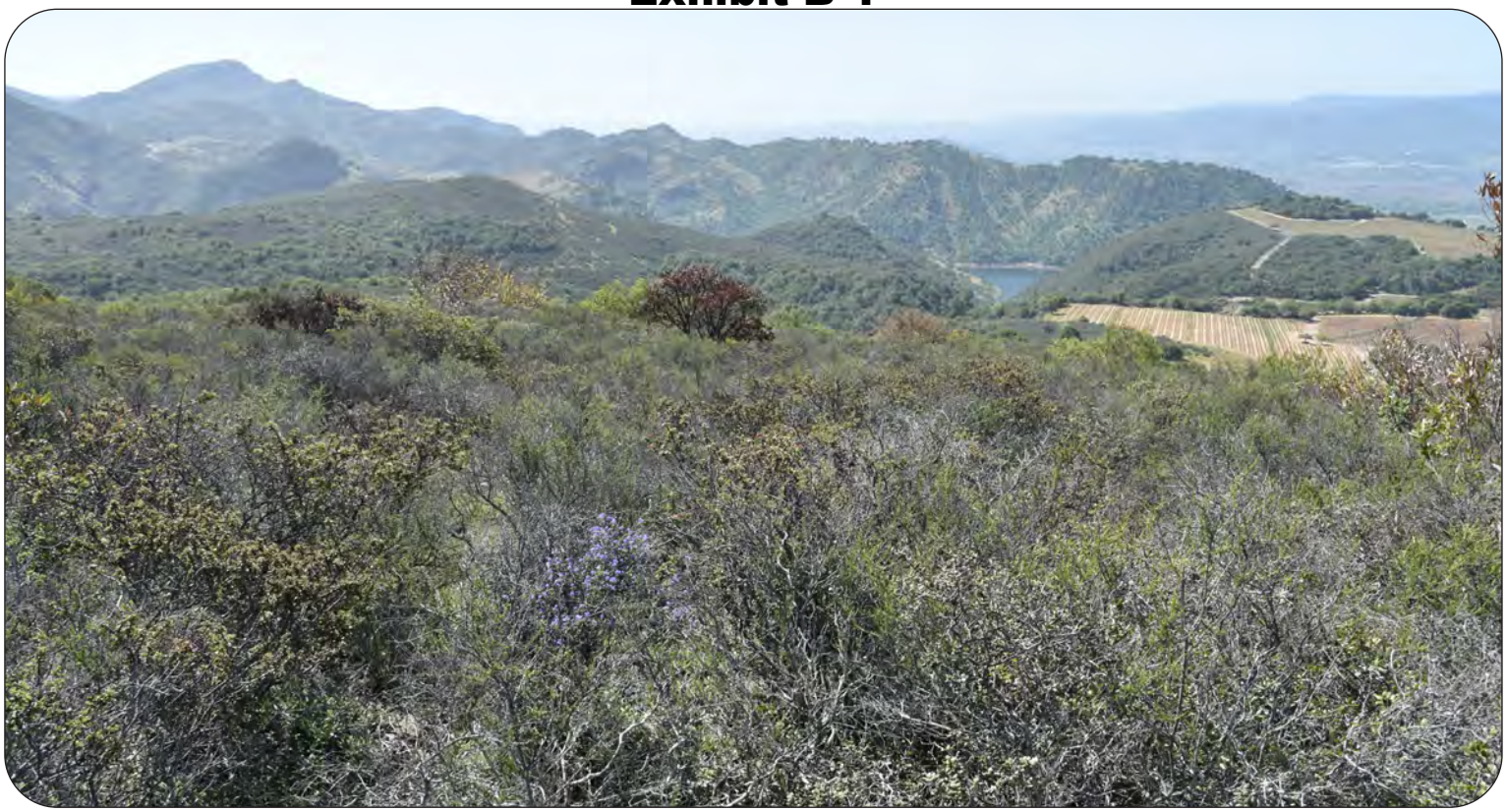
Exhibit B-1



BIOLOGICAL RESOURCES ASSESSMENT

RED DIRT GRAPES LLC
VINEYARD DEVELOPMENT PROJECT
NAPA COUNTY, CALIFORNIA

APRIL 2022

PREPARED FOR:

Red Dirt Grapes LLC
9000 Cameron Parkway
Oklahoma City, OK 73114-3701

PREPARED BY:

Montrose Environmental
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Sacramento, CA 95811
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BIOLOGICAL RESOURCES ASSESSMENT
RED DIRT GRAPES LLC VINEYWARD DEVELOPMENT PROJECT

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1.0 INTRODUCTION

This Biological Resources Assessment analyzes potential environmental impacts associated with the Red Dirt Grapes Vineyard Project (Proposed Project) in Napa County, California (**Figures 1** and **2**). The Proposed Project consists of the construction of a vineyard and associated infrastructure on approximately 28.39 acres (Project Site) within an approximately 96.47-acre Study Area (Assessor Parcel Numbers (APNs) 032-560-037, 032-560-038, 032-030-071, and the north, northeastern, and southeastern portions of 032-030-070). APNs 032-030-071 and 032-560-038 encompass the majority of the Project Site and are owned by Red Dirt Grapes, LLC. The remainder of the Study Area, including APNs 032-560-037 and portions of 032-030-070 are privately owned; however, Red Dirt Grapes, LLC has the ability to create conservation easements within these areas for potential mitigation purposes. The Study Area includes the Project Site, watercourses, and access roads (**Figure 3**). Biological surveys were conducted within the Study Area on April 12-15, May 25-27, June 23, and December 7, 2021. Survey methodologies, results, and recommended mitigation measures are presented herein.

1.1 PROJECT DESCRIPTION

The Proposed Project consists of the development of a vineyard and supporting infrastructure, including access driveways, water supply, and irrigation. A well and multiple concrete water storage tanks are already present on the Project Site and are planned to be utilized in the Proposed Project. The Study Area is located approximately 1.5 miles northwest of Arrowhead Mountain in Napa County and is bounded by Long Ranch Road to the south and vineyards to the east. Surrounding areas consist of vineyards, their associated development, and open space (**Figure 3**). The Study Area occurs within the U.S. Geological Survey (USGS) 7.5-minute "Yountville, California" topographic quadrangle. Elevations range from 1185 to 1380 feet (360 to 420 meters) above mean sea level.

2.0 REGULATORY SETTING

The following section summarizes applicable federal, state, and local regulations.

2.1 FEDERAL

Federal Endangered Species Act

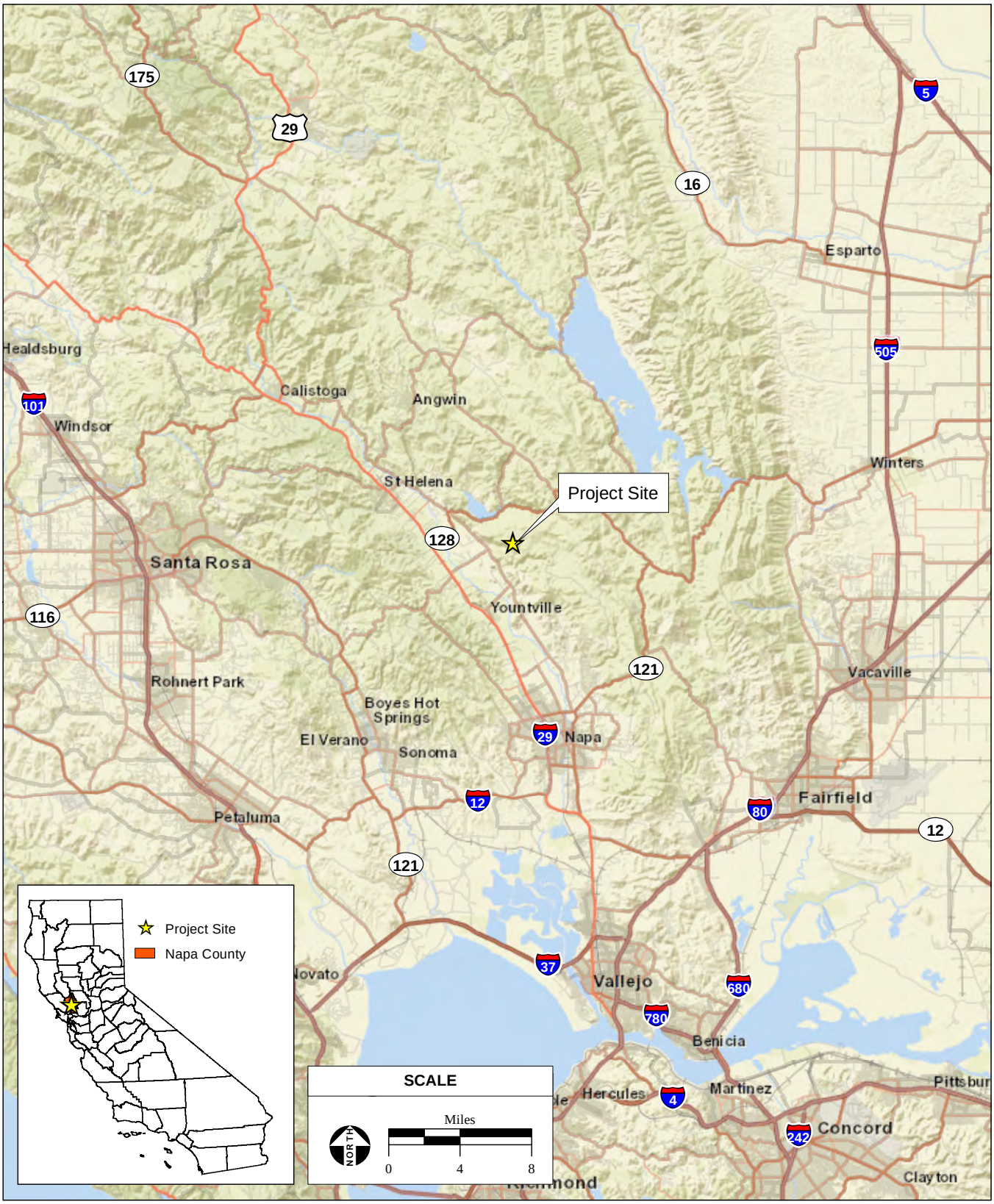
The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) implement the Federal Endangered Species Act (FESA) of 1973 (16 USC Section 1531 et seq.). Threatened and endangered species on the federal list (50 CFR Subsection 17.11, 17.12) are protected from "take" (direct or indirect harm) unless a Section 10 Permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered to a lead federal agency. Under FESA, habitat loss is considered an impact on the species.

Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act of 1918 (16 USC Subsection 703-712), migratory bird species and their nests and eggs are protected from injury or death. Project-related disturbances must be reduced or eliminated during the nesting cycle. Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. Fish and Game Code Section 3511 lists protected birds that cannot be taken except under specific permitting.

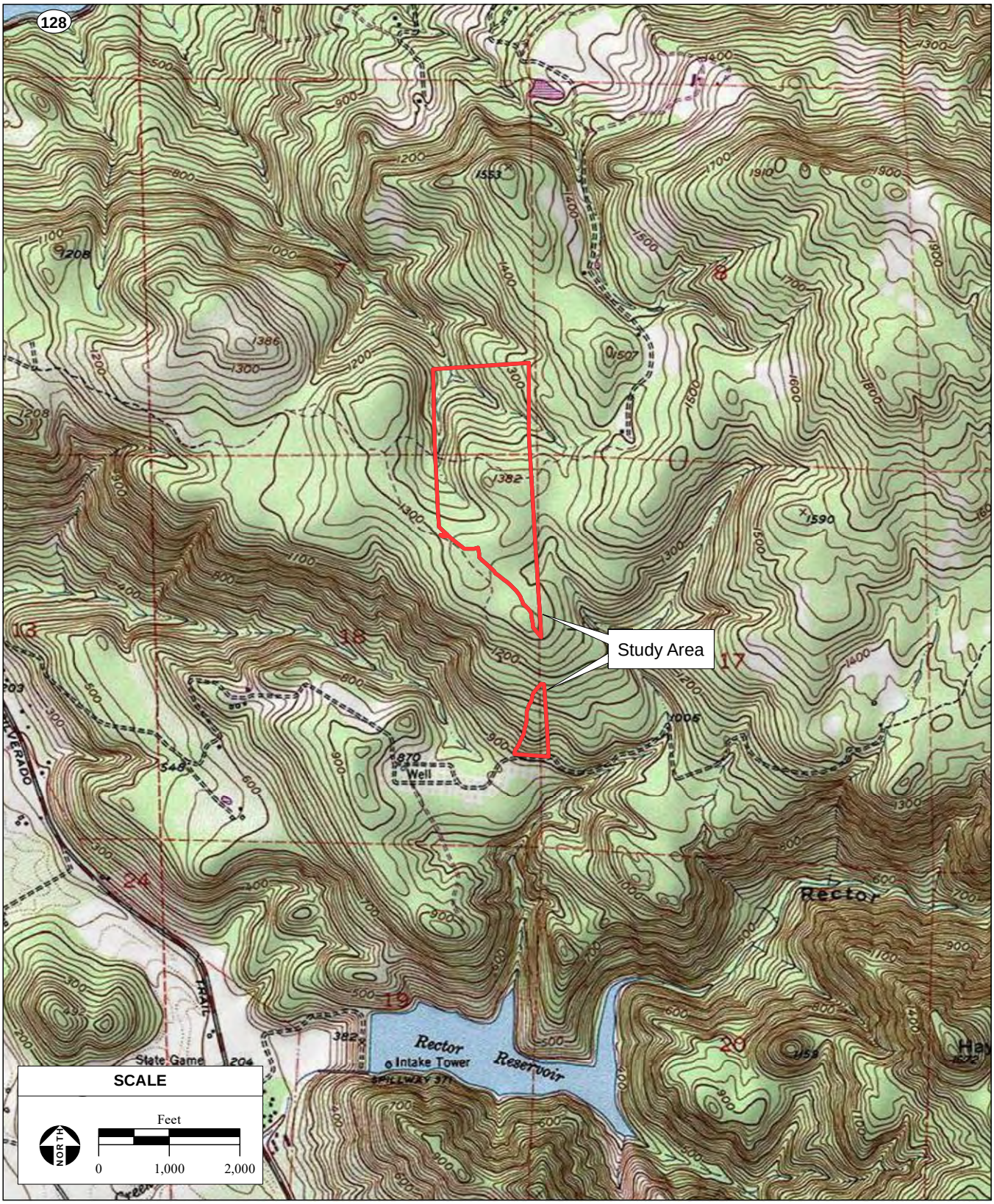
Bald and Golden Eagle Protection Act

The Bald Eagle Protection Act was enacted in 1940 and later amended to include golden eagles (16 USC



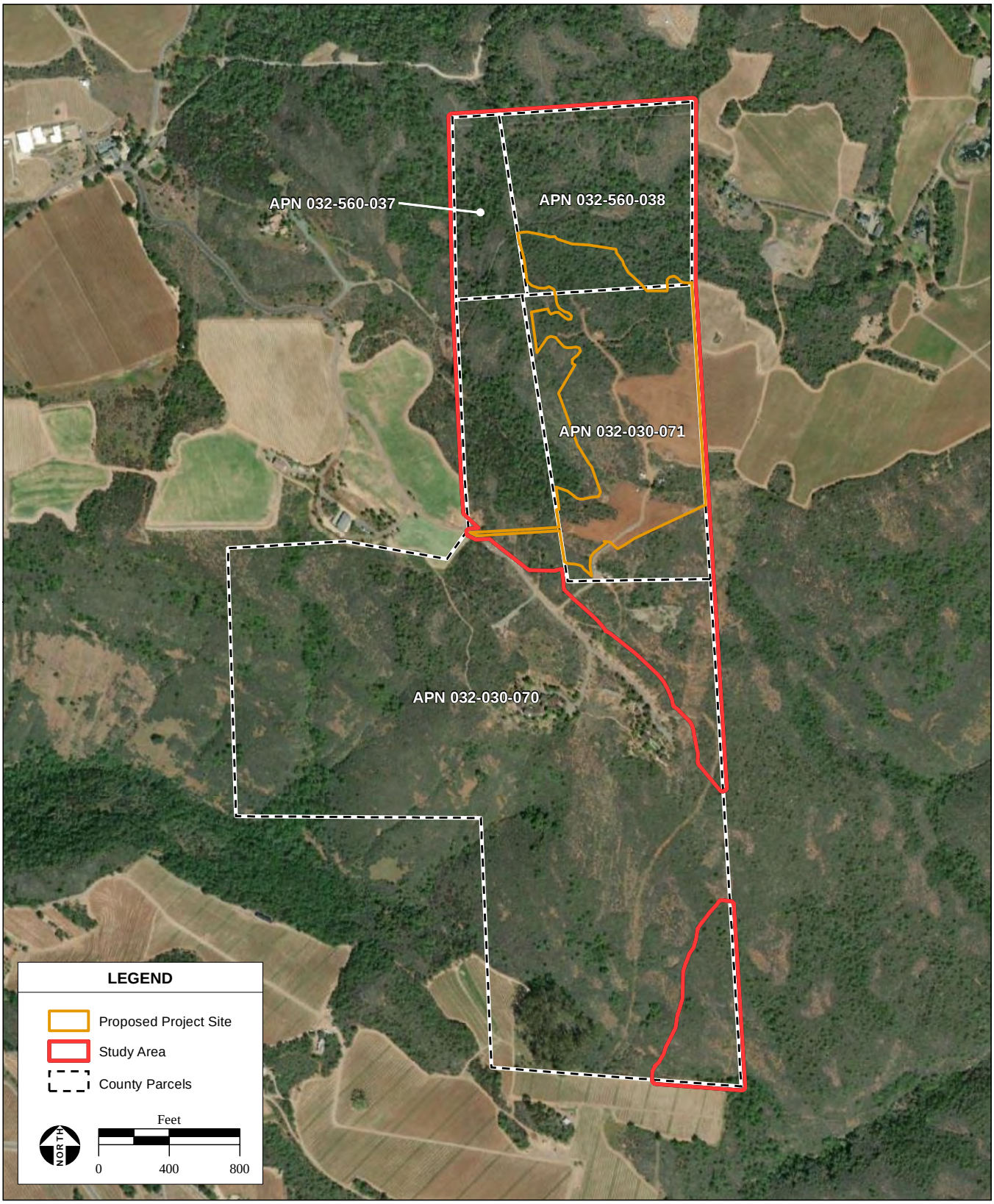
SOURCE: ESRI, 2022; Montrose, 2/11/2022

Figure 1
Regional Location



SOURCE: "Yountville, CA" USGS 7.5 Minute Topographic Quadrangle, T7N R4W, Section 7, 8, 17 and 18, Mt Diablo Baseline & Meridian; ESRI, 2022; Montrose, 2/16/2022

