitat for this species. Parry's horkelia has not been documented within five miles of the Study Area in the CNDDB (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity. The vast majority of the Study Area is currently impenetrable chaparral that precludes establishment of herbaceous species. If the site were to burn, or experience some other large-scale disturbance, there is a chance that this species could become established in the new openings.

5.1.8 Layne's Ragwort

Layne's ragwort is a federally threatened species, a state rare species, and is classified as a CRPR List 1B.2 plant. It is a perennial herb found in rocky areas in chaparral and cismontane woodlands with serpentine or Gabbroic soils (CNPS 2021). Layne's ragwort blooms from April through August at elevations from 650 feet to 3,560 feet (CNPS 2021).

The chaparral on serpentine soils throughout the Study Area provides suitable habitat for this species. Twelve occurrences of Layne's ragwort have been documented within five miles of the Study Area in the CNDDB, the nearest of which (CNDDB Occurrence #44) is approximately two miles north of the Study Area on gabbroic soils of the Pine Hill Formation (CNDDB 2021). This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity. The vast majority of the Study Area is currently impenetrable chaparral that precludes establishment of herbaceous species. If the site were to burn, or experience some other large-scale disturbance, there is a chance that this species could become established in the new openings.

5.2 Reptiles

5.2.1 Blainville's (Coast) Horned Lizard

Blainville's horned lizard (*Phrynosoma blainvillii*) is not state or federally listed, but is considered a Species of Special Concern by CDFW. This diurnal species can occur within a variety of habitats including scrubland, annual grassland, valley-foothill woodlands and coniferous forests, though it is most common along lowland desert sandy washes and chaparral (Stebbins 2003). It occurs from sea level to 8,000 feet above MSL and an isolated population occurs in Siskiyou County (Stebbins 2003). Blainville's horned lizard is found in open microhabitats such as sandy washes with scattered shrubs or firebreaks in chaparral, where they forage for ants, small beetles and other insects (Jennings and Hayes 1994). Horned lizards (Phrynosoma) are native ant specialists and daily activities are centered on above-ground activity patterns of ants, with lizards active generally in mornings and later in the afternoon in the summer.

Openings in the chaparral throughout the Study Area provide suitable habitat for this species. Three occurrences of Blainville's horned lizard have been documented within five miles of the Study Area in the CNDDB, the nearest of which (CNDDB Occurrence #685) is located approximately 2.25 miles northeast of

the Study Area in Cameron Park (CNDDB 2021). This species was not observed during the field survey; however, a comprehensive survey for Blainville's horned lizard was not conducted.

5.3 Mammals

5.3.1 Pallid Bat

Pallid bat (*Antrozous pallidus*) is not federally or state listed, but is considered a CDFW species of special concern, and is classified by the WBWG as a High priority species. It favors roosting sites in crevices in rock outcrops, caves, abandoned mines, hollow trees, and human-made structures such as barns, attics, and sheds (WBWG 2021). Though pallid bats are gregarious, they tend to group in smaller colonies of 10 to 100 individuals. It is a nocturnal hunter and captures prey in flight, but unlike most American bats, the species has been observed foraging for flightless insects, which it seizes after landing (WBWG 2021).

Exfoliating bark on the grey pine trees within the Study Area represents suitable roosting habitat for pallid bat. Pallid bat has not been documented in the CNDDB within five miles of the Study Area (CNDDB 2021). No pallid bats were observed during reconnaissance-level surveys of the Study Area.

6.0 RECOMMENDED MITIGATION FOR IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

If portions of the Study Area are proposed for impact, we would recommend the following mitigation measures, as applicable based on habitats to be impacted and season of impacts:

6.1 Aquatic Resources

We recommend that the applicant procure a verification or jurisdictional determination from the USACE of the aquatic resources mapped within the Study Area. If impacts to any of the verified aquatic resources are proposed:

1. The Project applicant shall apply for a Section 404 permit from the U.S. Army Corps of Engineers. Waters that will be impacted shall be replaced or rehabilitated on a "no-net-loss" basis. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods acceptable to the USACE.
2. The applicant shall apply for a Section 401 water quality certification from the RWQCB, and adhere to the certification conditions.
3. The applicant shall apply for a Section 1600 Lake or Streambed Alteration Agreement from CDFW if any impacts to the ephemeral drainage are proposed.

6.2 Special-Status Plants

6.2.1 Special-Status Plant Surveys

Special-status plant surveys conducted throughout the Study Area in 2021 were negative, but given enough time or a significant disturbance event, plants may become established in areas where suitable habitat exists.

Therefore, if Project construction does not commence prior to the spring of 2023 or if a significant disturbance event (such as a fire) occurs, another round of special-status plant surveys is recommended in areas proposed for impact prior to commencement of construction. If no special-status plant species are found, no relocation would be required. If special-status plants are found and will be impacted, mitigation for those impacts will be determined during consultation with the County. If the plant found is a perennial, then mitigation could consist of digging up the plant and transplanting into a suitable avoided area on-site prior to construction. If the plant found is an annual, then mitigation could consist of collecting seed-bearing soil and spreading into a suitable avoided area on-site prior to construction.

6.2.2 Rare Plant Mitigation Fee

The Study Area is located within Rare Plant "Mitigation Area 1", and as such, in accordance with Chapter 130.71 of the El Dorado County Code, the project proponent must pay the current "Rare Plant Mitigation Fee" prior to issuance of a building permit. That fee is currently $885 per acre, but if that fee changes prior to building permit application, the project proponent must pay the applicable fee at that time.

6.3 Pre-Construction Blainville's Horned Lizard Surveys

Prior to any ground-disturbance or vegetation-removal within the Study Area, we recommend that a Blainville's horned lizard survey be conducted within the grasslands within 48 hours prior to construction. If no Blainville's horned lizards are found, no further mitigation is necessary. If a Blainville's horned lizard is observed within the proposed impact area, a qualified biologist shall relocate the individual to suitable habitat outside of the proposed impact area prior to construction.

6.4 Pre-Construction Roosting Bat Surveys

Pre-construction roosting bat surveys shall be conducted by a qualified biologist within 14 days prior to any tree removal. If no tree removal is proposed, no mitigation measures are necessary. If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required. If roosting bats are found, exclusion shall be conducted as recommended by the qualified biologist. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and the next day cutting down the remaining portion of the tree. Once the bats have been excluded, tree removal may occur.

6.5 Pre-Construction Nesting Bird Surveys

If ground disturbance or other construction activities are proposed during the bird nesting season (February 1 – August 31), a focused survey for nesting raptors and migratory bird nests shall be conducted by a qualified biologist within 14 days prior to the beginning of construction activities in order to identify active nests. This survey shall be conducted within the proposed construction area and all accessible areas within

500 feet of the construction area. If active raptor nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot no disturbance buffer will be established. These no-disturbance buffers may be reduced based on consultation and approval by the CEQA lead agency. The perimeter of the protected area shall be indicated by bright orange temporary fencing. No construction activities or personnel shall enter the protected area, except with approval of the biologist. If tree removal is necessary, trees containing nests, or burrows that must be removed as a result of project implementation shall be removed during the nonbreeding season (late September to March). If no active nests are found during the focused survey, no further mitigation will be required.

6.6 Worker Environmental Awareness Training

Prior to any ground-disturbing or vegetation-removal activities, a Worker Environmental Awareness Training (WEAT) shall be prepared and administered to the construction crews. The WEAT will include the following: discussion of the state and federal Endangered Species Act, the Clean Water Act, the Project's permits and CEQA documentation, and associated mitigation measures; consequences and penalties for violation or noncompliance with these laws and regulations; identification of special-status wildlife, location of any avoided Waters of the U.S; hazardous substance spill prevention and containment measures; and the contact person in the event of the discovery of a special-status wildlife species. The WEAT will also discuss the different habitats used by the species' different life stages and the annual timing of these life stages. A handout summarizing the WEAT information shall be provided to workers to keep on-site for future reference. Upon completion of the WEAT training, workers will sign a form stating that they attended the training, understand the information presented and will comply with the regulations discussed. Workers will be shown designated "avoidance areas" during the WEAT training; worker access should be restricted to outside of those areas to minimize the potential for inadvertent environmental impacts. Fencing and signage around the boundary of avoidance areas may be helpful.

7.0 REFERENCES

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P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Figures

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

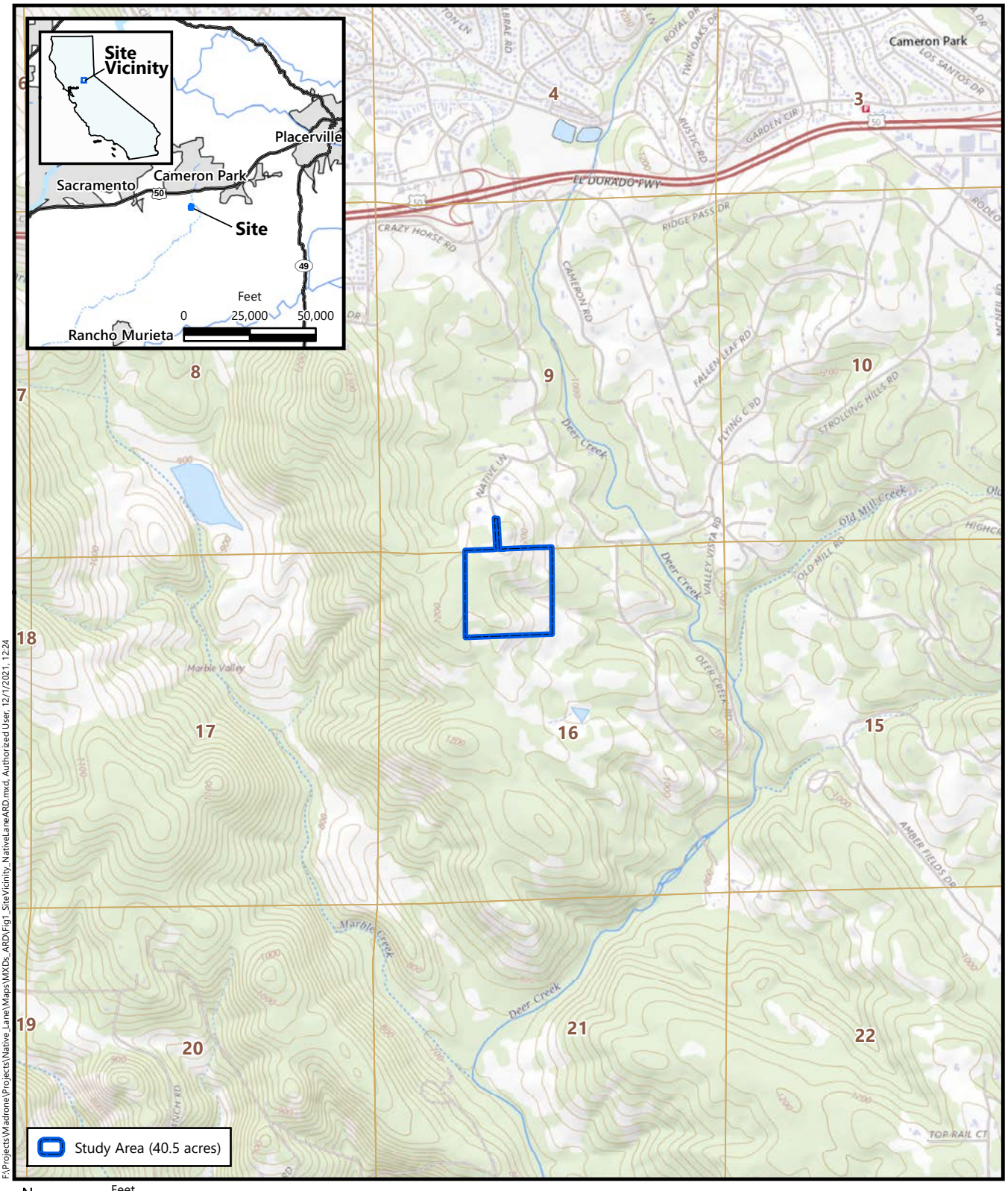

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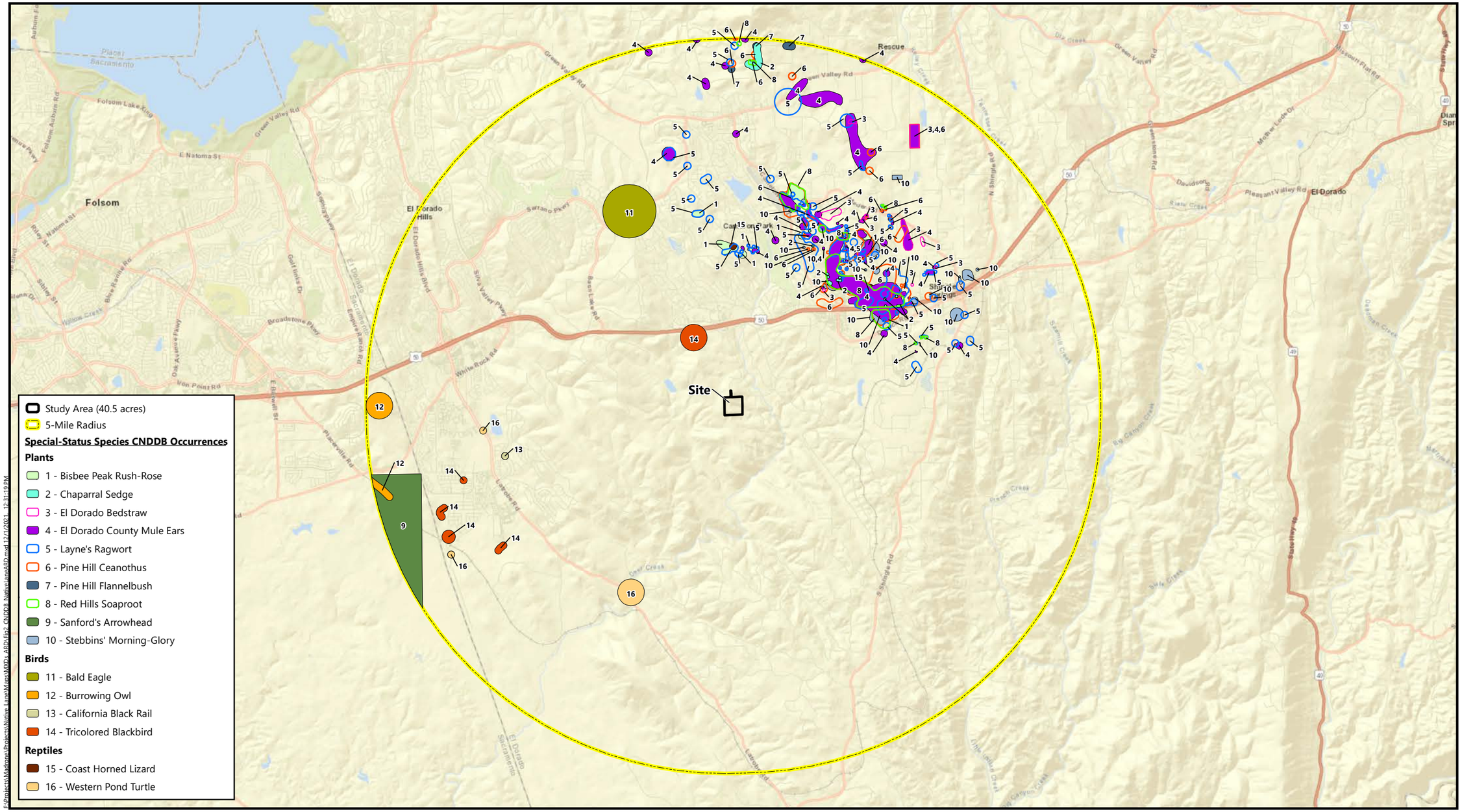
Figure 1
Site and Vicinity

Source: United States Geologic Survey, 2018
"Shingle Springs, California" 7.5-Minute Topographic Quadrangle
Section 16, Township 09 North, Range 09 East, MDB&M
Longitude -120.996285, Latitude 39.985363

Native Lane
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY



Source: *California Department of Fish and Wildlife; U.S. Fish and Wildlife Service*, November 2021.
Basemap Source: *National Geographic* and *ESRI*

Figure 2
California Natural Diversity Database Occurrences of Special-Status Species

Native Lane
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

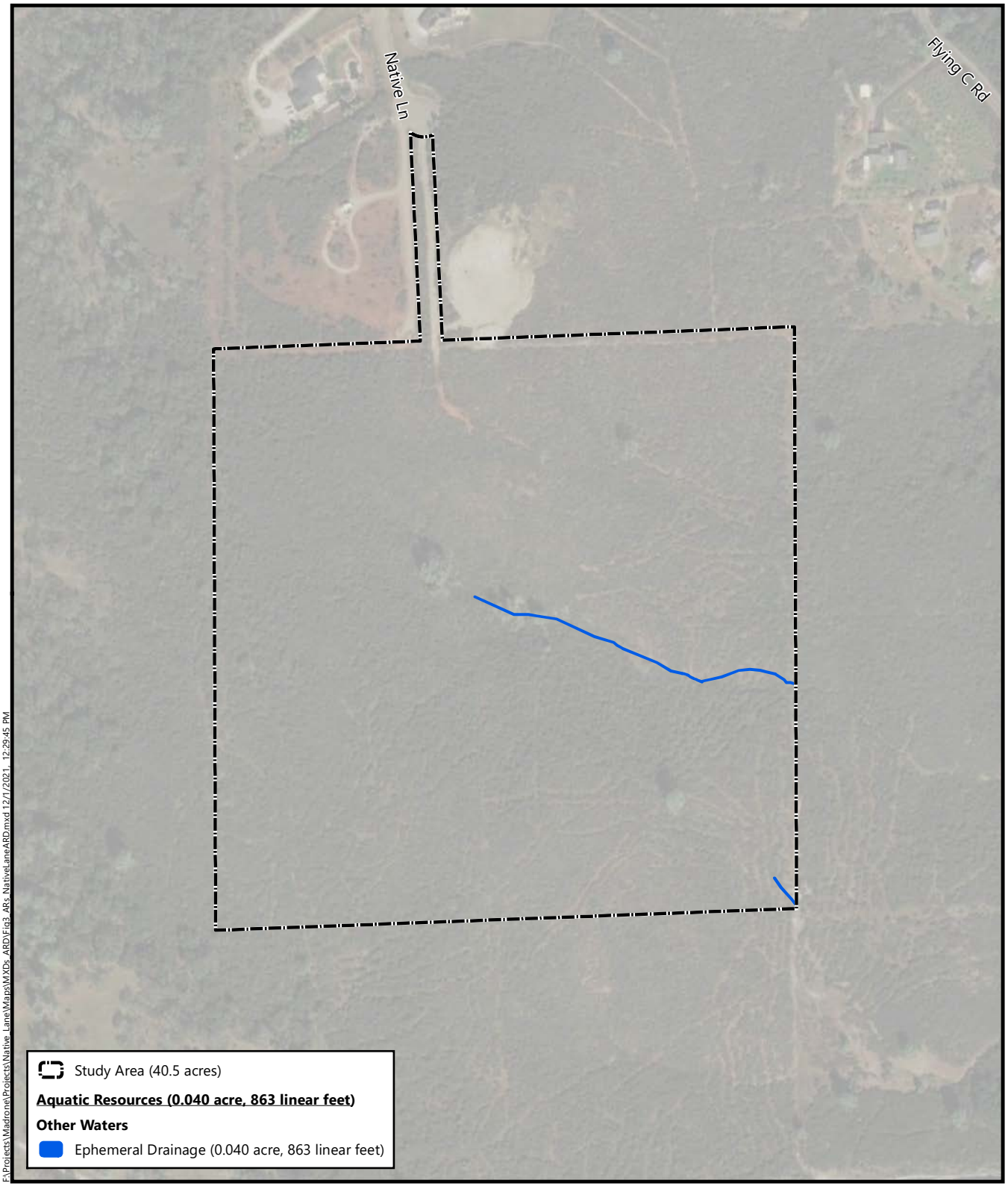


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Figure 3
Aquatic Resources

Native Lane
El Dorado County, California

Aerial Source: Maxar 27 February 2021

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

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Figure 4
Natural Resources Conservation Service Soils

Native Lane
El Dorado County, California

Soil Survey Source: *USDA, Soil Conservation Service.*
Soil Survey Geographic (SSURGO) database for Sacramento County, California
Aerial Source: Maxar, 27 February 2021

MADRONE ECOLOGICAL CONSULTING

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachments

Attachment A: IPaC Trust Resource Report for the Study Area

Attachment B: CNPS Inventory of Rare and Endangered Plants Query for the "Shingle Springs, California" Quadrangle and 8 Surrounding Quadrangles

Attachment C: Wildlife Species Observed within the Study Area

Attachment D: Special-Status Plant Survey Report

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachment A

IPaC Trust Resource Report for the Study Area

IPaC **U.S. Fish & Wildlife Service**

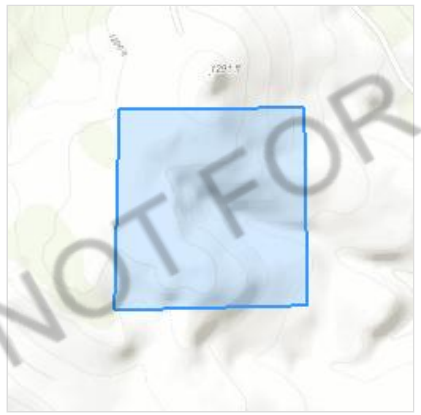
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

El Dorado County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
El Dorado Bedstraw Galium californicum ssp. sierrae Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5209	Endangered
Layne's Butterweed Senecio layneae Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4062	Threatened
Pine Hill Ceanothus Ceanothus roderickii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3293	Endangered

Pine Hill Flannelbush Fremontodendron californicum ssp. decumbens — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4818

Stebbins' Morning-glory Calystegia stebbinsii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3991

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on

this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

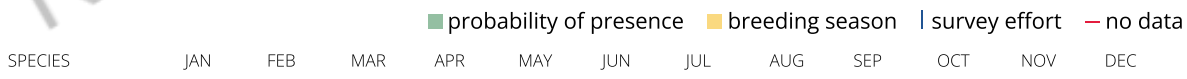
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

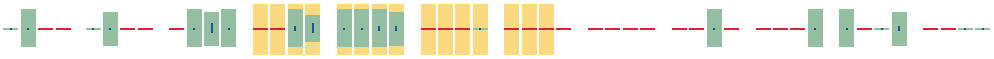
Bald Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

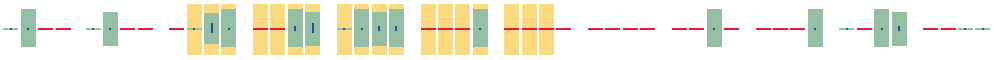
Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

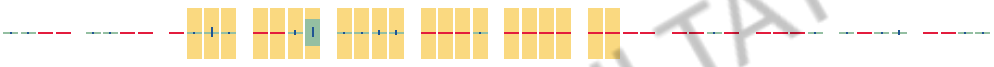
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



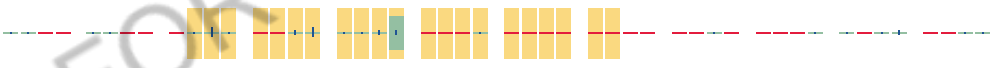
Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tricolored Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Yellow-billed Magpie BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from

certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project, not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachment B

CNPS Inventory of Rare and Endangered Plants Query
for the "Shingle Springs, California" Quadrangle
and 8 Surrounding Quadrangles