Figure 2
Site and Vicinity



SOURCE: Napa County Parcels; Vivid Maxar aerial photograph, 4/8/2021; ESRI, 2022; Montrose, 2/25/2022

Figure 3
Aerial Photograph

Subsection 668-668). The Bald and Golden Eagle Protection Act prohibits take, possession, and commerce of bald and golden eagles, parts, feathers, nests, or eggs with limited exceptions. The statute imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses.

Wetlands and Waters of the U.S.

Projects that involve working in navigable waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the United States Army Corps of Engineers (USACE), under Section 404 of the Clean Water Act.

2.2 STATE

Waters of the State

CDFW requires notification prior to commencement, and possibly a Lake or Streambed Alteration Agreement (SAA) pursuant to Fish and Game Code Subsection 1601-1616, 5650, if a project were to result in the alteration or degradation of a stream, river, or lake in California. The Regional Water Quality Control Board may require State Water Quality Certification (Clean Water Act Section 401 permit) before other permits are issued.

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) implements State regulations concerning fish, wildlife, and associated habitats. The California Endangered Species Act (CESA) of 1970 (California Fish and Game Code [Fish and Game Code] Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). A CESA permit must be obtained if a project were to result in the take of listed species during construction or operation. Under CESA, CDFW is responsible for maintaining a list of species that are threatened, endangered, or of special concern (Fish and Game Code 2070).

California Environmental Quality Act Guidelines Section 15380

California Environmental Quality Act (CEQA) Guidelines Section 15380(b) and (d) provide that a species not listed on federal or State lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. Criteria have been modeled after the definition of FESA and the section of the Fish and Game Code dealing with rare or endangered plants or animals.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. The California Native Plant Society (CNPS) inventories native flora of California and ranks species according to rarity. Plants with California Rare Plant Rank (CRPR) 1A, 1B, 2A, and 2B are considered special-status species. CRPR 1A plants are presumed extinct in California and CRPR 1B plants are rare or endangered in California and elsewhere. CRPR 2A plants are presumed extirpated in California but are more common elsewhere and CRPR 2B plants are rare, threatened, or endangered in California but are more common elsewhere. CRPR 3 is a watch list for plants about which more information is needed. CRPR 4 is a watch list for plants of limited distribution.

California Sensitive Natural Communities

CDFW provides current list of vegetation Alliances, Associations, Special Stands, and California Sensitive Natural Communities (CSNC). State and Global rarity ranks are indicated for Alliance and some

Associations. Natural Communities with ranks of 1-3 are considered Sensitive. Unranked Associations considered Sensitive are marked with a Y in the rightmost column. A "?" indicates our best estimate of the rank when we know we have insufficient samples over the full expected range of the type, but existing information points to this rank. Pending additions can be found at the bottom of the full Natural Community list.

Oak Woodlands Conservation Act

The Oak Woodlands Conservation Act (California State Senate Bill 1334) became law on January 1, 2005, and was added to the CEQA statutes as 21083.4. The conversion of oak woodlands on agricultural land used to produce or process plant and animal products for commercial purposes is exempt from mitigation under this law. One or more of the following mitigation measures are required should a project be determined to significantly impact oak woodlands:

1) Conserve oak woodlands through the use of conservation easements;
2) Plant an appropriate number of trees, including maintenance of plantings and replacement of failed plantings;
3) Contribute funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and
4) Other mitigation measures developed by the county.

2.3 LOCAL

Napa County General Plan

Natural resource use in Napa County is regulated by the Napa County General Plan (Napa County, 2009), including the following goals and policies concerning biological resources:

Open Space Conservation Policies

Policy CON-1: The County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection.

Policy CON-2: The County shall identify, improve, and conserve Napa County's agricultural land by:

a) Requiring existing significant vegetation be retained and incorporated into agricultural projects to reduce soil erosion and to retain wildlife habitat. When retention is found to be infeasible, replanting of native or non-invasive vegetation shall be required, and
b) Minimizing pesticide and herbicide use and encourage research and use of Integrated pest control methods such as cultural practices, biological control, host resistance, and other factors.

Policy CON-5: The County shall identify, improve, and conserve Napa County's rangeland through the following measures:

a) Providing a permanent means of preservation of open space areas for rangeland.
b) Encouraging responsible brush removal techniques with adequate environmental safeguards, leaving uncleared islands and peninsulas to provide cover for wildlife.
c) Staging land conversion operations to minimize adverse environmental impact on the

watershed.

d) Encouraging livestock management activities to avoid long-term destruction of rangeland productivity and watershed capacity through overgrazing, erosion, or damage to riparian areas.
e) Encouraging replanting of depleted areas to restore rangeland productivity and/or restore native biological resource values.
f) Coordinating rangeland management programs with those of other counties, the State of California, and the federal government in areas where vegetation conversion programs are planned.
g) Protecting trees and shrubs on rangelands for wildlife habitat and aesthetic purposes and encouraging alternate uses of rangelands, such as wildlife and open space, if grazing is phased out.

Natural Resource Goals and Policies

Goal CON-1: The County of Napa will conserve resources by determining the most appropriate use of land, matching land uses and activities to the land's natural suitability, and minimizing conflicts with the natural environment and the agriculture it supports.

Goal CON 2: Maintain and enhance the existing level of biodiversity.

Goal CON-3: Protect the continued presence of special-status species, including special-status plants, special-status wildlife, and their habitats, and comply with all applicable state, federal or local laws or regulations.

Goal CON-4: Conserve, protect, and improve plant, wildlife, and fishery habitats for all native species in Napa County.

Goal CON-5: Protect connectivity and continuous habitat areas for wildlife movement.

Policy CON-10: The County shall conserve and improve fisheries and wildlife habitat in cooperation with governmental agencies, private associations, and individuals in Napa County.

Policy CON-11: The County shall maintain and improve fisheries habitat through a variety of appropriate measures, including the following as well as best management practices (BMPs) developed over time.

a) Control sediment production from mines, roads, development projects, agricultural activities, and other potential sediment sources.
b) Implement road construction and maintenance practices to minimize bank failure and sediment delivery to streams.

Policy CON-13: The County shall require that all discretionary residential, commercial, industrial, recreational, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:

a) Maintain the following essentials for fish and wildlife resources:
    1. Sufficient dissolved oxygen in the water.
    2. Adequate amounts of proper food.

3. Adequate amounts of feeding, escape, and nesting habitat.
4. Proper temperature through maintenance and enhancement of streamside vegetation, volume of flows, and velocity of water.

b) Employ supplemental planting and maintenance of grasses, shrubs, and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife and special-status species and maintain the watersheds, especially stream side areas, in good condition.
c) Provide protection for habitat supporting special-status species through buffering or other means.
d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
e) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.
f) Require temporary or permanent buffers of adequate size (based on the requirements of the subject special-status species) to avoid nest abandonment by birds and raptors associated with construction and site development activities.
g) Demonstrate compliance with applicable provisions and regulations of recovery plans for federally listed species.

Policy CON-14: To offset possible losses of fishery and riparian habitat due to discretionary development projects, developers shall be responsible for mitigation when avoidance of impacts is determined to be infeasible. Such mitigation measures may include providing and permanently maintaining similar quality and quantity habitat within Napa County, enhancing existing riparian habitat, or paying in-kind funds to an approved fishery and riparian habitat improvement and acquisition fund. Replacement habitat may occur either on-site or at approved off-site locations, but preference shall be given to on-site replacement.

Policy CON-15: The County shall establish and update management plans protecting and enhancing the County's biodiversity and identify threats to biological resources within appropriate evaluation areas, and shall use those plans to create programs to protect and enhance biological resources and to inform mitigation measures resulting from development projects.

Policy CON-16: The County shall require a biological resources evaluation for discretionary projects in areas identified to contain or potentially contain special-status species based upon data provided in the Napa County Baseline Data Report, California Natural Diversity Database (CNDDB), or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities. The County shall also encourage the development of programs to protect special-status species and disseminate updated information to state and federal resource agencies.

Policy CON 17: Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:

a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.

c) Promote protection from overgrazing and other destructive activities.
d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

Policy CON 18: To reduce impacts on habitat conservation and connectivity:

a) In sensitive domestic water supply drainages where new development is required to retain 40 to 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
c) Preservation of habitat and connectivity of adequate size, quality, and configuration to support special-status species should be required within the Study Area. The size of habitat and connectivity to be preserved shall be determined based on the specifics needs of the species.
d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after February 16, 2007 to offset the impact caused by the new vineyard development.
f) The County shall disseminate information about impacts that fencing has on wildlife movement in wild land areas of the County and encourage property owners to use permeable fencing.
g) The County shall develop a program to improve and continually update its database of biological information, including identifying threats to wildlife habitat and barriers to wildlife movement.
h) Support public acquisition, conservation easements, in-lieu fees where on-site mitigation is infeasible, and/or other measures to ensure long-term protection of wildlife movement areas.

Policy CON-19: The County shall encourage the preservation of critical habitat areas and habitat connectivity through the use of conservation easements or other methods as well as through continued implementation of the Napa County Conservation Regulations associated with vegetation retention and setbacks from waterways.

Policy CON-20: The County shall monitor biodiversity and habitat connectivity throughout the County and apply appropriate adaptive management practices as necessary to achieve applicable Natural Resources Goals. Changing conditions may include external forces such as changing state or federal requirements, or changes in species diversity, distribution, etc.

Policy CON-21: The County shall initiate and support efforts relating to the identification, quantification, and monitoring of species biodiversity and habitat connectivity throughout Napa County.

Policy CON-22: The County shall encourage the protection and enhancement of natural habitats which provide ecological and other scientific purposes. As areas are identified, they should be delineated on environmental constraints maps so that appropriate steps can be taken to appropriately manage and protect them.

Policy CON-26: Consistent with Napa County's Conservation Regulations, natural vegetation retention areas along perennial and intermittent streams shall vary in width with steepness of the terrain, the nature of the undercover, and type of soil. The design and management of natural vegetation areas shall consider habitat and water quality needs, including the needs of native fish and special-status species and flood protection where appropriate.

Site-specific setbacks shall be established in coordination with Regional Water Quality Control Boards, CDFW, USFWS, NMFS, and other coordinating resource agencies that identify essential stream and stream reaches necessary for the health of populations of native fisheries and other sensitive aquatic organisms within the County's watersheds. Where avoidance of impacts to riparian habitat is infeasible along stream reaches, appropriate measures will be undertaken to ensure that protection, restoration, and enhancement activities will occur within these identified stream reaches that support or could support native fisheries and other sensitive aquatic organisms to ensure a no net loss of aquatic habitat function and value within the county's watersheds.

Policy CON-27: The County shall enforce compliance and continued implementation of the intermittent and perennial stream setback requirements set forth in existing stream setback regulations, provide education and information regarding the importance of stream setbacks and the active management and enhancement/restoration of native vegetation within setbacks, and develop incentives to encourage greater stream setbacks where appropriate. Incentives shall include streamlined permitting for certain vineyard proposals on slopes between 5 and 30 percent and flexibility regarding yard and road setbacks for other proposals.

Oak Woodlands Goals and Policies

Goal CON-6: Preserve, sustain, and restore forests, woodlands, and commercial timberland for their economic, environmental, recreation, and open space values.

Policy CON-24: Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agricultural projects.
b) Comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of residential, commercial, and industrial approvals.
c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.
d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil protection, and soil production be left standing.

e) Maintain, to the extent feasible, a mixture of oak species to ensure acorn production. Black, canyon, live, brewer, blue, white, scrub, and live oak are common associations.
f) Encourage and support the County Agricultural Commission's enforcement of state and federal regulations concerning Sudden Oak Death and similar future threats to woodlands.

Policy CON-28: To offset possible additional losses of riparian woodland due to discretionary development projects and conversions, developers shall provide and maintain similar quality and quantity of replacement habitat or in-kind funds to an approved riparian woodland habitat improvement and acquisition fund in Napa County. While on-site replacement is preferred where feasible, replacement habitat may be either on-site or off-site as approved by the County.

Policy CON-29: The County shall coordinate its efforts with other agencies and districts such as the Resource Conservation District and share a leading role in developing and providing outreach and education related to stream setbacks and other BPMs that protect and enhance the County's natural resources.

Policy CON-30: All public and private projects shall avoid impacts to wetlands to the extent feasible. If avoidance is not feasible, projects shall mitigate impacts to wetlands consistent with state and federal policies providing for no net loss of wetland function.

Water Resources Policies

Policy CON-6: The County shall impose conditions on discretionary projects which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas such as floodplains, steep slopes, high fire risk areas and geologically hazardous areas.

Policy CON-41: The County will work to protect its watersheds and public and private water reservoirs to provide for the following purposes:

a) Clean drinking water for public health and safety;
b) Municipal uses, including commercial, industrial and domestic uses;
c) Support of the eco-systems;
d) Agricultural water supply;
e) Recreation and open space; and
f) Scenic beauty.

Policy CON-42: County shall work to improve and maintain the vitality and health of its watersheds. Specifically, the County shall:

a) Support environmentally sustainable agricultural techniques and BMPs that protect surface water and groundwater quality and quantity (e.g., cover crop management, integrated pest management, informed surface water withdrawals and groundwater use).

Policy CON-45: Protect the County's domestic supply drainages through vegetation preservation and protective buffers to ensure clean and reliable drinking water consistent with state regulations and guidelines. Continue implementation of current Conservation Regulations relevant to these areas, such as vegetation retention requirements, consultation with water purveyors/system owners, implementation of erosion controls to minimize water pollution, and prohibition of detrimental recreational uses.

Policy CON-48: Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or storm water pollution prevention plans) that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

Napa County Code

Stream Setbacks

Napa County Code defines streams and provides setbacks for land clearing for agricultural development. Under Section 18.108.030, a "stream" means any of the following:

1) A watercourse designated by a solid line or dash and three dots symbol on the largest scale of the USGS maps most recently published, or any replacement to that symbol;
2) Any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 (horizontal to vertical bank ratio) and contains hydrophilic (i.e., water-adapted) vegetation, riparian vegetation or woody vegetation including tree species greater than ten feet in height; or
3) Those watercourses listed in Resolution No. 94-19 and incorporated herein by reference.

Erosion gullies and ravines being repaired with the technical assistance and/or under the direction of the Napa County Resource Conservation District/National Resource Conservation Service, "scour-holes," and other non-linear features are not considered streams. Napa County Code 18.108.025 applies setbacks for agricultural development adjacent to streams. Setbacks range from 35 to 150 feet measured from the top of bank and increase with the slope of the terrain parallel to the top of bank.

Vegetation Preservation and Replacement

Napa County Code 18.108.100 requires the following conditions when granting a discretionary permit for activities within an erosion hazard area (slopes greater than 5 percent):

- Existing vegetation shall be preserved to the maximum extent consistent with the project. Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the county's environmental sensitivity maps.
- Existing trees six inches in diameter or larger, measured at diameter breast height, (DBH), or tree stands of trees six inches DBH or larger located on a site for which either an administrative or discretionary permit is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.
- Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriate methods to be placed and maintained at their outboard drip line during the construction phase. Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities.
- Wherever removal of vegetation is necessitated or authorized, the director or designee may

require the planting of replacement vegetation of an equivalent kind, quality and quantity.

Napa County Code 18.108.027 requires that as part of any use involving earth-disturbing activity in sensitive domestic water supply drainages, the following vegetation-retention requirements apply:

- A minimum of 60 percent of the tree canopy cover on the parcel or holding existing on June 16, 1993 along with any understory vegetation, and
- When vegetation consists of shrub and brush without tree canopy, a minimum of 40 percent of the shrub, brush and associated annual and perennial herbaceous vegetation is to be retained (referred to as vegetation understory hereafter and is defined below).

Vegetation understory is defined as the biotic communities classified as chaparral/scrub, shrubland, grassland, rock outcrop, or vegetated portions of wetlands based on the current Manual of California Vegetation (MCV; Sawyer et al., 2009) and as described in the Napa County Baseline Data Report (NCBDR; Napa County, 2005).

3.0 METHODOLOGY

3.1 PRELIMINARY DATA REVIEW

Prior to conducting the biological surveys, biological information for the Study Area was obtained from the following sources:

- USFWS list, generated February 10, 2022, of federally listed special-status species with the potential to occur on and near the Study Area (USFWS, 2022a) (**Attachment 1**);
- CNPS query generated February 10, 2022, of state and federally listed special-status species known to occur on Yountville's quad, which generated a list of potential CRPR 1 through CRPR 4 plants that may occur within or in the vicinity of the Study Area (CNPS, 2022) (**Attachment 1**);
- CNDDB query, generated February 10, 2022, of state and federally listed special-status species known to occur on Yountville's quad (CDFW, 2022a) (**Attachment 1**);
- CDFW Biogeographic Information and Observation System (BIOS) Vegetation and Essential Habitat Connectivity Maps
- Custom Soil Resource Report for Napa County, NRCS, generated for the Study Area on February 10, 2022 (NRCS, 2022) (**Attachment 2**).
- National Marines Fisheries Service (NMFS) West Coast Region (WCR) species list (NMFS, 2016) (**Attachment 1**).
- National Wetlands Inventory (NWI) database of wetlands and surface waters within the Study Area (USFWS, 2022b).