Inventory of Rare and Endangered Plants of California

California Native Plant Society

Search Results

37 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3812058:3812057:3812068:3812077:3812078:3812067:3812151:3812161:3812171**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	Apr-Aug	None	None	G2	S2	1B.2	No Photo Available
Allium sanbornii var. *congdonii*	Congdon's onion	Alliaceae	perennial bulbiferous herb	Apr-Jul	None	None	G4T3	S3	4.3	No Photo Available
Allium sanbornii var. *sanbornii*	Sanborn's onion	Alliaceae	perennial bulbiferous herb	May-Sep	None	None	G4T3T4	S3S4	4.2	 ©2018 Steven Perry
Arctostaphylos mewukka ssp. *truei*	True's manzanita	Ericaceae	perennial evergreen shrub	Feb-Jul	None	None	G4?T3	S3	4.2	No Photo Available
Arctostaphylos nissenana	Nissenan manzanita	Ericaceae	perennial evergreen shrub	Feb-Mar	None	None	G1	S1	1B.2	No Photo Available
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	 ©1998 Dean Wm. Taylor
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	None	None	G4	S4	4.2	No Photo Available
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jul	FE	CE	G1	S1	1B.1	No Photo Available
Calystegia vanzuukiae	Van Zuuk's morning-glory	Convolvulaceae	perennial rhizomatous herb	May-Aug	None	None	G2Q	S2	1B.3	No Photo Available
Carex cyrtostachya	Sierra arching sedge	Cyperaceae	perennial herb	May-Aug	None	None	G2	S2	1B.2	No Photo Available
Carex xerophila	chaparral sedge	Cyperaceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	No Photo Available
Ceanothus fresnensis	Fresno ceanothus	Rhamnaceae	perennial evergreen shrub	(Apr)May-Jul	None	None	G4	S4	4.3	No Photo Available
Ceanothus	Pine Hill	Rhamnaceae	perennial	Apr-Jun	FE	CR	G1	S1	1B.1	

Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Apr-Jun	FE	CR	G1	S1	1B.1	No Photo Available
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	May-Jun	None	None	G3	S3	1B.2	No Photo Available
Clarkia biloba ssp. *brandegeeae*	Brandegee's clarkia	Onagraceae	annual herb	May-Jul	None	None	G4G5T4	S4	4.2	No Photo Available
Claytonia parviflora ssp. *grandiflora*	streambank spring beauty	Montiaceae	annual herb	Feb-May	None	None	G5T3	S3	4.2	No Photo Available
Crocanthemum suffrutescens	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	Apr-Aug	None	None	G2?Q	S2?	3.2	No Photo Available
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2	No Photo Available
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	May-Jul	None	None	G4	S4	4.2	 ©2008 Steven Perry
Eriophyllum jepsonii	Jepson's woolly sunflower	Asteraceae	perennial herb	Apr-Jun	None	None	G3	S3	4.3	No Photo Available
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual/perennial herb	May-Aug	None	None	G2	S2	1B.2	No Photo Available
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	Apr-Jul	FE	CR	G1	S1	1B.2	No Photo Available
Galium californicum ssp. *sierrae*	El Dorado bedstraw	Rubiaceae	perennial herb	May-Jun	FE	CR	G5T1	S1	1B.2	No Photo Available
Githopsis pulchella ssp. *serpentinicola*	serpentine bluecup	Campanulaceae	annual herb	May-Jun	None	None	G4T3	S3	4.3	No Photo Available
Hesperocyparis bakeri	Baker cypress	Cupressaceae	perennial evergreen tree		None	None	G3	S3	4.2	 © 2021 Scot Loring
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	G2	S2	1B.2	No Photo Available
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	G3	S3	4.2	No Photo Available
Jepsonia heterandra	foothill jepsonia	Saxifragaceae	perennial herb	Aug-Dec	None	None	G3	S3	4.3	No Photo

										Available
Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	No Photo Available
Lilium humboldtii ssp. *humboldtii*	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	None	None	G4T3	S3	4.2	No Photo Available
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3	 ©2021 Scot Loring
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	FT	CR	G2	S2	1B.2	No Photo Available
Primula pauciflora	beautiful shootingstar	Primulaceae	perennial herb	Apr-Jun	None	None	G5	S3	4.2	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	No Photo Available
Trichostema rubisepalum	Hernandez bluecurls	Lamiaceae	annual herb	Jun-Aug	None	None	G4	S4	4.3	No Photo Available
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	None	None	G4G5	S3?	2B.3	 © 2006 Tom Engstrom
Wyethia reticulata	El Dorado County mule ears	Asteraceae	perennial herb	Apr-Aug	None	None	G2	S2	1B.2	No Photo Available

Showing 1 to 37 of 37 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website https://www.rareplants.cnps.org [accessed 23 November 2021].

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachment C

Wildlife Species Observed within the Study Area

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Wildlife Species Observed within the
Native Lane Study Area
24 May 2021

Species Name	Common name
Reptiles	
Sceloporus occidentalis	Western fence lizard
Birds	
Cathartes aura	Turkey vulture
Zenaida macroura	Mourning dove
Calypte anna	Anna's hummingbird
Aphelocoma californica	Western scrub jay
Corvus corax	Common raven
Baeolophus inornatus	Oak titmouse
Pipilo maculatus	Spotted towhee

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachment D

Special-Status Plant Survey Report
for Native Lane

Special-Status Plant Survey Report

Native Lane

El Dorado County
March 2023

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Prepared for:
CTA Engineering & Surveying
3233 Monier Circle
Rancho Cordova, California 95742

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2023. *2Special-Status Plant Survey Report for Native Lane*. Prepared for CTA Engineering & Surveying. Published on 27 March 2023

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

CONTENTS

Special-Status Plant Survey Report
Native Lane

Figures:

Attachments:

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

1.0 INTRODUCTION

This report presents the results of a special-status plant survey conducted for the approximately 40-acre Native Lane Property. The Native Lane Property (Study Area) is located generally south of the southern end of Native Lane and west of Deer Creek Road in unincorporated El Dorado County, California. The Study Area is located within a portion of Section 16, Township 9 North, Range 9 East (MDB&M) of the "Shingle Springs, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**).

2.0 METHODOLOGY

Madrone Ecological Consulting, LLC (Madrone) botanist Daria Snider conducted protocol-level rare plant surveys of the Study Area on 24 May 2021 in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), the *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001), and *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

A list of special-status plant species with potential to occur within the Study Area was developed by reviewing the following:

- the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2021) query of CRPR Lists 1A, 1B, 2A, and 2B within the "Shingle Springs, California" USGS topo quadrangle, and the eight surrounding quadrangles; and
- the California Natural Diversity Database occurrences of special-status plant species within 5 miles of the Study Area (CNDDB 2021).

The target species for this survey were:

- Jepson's onion (*Allium jepsonii*)
- Big-scale balsamroot (*Balsamorhiza macrolepis*)
- Chaparral sedge (*Carex xerophila*)
- Red Hills soaproot (*Chlorogalum grandiflorum*)
- Bisbee Peak rush-rose (*Crocanthemum suffrutescens*)
- Pine Hill flannelbush (*Fremontodendron decumbens*)
- Parry's horkelia (*Horkelia parryi*)
- Layne's ragwort (*Packera layneae*)

The Study Area was comprehensively surveyed on foot by walking through all accessible openings in the dense chaparral. The surveys were floristic in nature, which means that all plant species observed on-site were identified to the taxonomic level necessary to determine rarity. Thus, if a special-status plant was present but not on the target list, it would have been detected and documented. Plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2021). Vegetation communities were classified according to the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Qualifications for the botanist that conducted the surveys are included in **Attachment A**, a list of reference

populations of target plants visited is included in **Attachment B**, and a comprehensive list of all plant species observed during surveys of the Study Area is included in **Attachment C**.

3.0 EXISTING CONDITIONS

The Study Area is almost entirely occupied by a whiteleaf manzanita (*Arctostaphylos viscida*) chaparral. The only areas not occupied by this chapparal are small openings in the chaparral, a dirt road that is maintained (to varying degrees) around eastern, north, and western edges of the Study Area, and a dirt access road that connects the Study Area to Native Lane. The dirt access road was in active construction during the field survey (apparently associated with the adjacent property to the north), and a 3-foot-deep trench had been dug within the alignment. The only aquatic resources found within the Study Area are two narrow ephemeral drainages (**Figure 3**). The Study Area is comprised of a hilltop, and somewhat steep slopes with a mostly eastern aspect. Elevations within the Study Area range from approximately 1,100 feet to approximately 1,250 feet above Mean Sea Level. Surrounding properties to the east, south, and west are similarly undeveloped dense chaparral, while to the north are rural residences.

The whiteleaf manzanita chaparral is almost entirely comprised of whiteleaf manzanita and chamise (*Adenostoma fasciculatum*). Other shrubs such as toyon (*Heteromeles arbutifolia*), Yerba santa (*Eriodictyon californicum*), and sticky-leaf monkeyflower (*Diplacus aurantiacus*) occur occasionally. A few grey pines (*Pinus sabiniana*) are scattered near the center of the Study Area. Herbaceous vegetation is almost entirely lacking below the closed canopy of the chaparral, but is present in openings and along roadsides within the Study Area. Common herbaceous plant species in chaparral openings and roadsides within the Study Area include a variety of diminutive native forbs, such as knotweed spineflower (*Chorizanthe polygonoides ssp. polygonoides*), thin-stemmed navarretia (*Navarretia filicaulis*), Sierra milkwort (*Polygala cornuta var. cornuta*), small-flowered western flax (*Hesperolinon micranthum*), dwarf evax (*Hesperevax acaulis var. acaulis*), and small tarweed (*Madia exigua*). Also present are native and non-native grasses such as squirrel-tail grass (*Elymus elymoides*), California melic (*Melica californica*), scribneria (*Scribneria bolanderi*), red brome (*Bromus madritensis*), ripgut brome (*B. diandrus*), soft brome (*B. hordeaceus*), wild oats (*Avena fatua*), brome fescue (*Festuca bromoides*), and six-weeks fescue (*Festuca microstachys*).

Two sections of ephemeral drainage occur within the Study Area (**Figure 2**). Ephemeral drainages convey stormwater runoff for short periods of time directly after precipitation events. These drainages are entirely unvegetated due to the scouring effects of water. These features drain east into intermittent Deer Creek.

3.1 Soils

The Natural Resources Conservation Service has mapped the entire Study Area as (SaF) Serpentine rock land (**Figure 3**) (NRCS 2021), and serpentine rocks were observed throughout the Study Area.

4.0 SURVEY RESULTS

4.1 Jepson's Onion

Jepson's onion is not listed under the federal or California Endangered Species Act; however, it is designated as a CRPR List 1B.2 plant. Jepson's onion is found in chaparral, cismontane woodland, and lower montane coniferous forests on serpentine or volcanic soils (CNPS 2021). It is a bulbiferous perennial, and it blooms from April through August at elevations from 980 feet to 4,330 feet (CNPS 2021).

The chaparral on serpentine soils throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom.

4.2 Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herbaceous species that occurs in chaparral, cismontane woodland and valley and foothill grasslands between 295 and 4,600 feet (CNPS 2021). Big-scale balsamroot blooms from March through June and may be found on serpentine soils, though it is known to grow on other soil types as well (CNPS 2021).

The chaparral throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom.

4.3 Chaparral Sedge

Chaparral sedge is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herb that is found in chaparral, cismontane woodland, and lower coniferous forests on serpentine or gabbroic soils (CNPS 2021). Chaparral sedge blooms from March through June at elevations from 1,500 feet to 2,500 feet (CNPS 2021).

The chaparral on serpentine soils throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been identifiable.

4.4 Red Hills Soaproot

Red Hills soaproot is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. Red Hills soaproot occurs in chaparral, cismontane woodland, and lower montane coniferous forest on gabbro, serpentine, and other soils (CNPS 2016). This perennial blooms from May to June and is found from approximately 800 feet to 3,300 feet (CNPS 2016).

The chaparral throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity.

4.5 Bisbee Peak Rush Rose

Bisbee Peak rush-rose (*Crocanthemum suffrutescens*) is not federally or state listed, but it is classified as a CRPR List 3.2 plant. Bisbee Peak rush-rose occurs in burned or otherwise disturbed areas in chaparral often on Ione Formation or Gabbro soils, but also on other soils (CNPS 2021). This perennial blooms from April through August and is found from approximately 245 feet to 2,200 feet (CNPS 2021).

The chaparral throughout the Study Area provides marginally-suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity.

4.6 Pine Hill Flannelbush

Pine Hill flannelbush (*Fremontodendron decumbens*) is listed as endangered under the federal Endangered Species Act, as a California rare species, and is classified as a CRPR List 1B.2 plant. Pine Hill flannelbush is a sprawling, low-growing shrub that is known from Pine Hill in El Dorado County and potentially from an isolated population in Nevada County. The species favors foothill chaparral and cismontane woodland with rocky Gabbro or serpentine soils between 1,395 and 2,495 feet. It blooms from April to June.

The chaparral on serpentine soils throughout the Study Area provides marginally-suitable habitat for this species, as it is largely tightly restricted to the Pine Hill Formation. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom.

4.7 Parry's Horkelia

Parry's horkelia (*Horkelia parryi*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. Parry's horkelia occurs in chaparral and cismontane woodland on Ione Formation and other soils (CNPS 2021). This perennial blooms from April through September and is found from approximately 250 to 3,500 feet (CNPS 2021).

The chaparral throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity.

4.8 Layne's Ragwort

Layne's ragwort is a federally threatened species, a state rare species, and is classified as a CRPR List 1B.2 plant. It is a perennial herb found in rocky areas in chaparral and cismontane woodlands with serpentine or Gabbroic soils (CNPS 2021). Layne's ragwort blooms from April through August at elevations from 650 feet to 3,560 feet (CNPS 2021).

The chaparral on serpentine soils throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity.

5.0 CONCLUSION

No special-status plant species were observed during the 2021 protocol-level special-status plant survey of the Native Lane Study Area.

6.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Dated March 2018.

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P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Figures

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

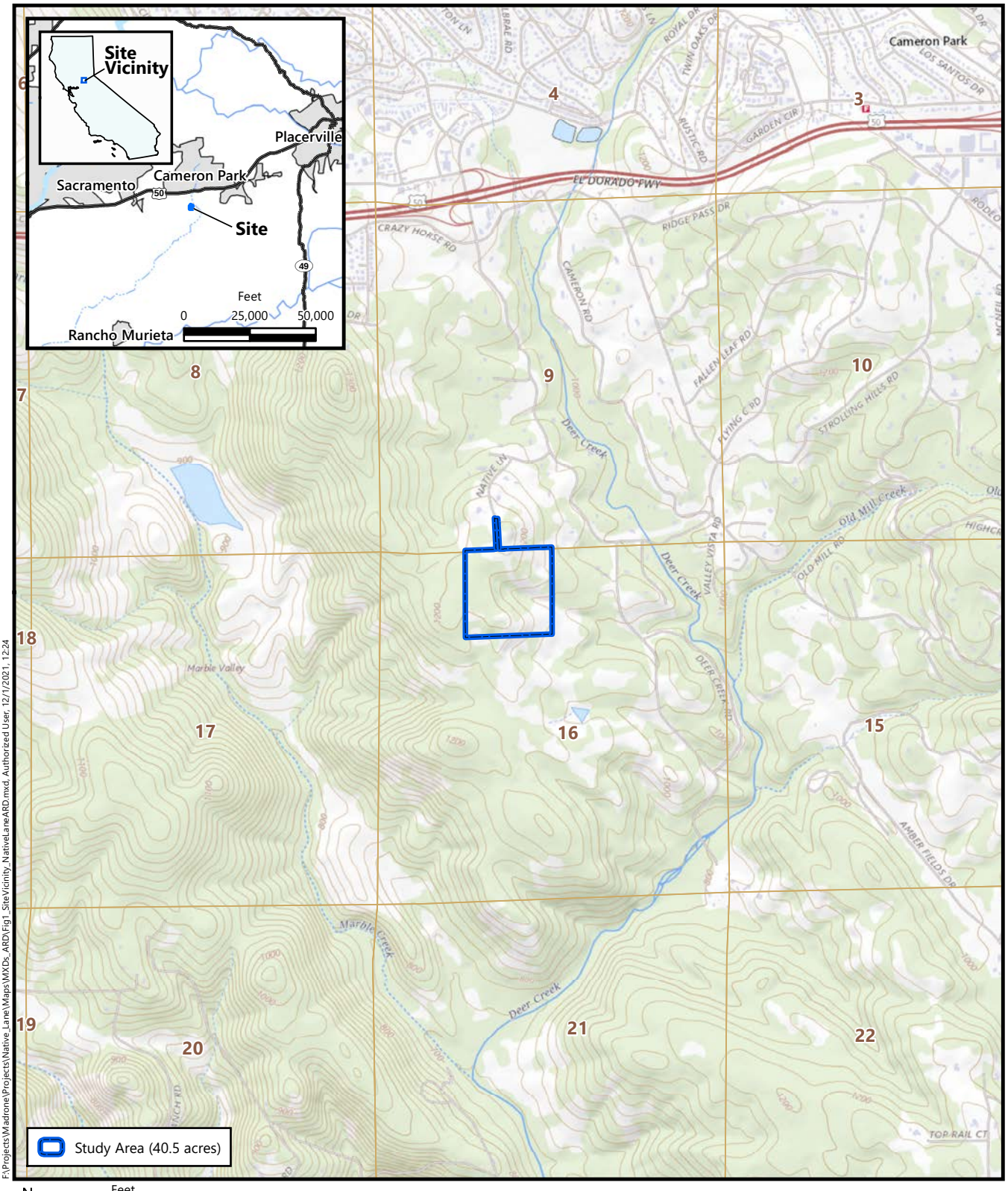

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Figure 1
Site and Vicinity

Source: United States Geologic Survey, 2018
"Shingle Springs, California" 7.5-Minute Topographic Quadrangle
Section 16, Township 09 North, Range 09 East, MDB&M
Longitude -120.996285, Latitude 39.985363

Native Lane
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

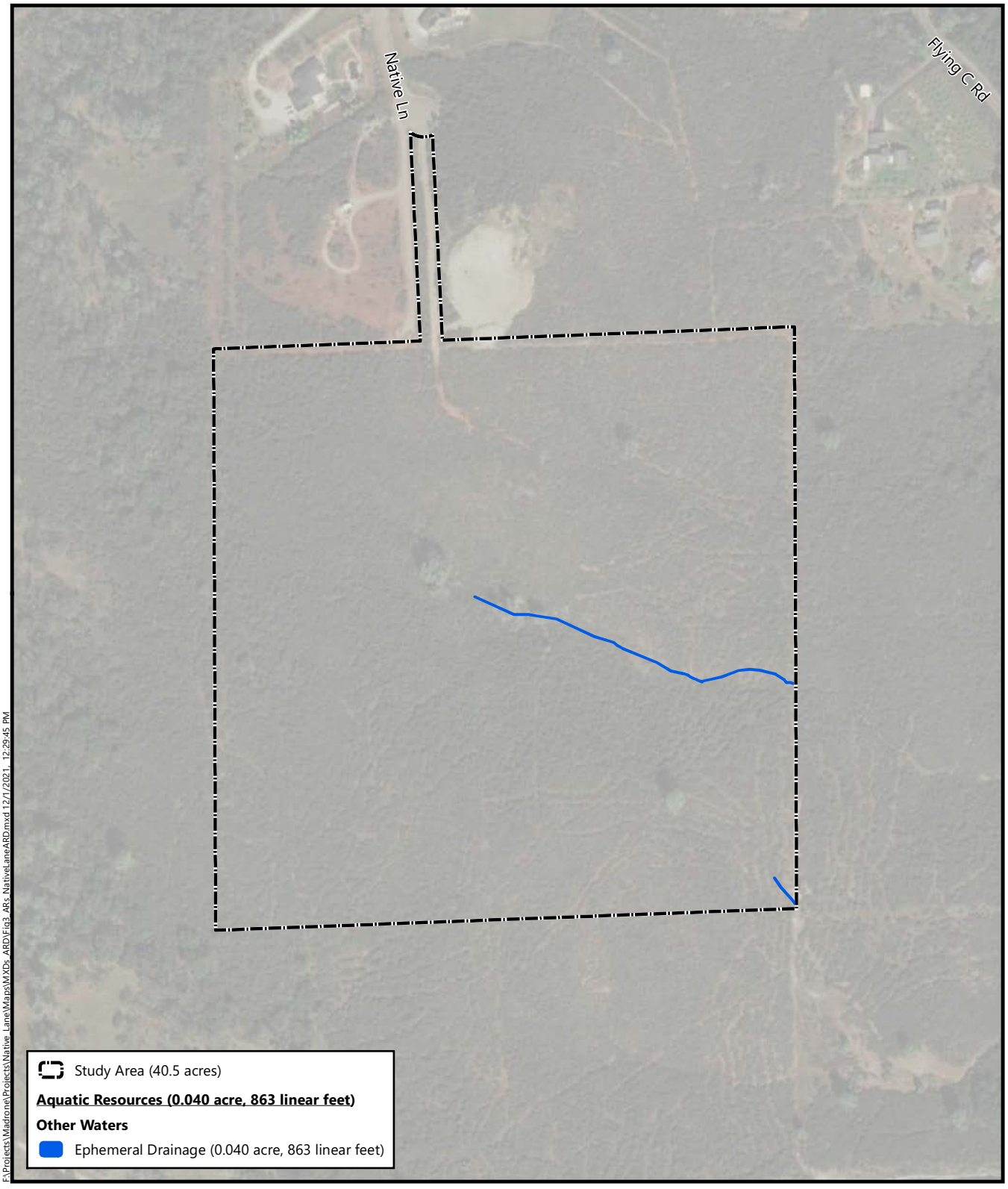

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Figure 3
Aquatic Resources

Native Lane
El Dorado County, California

Aerial Source: Maxar 27 February 2021

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

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Figure 4
Natural Resources Conservation Service Soils

Native Lane
El Dorado County, California

Soil Survey Source: *USDA, Soil Conservation Service.*
Soil Survey Geographic (SSURGO) database for Sacramento County, California
Aerial Source: Maxar, 27 February 2021

MADRONE ECOLOGICAL CONSULTING

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachments

Attachment A: Botanist Qualifications

Attachment B: Target Plant Species Reference Population Information

Attachment C: Plant Species Observed within the Native Lane Study Area

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachment A

Botanist Qualifications

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Rare Plant Survey Botanist Qualifications

Daria Snider

Ms. Snider has more than 16 years of experience conducting botanical inventories. As a senior biologist, she specializes in rare plant surveys, wetland delineations, and general biological resource inventories. In addition to rare plant surveys, her botanical experience includes general vegetation surveys, aerial and field vegetation mapping, Certified Arborist tree inventories, CRAM Assessments, floristic monitoring, and invasive species identification and mapping. Ms. Snider's experience includes a wide variety of habitat types, including vernal pools, annual grasslands, oak woodland, riparian communities, coastal sage scrub, chaparral, cismontane and montane forests, and desert. Her geographic expertise covers much of California, from Shasta County in the north to the Mojave Desert and San Gabriel Mountains in the south, and from Napa County in the west to the Sierra Nevada foothills and mountains in the east. Her primary focus is on the Sacramento Valley and the adjacent Sierra Nevada foothills.

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachment B

Target Plant Species Reference Population Information

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Target Plant Species Reference Population Information for the Native Lane Rare Plant Survey

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
Allium jepsonii Jepson's onion	Herbarium specimen at UC Davis Center for Plant Diversity	31 March 2016	Pressed specimen. Plant is quite tall with white flowers, often tinged pink. Stamens are included, and the petals and sepals are jagged on the edges.
Balsamorhiza macrolepis Big-scale balsamroot	Herbarium specimen at UC Davis Center for Plant Diversity	31 March 2016	Pressed specimen. Similar to Wyethia, but with grey, dissected leaves. Leaves are mostly basal (as opposed to Wyethia, which has basal and cauline leaves).
Carex xerophila Chaparral sedge	Pine Hill unit of Pine Hill Preserve, El Dorado County	16 May 2016	Abundant on roadcuts and the hilltop. The majority of the plants were vegetative, but a few plants exhibited the characteristic hairy perigynia. Plants are small, cespitose, and have inflorescences with male flowers at the tip and only a few perigynia at the base.
Chlorogalum grandiflorum Red Hills soaproot	CNDDB Occurrence #19, just north of Ponte Morino Drive	8 June 2021	Abundant. The majority of plants were in bloom or past bloom, exhibiting the characteristic short pedicel that is indicative of this species. Plants are relatively small rosettes with wavy leaf margins.
Crocanthemum suffrutescens Bisbee Peak rush-rose	CNDDB Occurrence #7, along the north side of Ione-Buena Vista Road, near Ione, California Private property in Cameron Park	22 April 2021 8 June 2021	Plants not in bloom, but the perennial plants are readily identifiable to those familiar with it by the distinctive dark green stems with linear leaves. Three plants were tentatively identified from vegetative characteristics on 10 May, and were observed in full bloom on 8 June 2021.