3.2 SURVEY TECHNIQUES

Biological resources surveys of the Study Area were conducted on April 12-15, May 25-27, June 23, and December 7, 2021. Surveys were conducted by walking meandering transects throughout and around the Study Area. Data was collected via a Trimble Geo TDC150 hand-held GPS receiver.

Survey goals consisted of identifying habitat types, sensitive habitats, wetlands and waters of the U.S. and state, special-status animal and plant species, including lichens and bryophytes, identifying potentially suitable bat habitat, characterization and identification of forested habitats and trees, and potential wildlife corridors.

Botanical assessments followed protocols described in the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018), *Botanical Survey Guidelines of the California Native Plant Society* (CNPS, 2001), *Guidelines for Mapping Rare Vegetation* (CNPS 2011), and *The Jepson Manual* (Baldwin, 2012). Plants are usually identified when in bloom; but other methods can be used to identify rare plants not in bloom. Features that can be examined outside of the bloom period include vegetative, dried flower, or fruit morphology, as well as skeletal plant remains from previous seasons. Not all species flower each year and some may only flower at maturity, therefore those species must be identified based on vegetative characteristics. Habitat requirements of special-status species were compared to habitats identified in the Study Area based on surveys and aerial photographs.

Wildlife was identified by calls, scat, remains, or direct sight. Evidence of dens, nests, or burrows, if present, were assessed to indirectly identify potentially occurring wildlife in the Study Area. Aerial imagery from Google Earth, as well as the BIOS Essential Habitat Connectivity mapper, were reviewed to assess habitats surrounding the Study Area for potential wildlife movement, wildlife corridors, or movement barriers (Google, 2022 and CDFW, 2022b). Field methodology for identifying corridors for movement included searching for game trails or habitats that would favor the movement of wildlife or potential gene flow. Existing and proposed barriers were examined to determine current movement potential within the Study Area and whether the Proposed Project would impact movement.

4.0 ENVIRONMENTAL SETTING

4.1 SOIL TYPES

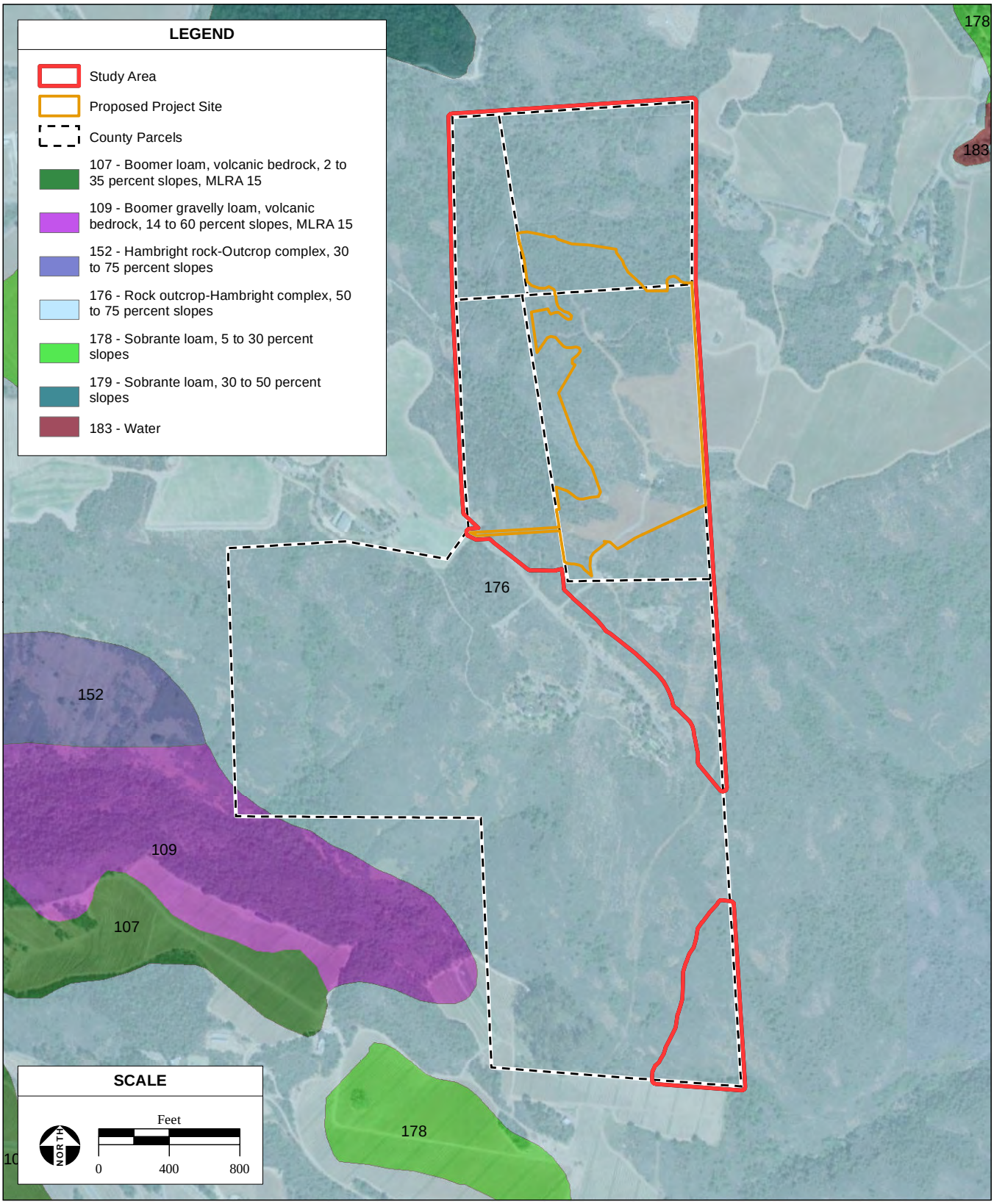
A soil assessment for the Study Area was prepared online through the NRCS (**Attachment 2**; **Figure 4**). The Study Area consists entirely of Rock outcrop-Hambright complex (50 to 75 percent slopes). Rock outcrop-Hambright complex consists of a well-drained and non-flooding soil with a parent material of basic volcanic rock with a soil profile of very stony loam and unweathered bedrock.

4.2 VEGETATION ALLIANCES AND HABITAT TYPES

Vegetation alliances or biotic communities are the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region in Napa County, based on the NCBDR (Napa County, 2005). Sensitive biotic communities are designated by CDFW, considered by local experts to be of limited distribution, and/or considered to be waters of the U.S. or State by Napa County (Napa County, 2005). Vegetation in Napa County was delineated and mapped by the University of California Davis's Information Center for the Environment (Thorne et al. 2004). The habitat types were mapped onto the Study Area and refined based on survey observations. CDFW considers sensitive biotic communities to be those listed on the CNDDB.