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
Fremontodendron decumbens Pine Hill flannelbush	Pine Hill unit of Pine Hill Preserve, El Dorado County	16 May 2016	Scattered along edges of road on the road up to Pine Hill. Plants were easily identifiable by their palmate leaves and showy orange flowers. Just starting to bloom.
Horkelia parryi Parry's Horkelia	CNDDB Occurrence #1, along the north side of Ione-Buena Vista Road, near Ione, California	22 April 2021	Approximately 25% of the population was in bloom. Plants are readily identifiable by their low, tufted habit and dissected leaves.
Packera laynae Layne's ragwort	CNDDB Occurrence #18	10 May 2021	Abundant in patches in openings in Pine Hill chaparral. Plants were just starting to bloom. Plants are readily identifiable by their tall habit with almost spherical inflorescences.
	CNDDB Occurrence #2, just north of Ponte Morino Drive	8 June 2021	Plants were abundant in patches near top of hill. Most were past bloom, but still readily identifiable to species.

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Attachment C

Plant Species Observed within the Native Lane Study Area

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P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT H - BIOLOGICAL RESOURCES ASSESSMENT AND RARE PLANT SURVEY

Plant Species Observed within the
Native Lane Study Area
24 May 2021

Family/Species Name	Common name	Native/Non-Native
ANACARDIACEAE		
Toxicodendron diversilobum	Western poison oak	Native
APIACEAE		
Daucus pusillus	Wild carrot	Native
Sanicula crassicaulis	Gamble weed	Native
ASTERACEAE		
Baccharis pilularis subsp. pilularis	Coyote brush	Native
Centaurea solstitialis	Yellow star-thistle	Naturalized
Ericameria arborescens	Golden-fleece	Native
Hesperevax acaulis var. acaulis	Stemless evax	Native
Lasthenia gracilis	Common goldfields	Native
Logfia gallica	Daggerleaf cottonrose	Naturalized
Madia exigua	Small tarweed	Native
Pseudognaphalium californicum	California everlasting	Native
Uropappus lindleyi	Silverpuffs	Native
BORAGINACEAE		
Cryptantha muricata	Prickly cryptantha	Native
Eriodictyon californicum	California yerba santa	Native
CARYOPHYLLACEAE		
Scleranthus annuus subsp. annuus	Knawel	Naturalized
ERICACEAE		
Arctostaphylos viscida	Sticky whiteleaf manzanita	Native
FABACEAE		
Acmispon brachycarpus	Short-podded lotus	Native
Acmispon glaber	Deerweed, california broom	Native
HYPERICACEAE		
Hypericum concinnum	Gold-wire	Native

Family/Species Name	Common name	Native/Non-Native
LAMIACEAE		
Salvia sonomensis	Sonoma sage	Native
LINACEAE		
Hesperolinon micranthum	Small flowered western flax	Native
ONAGRACEAE		
Epilobium minutum	Minute willowherb	Native
PHRYMACEAE		
Diplaucus aurantiacus var. aurantiacus	Sticky monkey flower	Native
Erythranthe species	Monkeyflower	Native
PINACEAE		
Pinus sabiniana	Foothill pine	Native
PLANTAGINACEAE		
Plantago erecta	Dotseed plantain	Native
POACEAE		
Aira caryophyllea	Silver hair grass	Naturalized
Avena fatua	Wild oat	Naturalized
Bromus diandrus	Ripgut grass	Naturalized
Bromus hordeaceus	Soft chess	Naturalized
Bromus madritensis	Red brome	Naturalized
Elymus elymoides	Squirreltail	Native
Festuca bromoides	Brome fescue	Naturalized
Festuca microstachys	Sixweeks fescue	Native
Festuca myuros	Rattail fescue	Naturalized
Gastridium phleoides	Nit grass	Naturalized
Melica californica	California melic	Native
Polypogon monspeliensis	Annual rabbitfoot grass	Naturalized
Scribneria bolanderi	Scribneria	Native
POLEMONIACEAE		
Navarretia filicaulis	Thin-stemmed navarretia	Native
POLYGALACEAE		
Polygala cornuta var. cornuta	Sierra milkwort	Native

Family/Species Name	Common name	Native/Non-Native
POLYGONACEAE		
Chorizanthe polygonoides var. polygonoides	Knotweed spineflower	Native
Eriogonum luteolum var. luteolum	Golden-carpet wild buckwheat	Native
PTERIDACEAE		
Pentagramma triangularis	Goldback fern	Native
ROSACEAE		
Adenostoma fasciculatum	Chamise, greasewood	Native
Heteromeles arbutifolia	Toyon	Native
RUBIACEAE		
Galium parisiense	Wall bedstraw	Naturalized
Galium porrigens var. tenue	Climbing bedstraw	Native
SCROPHULARIACEAE		
Scrophularia californica	California figwort	Native

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

SEPTIC FEASIBILITY STUDY
FOR NATIVE LANE, APN 109-010-003
CAMERON PARK, EL DORADO COUNTY, CALIFORNIA

Prepared by:

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Prepared For:

George Dubel
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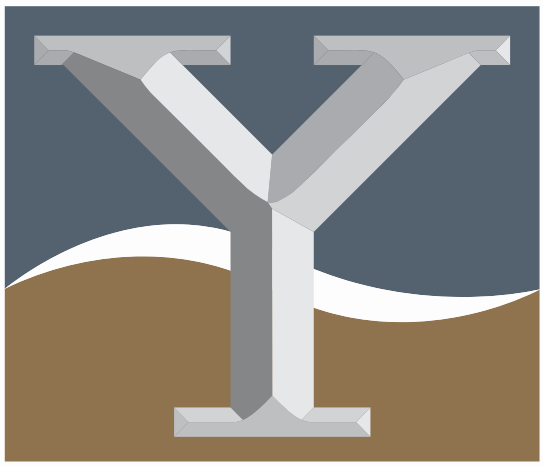
Project No. E22257.000
21 September 2022



YOUNGDAHL

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Project No. E22257.000
21 September 2022

Subject: **NATIVE LANE**
Cameron Park, El Dorado County, California, APN: 109-010-003
Septic Feasibility Study

References:
1) Standards for The Site Evaluation, Design, and Construction of Onsite Wastewater Treatment Systems (OWTS Manual), El Dorado County Department of Environmental Management, 13 May 2018.
2) Custom Soil Resource report for El Dorado Area, United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed 15 September 2022.
3) Loyd, R.C., (1983), Mineral Land Classification of the Placerville 15 Minute Quadrangle, El Dorado and Amador Counties, California@, DMG Open File Report 83-29, California Department of Conservation, Division of Mines and Geology.

Dear Mr. Barry,

With your authorization, Youngdahl Consulting Group, Inc. (Youngdahl) has completed a septic feasibility study for El Dorado County Assessor's Parcel Number (APN) 109-010-003 located off of Native Lane in Cameron Park, El Dorado County, California. This report presents the results of a septic feasibility investigation performed by Youngdahl, which includes percolation test data and our recommendations as to the fe er disposal.

Very truly yours,
Youngdahl Consulting Group, Inc.

CERTIFIED ENGINEERING GEOLOGIST
DAVID C. SEDERQUIST
NO. 2133
EXPIRATION DATE
9-20-22
STATE OF CALIFORNIA

David C. Sederquist, C.E.G., C.HG.
Senior Engineering Geologist/Hydrogeologist

9-22-22

P23-0005 NATIVE LANE PARCEL MAP
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NATIVE LANE (APN 109-010-003)
SEPTIC FEASIBILITY STUDY
GREEN VALLEY ROAD, EL DORADO HILLS, CALIFORNIA

1.0 PURPOSE AND SCOPE

With the authorization of Mr. George Dubel, Youngdahl Consulting Group, Inc. (Youngdahl) has completed a septic feasibility study for Native Lane, Cameron Park, El Dorado County and designated Assessor's Parcel Number (APN) 109-010-003. The subject property is located on the south end of Native Lane, and is approximately 40 acres in extent. The purpose of this septic system feasibility study was to evaluate four proposed lots that are planned to use onsite wastewater disposal systems.

The purpose of this study was to evaluate onsite soils, the near surface geology, and the feasibility of onsite wastewater disposal systems. The scope of this study included performing the excavation of four (4) test pits and four (4) sets of percolation tests near each test pit. This study was conducted with adherence to *Standards for The Site Evaluation, Design, and Construction of Onsite Wastewater Treatment Systems (OWTS Manual), El Dorado County Department of Environmental Management, 13 May 2018.*

2.0 SITE DESCRIPTION

The site is currently vacant land mostly covered by dense chaparral brush (Figures 1 and 2). This site is accessed off of Native Lane. Ground elevations range from approximately 1135 feet above mean sea level (MSL) near the southeast corner to 1264 feet above MSL on the north end of the property.

3.0 SOILS AND GEOLOGY

3.1 SOILS

The soils on the project site are derived from the underlying weathered rock formations. The soils research consisted of accessing the online soils data available from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) for the El Dorado Area (1974) (Reference 2). The soil and completely weathered rock interface were encountered at depths ranging from 1.0 to 6.0-feet below ground surface (bgs) in the test pits. According to the Soil Survey of the El Dorado Area, the site is underlain by the Serpentine rock land (SaF) for 100% of the area.

3.1.1 Serpentine Rock Land, SaF

The entire property is mapped as Serpentine rock land (SaF). The drainage capacity is described as low to very high.

3.2 GEOLOGY

The site is located on the western margin of the Sierra Nevada geomorphic province of California. The western margin of the Sierra Nevada is characterized by northwest trending, fault bounded metamorphic belts. The site is underlain by ultramafic rock (Reference 4).

3.2.1 Subsurface Exploration

Four (4) exploratory test pits, designated TP-1 through TP-4, were excavated on 30 August 2022 using a John Deere 410L backhoe with a 24-inch bucket, under the supervision of a Youngdahl Professional Geologist. As the excavation proceeded, the sidewalls were logged using the Standard Practice for Subsurface Characterization of Test Pits for On-site Septic Systems (ASTM D 5921-96), which primarily follows the United States Department of

Agriculture (USDA), Soil Conservation Service (SCS) soil classification system. The test pits were backfilled on the same day with the native material.

Three of the test pits completed for this investigation encountered 1 to 1½ feet of SANDY LOAM overlying intensely weathered serpentinite bedrock. One test pit encountered 6 feet of SANDY LOAM overlying intensely weathered serpentinite bedrock. Groundwater was not encountered during our explorations. A more detailed description of the subsurface conditions encountered is presented graphically on the "Exploratory Test Pit Logs", Figures 4 through 9.

4.0 PERCOLATION TESTING

Percolation tests for the areas of all four test pits were performed on the 30th through the 31st of August, 2022. Testing was performed with adherence to *Standards for The Site Evaluation, Design, and Construction of Onsite Wastewater Treatment Systems (OWTS Manual), El Dorado County Department of Environmental Management, 13 May 2018.* Procedures and results for the percolation tests are presented below.

4.1 Testing Procedures

On the 30th of August, an 8-inch diameter electric auger was used to bore three (3) to four (4) test holes per test area to the depths reported on the percolation test sheets. In areas where three borings were performed, we were unable to penetrate to depths beyond one-foot. A 6-inch diameter perforated Schedule 40 PVC percolation stand was placed into each test hole. The stand was seated in a bed of pea gravel that was also placed in the annulus between the soil and PVC to stabilize the percolation stand. A float integrated with a graduated scale (in inches) was used to measure water-level drops during the percolation test. Each test hole was filled with 12 inches of water to begin the 4-hour presoak.

On the following day, 6 inches of water was added to each boring. The rate of fall for the water level was measured for 2 to 4 hours with refilling as necessary.

4.2 Testing Results

Percolation tests were conducted on 31 August 2022. The percolation rates (averaged for each test area) ranged from 7 minutes per inch (mpi) at Lot 3 to 37.7 mpi at Lot 4. Percolation testing data, including individual test hole rates, individual test hole depths, and averaged test rates are presented in Table 1 (below). Percolation test data for each percolation test are included in Appendix A.

Table 1 - Percolation Test Data

Test Pit No.	Testing Date	Test Hole #1 Rate[1] (Depth in Inches)	Test Hole #2 Rate (Depth in Inches)	Test Hole #3 Rate (Depth in Inches)	Test Hole #4 Rate (Depth in Inches)	Average Percolation Rate (mpi)	New Lot Minimum Disposal Area (sq. ft.)[2]
TP-1 (Lot 1)	8/31/2022	12 (12)	25 (12)	17.6 (12)	-	18.2	8,000
TP-2 (Lot 3)	8/31/2022	7.7 (18)	5.8 (30)	6.4 (24)	7.9 (36)	7.0	6,000
TP-3 (Lot 2)	8/31/2022	13 (12)	30 (12)	15 (12)	-	19.3	8,000
TP-4 (Lot 4)	8/31/2022	16.7 (12)	75 (12)	21.4 (12)	-	37.7	10,000

Notes:
[1] In minutes per inch
1. [2] Disposal area data taken from Table 1 of the El Dorado County Standards for the Site Evaluation and Construction of Onsite Wastewater Treatment Systems (OWTS Manual).
mpi - Minutes Per Inch
- not tested

5.0 CONCLUSIONS AND RECOMMENDATIONS

Each of the four (4) sets of percolation tests were successful. However, in three of the sets, soil conditions are severely constrained. El Dorado County requires a minimum of a five-foot separation between the bottom of an onsite wastewater disposal system and potential groundwater. For example, a three-foot deep trench system requires the excavation of test trenches to a depth of 8 feet to verify that groundwater is not within 5 feet of the trench bottom. Where this cannot be achieved, pretreatment of effluent is required. Lots 1, 2, and 4 may require the use of shallow disposal systems (i.e., subsurface drip or capping fill systems). In addition, Lot 2 may require an advanced pretreatment system.

While each of the test pits for this study were sited to avoid slope and drainage swale constraints, other constraints and setbacks for onsite disposal sites were not a part of this scope of work, and should be considered for future lot layouts.

The field work for this study was severely constrained by thick brush. It is likely that further exploration could find better soil conditions, allowing follow up testing to better determine the feasibility for more conventional onsite wastewater disposal systems.

6.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report has been prepared for the exclusive use of Mr. George Dubel for specific application to the Native Lane Parcel Split Project. Youngdahl Consulting Group, Inc. has endeavored to comply with generally accepted onsite wastewater disposal system geologic practice common to the local area. Youngdahl Consulting Group, Inc. makes no other warranty, expressed or implied.

As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may cause this report to be invalid, wholly or partially. Therefore, this report should not be relied upon after a period of three years without our review nor should it be used or is it applicable for any properties other than those studied. Note that Youngdahl Consulting Group,

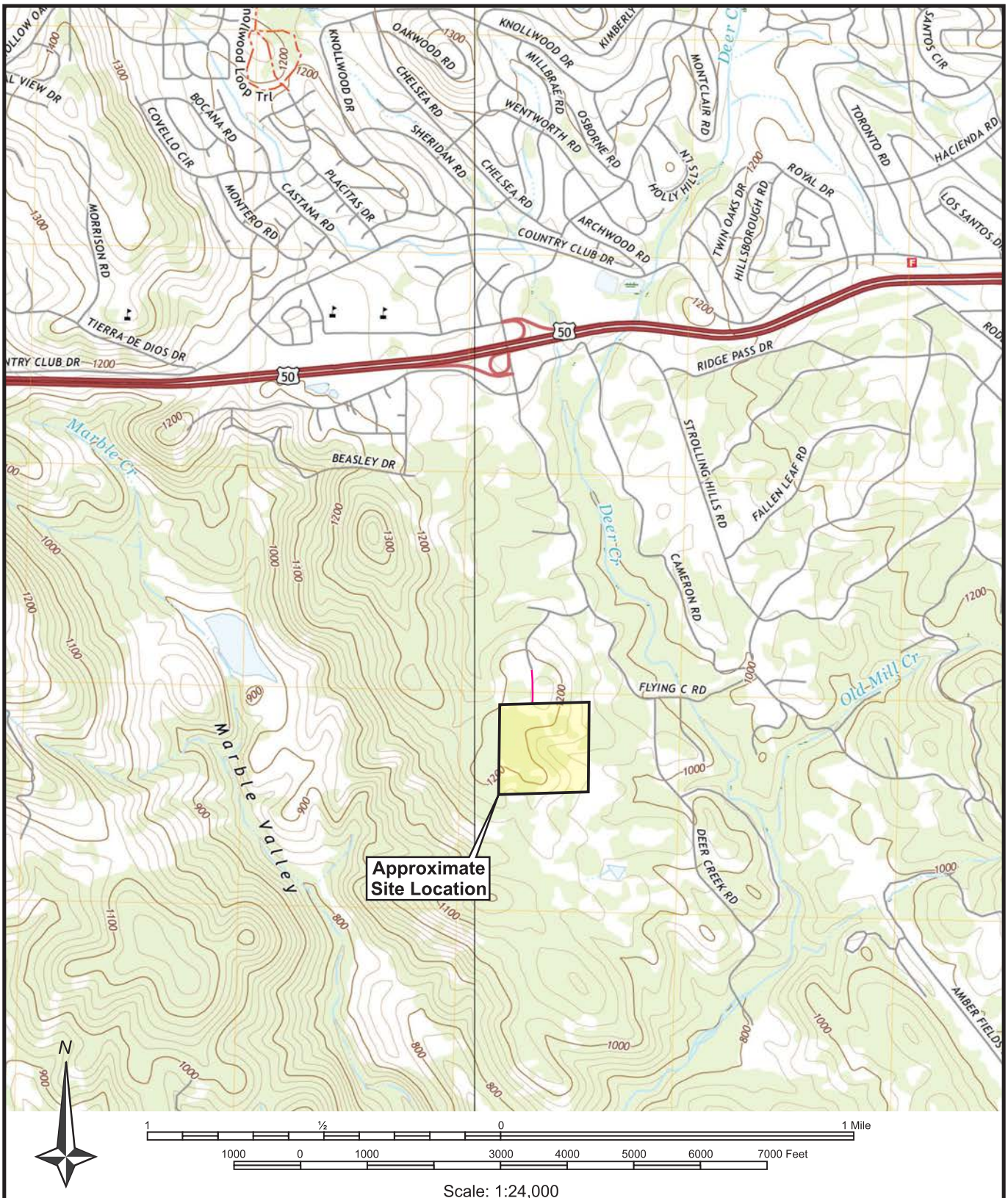
Inc. is not responsible for any claims, damages, or liability associated with any other party's interpretation of this report's subsurface data or reuse of this report's subsurface data or environmental geologic analyses without the express written authorization of Youngdahl Consulting Group, Inc.

The analyses and recommendations contained in this report are based on limited windows into the subsurface conditions and data obtained from subsurface exploration. The methods used only directly indicate subsurface conditions at the specific locations where testing was performed, only directly at the time they were tested, and only directly to the depths penetrated.

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

FIGURES

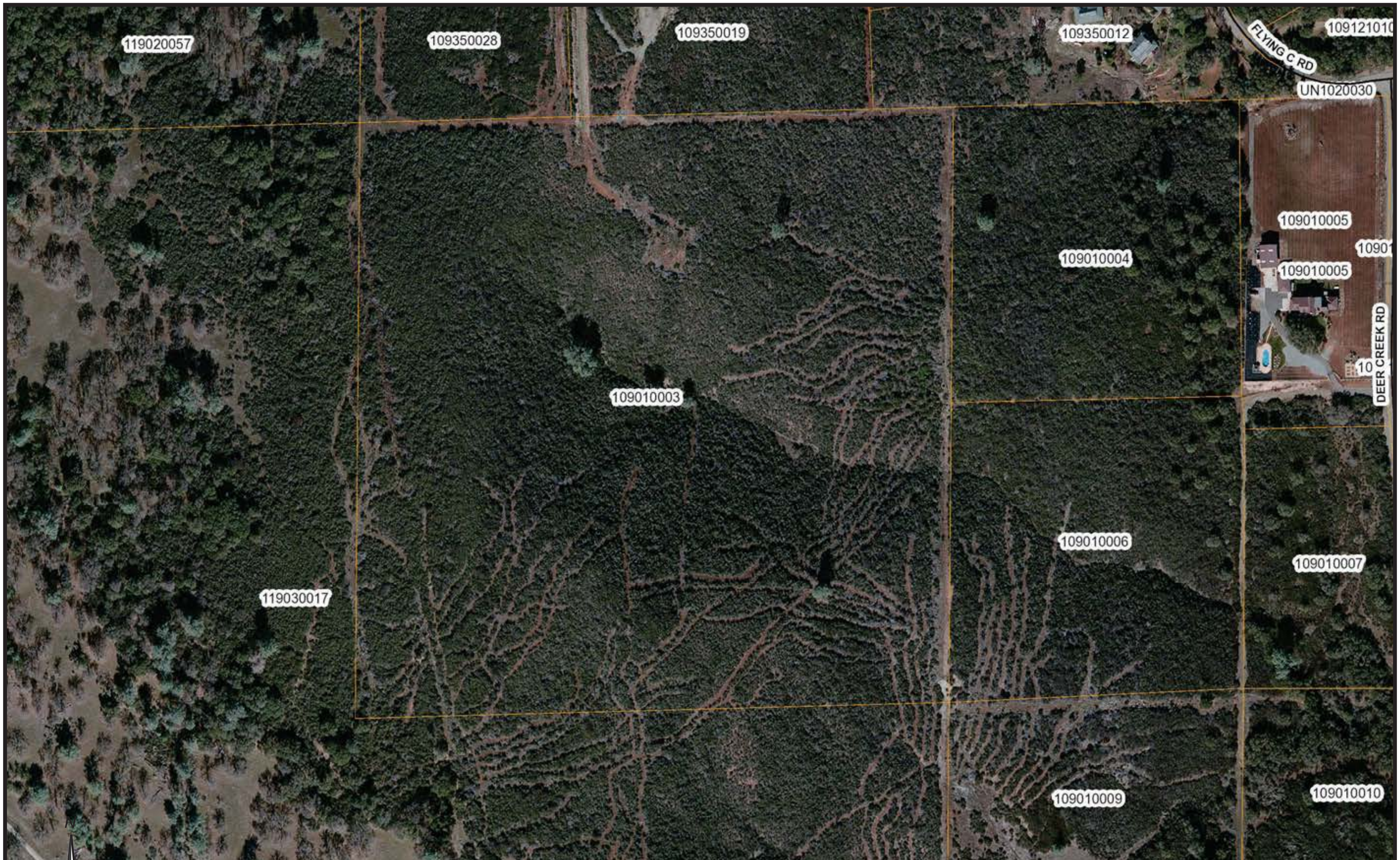
P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY



Scale: 1:24,000

BASE MAP REFERENCE: *U.S.G.S. 7.5 Minute Topographic Series, Clarksville & Shingle Springs Quadrangles, Dated 2021*

YOUNGDAHL CONSULTING GROUP, INC. ESTABLISHED 1984	Project No.: E22257.000	**VICINITY MAP** **Native Lane** Cameron Park, California	**FIGURE** **1**
	September 2022		