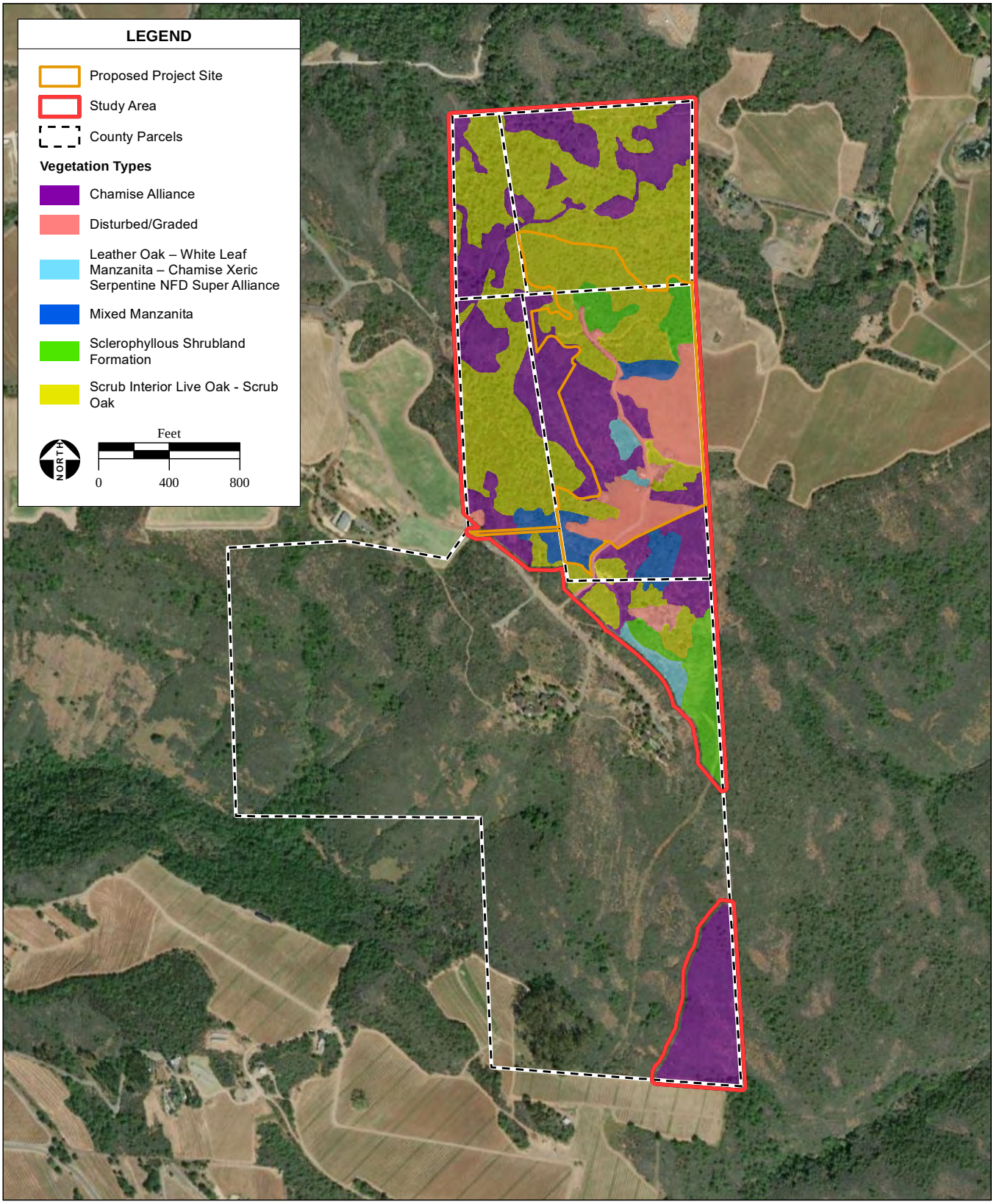
Habitat types delineated and mapped within the Study Area are shown in **Figure 5**. Habitat types within the Study Area include Chamise Alliance, Scrub Interior Live Oak – Scrub Oak, Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance, Mixed Manzanita, Sclerophyllous Shrubland Formation, and Disturbed/Graded. For the purposes of this report, the vegetation communities observed within the Project Site have been classified as the NCBDR vegetation alliance or biotic community that most closely represents the observed vegetation and coverage characteristics and percent cover of component species. The Study Area contains vineyard blocks under development and unpaved roadways for pre-existing on-site operations related to development and the existing onsite water system and other utilities such as PG&E distribution lines and transformers. Two unnamed

tributaries of Lake Hennessey are present within the northern portion of the Study Area (**Figure 6)** and do not intersect or overlap with the Project Site. Pre-project condition acres of alliances and habitat types are presented in the table below.



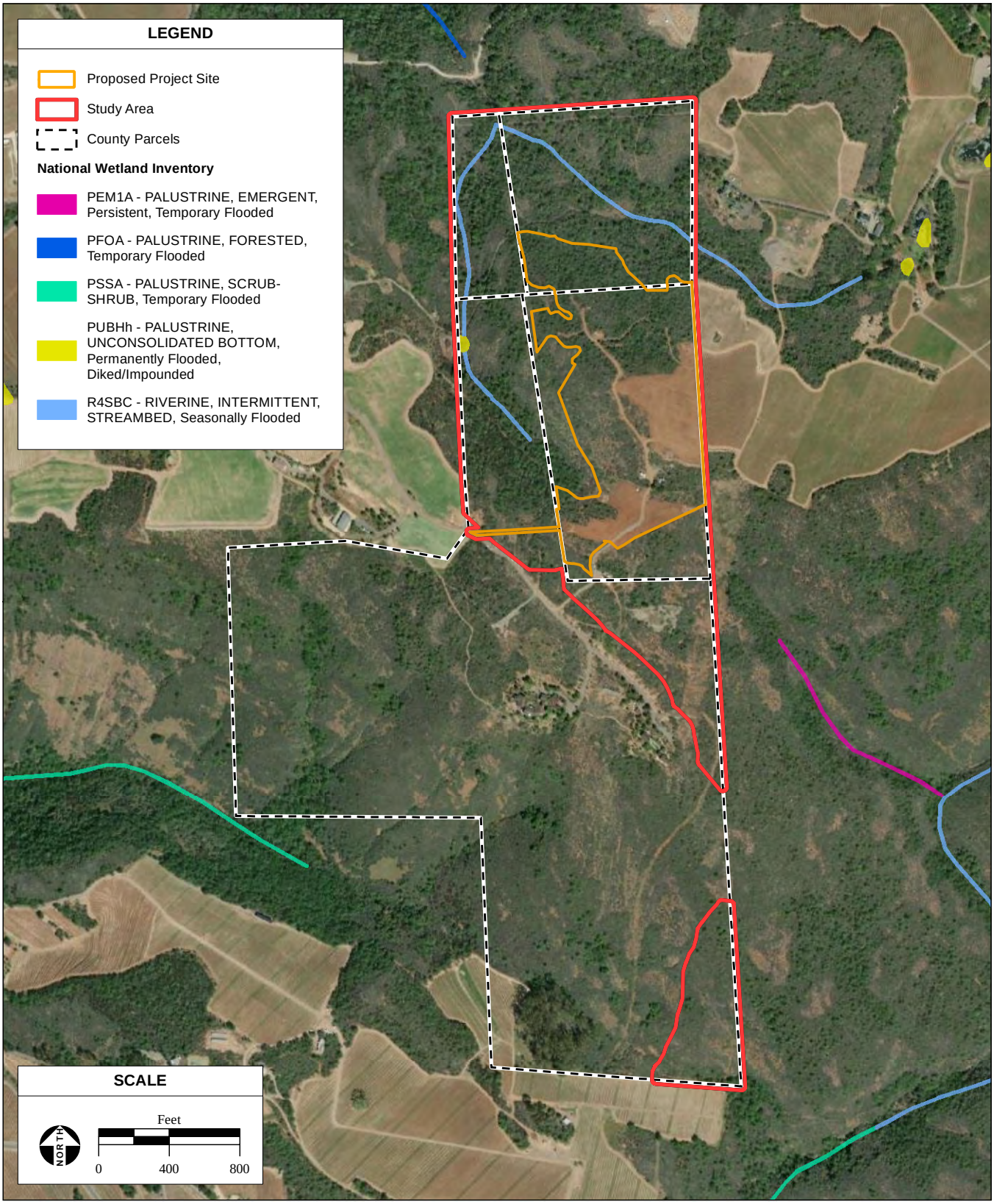
SOURCE: USDA NRCS Soil Survey of Napa County, updated 2021;
Napa County Parcels; Vivid Maxar aerial photograph, 4/8/2021;
ESRI, 2022; Montrose, 2/25/2022

Figure 4
Soil Types



SOURCE: Napa County Parcels; Vivid Maxar aerial photograph, 4/8/2021; ESRI, 2022; Montrose, 2/25/2022

Figure 5
Habitat Types



SOURCE: USFWS National Wetland Inventory for "'Napa, CA" USGS 100k Topographic Quadrangle, 1973,1976; Napa County Parcels; Vivid Maxar aerial photograph, 4/8/2021; ESRI, 2022; Montrose, 2/25/2022

Figure 6
National Wetland Inventory

TABLE 1
VEGETATION ALLIANCES AND HABITAT TYPES WITHIN THE STUDY AREA

Vegetation Alliance or Habitat Type	Acres Within Study Area	Acres Within the Project Site	Percent of Total Acreage within Project Site	Percent of Total Acreage Retained within Study Area
Chamise Alliance	33.36	5.36	16%	84%
Scrub Interior Live Oak – Scrub Oak	41.91	9.76	23%	77%
Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance	1.61	0.70	43%	57%
Mixed Manzanita	4.26	1.88	44%	56%
Sclerophyllous Shrubland Formation	6.26	2.57	41%	59%
Disturbed/Graded	9.07	8.12	n/a	n/a

Chamise Alliance

Approximately 33.36 acres of the Study Area consists of Chamise Alliance. According to the NCBDR, Chamise Alliance is the most common chaparral type within the County and occurs across the county in xeric south and southwest slopes. Chamise alliance, chamise chaparral as described by the Manual of California Vegetation, typically occurs on varied topography where soils are shallow over colluvium or bedrock throughout cismontane California. Chamise is dominant in the intermittent to continuous canopy of the shrub layer/vegetation understory. As the NCBDR describes, toyon (*Heteromeles arbutifolia*), buckbrush (*Ceanothus* spp.), sticky monkeyflower (*Diplacus aurantiacus*), coyote brush (*Baccharis pilularis*), and manzanitas (*Arctostaphylos* spp.) occur while chamise (*Adenostoma fasciculatum*) is the dominant species. This habitat type is not considered sensitive by CDFW or Napa County.

Scrub Interior Live Oak – Scrub Oak

Approximately 41.91 acres of the Study Area consists of Scrub Interior Live Oak – Scrub Oak. Another of the most common chaparral types in the County per the NCBDR. This habitat type is the most predominant vegetation alliance in the Study Area and encompasses a majority of the drainage channels and topographical depressions of the Study Area. Scrub Interior Live Oak – Scrub Oak, is composed primarily of interior live oak (*Quercus wislizeni*), and California scrub oak (*Quercus berberidifolia*). While California scrub oak dominates this habitat type, stands of California bay laurel (*Umbellularia californica*) trees were found within this habitat type along with immature to shrub form groups and interspersed individuals of interior live oak (*Quercus wislizeni*). Other species observed within this habitat type included chamise, California coffeeberry, chaparral pea *(Pickeringia montana*), whiteleaf manzanita (*Arctostaphylos manzanita ssp. manzanita*), and Eastwood manzanita (*A. glandulosa ssp. glandulosa*) dense between the trees. The understory was very sparse. This habitat type is not considered sensitive by CDFW or Napa County.

Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance

Approximately 1.61 acres of the Study Area consists of Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance. This habitat is frequently mapped on xeric serpentine soils where *Pinus sabiniana* is generally below 2-5%. This is the least abundant vegetation alliance observed within

the Study Area and, while not considered a sensitive habitat by CDFW, the County lists this vegetation alliance as a sensitive biotic community (Napa County, 2005). According to the NCBDR, this super alliance is considered a serpentine chaparral/scrub biotic community. This habitat type is not considered sensitive by CDFW but is considered a sensitive habitat type per Napa County.

Mixed Manzanita

Approximately 4.26 acres of the Study Area consists of Mixed Manzanita. This habitat occurs in a variety of settings, usually on slopes not quite as steep or xeric as pure *Adenostoma fasciculatum*. Mesic stands contain more *Umbellularia californica*, xeric stands generally contain a minor component of *Adenostoma fasciculatum* or *ceanothus* spp. This habitat type is not considered sensitive by CDFW or Napa County.

Sclerophyllous Shrubland Formation

Approximately 6.26 acres of the Study Area consists of Sclerophyllous Shrubland Formation. The Sclerophyllous Shrubland Formation includes both the Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance and the Mixed Manzanita habitat types. This habitat type is not considered sensitive by CDFW or Napa County.

Disturbed/Graded

Approximately 9.07 acres of the Study Area consists of disturbed/graded habitat. A majority of this habitat type is nearly void of living vegetation having had heavy machinery clear, grade, and remove rocks from the soil for ongoing development of vineyards. Other disturbed/graded areas include access roads, utility rights-of-way, and utility structures associated with historic uses on the property. Several piles of large boulders are present in this habitat type. Vegetation found in the adjacent habitat types is often found at the margins of disturbed/graded habitat. This habitat is heavily managed and is not considered sensitive by CDFW or Napa County.

4.3 Wetlands and Waters of the U.S. and State

The NWI database was queried to determine previously mapped wetlands and waters of the U.S. and state within the property (**Figure 6**). Wetlands were not observed within the Study Area during the survey. Potential waters of the U.S. or state within the Study Area include two unnamed ephemeral drainages which are tributaries of Lake Hennessey. These ephemeral drainages are riverine, intermittent streams according to the NWI (USFWS, 2022b). These ephemeral drainages converge within the northwestern corner of the Study Area. Draining into Lake Hennessey approximately 1.4 miles outside of the Study Area. The pond identified in **Figure 6** has been ground-truthed during surveys. This pond, labeled as PUBHh - Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded, exists outside the western boundary of the Study Area.

4.4 Species Observed

Dominant plant species that were observed in the Study Area include interior live oak, leather oak (*Quercus durata*), California bay laurel, California buckeye (*Aesculus californica*), holly-leaved ceanothus (*Ceanothus purpurea*), common manzanita (*Arctostaphylos* manzanita), white leaf manzanita (*Arctostaphylos viscida*), poison oak (*Toxicodendron diversilobum*), chamise, chaparral pea (*Pickeringia montana*), toyon, coyote brush, Sonoma sage (*Salvia sonomensis*), and lace lichen (*Ramalina menziesii*).

A list of plant species observed is included in **Attachment 3**.

Wildlife species observed within the Study Area included: golden eagle (*Aquila chrysaetos*), northern mockingbird (*Mimus polyglottos*), black-tailed jackrabbit (*Lepus californicus*), American crow (*Corvus brachyrhynchos*), red-winged blackbird (*Agelaius phoeniceus*), turkey vulture (*Cathartes aura*), California scrub jay (*Aphelocoma californica*), northern broad-footed mole (*Scapanus latimanus*), California towhee (*Melozone crissalis*), and spotted towhee (*Pipilo maculatus*). Carnivore scat, small mammal burrows, and feral pig and deer tracks were also observed.

4.5 Bat Habitat Assessment

Potentially suitable bat habitat within the Project Site was assessed during the site survey. Areas with live trees, snags, and rock outcrops were assessed for suitability as bat habitat or bat roosts. Tree form species and forested habitat are largely absent from the Study Area as a whole, and few trees were present within the Project Site. Snags were not observed. Tree species found within the Project Site were immature, shrub form, and/or lacking cavities. Tree species identified were tightly-barked species such as interior live oak and California bay laurel. Rock outcroppings were identified within the Project Site on top of a rounded hill feature present midway and within the Project Site's western edge. These outcrops were in the form of exposed rounded boulders with shallow cracks, little to no surface exfoliation, and were low lying to the ground. Given the properties of the habitat observed, habitats found within the Project Site were determined to be not suitable as bat habitat or as bat roosts.

4.6 Critical Habitat

Contra Costa Goldfield Designated Critical Habitat is present approximately 6 miles to the southeast of the Study Area and Project Site. Critical Habitat does not occur within the Study Area or Project Site (**Attachment 1**).

4.7 Wildlife Movement

The Study Area is located within the mapped "Essential Connectivity Area," in the California Essential Connectivity Project and ranked as low permeability (CDFW 2022 and CalTrans 2010). The property is currently fenced along the eastern border of the Study Area and contains the ephemeral drainage riparian corridors discussed herein as well as the dirt access roads labeled as Disturbed/Graded (**Figure 5**). It is likely that wildlife utilizes the riparian corridors for movement, as scat and tracks were observed within and around these areas. Additionally, carnivore scat was found in display piles at the top of rocks within easy access of riparian areas. The surrounding area consists primarily of vineyard agriculture and open space. Highway 128 is present approximately 1.2 miles to the northwest of the Study Area. Topographically, the Study Area contains a saddle feature, being low-lying relative to the surrounding ridgeline and contains a low point between Rector Reservoir and Lake Hennessey.

4.8 Special-Status Species

Preliminary data review and special-status species searches list 25 special-status plant species and 11 special-status animal species with the potential to occur in the region (**Table 2**). Further analysis determined that ten special-status species plant species and one special-status animal species have the potential to occur within the Study Area. Species with no potential to occur were ruled out based on negative survey results and lack of suitable soils, elevations, substrates, and habitat requirements.

TABLE 2
REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Plants					
Astragalus clevelandii Cleveland's milk-vetch	--/--/4.3	Known to occur in Napa, Colusa, Lake, Sonoma, Tehama, and Yolo counties.	Perennial herb found in chaparral, cismontane woodland, and riparian forest habitats. Found in serpentinite seeps. Elevations range from 100-1500 meters.	June-September	**No**, the Study Area lacks suitable habitat to support this species.
Brodiaea leptandra narrow-anthered brodiaea	--/--/1B.2	Known to occur in Napa, Lake, and Sonoma counties.	A perennial bulbiferous herb found in mixed-evergreen forest, broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats. Usually on gravelly soils. Elevations range from 110-915 meters.	May-July	**Yes**, the Study Area contains suitable habitat to support this species. No narrow-anthered brodiaea were observed. The nearest recent CNDDB occurrence is located within a half-mile of the Study Area.
Castilleja ambigua var. *ambigua* Johnny-nip	--/--/4.2	Known to occur in Napa, Alameda, Contra Costa, Del Norte, Humboldt, Marin, Mendocino, San Mateo, Santa Cruz, Solano, and Sonoma counties.	Annual hemiparasitic herb found in coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pool margin habitats. Elevations range from 0-435 meters.	March-August	**No,** the Study Area lacks suitable habitat to support this species.
Castilleja ambigua var. meadii Mead's owl's-clover	--/--/1B.1	Napa county	An annual herb (hermiparasitic) found in gravelly, volcanic, and clay soils, in meadows and seeps, and vernal pools. Elevations range from 450-475 meters.	April-May	**No,** the Study Area lacks suitable habitat to support this species, elevation out of range and soil type not present.
Ceanothus purpureus holly-leaved ceanothus	--/--/1B.2	Known to occur in Napa, Solano, and Sonoma counties.	Perennial evergreen shrub found in cismontane woodland and chaparral habitats. Found in rocky, volcanic soils. Elevations range from 120-640 meters.	February-June	**Yes**, suitable habitat present in Study Area. Individuals observed.
Clarkia gracilis ssp. *tracyi* Tracy's clarkia	--/--/4.2	Known to occur in Napa, Colusa, Lake, and Tehama counties.	Annual herb found in chaparral openings. Usually found in serpentinite soils. Elevations range from 65-650 meters.	April-July	**No,** the Study Area lacks suitable habitat to support this species, serpentinite soil not present.
Downingia pusilla	--/--/2B.2	Known to occur in Napa, Fresno, Merced,	Annual herb found in valley and foothill	March-May	**No,** the Study Area lacks