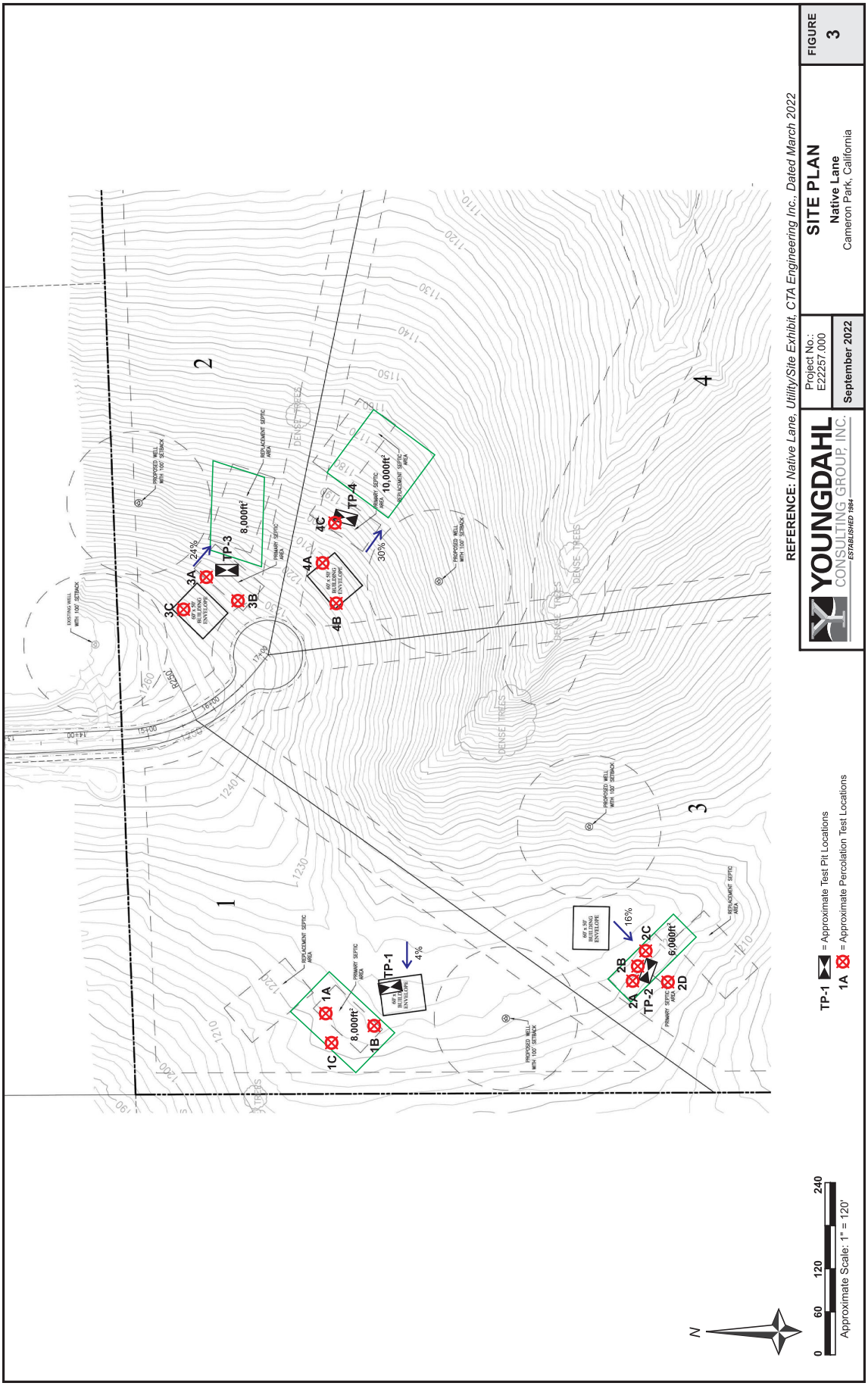
P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

0 200 400 800
Approximate Scale: 1" = 400'

REFERENCE: *Google Earth, Aerial Data Dated 8/23/2012*

YOUNGDAHL CONSULTING GROUP, INC. ESTABLISHED 1984	Project No.: E22257.000	**PARCEL MAP**	**FIGURE**
	September 2022	**Native Lane** Cameron Park, California	**2**

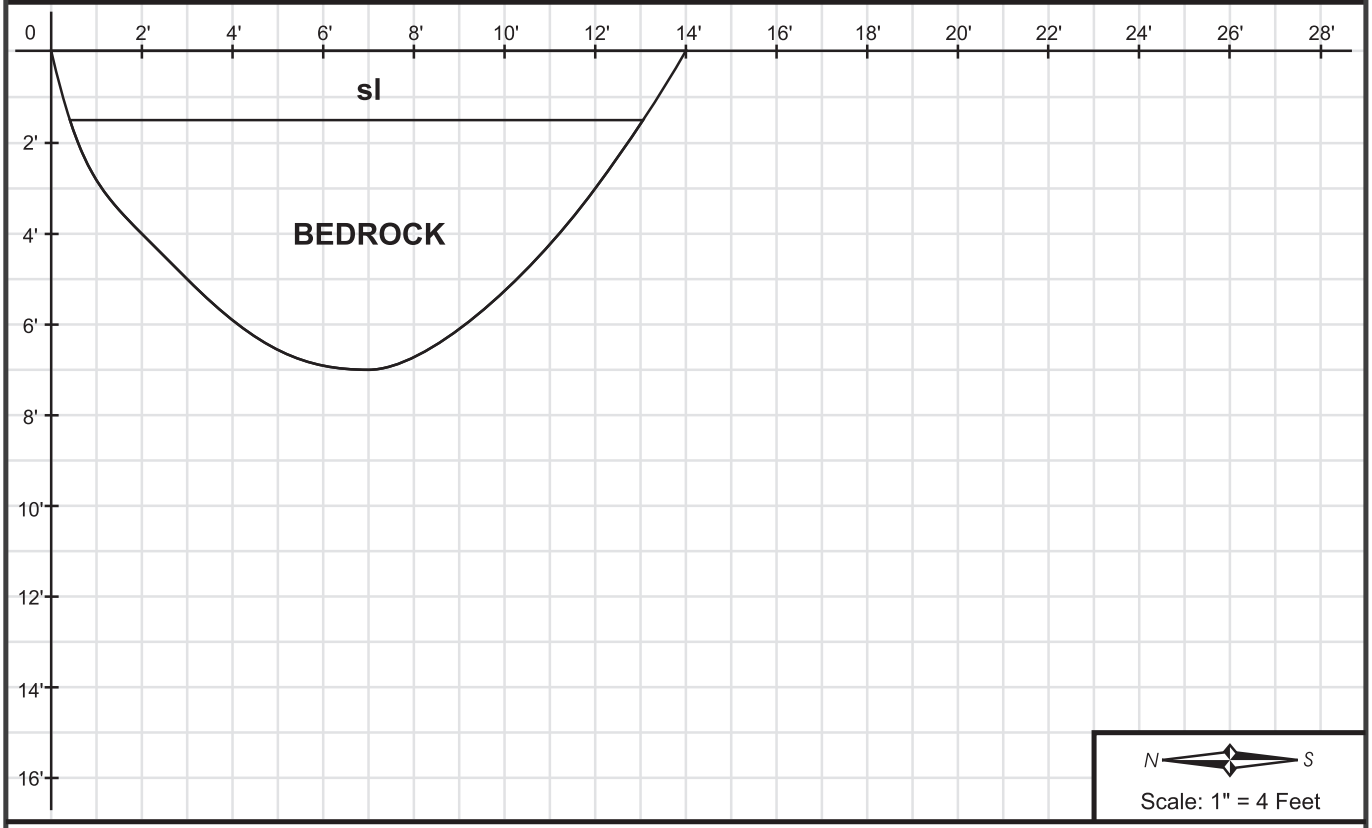
P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY



P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Logged By: **DCS**	Date: **30 August 2022**	Lat / Lon: **N 38.64092° / W 120.99808°**		Pit No. **TP-1**
Equipment: **John Deere 410L with 24" Bucket**		Pit Orientation: **170°**	Elevation: **~**	

Depth (Feet)	USDA Soil Classification	Sample	Tests & Comments
@ 0' - 1.5'	Reddish brown (5 YR 4/3) **SANDY LOAM**, 20% gravel, no redoximorphic features, coarsely granular, many medium to coarse interstitial and tubular soil pores, loose, non-plastic, non-sticky, few medium to coarse roots, diffuse irregular boundary dry		
@ 1.5' - 2'	Gray green intensely weathered rock, 50% stone, no redoximorphic features coarsely blocky, few fine interstitial soil pores, firm, non-plastic, non-sticky, few medium roots, diffuse irregular boundary, dry		
@ 2' - 7'	Gray green intensely weathered serpentinite rock, 100% stone, no redoximorphic features, dry		
	Test pit terminated at 7' (practical refusal) No free groundwater encountered No caving noted		



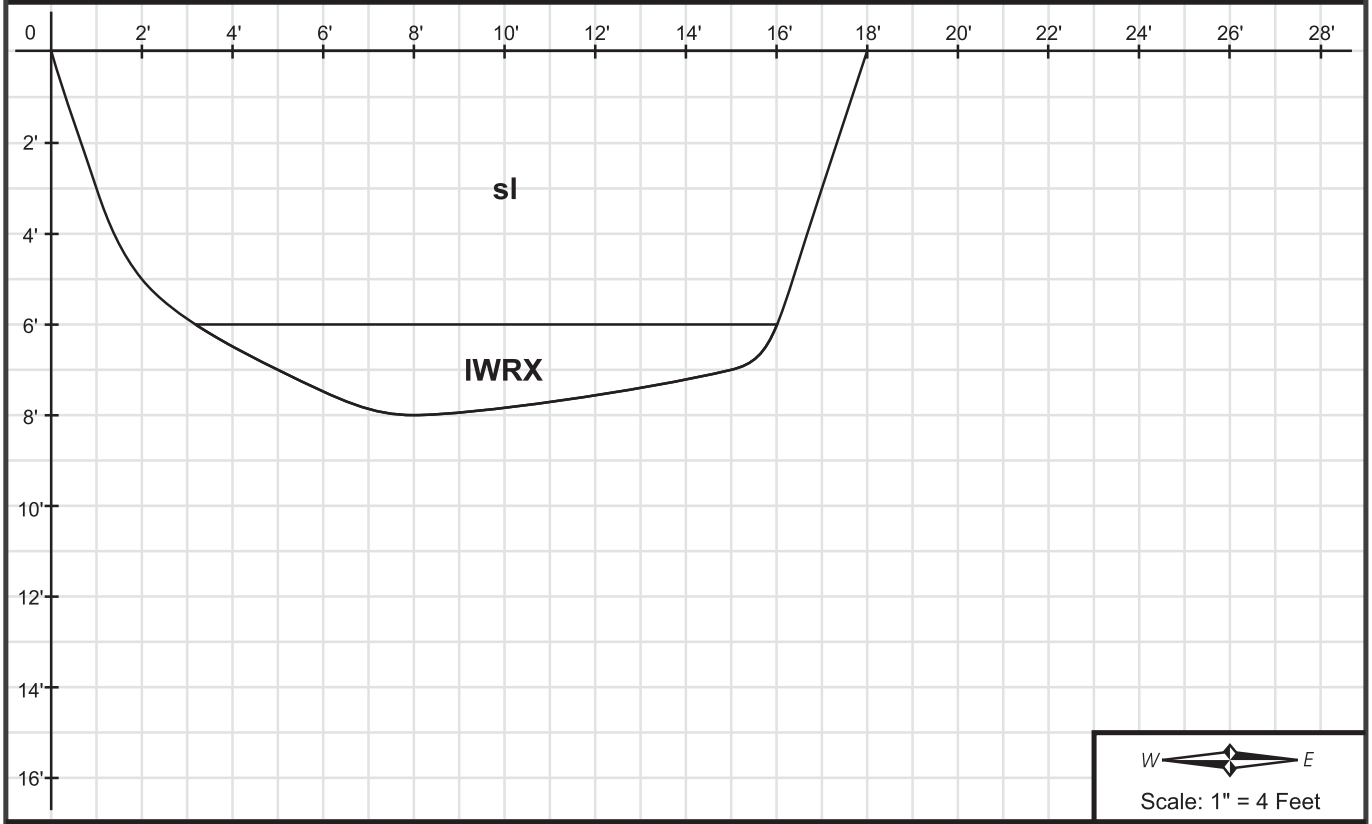
Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC. ESTABLISHED 1984	Project No.: E22257.000 **September 2022**	**EXPLORATORY TEST PIT LOG** **Native Lane** Cameron Park, California	**FIGURE 4**

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Logged By: **DCS**	Date: **30 August 2022**	Lat / Lon: **N 38.63998° / W 120.99812°**		Pit No. **TP-2**
Equipment: **John Deere 410L with 24" Bucket**		Pit Orientation: **108°**	Elevation: **~**	

Depth (Feet)	USDA Soil Classification	Sample	Tests & Comments
@ 0' - 3'	Strong brown **SANDY LOAM**, 10% gravel, no redoximorphic features, medium granular, many fine interstitial soil pores, friable, non-plastic, non-sticky, few coarse roots, diffuse irregular boundary, dry		
@ 3' - 6'	Reddish yellow **SANDY LOAM**, 20% gravel, no redoximorphic features, medium granular, few fine interstitial pores, friable, non-plastic, non-sticky, no roots, diffuse irregular boundary, dry		
@ 6' - 8'	Gray green intensely weathered serpentinite rock, no redoximorphic features		
	Test pit terminated at 8' (practical refusal) No free groundwater encountered No caving noted		



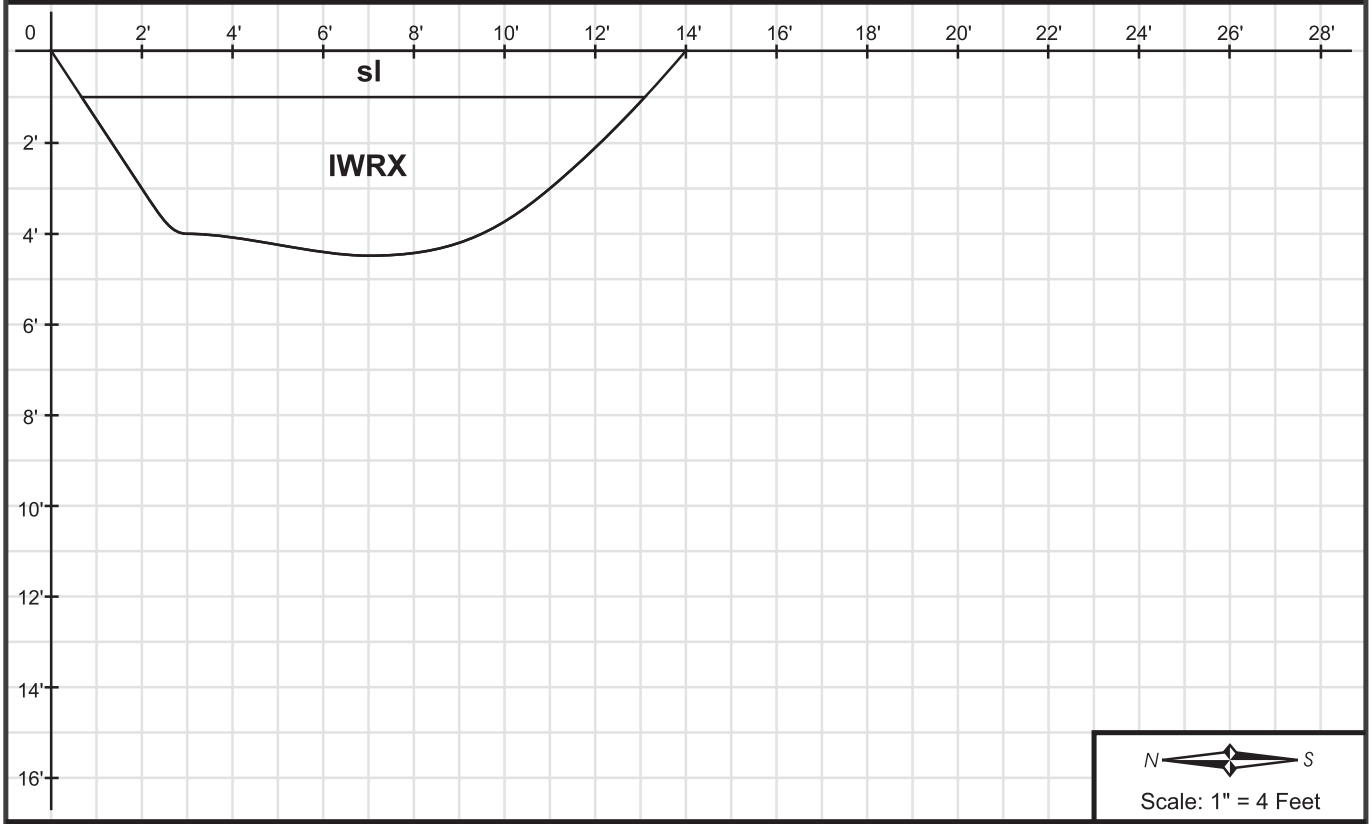
Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC. ESTABLISHED 1984	Project No.: E22257.000 **September 2022**	**EXPLORATORY TEST PIT LOG** **Native Lane** Cameron Park, California	**FIGURE 5**

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Logged By: **DCS**	Date: **30 August 2022**	Lat / Lon: **N 38.641706° / W 120.996469°**		Pit No. **TP-3**
Equipment: **John Deere 410L with 24" Bucket**		Pit Orientation: **175°**	Elevation: **~**	

Depth (Feet)	USDA Soil Classification	Sample	Tests & Comments
@ 0' - 1'	Dark brown (7.5 YR 5/4) **SANDY LOAM**, 10% gravel, no redoximorphic features, coarsely granular, many medium to coarse interstitial soil pores, friable, non-plastic, non-sticky, common medium roots, diffuse irregular boundary, dry		
@ 1' - 4.5'	Gray green intensely weathered serpentinite bedrock, no redoximorphic features, dry		
	Test pit terminated at 4.5' (practical refusal) No free groundwater encountered No caving noted		



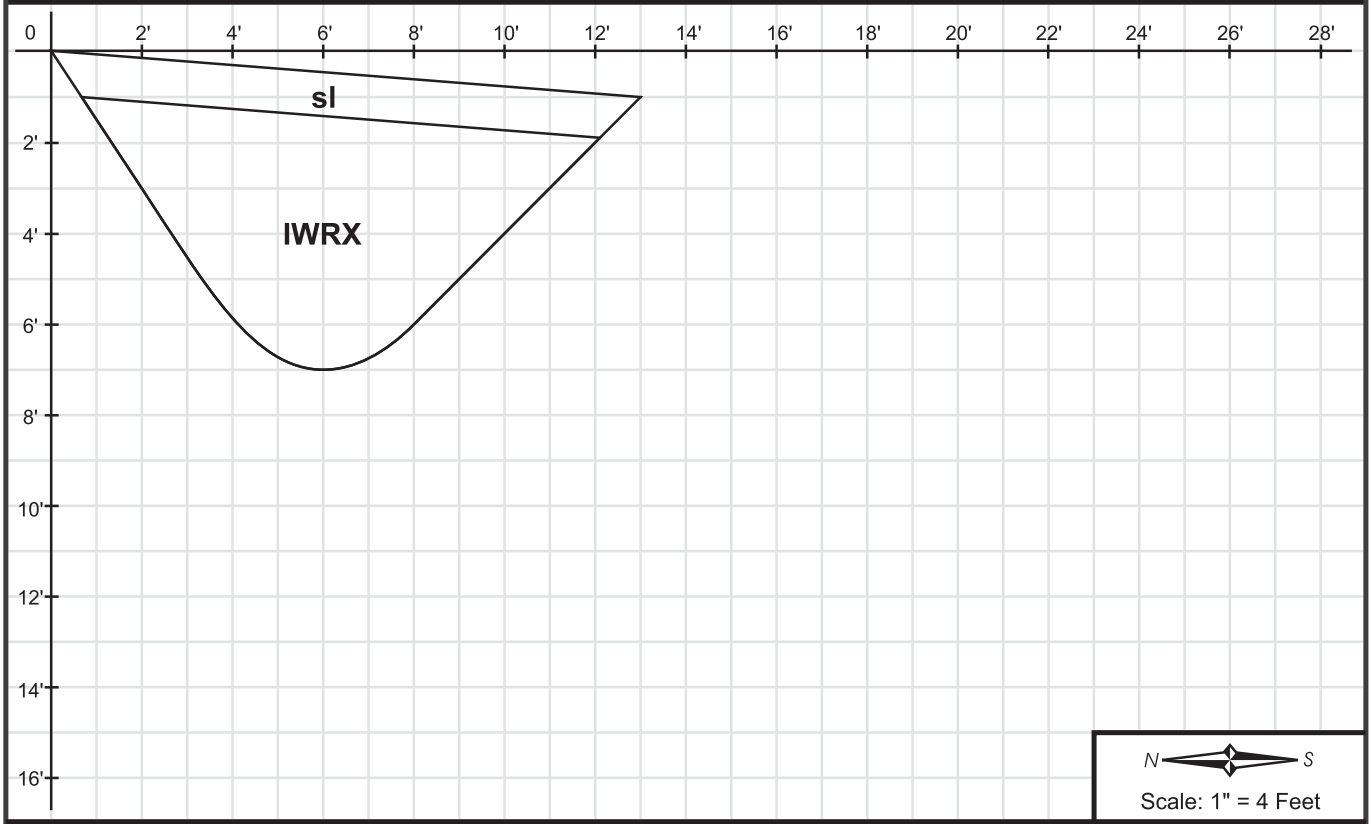
Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC. ESTABLISHED 1984	Project No.: E22257.000	**EXPLORATORY TEST PIT LOG**	**FIGURE**
	September 2022	**Native Lane** Cameron Park, California	**6**

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Logged By: **DCS**	Date: **30 August 2022**	Lat / Lon: **N 38.64110° / W 120.99581°**		Pit No. **TP-4**
Equipment: **John Deere 410L with 24" Bucket**		Pit Orientation: **192°**	Elevation: **~**	

Depth (Feet)	USDA Soil Classification	Sample	Tests & Comments
@ 0' - 1'	Dark brown (7.5 YR 5/4) **SANDY LOAM**, 10% gravel, no redoximorphic features, coarsely granular, many medium to coarse interstitial soil pores, friable, non-plastic, non-sticky, common medium roots, diffuse irregular boundary, dry		
@ 1' - 6'	Gray green intensely weathered serpentinite bedrock, no redoximorphic features, dry		
	Test pit terminated at 6' (practical refusal) No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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September 2022

EXPLORATORY TEST PIT LOG

Native Lane
Cameron Park, California

FIGURE 7

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Consultant: **YCG**	Date: **30 August 2022**	Parent Rock Type: V G MS A [Other]

SOIL PIT # 1 — *1ST Horizon* Depth: 0' to 1.5'
Slope: 4 **% Aspect:** FLAT
Texture: s ls [sl] sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone 0 %
Color: 5 YR 4/3
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: [gran] platy block prism f m [c] single grain massive
Soil Pores: none few common [many] f m c [inters] tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: [np] sp mp vp **Stickiness:** [ns] ss ms vs
Roots: none [few] common many vf f [m] c
Boundary Distinctness: a c g [d] **Topography:** s w [i] b
Moisture: [dry] moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #** 2

SOIL PIT # 2 — *1ST Horizon* Depth: 0' to 3'
Slope: 16 **% Aspect:** FLAT
Texture: s ls [sl] sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel 10 % cobble ~ % stone 0 %
Color: 7.5 YR 5/6
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: [gran] platy block prism f [m] c single grain massive
Soil Pores: none few common [many] [f] m c [inters] tubular
Moist Consistence: l vfr [fr] f vf ef
Plasticity: [np] sp mp vp **Stickiness:** ns ss ms vs
Roots: none [few] common many vf f m [c]
Boundary Distinctness: a c g [d] **Topography:** s w [i] b
Moisture: [dry] moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

2nd Horizon Depth: 1.5' to 2'
Texture: s ls sl sc scl l c cl sic sicl sil si DRX [IWRX] MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone 50 %
Color: Grey green
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy [block] prism f m [c] single grain massive
Soil Pores: none [few] common many [f] m c [inters] tubular
Moist Consistence: l vfr fr [f] vf ef
Plasticity: [np] sp mp vp **Stickiness:** [ns] ss ms vs
Roots: none [few] common many vf f [m] c
Boundary Distinctness: a c g [d] **Topography:** s w [i] b
Moisture: [dry] moist wet saturated
NOTES:
Same as SOIL PIT # **Horizon #**

2nd Horizon Depth: 3' to 6'
Texture: s ls [sl] sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel 20 % cobble ~ % stone ~ %
Color: 7.5 YR 6/6
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: [gran] platy block prism f [m] c single grain massive
Soil Pores: none [few] common many [f] m c [inters] tubular
Moist Consistence: l vfr [fr] f vf ef
Plasticity: [np] sp mp vp **Stickiness:** [ns] ss ms vs
Roots: [none] few common many vf f m c
Boundary Distinctness: a c g [d] **Topography:** s w [i] b
Moisture: [dry] moist wet saturated
NOTES:
Same as SOIL PIT # **Horizon #**

3rd Horizon Depth: 2' to 7'
Texture: s ls sl sc scl l c cl sic sicl sil si DRX [IWRX] MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone 100 %
Color: Grey green
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

3rd Horizon Depth: 6' to 8'
~
Texture: s ls sl sc scl l c cl sic sicl sil si DRX [IWRX] MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone 100 %
Color: Grey green
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # 1 **Horizon #** 3

4th Horizon Depth: ~ to ~
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone ~ %
Color: ~
Redoxymorphic Features: none few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

4th Horizon Depth: ~ to ~
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone ~ %
Color: ~
Redoxymorphic Features: none few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

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September 2022

EXPLORATORY SOIL PIT LOG
Native Lane
Cameron Park, California

FIGURE 8

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Consultant: **YCG**	Date: **30 August 2022**	Parent Rock Type: V G MS A [Other]

SOIL PIT # 3 — *1ST Horizon* Depth: 0' to 1'
Slope: 64 **% Aspect:** FLAT
Texture: s ls [sl] sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel 10 % cobble 10 % stone 0 %
Color: 5 YR 4/4
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: [gran] platy block prism f m [c] single grain massive
Soil Pores: none few common [many] f [m c] inters tubular
Moist Consistence: l vfr [fr] f vf ef
Plasticity: [np] sp mp vp **Stickiness:** [ns] ss ms vs
Roots: none few [common] many vf f [m] c
Boundary Distinctness: a c g [d] **Topography:** s w [i] b
Moisture: [dry] moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #** 2

SOIL PIT # 4 — *1ST Horizon* Depth: 0' to 1'
Slope: 30 **% Aspect:** FLAT
Texture: s ls [sl] sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel 10 % cobble 10 % stone 0 %
Color: 7.5 YR 5/6
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: [gran] platy block prism f m [c] single grain massive
Soil Pores: none few common [many] f [m c] inters tubular
Moist Consistence: l vfr [fr] f vf ef
Plasticity: [np] sp mp vp **Stickiness:** [ns] ss ms vs
Roots: none few [common] many vf f [m] c
Boundary Distinctness: a c g [d] **Topography:** s w [i] b
Moisture: [dry] moist wet saturated
NOTES: ~
Same as SOIL PIT # 3 **Horizon #** 1

2nd Horizon Depth: 1' to 4.5'
Texture: s ls sl sc scl l c cl sic sicl sil si DRX [IWRX] MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone % **Color:** Grey green
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: [dry] moist wet saturated
NOTES:
Same as SOIL PIT # **Horizon #**

2nd Horizon Depth: 1' to 6'
Texture: s ls sl sc scl l c cl sic sicl sil si DRX [IWRX] MWRX DG
Rock Fragments: gravel % cobble ~ % stone ~ % **Color:** Grey green
Redoxymorphic Features: [none] few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: [dry] moist wet saturated
NOTES:
Same as SOIL PIT # 3 **Horizon #** 2

3rd Horizon Depth: to
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone % **Color:**
Redoxymorphic Features: none few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

3rd Horizon Depth: to
~
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone % **Color:**
Redoxymorphic Features: none few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

4th Horizon Depth: ~ to ~
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone ~ % **Color:** ~
Redoxymorphic Features: none few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

4th Horizon Depth: ~ to ~
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel ~ % cobble ~ % stone ~ % **Color:** ~
Redoxymorphic Features: none few common many
RC color ~ RD color ~ RM color ~
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp **Stickiness:** ns ss ms vs
Roots: none few common many vf f m c
Boundary Distinctness: a c g d **Topography:** s w i b
Moisture: dry moist wet saturated
NOTES: ~
Same as SOIL PIT # **Horizon #**

YOUNGDAHL CONSULTING GROUP, INC. ESTABLISHED 1984	Project No.: E22257.000	**EXPLORATORY SOIL PIT LOG** **Native Lane** Cameron Park, California	**FIGURE 9**
	September 2022		

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Soil Test-Pit Log: Key to Terms and Abbreviations

Slope as measured in percent.

Parent Rock Type: V = Volcanic; G = Granite; MS = Metasedimentary; A = Alluvium

Effective Soil Depth is defined as: "the depth of soil material from ground surface that effectively provides filtration of effluent. Effective soil excludes soil layers that meet the criteria for 'Soil With Rapid Permeability' and 'Conditions Associated With Saturation' and' Limiting Layers'." **Soil With Rapid Permeability** is defined as: "soil with: (A) percolation rates less than six (6) minutes per inch, or (B) soil texture classes of sand or loamy sand, or (C) soils containing more than 50% rock fragments greater than 2 mm in diameter, or (D) soils with stones, cobbles, gravel and rock fragments with too little soil material to fill interstices larger than one (1) mm in diameter." **Conditions Associated With Saturation** are defined as: "(A) reddish brown or brown oxidized soil horizons with dull gray zones of redox depletions (chromas of 2 or less), and red or yellowish red zones of redox concentrations; or (B) reduced, or iron depleted, horizons of gray, blue, or olive colors (chromas of 2 or less) with dull red, yellowish red, or brown zones of redox concentrations; or (C) organic soils and dark-colored soils very high in organic matter. **Limiting Layer** is defined as: "a layer that impedes the movement of water, air or the growth of plant roots. For example: hardpan, claypan, fragipan, bedrock, and expansive clay."

Depth of soil horizon from top to bottom of horizon as measured from grade.

Texture:

s = sand	ls = loamy sand	sl = sandy loam
sc = sandy clay	scl = sandy clay loam	l = loam
c = clay	cl = clay loam	sic = silty clay
sicl = silty clay loam	sil = silt loam	si = silt
DRX = bedrock	MWRX = moderately weathered rock	
IWRX = intensely weathered rock	DG = decomposed granite	

Rock Fragments: gravel (avg. diameter: 0.078 inches [2 mm] to 3 inches)
cobbles (avg. diameter: 3 inches to 10 inches)
stones and boulders (avg. diameter: >10 inches)

Color of a *moist* soil matrix, broken ped face, using Munsell Soil Color Chart or other standard soil color books.

Redoxymorphic Features: few <2% common 2-20% many >20%
RC = Redox concentrations; note color of moist soil using Munsell chart or other standard soil color books.
RD = Redox depletions; note color of moist soil using Munsell chart or other standard soil color books.
RM = Reduced matrices; note color of moist soil using Munsell chart or other standard soil color books.

Structure:	granular/platy	blocky/prismatic
fine	<1/8 inch (<2 mm)	<3/8 inch (10 mm)
medium	1/8-3/16 in (2-5 mm)	3/8-3/4 in (10-20 mm)
coarse	>3/16 inch (>5 mm)	>3/4 inch (>20 mm)

Soil Pores: fine <1/8 inch (2 mm)
medium 1/8-3/16 inch (2-5 mm)
coarse >3/16 inch (>5 mm)
inters = interstitial
tubular = tubular

Consistence: l = loose
vfr = very friable
fr = friable
f = firm
vf = very firm
ef = extremely firm

Plasticity: np = non-plastic
sp = slightly plastic
mp = moderately plastic
vp = very plastic

Stickiness: ns = non-sticky
ss = slightly sticky
ms = moderately sticky
vs = very sticky

Roots:

vf = very fine	<1/16 inch (1 mm)
f = fine	1/16-1/8 inch (1-2 mm)
m = medium	1/8-3/16 inch (2-5 mm)
c = coarse	>3/16 inch (>5 mm)

Boundary:

Distinctness:	a = abrupt	< 1 inch
	c = clear	1 to 2 inches
	g = gradual	2 to 6 inches
	d = diffuse	> 6 inches
Topography:	s = smooth	
	w = wavy	
	i = irregular	
	b = broken	

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

APPENDIX A
Results of Percolation Tests

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Percolation Test Data Sheet

Project No. E22257.000
Test Pit No. TP-1
Date: 8/31/2022
Testhole No.: 1A **Sheet No.:** 1 of 4
GPS 38.64119N -120.9982 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time	Water-level Start (inches)	Water-level End (inches)	Difference in Water Level (inches)
9:52 AM	10:22 AM	0:30	6.6	1.1	5.50
10:22 AM	10:52 AM	0:30	6	1.3	4.70
10:52 AM	11:22 AM	0:30	6.6	2.6	4.00
11:22 AM	11:52 AM	0:30	6.9	2.8	4.10
11:52 AM	12:22 PM	0:30	6.6	2.5	4.10
12:22 PM	12:52 PM	0:30	6.7	2.4	4.30
12:52 PM	1:22 PM	0:30	6.5	2.3	4.20
1:22 PM	1:52 PM	0:30	6.6	2.5	4.10

Testhole No.: 1B
GPS 38.64101 -120.99828 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time	Water-level Start (inches)	Water-level End (inches)	Difference in Water Level (inches)
9:54 AM	10:24 AM	0:30	4.1	.5	3.60
10:24 AM	10:54 AM	0:30	3.8	1.1	2.70
10:54 AM	11:24 AM	0:30	3.9	1.4	2.50
11:24 AM	11:54 AM	0:30	4.2	1.6	2.60
11:54 AM	12:24 PM	0:30	4.1	1.3	2.80
12:24 PM	12:54 PM	0:30	4.1	1.2	2.90
12:54 PM	1:24 PM	0:30	4	1.1	2.90
1:24 PM	1:54 PM	0:30	4.1	1.2	2.90

Testhole No.:
GPS 38.64117 -120.99834 **Testhole Depth:** 1' **Width:**

Start Time	End Time	Elapsed Time	Water-level Start (inches)	Water-level End (inches)	Difference in Water Level (inches)
9:56 AM	10:26 AM	0:30	7.1	.8	6.30
10:26 AM	10:56 AM	0:30	7.5	1.3	6.20
10:56 AM	11:26 AM	0:30	7.4	1.3	6.10
11:26 AM	11:56 AM	0:30	7.5	1.5	6.00
11:56 AM	12:26 PM	0:30	7.3	1.4	5.90
12:26 PM	12:56 PM	0:30	7.3	1.5	5.80
12:56 PM	1:26 PM	0:30	7.4	1.7	5.70
1:26 PM	1:56 PM	0:30	7.3	1.7	5.60

Testhole No.: 1D
GPS **Testhole Depth:** **Width:** 8"

Start Time	End Time	Elapsed Time	Water-level Start (inches)	Water-level End (inches)	Difference in Water Level (inches)
9:00:00 AM	9:30:00 AM	0:30			0.00
9:30:00 AM	10:00:00 AM	0:30			0.00
10:00:00 AM	10:30:00 AM	0:30			0.00
10:30:00 AM	11:00:00 AM	0:30			0.00
11:00:00 AM	11:30:00 AM	0:30			0.00
11:30:00 AM	12:00:00 PM	0:30			0.00
12:00:00 PM	12:30:00 PM	0:30			0.00
12:30:00 PM	1:00:00 PM	0:30			0.00

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Percolation Test Data Sheet

Project No. E22257.000
Test Pit No. TP-2
Date: 8/31/2022
Testhole No.: 2A **Sheet No.:** 3 of 4
GPS 38.64002 -120.99805 **Testhole Depth:** 1.5' **Width:** 8"

Start Time	End Time	Elapsed Time	Water-level Start (inches)	Water-level End (inches)	Difference in Water Level (inches)
9:40 AM	10:10 AM	0:30	8.4	2.4	6.00
10:10 AM	10:40 AM	0:30	8.7	3.5	5.20
10:40 AM	11:10 AM	0:30	8.6	3.1	5.50
11:10 AM	11:40 AM	0:30	9	3.1	5.90
11:40 AM	12:10 PM	0:30	8.8	3	5.80
12:10 PM	12:40 PM	0:30	9.1	4.1	5.00
12:40 PM	1:10 PM	0:30	8.4	3.5	4.90
1:10 PM	1:40 PM	0:30	8.9	3.9	5.00

Testhole No.: 2B
GPS 38.64001 -120.99799 **Testhole Depth:** 2.5' **Width:** 8"

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
9:42 AM	10:12 AM	0:30	12.6	10.6	2.00
10:12 AM	10:42 AM	0:30	10.6	9.4	1.20
10:42 AM	11:12 AM	0:30	9.4	8.1	1.30
11:12 AM	11:42 AM	0:30	8.1	7.1	1.00
11:42 AM	12:12 PM	0:30	7.1	6.3	0.80
12:12 PM	12:42 PM	0:30	6.3	5.5	0.80
12:42 PM	1:12 PM	0:30	5.5	4.8	0.70
1:12 PM	1:42 PM	0:30	6	5.2	0.80

Testhole No.: 2C
GPS 38.63998 -120.99791 **Testhole Depth:** 2' **Width:** 8"

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
9:44 AM	10:14 AM	0:30	9.5	6.6	2.90
10:14 AM	10:44 AM	0:30	6.6	4.9	1.70
10:44 AM	11:14 AM	0:30	4.9	3.2	1.70
11:14 AM	11:44 AM	0:30	3.2	1.9	1.30
11:44 AM	12:14 PM	0:30	6.3	5	1.30
12:14 PM	12:44 PM	0:30	5	3.5	1.50
12:44 PM	1:14 PM	0:30	6	4.6	1.40
1:14 PM	1:44 PM	0:30	6.1	4.7	1.40

Testhole No.: 3D
GPS 38.6399 -120.99806 **Testhole Depth:** 3' **Width:** 8"

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
9:46 AM	10:16 AM	0:30	10.5	5.9	4.60
10:16 AM	10:46 AM	0:30	5.9	2.6	3.30
10:46 AM	11:16 AM	0:30	8.1	5.8	2.30
11:16 AM	11:46 AM	0:30	5.8	2.6	3.20
11:46 AM	12:16 PM	0:30	9.2	6.6	2.60
12:16 PM	12:46 PM	0:30	6.6	3.7	2.90
12:46 PM	1:16 PM	0:30	7	4.1	2.90
1:16 PM	1:46 PM	0:30	6.8	3.8	3.00

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Percolation Test Data Sheet

Project No. E22257.000
Test Pit No. TP-3
Date: 8/31/2022
Testhole No.: 3A **Sheet No.:** 2 of 4
GPS 38.64163 -120.99609 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time	Water-level Start (inches)	Water-level End (inches)	Difference in Water Level (inches)
5:00 AM	5:30 AM	0:30	4.5	1.4	3.10
5:30 AM	6:00 AM	0:30	4.7	1.5	3.20
6:00 AM	6:30 AM	0:30	4.5	2	2.50
6:30 AM	7:00 AM	0:30	5.1	2.1	3.00
7:00 AM	7:30 AM	0:30	4.9	2.3	2.60
7:30 AM	8:00 AM	0:30	4.8	2.3	2.50
8:00 AM	8:30 AM	0:30	4.8	2.2	2.60
8:30 AM	9:00 AM	0:30	4.7	2.3	2.40

Testhole No.: 3B
GPS 38.64152 -120.9962 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
5:00 AM	5:30 AM	0:30	4.8	.4	4.40
5:30 AM	6:00 AM	0:30	5.1	.5	4.60
6:00 AM	6:30 AM	0:30	4.7	.9	3.80
6:30 AM	7:00 AM	0:30	5	.8	4.20
7:00 AM	7:30 AM	0:30	4.8	1	3.80
7:30 AM	8:00 AM	0:30	4.8	1.1	3.70
8:00 AM	8:30 AM	0:30	4.9	1	3.90
8:30 AM	9:00 AM	0:30	4.8	1	3.80

Testhole No.: 3C
GPS 38.64172 -120.99624 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
5:00 AM	5:30 AM	0:30	7.2	2	5.20
5:30 AM	6:00 AM	0:30	7.4	1.9	5.50
6:00 AM	6:30 AM	0:30	7	1.8	5.20
6:30 AM	7:00 AM	0:30	7.2	1.9	5.30
7:00 AM	7:30 AM	0:30	7.2	2	5.20
7:30 AM	8:00 AM	0:30	7.3	2.1	5.20
8:00 AM	8:30 AM	0:30	7.2	2.1	5.10
8:30 AM	9:00 AM	0:30	7	2	5.00

Testhole No.:
GPS **Testhole Depth:** **Width:**

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
11:15:00 AM	11:45:00 AM	0:30			0.00
11:45:00 AM	12:15:00 PM	0:30			0.00
12:15:00 PM	12:45:00 PM	0:30			0.00
12:45:00 PM	1:15:00 PM	0:30			0.00
1:15:00 PM	1:45:00 PM	0:30			0.00
1:45:00 PM	2:15:00 PM	0:30			0.00
2:15:00 PM	2:45:00 PM	0:30			0.00
2:45:00 PM	2:55:00 PM	0:10			0.00

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Percolation Test Data Sheet

Project No. E22257.000
Test Pit No. TP-4
Date: 8/31/2022
Testhole No.: 4A **Sheet No.:** 4 of 4
GPS 38.64119 -120.99603 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time	Water-level Start (inches)	Water-level End (inches)	Difference in Water Level (inches)
5:00 AM	5:30 AM	0:30	4	.2	3.80
5:30 AM	6:00 AM	0:30	6.1	.8	5.30
6:00 AM	6:30 AM	0:30	6	1.4	4.60
6:30 AM	7:00 AM	0:30	6.1	1.4	4.70
7:00 AM	7:30 AM	0:30	6	1.7	4.30
7:30 AM	8:00 AM	0:30	5.9	1.7	4.20
8:00 AM	8:30 AM	0:30	6	1.7	4.30
8:30 AM	9:00 AM	0:30	6	1.8	4.20

Testhole No.: 4B
GPS 38.64114 -120.99622 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
5:02 AM	5:32 AM	0:30	3.5	.7	2.80
5:32 AM	6:02 AM	0:30	3.8	.8	3.00
6:02 AM	6:32 AM	0:30	3.6	.4	3.20
6:32 AM	7:02 AM	0:30	3.5	.4	3.10
7:02 AM	7:32 AM	0:30	3.5	.4	3.10
7:32 AM	8:02 AM	0:30	3.6	.4	3.20
8:02 AM	8:32 AM	0:30	3.5	.4	3.10
8:32 AM	9:02 AM	0:30	3.4	.4	3.00

Testhole No.: 4C
GPS 38.64114N -120.99583 **Testhole Depth:** 1' **Width:** 8"

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
5:04 AM	5:34 AM	0:30	8.1	1.2	6.90
5:34 AM	6:04 AM	0:30	8	1.2	6.80
6:04 AM	6:34 AM	0:30	8.2	1.3	6.90
6:34 AM	7:04 AM	0:30	8	1.4	6.60
7:04 AM	7:34 AM	0:30	8	1.3	6.70
7:34 AM	8:04 AM	0:30	8.1	1.5	6.60
8:04 AM	8:34 AM	0:30	8	1.4	6.60
8:34 AM	9:04 AM	0:30	7.9	1.4	6.50

Testhole No.:
GPS **Testhole Depth:** **Width:**

Start Time	End Time	Elapsed Time			Difference in Water Level (inches)
3:30:00 PM	4:00:00 PM	0:30			0.00
4:00:00 PM	4:30:00 PM	0:30			0.00
4:30:00 PM	5:00:00 PM	0:30			0.00
5:00:00 PM	5:30:00 PM	0:30			0.00
5:30:00 PM	6:00:00 PM	0:30			0.00
6:00:00 PM	6:30:00 PM	0:30			0.00
6:30:00 PM	7:00:00 PM	0:30			0.00
7:00:00 PM	7:30:00 PM	0:30			0.00

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

Appendix B
Custom Soil Resource Report for
El Dorado Area, California

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Dorado Area, California

Native Lane APN 109-010-003

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

P23-0005 NATIVE LANE PARCEL MAP
EXHIBIT I - SEPTIC FEASIBILITY STUDY

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: El Dorado Area, California
Survey Area Data: Version 13, Sep 3, 2021

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

Date(s) aerial images were photographed: Apr 23, 2022—Apr 24, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SaF	Serpentine rock land	41.8	100.0%
Totals for Area of Interest		**41.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Dorado Area, California

SaF—Serpentine rock land

Map Unit Setting

National map unit symbol: hj15
Elevation: 650 to 4,000 feet
Mean annual precipitation: 8 to 15 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Serpentine rock land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Serpentine Rock Land

Setting

Parent material: Serpentinite

Typical profile

H1 - 0 to 4 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 70 percent
Depth to restrictive feature: 0 to 4 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Low to very high (0.01 to 19.98 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent
Hydric soil rating: No

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WILDFIRE SERVICES

Wildland Fire Safe Plan

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Native Lane Parcel Map

Prepared for:
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Signed:

DocuSigned by:
Jeff Hoag
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2/27/2024

Jeff Hoag - Battalion Chief — date
CAL FIRE Amador El Dorado Unit (AEU) Representative

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369B1BD61C6545B...

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Braden Stirling - Fire Marshal — date
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WILDFIRE SERVICES

CONTENTS

Purpose and Scope

The purpose of this plan is to assess the wildfire hazards and risks of the Native Lane Parcel Map subdivision, to identify measures to reduce these hazards and risks, and to protect the native vegetation. This plan is prepared in accordance with the El Dorado County Fire Department Fire Protection Standard Wildland Urban Interface Fire Protection Plans STANDARD #W-001 EFFECTIVE 5-25-2022.

WILDFIRE SERVICES

Communities are increasingly concerned about wildfire safety. Drought years coupled with flammable vegetation and annual periods of severe fire weather insure the potential for periodic wildfires. The possibility of large fires occurring when the subdivision is complete will be greatly reduced, due to the planned implementation of all recommended fire-safe codes. However, small wildfires in the open space areas and on the lots may occur due to the increase in public uses. Incorporation of the fire hazard reduction measures into the design and maintenance of the future parcels will reduce the size and intensity of wildfires and help prevent catastrophic fire losses. State and County regulations provide the basic guidelines and requirements for fire safe mitigation measures and defensible space around dwellings. This plan builds on these basic rules and provides additional fire hazard reduction measures customized to the topography and vegetation of the development.

The scope of the Native Lane Parcel Map Wildland Fire Safe Plan is to provide a guide to all project stakeholders, including the developer, builders, property owners, and local fire officials regarding fire mitigation procedures. More detailed information about codes and standards can be found in the documents referenced above. More restrictive standards may be applied by approving El Dorado County Authorities. Approval of this plan does not by itself guarantee approval of this project.

The Wildland Fire Safe Plan for the Native Lane Parcel Map does not guarantee that wildfire will not threaten, damage or destroy natural resources, homes or endanger residents. However, the full implementation of the mitigation measures will greatly reduce the exposure of homes to potential loss from wildfire and provide defensible space for firefighters and residents as well as protect the native vegetation.

3. Project Overview

Native Lane Parcel Map is a new development of four (4) residential home sites located at the end of Native Lane in Shingle Springs, CA. An extension of Native Lane has been proposed. The site is situated at an elevation range of approximately 1000 to 1300 feet on terrain that moderately slopes downward to the south, as well as to the east and west.

The primary vegetation is characterized as Chamise-Redshank Chaparral. This is single layered growth, generally lacking well-developed overstory trees and herbaceous ground cover. Chamise and Redshank shrubs are typically 3 to 12 feet tall and shrub canopies frequently overlap, producing a nearly impenetrable canopy of interwoven branches. Total shrub cover typically exceeds 80 percent over most of the Native Lane property. Interspersed throughout are annual grasses, toyon, and poison oak. There is a scattering of trees on the property, including live oaks and gray pines.

WILDFIRE SERVICES

a. Total Size of the Project

The project is proposing to split parcel APN: 109-010-003 totaling 40 acres into 4 residential lots. The area is zoned RE5.

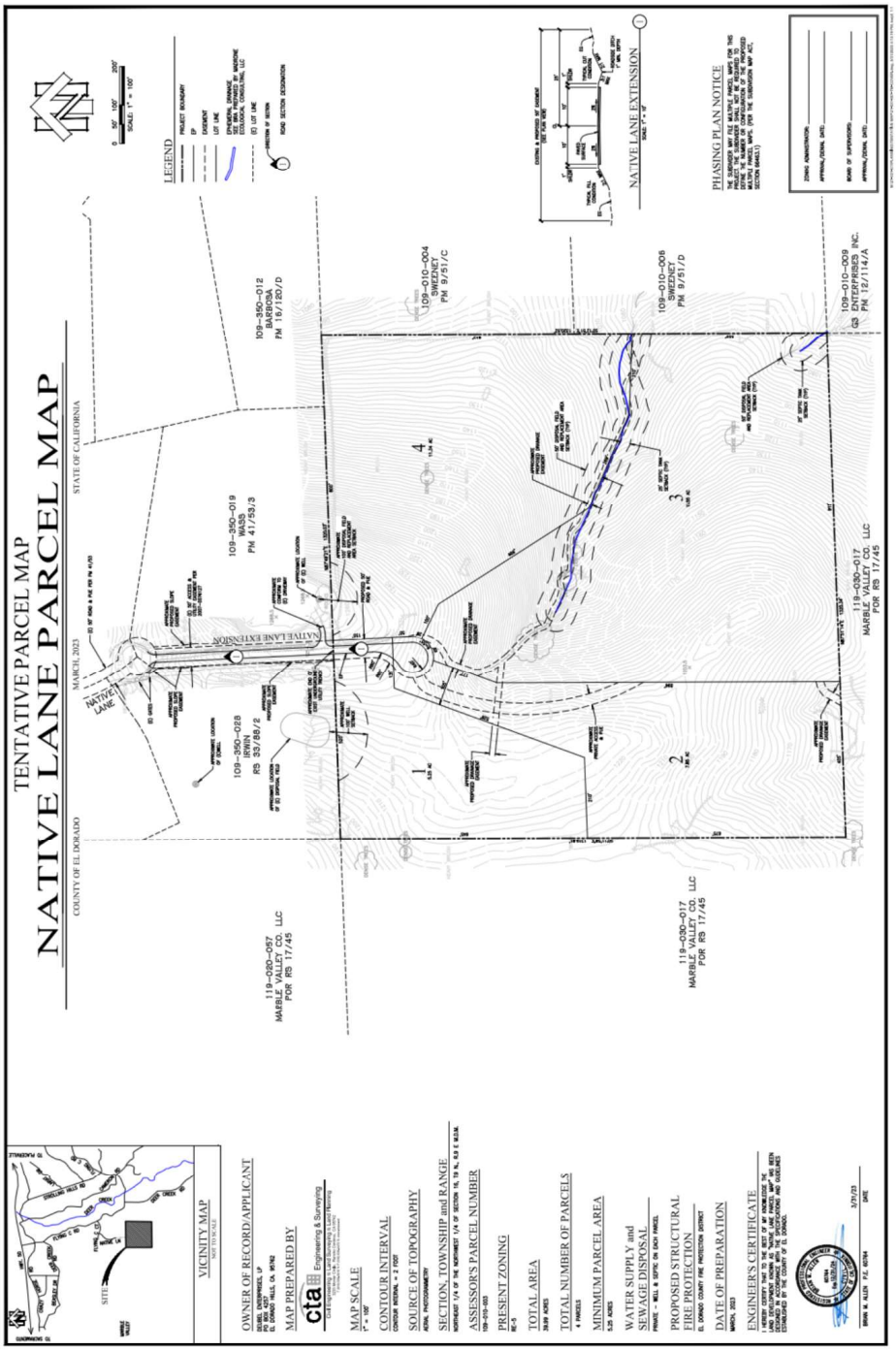
b. Adjoining properties

There are three developed parcels abutting the Native Lane property to the north. Two of the three properties have homes within 50 to 100 feet of the northern parcel boundary. The adjoining properties to the east, south, and west are undeveloped with similar vegetation and topography.

Adjoining properties to the east, south, and west are also sloping downhill, as are some parts of the properties to the north. This presents exposure to fire coming from multiple directions. And because fire travels faster uphill, fire approaching from any of these directions (coming uphill) could present significant fire risk to Native Lane properties. This plan includes measures to mitigate that risk.

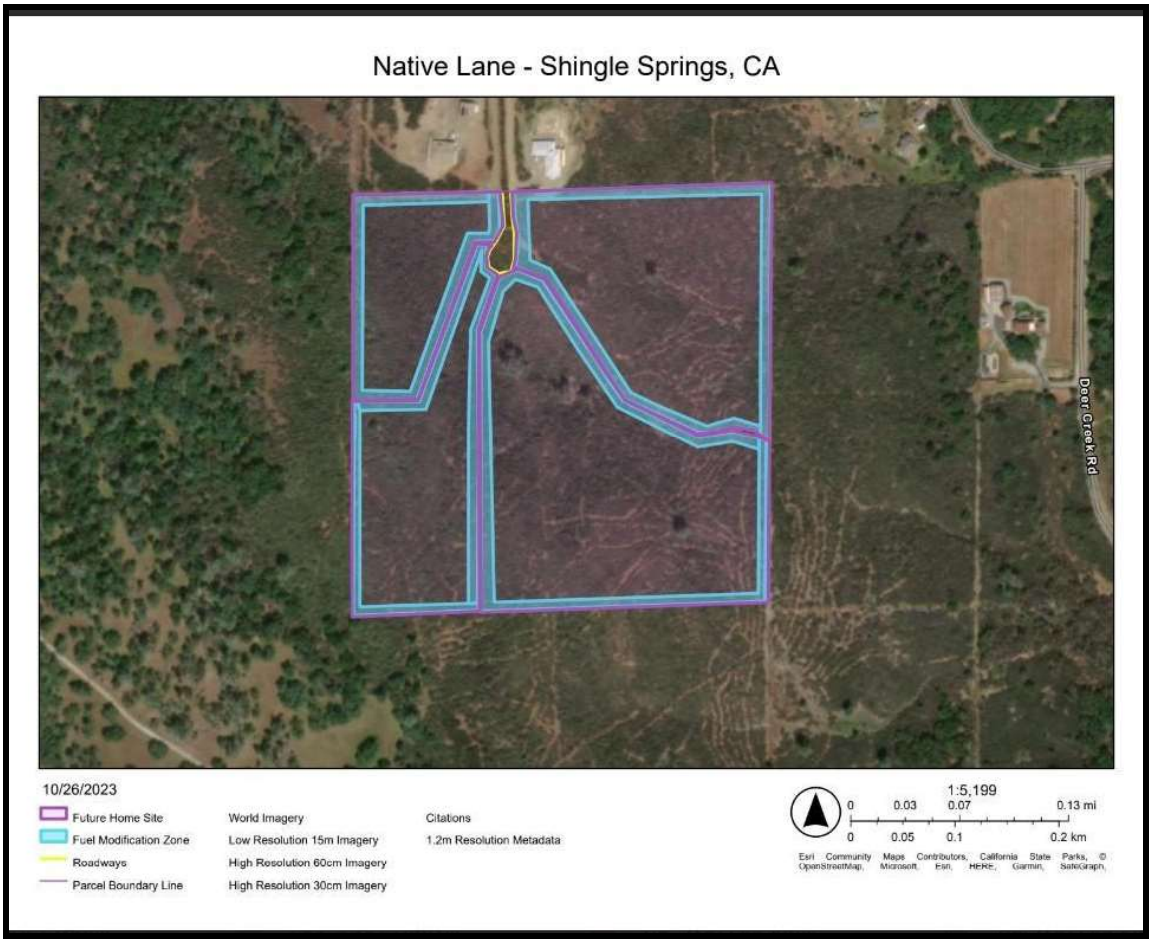
c. Project Maps

WILDFIRE SERVICES



Parcel Map showing lot lines and elevation contours.

WILDFIRE SERVICES



Aerial image showing lot lines and fuel modification buffer zones around properties and roads.

WILDFIRE SERVICES

4. Recommendations

This section summarizes the recommendations for wildfire safety.

Building / Construction

The project is located in a Very High Fire Hazard Severity Zone. Implementation of Wildland-Urban Interface Fire Area Building Standards will be required for the construction of new residences. These standards address roofing, venting, eave enclosure, windows, exterior doors, siding, and decking.

Recommendation	Responsibility	Timing
Driveways shall be 12 feet wide and must support a minimum weight of 75,000 lbs.	Property Owner	Ongoing
All private driveway gates shall be inset on the driveway at least 30 feet from the road. Gate openings shall be 2 feet wider than the driveway. Knox lock access shall be provided to the fire department.	Property Owner	Ongoing
All building materials must comply with Chapter 7a of the California Building Code or as referenced in Section 4905 of the California Fire Code (CFC).	Builder/ Property Owner	Ongoing
Residential fire sprinkler systems shall be designed and installed in accordance with Section R313 of the California Residential Code (CRC), National Fire Protection Association (NFPA) Standard 13-D (Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, 2016 edition2), and all other applicable design standards required by the EDCFD Fire Code.	Builder	Construction
Decks that are cantilevered over the natural slope shall be enclosed.	Builder/ Property Owner	Construction
Deck material must be compliant with Chapter 7a of the California Building Code or as referenced in the Office of State Fire Marshal WUI Approved Products Listing.	Builder/ Property Owner	Construction

WILDFIRE SERVICES

Recommendation	Responsibility	Timing
The houses shall be constructed with exterior wall sheathing compliant with Chapter 7a of the California Building Code or as referenced in the Office of State Fire Marshal WUI Approved Products Listing.	Builder	Construction
Windows and glass doors on the sides of the structure shall be compliant with Chapter 7a of the California Building Code or as referenced in the Office of State Fire Marshal WUI Approved Products Listing.	Builder	Construction
Rafter tails shall be enclosed with materials compliant with Chapter 7a of the California Building Code or as referenced in the Office of State Fire Marshal WUI Approved Products Listing.	Builder	Construction
Gutters and downspouts shall be compliant with Chapter 7a of the California Building Code or as referenced in the Office of State Fire Marshal WUI Approved Products Listing.	Builder	Construction
Attic and floor vents shall be compliant with Chapter 7a of the California Building Code or as referenced in the Office of State Fire Marshal WUI Approved Products Listing.	Builder	Construction
All fencing adjacent to any open space shall be compliant with Chapter 7a of the California Building Code or as referenced in the Office of State Fire Marshal WUI Approved Products Listing.	Builder/ Property Owner	Construction
Ensure compliance specified in the El Dorado County Fire Protection Standard D-003. This may require the installation of water storage for firefighting use.	Builder/ Property Owner	Construction
A Notice of Restriction shall be filed with the final parcel map which stipulates that a Wildland Fire Safe Plan has been prepared and wildfire mitigation measures must be implemented.	Builder	Design

WILDFIRE SERVICES

Recommendation	Responsibility	Timing
Establish a legally binding commitment for property owners for the purpose of implementing and maintaining the requirements of this plan through Covenants, Conditions and Restriction (CCR) or similar documents, and have it reviewed by El Dorado County Fire Department. Sample commitments (not reviewed by EDCFD) are available in Appendix B.	Developer	Before occupancy
Track building code changes adopted by the State or local authority and implement as required.	Property Owner	Ongoing

Defensible Space / Fuels Reduction

The trees scattered on the property typically have limbs and canopy reaching the ground creating ladder fuels. Ladder fuels will need to be eliminated. Limbing of trees is important to reduce their susceptibility from a ground fire. Tree spacing on the slopes is a critical component to attaining the required fire safe clearances. A separation of the brush fuels and trees are essential for creating the defensible space around the residence and along the perimeter. Any trees adjacent to the roads need to be thinned to eliminate crown encroachment. Any limb hanging over the roadway must be at least 15’ above the ground. CAL FIRE guidelines for the 100 foot clearance requirements around structures are included in Appendix A.

Recommendation	Responsibility	Timing
Remove all gray pines on the entire property.	Developer	Before construction
Remove all dead trees and limbs on the entire property.	Developer	Before construction
Remove all limbs from live trees that hang within 10’ of the ground as measured on the uphill side of the tree.	Developer	Before construction
Limb all trees within 30 feet of the inner property lines at least 10 feet above the ground as measured on the uphill side of the tree.	Developer	Before construction

WILDFIRE SERVICES

Recommendation	Responsibility	Timing
Remove all grass and brush to a 4-inch stubble within 30' along the inner property lines adjacent to the residential lots and along streets.	Developer	Before construction or annually by June 1
All lots shall be landscaped to meet defensible space requirements up to 100 feet from buildings per Public Resources Code (PRC) 4291. See Appendix A and https://www.fire.ca.gov/dspace.	Property Owner	Within one year of occupancy, ongoing
Maintain Defensible Space standards as detailed in Appendix A.	Property Owner	Ongoing
Review the Wildland Fire Safe Plan to determine its adequacy. It may require modification as necessary.	Fire Department	Project start, and every 5 years after project start

Other Fire Safe Requirements

Project shall meet the latest adopted version of the Fire Safe Regulation, Articles 1-5, see Appendix D.

B. Effects on existing plans

Currently no adopted emergency response plan or evacuation plan is significantly impacted by this project. As neighboring communities develop, this plan should be revisited to re-evaluate recommendations and devise additional mitigation plans as required.

C. Exacerbating factors

The Native Lane project is located in a Very High Fire Hazard Severity Zone. Risk of fire starts will increase with development. The greatest risk from fire ignition will be along roads and on large lots as human activity increases in these areas. Once ignited, the brush and grass on the slopes in and around the development will have a rapid rate of spread. This is the most exacerbated wildfire risk for this project.

WILDFIRE SERVICES

Implementation of this WUI Fire Safety Plan will mitigate the risk of life and property loss by minimizing wildfire intensity and enabling local fire services to respond effectively. In particular, this plan emphasizes the following critical areas: the use of fire safe construction materials, vegetation management, and access and egress for evacuation and emergency vehicles.

D. Infrastructure

The Native Lane Extension road will be constructed to El Dorado County Department of Transportation (DOT) standards or per approved design waivers. The roadway within Native Lane subdivision will be 20 feet wide. This road will serve as Emergency Vehicular Access (EVA). The roadway should have a 10-foot buffer zone along both sides. Trees above the roadway must have minimum vertical clearance of 15 feet. The developer shall file with DOT to get the roads named and have the names posted at the intersections.

Native Lane Extension is a dead-end road that exceeds the maximum dead-end road standard. Signage should be provided showing that Native Lane is a dead end with no outlet.

The offsite portion of the Native Lane Extension roadway to the north of the Native Lane Parcel Map may require additional work to establish and maintain a 10-foot buffer zone and 15-foot vertical clearance. This roadway serves several existing properties with homes, so coordination with the property owners will be required. The role of the Community Services Division (CSD) in establishing and maintaining the clearance in this portion of the roadway should also be determined.

Existing gates are already operating for the larger neighborhood area, including one on Flying C Road close just south of Deer Creek Road. No additional gates will be added along the roadway. Any private residential gate shall meet the requirements of El Dorado County Fire Department.

A fuel modification buffer zone of at least 30 feet in width shall be maintained around the perimeter of the project and a 10-foot fuel buffer zone along both sides of all roads.

Buffer zones will require the following:

- Cut and maintain ground fuels at or below 6 inches.
- Remove ladder fuels to separate tree canopy from ground level fuels by up to 1/3 the height of the tree depending on slope.
- Reduce shrubs and brush by 50% or more, creating islands and wind ways to disrupt fuel continuity.
- Reduce or remove invasive and pyrophytic vegetation within designated buffer zones

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Any tree canopy over the roads and driveways will have 15 feet of vertical clearance.

No public hiking trails are proposed.

E. Risk Exposure

This plan has not identified significant additional risk to people or structures as a result of this project.

F. Local Fire Protection and Water

The El Dorado County Fire Department provides all fire and emergency medical services to this project. Contact phone number for El Dorado County Fire Protection District Administrative office is (530) 644-9630 and the Shingle Springs Fire Station is (530) 677-2212 (916) 933-6623. CAL FIRE has wildland fire responsibility in this state responsibility area (SRA). The phone number for CAL FIRE Amador/El Dorado Unit Headquarters is (530) 644-2345.

Each parcel developed will need to meet the El Dorado County Fire Protection Standard D-003 for Rural Water Supply and firefighting. This may require installation and maintenance of water supply tanks.

G. Evacuation Routes

Access to the development is from Native Lane and the Native Lane Parcel Map, which has not yet been completed. Evacuation Access is limited to one direction down Native Lane north to Flying C Court east. Once reaching Flying C Road then access can be either north toward Highway 50 or south toward Sprekelsville. With the road width and limited number of vehicles, this plan does not find evacuation route limitations for their capacity, safety, and viability.

H. Responsibility Statements

The property owners shall have responsibilities for this plan specified in legally binding statements, and shall be incorporated into the Covenants, Conditions and Restriction (CCR) or similar documents. The recommended statements for this section of the agreements are shown in Appendix B. Before these statements are finalized, legal counsel should be consulted.

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I. Plant Information

Landscaping design has not been completed for the areas within the Native Lane Parcel Map development. Landscaping Guidelines are shown in the El Dorado County Community Design Standards, in the section Landscaping and Irrigation Standards, see https://www.edcgov.us/government/longrangeplanning/landuse/community%20design%20standards/documents/Landscaping-and-Irrigation-Standards-adopted-12-15-2015.pdf. Once landscaping is designed, plans should be reviewed for compliance with the standards. The plan should include a map identifying all proposed plants in the fuel modification buffer zones with a legend that includes a symbol for each proposed plant species. The plan shall include specific information on each species proposed, including but not limited to: 1. The plant life-form 2. Scientific and common name; and 3. Expected height and width of mature growth The map shall identify irrigated and non-irrigated zones.

J. Cost Responsibility

The cost of fire safe plan preparation, modification, and review shall be the responsibility of the project applicant. Once the project is complete, the cost of modification and review shall be the shared responsibility of the property owners.

K. Alternative Materials

The use of alternative materials, designs and methods of construction and equipment proposed within a FSP shall be approved by the AHJ in accordance with CFC §104.9.

L. Appeal

Applications for appeal of provisions found in this plan shall be heard by the AHJ Board of Appeals in accordance with CFC §109.

M. Retention

This plan, once approved, shall be retained by both the AHJ and CAL FIRE for future use. The plan shall also be provided to the project applicant and successor parties for use in implementing the plan provisions.

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Appendix A: Defensible Space Requirements

This section is taken from Cal Fire recommendations at https://www.fire.ca.gov/dspace.

Defensible space is the buffer between your structure and the surrounding area.

Adequate defensible space acts as a barrier to slow or halt the progress of fire that would otherwise engulf your property. It also helps ensure the safety of firefighters defending your home. Defensible space is the first line of defense for your home against wildfire.

The intensity of wildfire fuel management varies within the 100-foot perimeter of the home, with more intense fuels' reduction occurring closer to your home. Start at the home and work your way out to 100 feet or to your property line, whichever is closer. Learn more about the Defensible Space Zones below.

Zone 0: Start Closest to Your Home to be Ember-resistant.

The first five feet from your home is the most important. Keeping the area closest to buildings, structures, and decks clear will prevent embers from igniting materials that can spread the fire to your home.

Why? The majority of homes lost to wildfire are ignited by flying embers. Embers can travel miles ahead of the active front of wildfires.

What to do:

- Use hardscape like gravel, pavers, or concrete. No combustible bark or mulch.
- Remove all dead and dying plants, weeds, and debris (leaves, needles, etc.) from your roof, gutter, deck, porch, stairways, and under any areas of your home.
- Remove all branches within 10 feet of any chimney or stovepipe outlet.
- Limit combustible items (like outdoor furniture and planters) on top of decks.
- Relocate firewood and lumber to Zone 2.
- Replace combustible fencing, gates, and arbors attached to the home with noncombustible alternatives.
- Consider relocating garbage and recycling containers outside this zone.
- Consider relocating boats, RVs, vehicles, and other combustible items outside this zone.

Zone 1: Keep it Lean, Clean, and Green Within 30 feet

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Regularly clear dead or dry vegetation and create space between trees. During times of drought when watering is limited, pay special attention to clearing dead or dying material.

Why? Removing dead plants and creating space between trees and shrubs creates a buffer for your property and reduces potential fuel for fire.

What to do:

- Remove all dead plants, grass, and weeds.
- Remove dead or dry leaves and pine needles.
- Trim trees regularly to keep branches a minimum of 10 feet from other trees.
- Create a separation between trees, shrubs, and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.

Zone 2: Reduce Potential Fuel Within 100 feet

Continue reducing potential fuel within 100 feet or the property line.

Why? 100 feet of defensible space is required by law. Public Resources Code (PRC) 4291.

What to do:

- Cut or mow annual grass down to a maximum height of four inches.
- Create horizontal space between shrubs and trees. (See diagram)
- Create vertical space between grass, shrubs and trees. (See diagram)
- Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of three inches.
- Keep 10 feet of clearance around exposed wood piles, down to bare mineral soil, in all directions.
- Clear areas around outbuildings and propane tanks. Keep 10 feet of clearance to bare mineral soil and no flammable vegetation for an additional 10 feet around their exterior.

Vertical Spacing

Maintain space between the lowest tree branches and the ground or shrubs.

- Remove all tree branches at least six feet from the ground.
- Allow extra vertical space between shrubs and trees. Lack of vertical space can allow a fire to move from the ground to the brush to the treetops like a ladder. This leads to more intense fire closer to your home.

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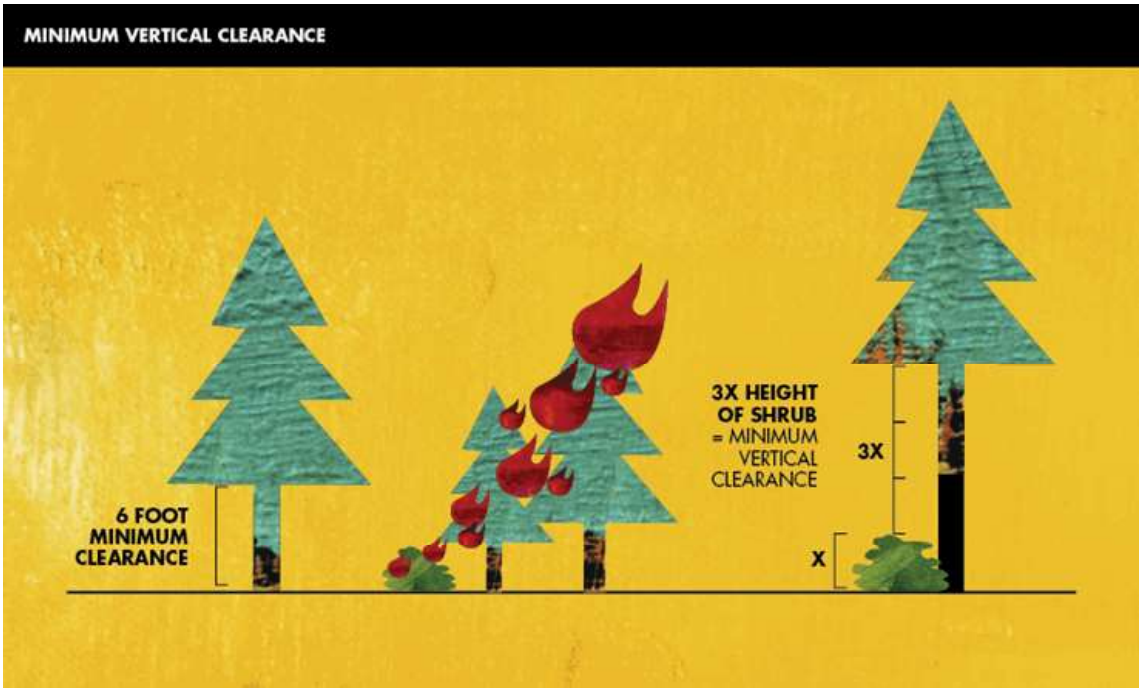
- Keep at least three times the height of any shrubs between the shrubs and the lowest branches of trees. Example: A 5-foot shrub is growing near a tree. 15 feet of clearance is needed between the top of the shrub and the lowest tree branch.



Horizontal Spacing

How much space should you leave between trees or shrubs?

Horizontal space depends on the slope of the land and the height of the shrubs or trees. Leave more space between vegetation on bigger slopes. Refer to the chart below to determine spacing distance.

Space between shrubs:

- Flat or mild slope (less than 20%): Two times the height of the shrub.
- Mild to moderate slope (20-40%): Four times the height of the shrub
- Moderate to steep slope (greater than 40%): Six times the height of the shrub

Space between trees:

- Flat or mild slope (less than 20%): 10 feet.
- Mild to moderate slope (20-40%): 20 feet.
- Moderate to steep slope (greater than 40%): 30 feet.

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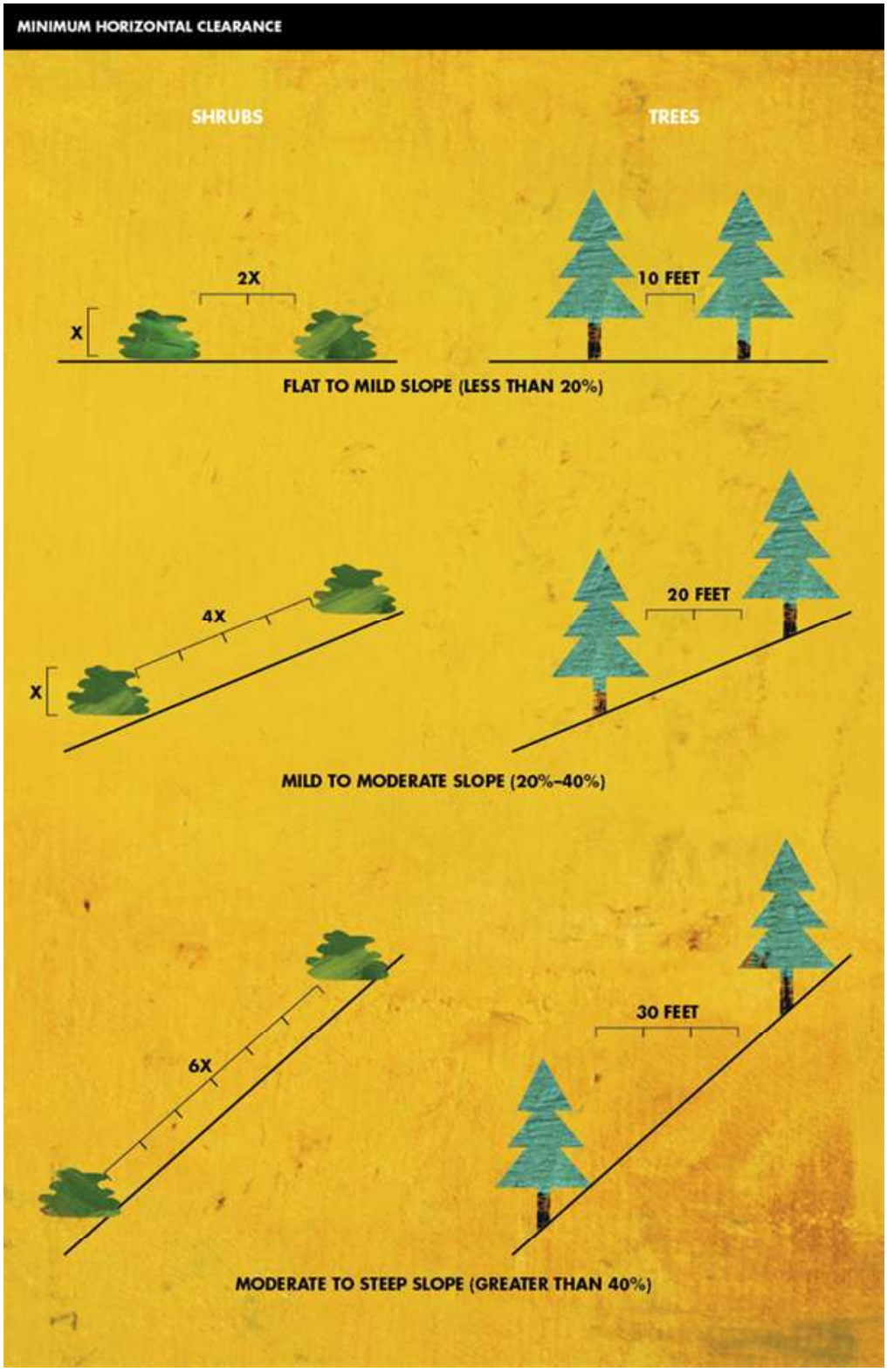

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Appendix B: Legal agreement text

This plan shall be referenced in the Covenants, Conditions and Restriction (CCR) or similar documents. The recommended statements for this section are shown below.

Wildland Fire Safety Plan Responsibilities

1.1. The Property Owner has received a copy of the Wildland Fire Safety Plan (WFSP) and understands its provisions.

Maintenance and Improvements
2.1. The Property Owner shall be responsible for maintaining their property in accordance with the Wildland Fire Safety Plan and shall promptly notify the El Dorado County Fire Department of any issues or concerns related to wildfire risk mitigation.

Insurance
3.1. The Property Owner agrees to maintain adequate insurance coverage for their property to cover potential wildfire damage, as well as liability insurance.

Review and Updates
4.1. The WFSP shall be periodically reviewed, and updates may be made by the Property Owners with approval from the EDCFD.

4.2. The Property Owner agrees to participate in any required reviews and updates, including any changes to wildfire risk mitigation measures.

Please note that the actual content of such a section may vary depending on the specific needs and circumstances and inputs from legal counsel.

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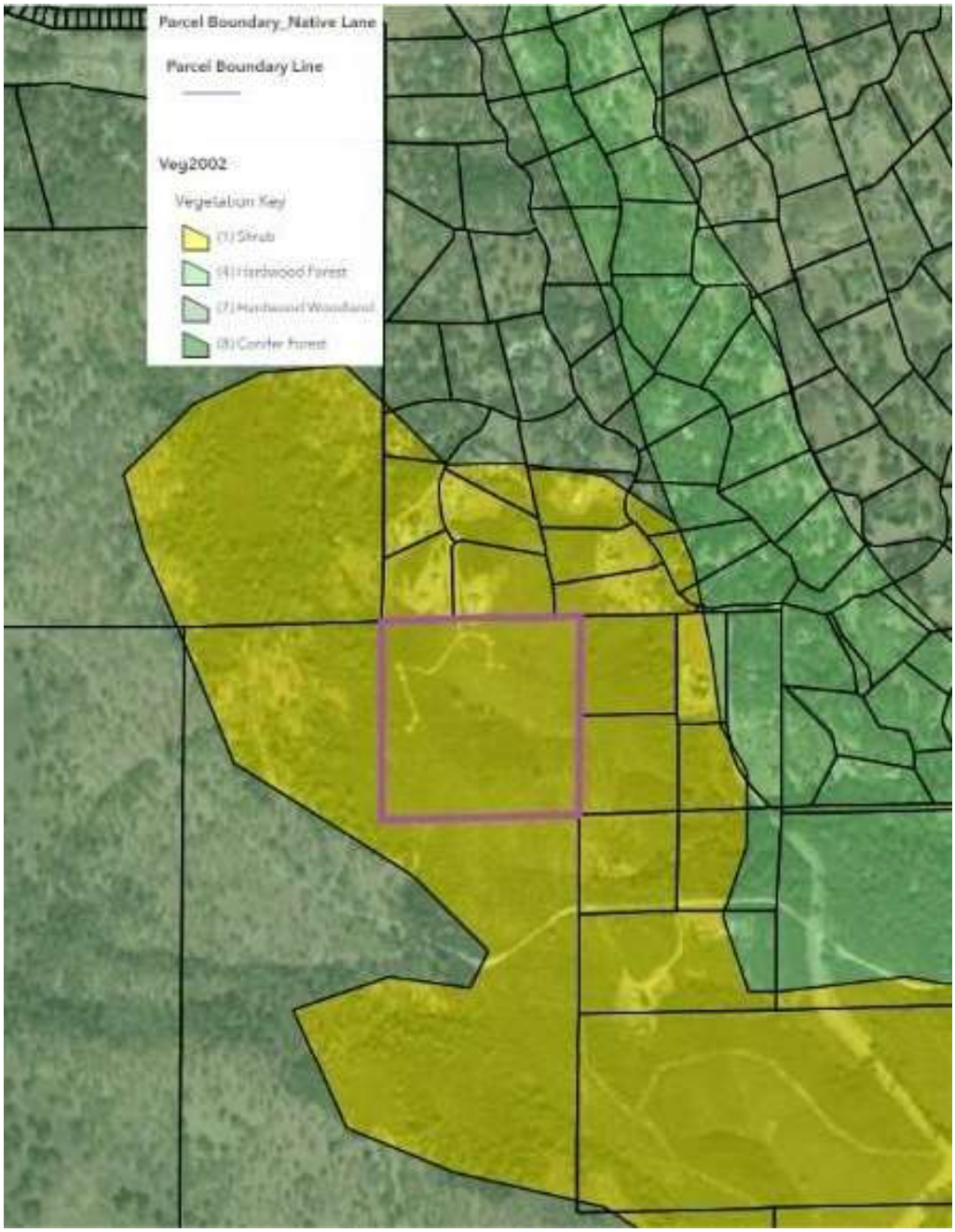
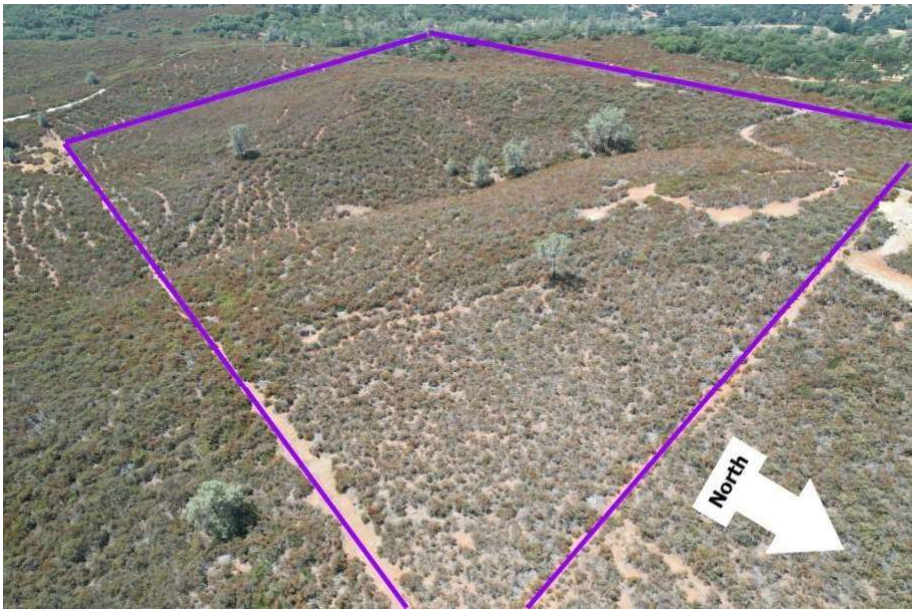
Appendix C. Maps and Images

Vegetation map of Native Lane and surrounding areas.



WILDFIRE SERVICES

Aerial images of Native Lane parcel from various angles.



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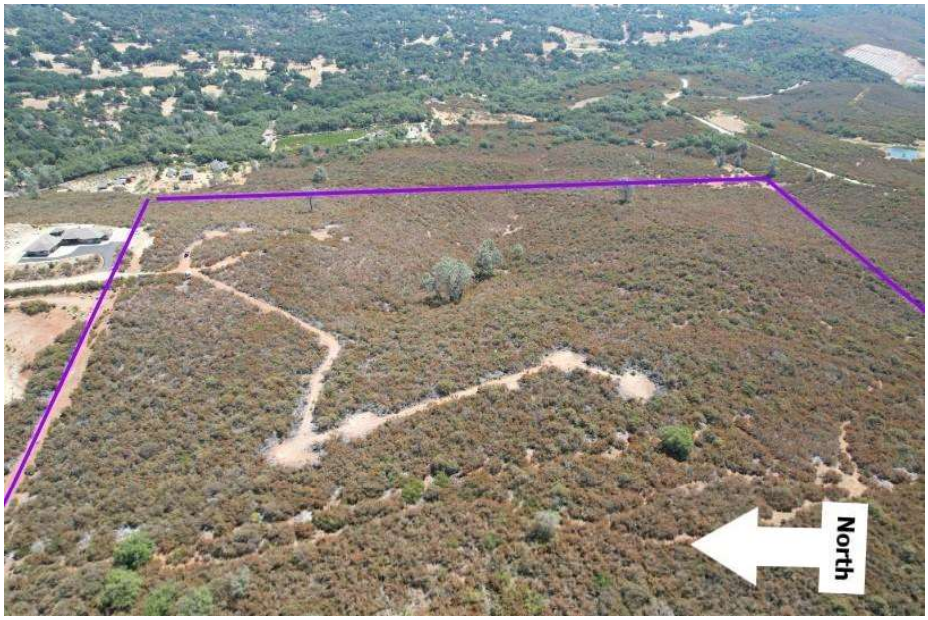

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Sources Used:

- California Fire Code Section 4903.1
- 2021 Title 14 of the California Code of Regulations, Div. 1.5, Chap. 7, Subchapter 2 (Fire Safe Regulations)
- County of El Dorado General Plan 6.2.2.2 (Limitations to Development)
- El Dorado County Fire Department Fire Protection Standard Wildland Urban Interface Fire Protection Plans STANDARD #W-001 EFFECTIVE 5-25-2022.
- El Dorado County Community Design Standards - https://www.edcgov.us/government/longrangeplanning/landuse/community%20design%20standards/documents/Landscaping-and-Irrigation-Standards-adopted-12-15-2015.pdf
- Cal Fire Defensible Space https://www.fire.ca.gov/dspace.
- El Dorado County Rural Water Supply Standard https://www.eldoradocountyfire.com/files/10278b889/Rural+Water+Supply+Standard+D-003+03-2022.pdf
- 2023 Strategic Fire Plan Amador El Dorado Unit https://cdnverify.osfm.fire.ca.gov/media/bsnpzxjd/2023-amador-el-dorado-unit-fire-plan.pdf
- State Minimum Fire Safe Regulations. https://bof.fire.ca.gov/regulations/. Attached for reference in Appendix D.
- Office of State Fire Marshal WUI Approved Products Listing: https://calfire.govmotus.org/BMLSearch/Index.

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Appendix D. Fire Safe Regulations

The following pages are the State Minimum Fire Safe Regulations, April 1, 2023.

State Minimum Fire Safe Regulations

Board of Forestry and Fire Protection

FOR INFORMATIONAL USE ONLY
View the official California Code of Regulations online at govt.westlaw.com/calregs

As of April 1, 2023

California Code of Regulations
Title 14 Natural Resources
Division 1.5 Department of Forestry
Chapter 7 - Fire Protection
Subchapter 2 State Minimum Fire Safe Regulations
Articles 1-5

Contents

Article 1 Administration

§ 1270.00. Title

Subchapter 2 shall be known as the “State Minimum Fire Safe Regulations,” and shall constitute the minimum Wildfire protection standards of the California Board of Forestry and Fire Protection.

§ 1270.01. Definitions

The following definitions are applicable to Subchapter 2.
(a) Agriculture: Land used for agricultural purposes as defined in a Local Jurisdiction's zoning ordinances.
(b) Board: California Board of Forestry and Fire Protection.
(c) Building: Any Structure used or intended for supporting or sheltering any use or Occupancy, except those classified as Utility and Miscellaneous Group U.
(d) CAL FIRE: California Department of Forestry and Fire Protection.
(e) Dead-end Road: A Road that has only one point of vehicular ingress/egress, including cul-de-sacs and Roads that loop back on themselves
(f) Defensible Space: The area within the perimeter of a parcel, Development, neighborhood or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching Wildfire or defense against encroaching Wildfires or escaping Structure fires. The perimeter as used in this regulation is the area encompassing the parcel or parcels proposed for construction and/or Development, excluding the physical Structure itself. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, Road names and Building identification, and fuel modification measures.
(g) Development: As defined in section 66418.1 of the California Government Code.
(h) Director: Director of the Department of Forestry and Fire Protection or their designee.
(i) Driveway: A vehicular pathway that serves no more than four (4) Residential Units and any number of non-commercial or non-industrial Utility or Miscellaneous Group U Buildings on each parcel. A Driveway shall not serve commercial or industrial uses at any size or scale.
(j) Exception: An alternative to the specified standard requested by the applicant that may be necessary due to health, safety, environmental conditions, physical site limitations or other limiting conditions, such as recorded historical sites, that provides mitigation of the problem.
(k) Fire Apparatus: A vehicle designed to be used under emergency conditions to transport personnel and equipment or to support emergency response, including but not limited to the suppression of fires.
(l) Fire Authority: A fire department, agency, division, district, or other governmental body responsible for regulating and/or enforcing minimum fire safety standards in the Local Jurisdiction.
(m) Fire Hydrant: A valved connection on a water supply or storage system for the purpose of providing water for fire protection and suppression operations.
(n) Fuel Break: A strategically located area where the volume and arrangement of vegetation has been managed to limit fire intensity, fire severity, rate of spread, crown fire potential, and/or ember production.
(o) Greenbelts: open space, parks, wildlands, other areas, or a combination thereof, as designated by Local Jurisdictions, which are in, surround, or are adjacent to a city or urbanized area, that may function as Fuel Breaks and where Building construction is restricted or prohibited.
(p) Greenways: Linear open spaces or corridors that link parks and neighborhoods within a community through natural or manmade trails and paths.

(q) Hammerhead/T: A “T” shaped, three-point Turnaround space for Fire Apparatus on a Road or Driveway, being no narrower than the Road or Driveway that serves it.
(r) Hazardous Land Use: A land use that presents a significantly elevated potential for the ignition, prolonged duration, or increased intensity of a Wildfire due to the presence of flammable materials, liquids, or gasses, or other features that initiate or sustain combustion. Such uses are determined by the Local Jurisdiction and may include, but are not limited to, power-generation and distribution facilities; wood processing or storage sites; flammable gas or liquids processing or storage sites; or shooting ranges.
(s) Local Jurisdiction: Any county, city/county agency or department, or any locally authorized district that approves or has the authority to regulate Development.
(t) Municipal-Type Water System: A system having water pipes servicing Fire Hydrants and designed to furnish, over and above domestic consumption, a minimum of 250 gpm (950 L/min) at 20 psi (138 kPa) residual pressure for a two (2) hour duration.
(u) Occupancy: The purpose for which a Building, or part thereof, is used or intended to be used.
(v) One-way Road: A Road that provides a minimum of one Traffic Lane width designed for traffic flow in one direction only.
(w) Residential Unit: Any Building or portion thereof which contains living facilities including provisions for sleeping, eating, cooking and/or sanitation, for one or more persons. Manufactured homes, mobile homes, and factory-built housing are considered Residential Units.
(x) Ridgeline: The line of intersection of two opposing slope aspects running parallel to the long axis of the highest elevation of land; or an area of higher ground separating two adjacent streams or watersheds.
(y) Road: A public or private vehicular pathway to more than four (4) Residential Units, or to any industrial or commercial Occupancy.
(z) Road or Driveway Structures: Bridges, culverts, and other appurtenant Structures which supplement the Traffic Lane or Shoulders.
(aa) Same Practical Effect: As used in this subchapter, means an Exception or alternative with the capability of applying accepted wildland fire suppression strategies and tactics, and provisions for fire fighter safety, including:

(1) access for emergency wildland fire equipment,
(2) safe civilian evacuation,
(3) signing that avoids delays in emergency equipment response,
(4) available and accessible water to effectively attack Wildfire or defend a Structure from Wildfire, and
(5) fuel modification sufficient for civilian and fire fighter safety.

(bb) Shoulder: A vehicular pathway adjacent to the Traffic Lane.
(cc) State Responsibility Area (SRA): As defined in Public Resources Code sections 4126-4127; and the California Code of Regulations, title 14, division 1.5, chapter 7, article 1, sections 1220-1220.5.
(dd) Strategic Ridgeline: a Ridgeline identified pursuant to § 1276.02(a) that may support fire suppression activities or where the preservation of the Ridgeline as an Undeveloped Ridgeline would reduce fire risk and improve fire protection.
(ee) Structure: That which is built or constructed or any piece of work artificially built up or composed of parts joined together in some definite manner.
(ff) Traffic Lane: The portion of a Road or Driveway that provides a single line of vehicle travel.
(gg) Turnaround: An area which allows for a safe opposite change of direction for Fire Apparatus at the end of a Road or Driveway.
(hh) Turnout: A widening in a Road or Driveway to allow vehicles to pass.

(ii) Undeveloped Ridgeline: A Ridgeline with no Buildings.
(jj) Utility and Miscellaneous Group U: A Structure of an accessory character or a miscellaneous Structure not classified in any specific Occupancy permitted, constructed, equipped, and maintained to conform to the requirements of Title 24, California Building Standards Code.
(kk) Vertical Clearance: The minimum specified height of a bridge, overhead projection, or vegetation clearance above the Road or Driveway.
(*ll*) Vertical Curve: A curve at a high or low point of a Road that provides a gradual transition between two Road grades or slopes.
(mm) Very High Fire Hazard Severity Zone (VHFHSZ): As defined in Government Code section 51177(i).
(nn) Wildfire: Has the same meaning as “forest fire” in Public Resources Code Section 4103.

§ 1270.02. Purpose

(a) Subchapter 2 has been prepared and adopted for the purpose of establishing state minimum Wildfire protection standards in conjunction with Building, construction, and Development in the State Responsibility Area (SRA) and, after July 1, 2021, the Very High Fire Hazard Severity Zones, as defined in Government Code § 51177(i) (VHFHSZ).
(b) The future design and construction of Structures, subdivisions and Developments in the SRA and, after July 1, 2021, the VHFHSZ shall provide for basic emergency access and perimeter Wildfire protection measures as specified in the following articles.
(c) These standards shall provide for emergency access; signing and Building numbering; private water supply reserves for emergency fire use; vegetation modification, Fuel Breaks, Greenbelts, and measures to preserve Undeveloped Ridgelines. Subchapter 2 specifies the minimums for such measures.

§ 1270.03. Scope

(a) Subchapter 2 shall apply to:

(1) the perimeters and access to all residential, commercial, and industrial Building construction within the SRA approved after January 1, 1991, and those approved after July 1, 2021 within the VHFHSZ, except as set forth below in subsection (b).
(2) the siting of newly installed commercial modulars, manufactured homes, mobilehomes, and factory-built housing, as defined in Health and Safety Code sections 18001.8, 18007, 18008, and 19971;
(3) all tentative and parcel maps or other Developments approved after January 1, 1991; and
(4) applications for Building permits on a parcel approved in a pre-1991 parcel or tentative map to the extent that conditions relating to the perimeters and access to the Buildings were not imposed as part of the approval of the parcel or tentative map.

(b) Subchapter 2 does not apply where an application for a Building permit is filed after January 1, 1991 for Building construction on a parcel that was formed from a parcel map or tentative map (if the final map for the tentative map is approved within the time prescribed by the local ordinance) approved prior to January 1, 1991, to the extent that conditions relating to the perimeters and access to the Buildings were imposed by the parcel map or final tentative map approved prior to January 1, 1991.
(c) Affected activities include, but are not limited to:

(1) permitting or approval of new parcels, excluding lot line adjustments as specified in Government Code (GC) section 66412(d);
(2) application for a Building permit for new construction not relating to an existing Structure;

(3) application for a use permit;

(4) Road construction including construction of a Road that does not currently exist, or extension of an existing Road.

(d) The standards in Subchapter 2 applicable to Roads shall not apply to Roads used solely for Agriculture; mining; or the management of timberland or harvesting of forest products.

§ 1270.04. Provisions for Application of these Regulations

This Subchapter shall be applied as follows:

(a) the Local Jurisdictions shall provide the Director of the California Department of Forestry and Fire Protection (CAL FIRE) or their designee with notice of applications for Building permits, tentative parcel maps, tentative maps, and installation or use permits for construction or Development within the SRA, or if after July, 1 2021, the VHFHSZ.

(b) the Director or their designee may review and make fire protection recommendations on applicable construction or development permits or maps provided by the Local Jurisdiction.

(c) the Local Jurisdiction shall ensure that the applicable sections of this Subchapter become a condition of approval of any applicable construction or Development permit or map.

§ 1270.05. Local Regulations

(a) Subchapter 2 shall serve as the minimum Wildfire protection standards applied in SRA and VHFHSZ. However, Subchapter 2 does not supersede local regulations which equal or exceed the standards of this Subchapter.

(b) A local regulation equals or exceeds a minimum standard of this Subchapter only if, at a minimum, the local regulation also fully complies with the corresponding minimum standard in this Subchapter.

(c) A Local Jurisdiction shall not apply exemptions to Subchapter 2 that are not enumerated in Subchapter 2. Exceptions requested and approved in conformance with § 1270.07 (Exceptions to Standards) may be granted on a case-by-case basis.

(d) Notwithstanding a local regulation that equals or exceeds the State Minimum Fire Safe Regulations, Building construction shall comply with the State Minimum Fire Safe Regulations.

§ 1270.06. Inspections

Inspections shall conform to the following requirements:

(a) Inspections in the SRA shall be made by:

(1) the Director, or

(2) Local Jurisdictions that have assumed state fire protection responsibility on SRA lands, or

(3) Local Jurisdictions where the inspection duties have been formally delegated by the Director to the Local Jurisdictions, pursuant to subsection (b).

(b) The Director may delegate inspection authority to a Local Jurisdiction subject to all of the following criteria:

(1) The Local Jurisdiction represents that they have appropriate resources to perform the delegated inspection authority.

(2) The Local Jurisdiction acknowledges that CAL FIRE's authority under subsection (d) shall not be waived or restricted.

(3) The Local Jurisdiction consents to the delegation of inspection authority.

(4) The Director may revoke the delegation at any time.

(5) The delegation of inspection authority, and any subsequent revocation of the delegation, shall be documented in writing, and retained on file at the CAL FIRE Unit headquarters that administers SRA fire protection in the area.

(c) Inspections in the VHFHSZ shall be made by the Local Jurisdiction.

(d) Nothing in this section abrogates CAL FIRE's authority to inspect and enforce state forest and fire laws in the SRA even when the inspection duties have been delegated pursuant to this section.
(e) Reports of violations within the SRA shall be provided to the CAL FIRE Unit headquarters that administers SRA fire protection in the Local Jurisdiction.
(f) When inspections are conducted, they shall occur prior to: the issuance of the use permit or certificate of Occupancy; the recordation of the parcel map or final map; the filing of a notice of completion; or the final inspection of any project or Building permit.

§ 1270.07. Exceptions to Standards

(a) Upon request by the applicant, an Exception to standards within this Subchapter may be allowed by the Inspection entity in accordance with 14 CCR § 1270.06 (Inspections) where the Exceptions provide the Same Practical Effect as these regulations towards providing Defensible Space. Exceptions granted by the Local Jurisdiction listed in 14 CCR § 1270.06, shall be made on a case-by-case basis only. Exceptions granted by the Local Jurisdiction listed in 14 CCR § 1270.06 shall be forwarded to the appropriate CAL FIRE unit headquarters that administers SRA fire protection in that Local Jurisdiction, or the county in which the Local Jurisdiction is located and shall be retained on file at the Unit Office.
(b) Requests for an Exception shall be made in writing to the Local Jurisdiction listed in 14 CCR § 1270.06 by the applicant or the applicant's authorized representative.
At a minimum, the request shall state the specific section(s) for which an Exception is requested; material facts supporting the contention of the applicant; the details of the Exception proposed; and a map showing the proposed location and siting of the Exception. Local Jurisdictions listed in § 1270.06 (Inspections) may establish additional procedures or requirements for Exception requests.
(c) Where an Exception is not granted by the inspection entity, the applicant may appeal such denial to the Local Jurisdiction. The Local Jurisdiction may establish or utilize an appeal process consistent with existing local building or planning department appeal processes.
(d) Before the Local Jurisdiction makes a determination on an appeal, the inspector shall be consulted and shall provide to that Local Jurisdiction documentation outlining the effects of the requested Exception on Wildfire protection.
(e) If an appeal is granted, the Local Jurisdiction shall make findings that the decision meets the intent of providing Defensible Space consistent with these regulations. Such findings shall include a statement of reasons for the decision. A written copy of these findings shall be provided to the CAL FIRE Unit headquarters that administers SRA fire protection in that Local Jurisdiction.

§ 1270.08. Distance Measurements

All specified or referenced distances are measured along the ground, unless otherwise stated.

Article 2 Ingress and Egress

§ 1273.00. Intent

Roads, and Driveways, whether public or private, unless exempted under 14 CCR § 1270.03(d), shall provide for safe access for emergency Wildfire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a Wildfire emergency consistent with 14 CCR §§ 1273.00 through 1273.09.

§ 1273.01. Width.

(a) All roads shall be constructed to provide a minimum of two ten (10) foot traffic lanes, not including shoulder and striping. These traffic lanes shall provide for two-way traffic flow to support emergency vehicle and civilian egress, unless other standards are provided in this article or additional requirements are mandated by Local Jurisdictions or local subdivision requirements. Vertical clearances shall conform to the requirements in California Vehicle Code section 35250.

(b) All One-way Roads shall be constructed to provide a minimum of one twelve (12) foot traffic lane, not including Shoulders. The Local Jurisdiction may approve One-way Roads.

(1) All one-way roads shall, at both ends, connect to a road with two traffic lanes providing for travel in different directions, and shall provide access to an area currently zoned for no more than ten (10) Residential Units.

(2) In no case shall a One-way Road exceed 2,640 feet in length. A turnout shall be placed and constructed at approximately the midpoint of each One-way Road.

(c) All driveways shall be constructed to provide a minimum of one (1) ten (10) foot traffic lane, fourteen (14) feet unobstructed horizontal clearance, and unobstructed vertical clearance of thirteen feet, six inches (13′ 6″).

§ 1273.02. Road Surface

(a) Roads shall be designed and maintained to support the imposed load of Fire Apparatus weighing at least 75,000 pounds, and provide an aggregate base.

(b) Road and Driveway Structures shall be designed and maintained to support at least 40,000 pounds.

(c) Project proponent shall provide engineering specifications to support design, if requested by the Local Jurisdiction.

§ 1273.03. Grades

(a) At no point shall the grade for all Roads and Driveways exceed 16 percent.

(b) The grade may exceed 16%, not to exceed 20%, with approval from the Local Jurisdiction and with mitigations to provide for Same Practical Effect.

§ 1273.04. Radius

(a) No Road or Road Structure shall have a horizontal inside radius of curvature of less than fifty (50) feet. An additional surface width of four (4) feet shall be added to curves of 50-100 feet radius; two (2) feet to those from 100-200 feet.

(b) The length of vertical curves in Roadways, exclusive of gutters, ditches, and drainage structures designed to hold or divert water, shall be not less than one hundred (100) feet.

§ 1273.05. Turnarounds

(a) Turnarounds are required on Driveways and Dead-end Roads.

(b) The minimum turning radius for a turnaround shall be forty (40) feet, not including parking, in accordance with the figures in 14 CCR §§ 1273.05(e) and 1273.05(f). If a hammerhead/T is used instead, the top of the “T” shall be a minimum of sixty (60) feet in length.
(c) Driveways exceeding 150 feet in length, but less than 800 feet in length, shall provide a turnout near the midpoint of the Driveway. Where the driveway exceeds 800 feet, turnouts shall be provided no more than 400 feet apart.
(d) A turnaround shall be provided on Driveways over 300 feet in length and shall be within fifty (50) feet of the building.
(d) Each Dead-end Road shall have a turnaround constructed at its terminus. Where parcels are zoned five (5) acres or larger, turnarounds shall be provided at a maximum of 1,320 foot intervals.
(e) Figure A. Turnarounds on roads with two ten-foot traffic lanes.
Figure A/Image 1 on the left is a visual representation of paragraph (b).
(f) Figure B. Turnarounds on driveways with one ten-foot traffic lane.
Figure B/Image 2 on the right is a visual representation of paragraph (b).

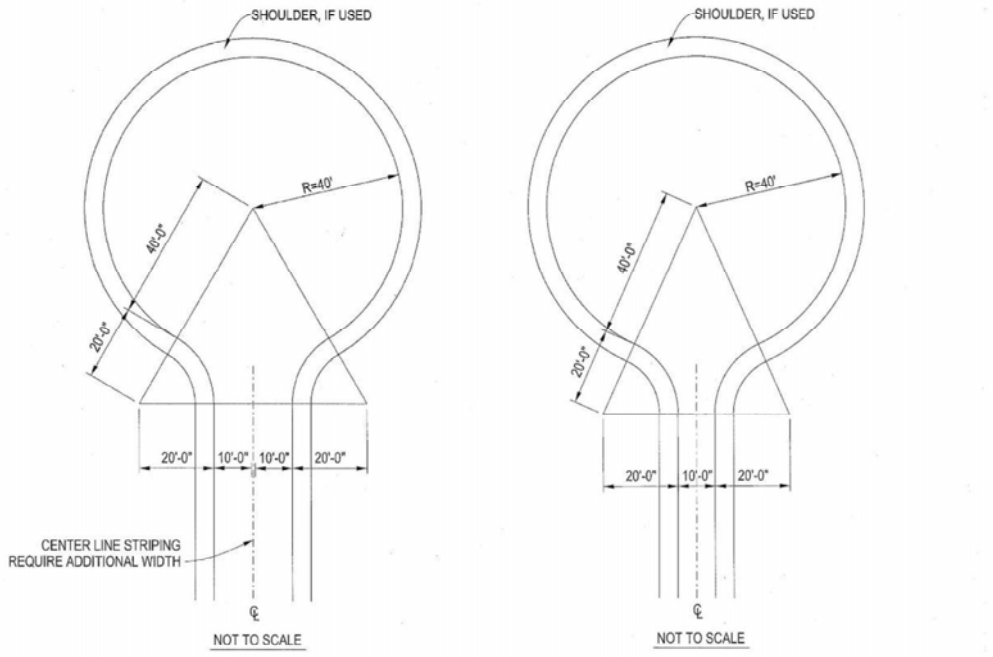

FIGURE FOR 14 CCR § 1273.05. TURNAROUND EXAMPLES

§ 1273.06. Turnouts

Turnouts shall be a minimum of twelve (12) feet wide and thirty (30) feet long with a minimum twenty-five (25) foot taper on each end.

§ 1273.07. Road and Driveway Structures

(a) Appropriate signing, including but not limited to weight or vertical clearance limitations, One-way Road or single traffic lane conditions, shall reflect the capability of each bridge.
(b) Where a bridge or an elevated surface is part of a Fire Apparatus access road, the bridge shall be constructed and maintained in accordance with the American Association of State and

Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition, published 2002 (known as AASHTO HB-17), hereby incorporated by reference. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the local authority having jurisdiction.
(c) Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, barriers, or signs, or both, as approved by the local authority having jurisdiction, shall be installed and maintained.
(d) A bridge with only one traffic lane may be authorized by the Local Jurisdiction; however, it shall provide for unobstructed visibility from one end to the other and turnouts at both ends.

§ 1273.08. Dead-end Roads

(a) The maximum length of a Dead-end Road, including all Dead-end Roads accessed from that Dead-end Road, shall not exceed the following cumulative lengths, regardless of the number of parcels served:

parcels zoned for less than one acre - 800 feet
parcels zoned for 1 acre to 4.99 acres - 1,320 feet
parcels zoned for 5 acres to 19.99 acres - 2,640 feet
parcels zoned for 20 acres or larger - 5,280 feet

All lengths shall be measured from the edge of the Road surface at the intersection that begins the Road to the end of the Road surface at its farthest point. Where a dead-end road crosses areas of differing zoned parcel sizes requiring different length limits, the shortest allowable length shall apply.
(b) See 14 CCR § 1273.05 for dead-end road turnaround requirements.

§ 1273.09. Gate Entrances

(a) Gate entrances shall be at least two (2) feet wider than the width of the traffic lane(s) serving that gate and a minimum width of fourteen (14) feet unobstructed horizontal clearance and unobstructed vertical clearance of thirteen feet, six inches (13′ 6″).
(b) All gates providing access from a Road to a Driveway shall be located at least thirty (30) feet from the roadway and shall open to allow a vehicle to stop without obstructing traffic on that Road.
(c) Where a One-way Road with a single traffic lane provides access to a gated entrance, a forty (40) foot turning radius shall be used.
(d) Security gates shall not be installed without approval. Where security gates are installed, they shall have an approved means of emergency operation. Approval shall be by the local authority having jurisdiction. The security gates and the emergency operation shall be maintained operational at all times.

Article 3 Signing and Building Numbering

§ 1274.00. Intent

To facilitate locating a fire and to avoid delays in response, all newly constructed or approved Roads and Buildings shall be designated by names or numbers posted on signs clearly visible and legible from the Road. This section shall not restrict the size of letters or numbers appearing on road signs for other purposes.

§ 1274.01. Road Signs.

(a) Newly constructed or approved Roads must be identified by a name or number through a consistent system that provides for sequenced or patterned numbering and/or non-duplicative naming within each Local Jurisdiction. This section does not require any entity to rename or renumber existing roads, nor shall a Road providing access only to a single commercial or industrial Occupancy require naming or numbering.
(b) The size of letters, numbers, and symbols for Road signs shall be a minimum four (4) inch letter height, half inch (.5) inch stroke, reflectorized, contrasting with the background color of the sign.

§ 1274.02. Road Sign Installation, Location, and Visibility.

(a) Road signs shall be visible and legible from both directions of vehicle travel for a distance of at least one hundred (100) feet.
(b) Signs required by this article identifying intersecting Roads shall be placed at the intersection of those Roads.
(c) A sign identifying traffic access or flow limitations, including but not limited to weight or vertical clearance limitations, dead-end roads, one-way roads, or single lane conditions, shall be placed:

(1) at the intersection preceding the traffic access limitation, and
(2) no more than one hundred (100) feet before such traffic access limitation.

(d) Road signs required by this article shall be posted at the beginning of construction and shall be maintained thereafter.

§ 1274.03. Addresses for Buildings.

(a) All Buildings shall be issued an address by the Local Jurisdiction which conforms to that jurisdiction's overall address system. Utility and miscellaneous Group U Buildings are not required to have a separate address; however, each Residential Unit within a Building shall be separately identified.
(b) The size of letters, numbers, and symbols for addresses shall conform to the standards in the California Fire Code, California Code of Regulations title 24, part 9.
(c) Addresses for residential Buildings shall be reflectorized.

§ 1274.04. Address Installation, Location, and Visibility.

(a) All buildings shall have a permanently posted address which shall be plainly legible and visible from the Road fronting the property.
(b) Where access is by means of a private Road and the address identification cannot be viewed from the public way, an unobstructed sign or other means shall be used so that the address is visible from the public way.
(c) Address signs along one-way Roads shall be visible from both directions.
(d) Where multiple addresses are required at a single driveway, they shall be mounted on a single sign or post.

(e) Where a Road provides access solely to a single commercial or industrial business, the address sign shall be placed at the nearest Road intersection providing access to that site, or otherwise posted to provide for unobstructed visibility from that intersection.
(f) In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter.

Article 4 Emergency Water Standards

§ 1275.00. Intent

Emergency water for Wildfire protection shall be available, accessible, and maintained in quantities and locations specified in the statute and these regulations in order to attack a Wildfire or defend property from a Wildfire.

§ 1275.01. Application

The provisions of this article shall apply in the tentative and parcel map process when new parcels are approved by the Local Jurisdiction.

§ 1275.02. Water Supply.

(a) When a water supply for structure defense is required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except when alternative methods of protection are provided and approved by the Local Jurisdiction.
(b) Water systems equaling or exceeding the California Fire Code, California Code of Regulations title 24, part 9, or, where a municipal-type water supply is unavailable, National Fire Protection Association (NFPA) 1142, “Standard on Water Supplies for Suburban and Rural Fire Fighting,” 2017 Edition, hereby incorporated by reference, shall be accepted as meeting the requirements of this article.
(c) Such emergency water may be provided in a fire agency mobile water tender, or naturally occurring or man made containment structure, as long as the specified quantity is immediately available.
(d) Nothing in this article prohibits the combined storage of emergency Wildfire and structural firefighting water supplies unless so prohibited by local ordinance or specified by the local fire agency.
(e) Where freeze or crash protection is required by Local Jurisdictions, such protection measures shall be provided.

§ 1275.03. Hydrants and Fire Valves.

(a) The hydrant or fire valve shall be eighteen (18) inches above the finished surface. Its location in relation to the road or driveway and to the building(s) or structure(s) it serves shall comply with California Fire Code, California Code of Regulations title 24, part 9, Chapter 5, and Appendix C.
(b) The hydrant head shall be a two and half (2 1/2) inch National Hose male thread with cap for pressure and gravity flow systems and four and a half (4 1/2) inch for draft systems.
(c) Hydrants shall be wet or dry barrel and have suitable freeze or crash protection as required by the local jurisdiction.
§ 1275.04. Signing of Water Sources.
(a) Each hydrant, fire valve, or access to water shall be identified as follows:
(1) if located along a driveway, a reflectorized blue marker, with a minimum dimension of three (3) inches shall be located on the driveway address sign and mounted on a fire retardant post, or
(2) if located along a road,

(i) a reflectorized blue marker, with a minimum dimension of three (3) inches, shall be mounted on a fire retardant post. The sign post shall be within three (3) feet of said hydrant or fire valve, with the sign no less than three (3) feet nor greater than five (5) feet above ground, in a horizontal position and visible from the driveway, or
(ii) as specified in the State Fire Marshal's Guidelines for Fire Hydrant Markings Along State Highways and Freeways, May 1988.

§ 1275.04. Signing of Water Sources.

(a) Each Fire Hydrant or access to water shall be identified as follows:
(1) if located along a Driveway, a reflectorized blue marker, with a minimum dimension of three (3) inches shall be located on the Driveway address sign and mounted on a fire retardant post, or
(2) if located along a Road,
(i) a reflectorized blue marker, with a minimum dimension of three (3) inches, shall be mounted on a fire retardant post. The sign post shall be within three (3) feet of said Fire Hydrant with the sign no less than three (3) feet nor greater than five (5) feet above ground, in a horizontal position and visible from the Driveway, or
(ii) as specified in the State Fire Marshal's Guidelines for Fire Hydrant Markings Along State Highways and Freeways, May 1988.

Article 5 Building Siting, Setbacks, and Fuel Modification

§ 1276.00 Intent

To reduce the intensity of a Wildfire, reducing the volume and density of flammable vegetation around Development through strategic fuel modification, parcel siting and Building setbacks, and the protection of Undeveloped Ridgelines shall provide for increased safety for emergency fire equipment, including evacuating civilians, and a point of attack or defense from a Wildfire.

§ 1276.01. Building and Parcel Siting and Setbacks

(a) All parcels shall provide a minimum thirty (30) foot setback for all Buildings from all property lines and/or the center of a Road, except as provided for in subsection (b).
(b) A reduction in the minimum setback shall be based upon practical reasons, which may include but are not limited to, parcel dimensions or size, topographic limitations, Development density requirements or other Development patterns that promote low-carbon emission outcomes; sensitive habitat; or other site constraints , and shall provide for an alternative method to reduce Structure-to-Structure ignition by incorporating features such as, but not limited to:
(1) non-combustible block walls or fences; or
(2) non-combustible material extending five (5) feet horizontally from the furthest extent of the Building; or
(3) hardscape landscaping; or
(4) a reduction of exposed windows on the side of the Structure with a less than thirty (30) foot setback; or
(5) the most protective requirements in the California Building Code, California Code of Regulations Title 24, Part 2, Chapter 7A, as required by the Local Jurisdiction.

§ 1276.02. Ridgelines

(a) The Local Jurisdiction shall identify Strategic Ridgelines, if any, to reduce fire risk and improve fire protection through an assessment of the following factors:

(1) Topography;

(2) Vegetation;

(3) Proximity to any existing or proposed residential, commercial, or industrial land uses;

(4) Construction where mass grading may significantly alter the topography resulting in the elimination of Ridgeline fire risks;

(5) Ability to support effective fire suppression; and

(6) Other factors, if any, deemed relevant by the Local Jurisdiction.

(b) Preservation of Undeveloped Ridgelines identified as strategically important shall be required pursuant to this section.

(c) New Buildings on Undeveloped Ridgelines identified as strategically important are prohibited, as described in subsections (c)(1), (c)(2), and (c)(3).

(1) New Residential Units are prohibited within or at the top of drainages or other topographic features common to Ridgelines that act as chimneys to funnel convective heat from Wildfires.

(2) Nothing in this subsection shall be construed to alter the extent to which utility infrastructure, including but not limited to wireless telecommunications facilities, as defined in Government Code section 65850.6, subdivision (d)(2), or Storage Group S or Utility and Miscellaneous Group U Structures, may be constructed on Undeveloped Ridgelines.

(3) Local Jurisdictions may approve Buildings on Strategic Ridgelines where Development activities such as mass grading will significantly alter the topography that results in the elimination of Ridgeline fire risks.

(d) The Local Jurisdiction may implement further specific requirements to preserve Undeveloped Ridgelines.

§ 1276.03. Fuel Breaks

(a) When Building construction meets the following criteria, the Local Jurisdiction shall determine the need and location for Fuel Breaks in consultation with the Fire Authority:

(1) the permitting or approval of three (3) or more new parcels, excluding lot line adjustments as specified in Government Code (GC) section 66412(d); or

(2) an application for a change of zoning increasing zoning intensity or density; or

(3) an application for a change in use permit increasing use intensity or density.

(b) Fuel Breaks required by the Local Jurisdiction, in consultation with the Fire Authority, shall be located, designed, and maintained in a condition that reduces the potential of damaging radiant and convective heat or ember exposure to Access routes, Buildings, or infrastructure within the Development.

(c) Fuel Breaks shall have, at a minimum, one point of entry for fire fighters and any Fire Apparatus. The specific number of entry points and entry requirements shall be determined by the Local Jurisdiction, in consultation with the Fire Authority.

(d) Fuel Breaks may be required at locations such as, but not limited to:

(1) Directly adjacent to defensible space as defined by 14 CCR § 1299.02 to reduce radiant and convective heat exposure, ember impacts, or support fire suppression tactics;

(2) Directly adjacent to Roads to manage radiant and convective heat exposure or ember impacts, increase evacuation safety, or support fire suppression tactics;

(3) Directly adjacent to a Hazardous Land Use to limit the spread of fire from such uses, reduce radiant and convective heat exposure, or support fire suppression tactics;

(4) Strategically located along Ridgelines, in Greenbelts, or other locations to reduce radiant and convective heat exposure, ember impacts, or support community level fire suppression tactics.

(e) Fuel Breaks shall be completed prior to the commencement of any permitted construction.

(f) Fuel Breaks shall be constructed using the most ecologically and site appropriate treatment option, such as, but not limited to, prescribed burning, manual treatment, mechanical treatment, prescribed herbivory, and targeted ground application of herbicides.

(g) Where a Local Jurisdiction requires Fuel Breaks, maintenance mechanisms shall be established to ensure the fire behavior objectives and thresholds are maintained over time.

(h) The mechanisms required shall be binding upon the property for which the Fuel Break is established, shall ensure adequate maintenance levels, and may include written legal agreements; permanent fees, taxes, or assessments; assessments through a homeowners' association; or other funding mechanisms.

§ 1276.04 Greenbelts, Greenways, Open Spaces and Parks

(a) Where a Greenbelt, Greenway, open space, park, landscaped or natural area, or portions thereof, is intended to serve as a Fuel Break, the space or relevant portion thereof shall conform with the requirements in § 1276.03 (Fuel Breaks).

§ 1276.05 Disposal of Flammable Vegetation and Fuels

The disposal, including burning or removal to a site approved by the Local Jurisdiction, in consultation with the Fire Authority, of flammable vegetation and fuels caused by site construction, Road, and Driveway construction shall be in accordance with all applicable laws and regulations.

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