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
dwarf downingia		Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties. Also occurs in South America.	grassland (mesic) and vernal pools and roadside ditches. Elevations range from 1-445 meters.		suitable habitat to support this species, mesic habitat not present.
Erigeron greenei Greene's narrow-leaved daisy	--/--/1B.2	Known to occur in Napa, Colusa, Lake, and Sonoma counties.	Perennial herb found in serpentinite or volcanic chaparral. Elevations range from 80-1005 meters.	May-September	**No,** the Study Area lacks suitable habitat to support this species.
Eryngium jepsonii Jepson's coyote thistle	--/--/1B.2	Known to occur in Napa, Alameda, Contra Costa, San Mateo, Solano, and Yolo counties.	Perennial herb found in clay vernal pools and valley and foothill grasslands. Elevations range from 3-300 meters.	April-August	**No,** the Study Area lacks suitable habitat to support this species.
Harmonia nutans Nodding harmonia	--/--/4.3	Known to occur in Napa, Lake, Solano, Sonoma, and Yolo counties.	Annual herb found in chaparral and cismontane woodland habitats. Found in rocky or gravelly, volcanic soils. Elevations range from 75-975 meters.	March-June	**No,** the Study Area lacks suitable habitat to support this species.
Hesperolinon sharsmithiae Sharsmith's western flax	--/--/1B.2	Known to occur in Napa and Lake counties.	Annual herb found in chaparral habitats on serpentinite substrate. Elevations range from 270-300 meters.	May-July	**Yes**, suitable habitat present in Study Area. Individuals observed.
Hesperolinon bicarpellatum two-carpellate western flax	--/--/1B.2	Known to occur in Lake, Napa, and Sonoma counties.	Annual herb found in chaparral habitats and serpentinite soils. Elevations range from 60-1005 meters.	May-July	**Yes**, suitable habitat present in Study Area.
Leptosiphon acicularis Bristly leptosiphon	--/--/4.2	Found in Napa, Alameda, Butte, Colusa, Humboldt, Kern, Lake, Marin, Mendocino, Placer, San Benito, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, and Yuba counties.	Annual herb found in coastal prairie, chaparral, cismontane woodland, and valley and foothill grassland. Elevations range from 55-1500 meters.	April-July	**No,** the Study Area lacks suitable habitat to support this species.
Leptosiphon jepsonii Jepson's leptosiphon	--/--/1B.2	Known to occur in Napa, Lake, Solano, Sonoma, and Yolo counties.	Annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. Typically occurs in volcanic soils. Elevations range from 100-500 meters.	March-May	**Yes**, suitable habitat present in Study Area.
Leptosiphon latisectus Broad-lobed leptosiphon	--/--/4.3	Known to occur in Napa, Colusa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, San Benito, San Francisco, San Mateo, Shasta, Sonoma, Tehama, and Trinity counties.	Annual herb found in broad-leafed upland forest and cismontane woodland. Elevation range 170-1500 meters.	April-June	**No,** the Study Area lacks suitable habitat to support this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Limnanthes vinculans Sebastopol meadowfoam	FE/CE/1B.1	Known to occur in Napa and Sonoma Counties. Possible extirpated in Napa.	Annual herb found in vernally mesic meadows and seeps, valley and foothill grassland, and vernal pools. Elevations range from 15-305 meters.	April-May	**No,** the Study Area lacks suitable habitat to support this species.
Lomatium repostum Napa lomatium	--/--/1B.2	Known to occur in Napa, Lake, Solano, and Sonoma counties.	Perennial herb found in chaparral and cismontane woodland habitats. Found in serpentinite soils. Elevations range from 90-1030 meters.	March-June	**Yes**, suitable habitat present in Study Area. Individuals observed.
Micropus amphibolus Mt. Diablo cottonweed	--/--/3.2	Known to occur in Napa, Lake, Marin, Monterey, San Joaquin, and Santa Cruz counties.	Annual herb found in broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland habitats. Found in rocky soils. Elevations range from 45-825 meters.	March-May	**Yes**, suitable habitat present in Study Area.
Monardella viridis Green monardella	--/--/4.3	Known to occur in Napa, Lake, Los Angeles, Mendocino, and Sonoma counties.	Perennial rhizomatous herb found in broadleafed upland forest, chaparral, and cismontane woodland. Elevations range from 100-1010 meters.	June-September	**Yes**, suitable habitat present in Study Area. Individuals observed.
Navarretia leucocephala ssp. pauciflora few-flowered navarretia	FE/CT/1B.1	Known to occur in Napa Lake and counties.	Annual herb occurs in vernal pools (volcanic ash flow). Elevations range from 400-855 meters.	May-June	**No**, suitable habitat for this species not present within Study Area, vernal pools not present.
Penstemon newberryi var. sonomensis Sonoma beardtongue	--/--/1B.3	Known to occur in Napa, Lake, and Sonoma counties.	Perennial herb found in rocky chaparral habitat. Elevations range from 700-1370 meters	April-August	**Yes**, suitable habitat to support this species present in Study Area. CNDDB occurrence is ~2 miles away.
Ranunculus lobbii Lobb's aquatic buttercup	--/--/4.2	Known to occur in Napa, Alameda, Contra Costa, Lake, Marin, Mendocino, Monterey, Sacramento, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma counties.	Aquatic annual herb found in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pool habitats. Found in mesic soils. Elevations range from 15-470 meters.	February-May	**No**, suitable habitat for this species not present within Study Area.
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	Known to occur in Napa, Butte, Del Norte, El Dorado, Fresno, Madera, Marin, Mariposa, Merced, Sacramento, San Bernardino, San	Perennial rhizomatous herb found in marshes and swamps (assorted shallow freshwater). Elevations range from 0-	May-October (November)	**No**, suitable habitat for this species not present within Study Area.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
		Joaquin, Shasta, Solano, Sutter, Tehama, Tulare, Ventura, and Yuba counties. However, it is presumed extirpated in Ventura county.	650 meters.		
Streptanthus hesperidis green jewelflower	--/--/1B.2	Known to occur in Napa, Lake, and Yolo counties.	Annual herb that occurs on serpentinite, rocky substrates. Found in chaparral (openings) and cismontane woodland habitats. Elevations range from 130 to 760 meters.	May-July	**Yes**, suitable habitat to support this species present in Study Area. CNDDB ~2 miles away.
Trichostema ruygtii Napa bluecurls	--/--/1B.2	Known to occur in Napa, Lake, Solano, and Sonoma counties.	Annual herb found in chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, and vernal pools. Elevations range from 30-680 meters.	June-October	**No**, suitable habitat for this species not present within Study Area.
Animals					
Fish					
Hypomesus transpacificus Delta smelt	FT/CE/--	Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. May also occur in the San Francisco Bay.	Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	**No**, suitable habitat for this species not present within Study Area.
Amphibians					
Rana boylii foothill yellow-legged frog	--/CE, CSC/--	Known from California and Oregon.	Require shallow, flowing water in moderate sized streams with some cobble substrate.	November-March (breeding) June-August (non-breeding)	**No**, suitable habitat for this species not present within Study Area.
Rana draytonii California red-legged frog	--/CE, CSC/--	Known to occur along the Coast from Mendocino County to Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada mountains, south to eastern Tulare County, and possibly eastern Kern County. Currently accepted range excludes the Central Valley.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0-1160 meters.	November – March (breeding) June - August (non-breeding)	**No**, suitable habitat for this species not present within Study Area.
Birds					

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
Elanus leucurus white-tailed kite	--/FP/--	Permanent resident of coastal and Valley lowlands.	Habitats include savannah, open woodland, marshes and swamps, partially cleared lands and cultivated fields, mostly in lowland habitats. Open groves, river valleys, marshes, grasslands. Nesting occurs in trees. Found in a wide variety of open habitats in North America, including open oak grassland, desert grassland, farm country, marshes. Main requirements seem to be trees for perching and nesting, and open ground with high populations of rodents.	All Year	**Yes**, suitable habitat to support this species present in Study Area. CNDDB occurrence ~3 miles away.
Haliaeetus leucocephalus bald eagle	--/CE, FP/--	The State's breeding territories are in northern California, but the eagles also nest in scattered locations in the central and southern Sierra Nevada mountains and foothills, in several locations from the central coast range to inland southern California, and on several California islands. Winters throughout most of California.	Found in mountain and foothill forests and woodlands near ocean shorelines, lakes, reservoirs, river systems, and coastal wetlands. Most Usually less than 2 km to water that offers foraging opportunities. Suitable foraging habitat consists of large bodies of water or rivers with abundant fish and adjacent perching sites such as snags or large trees.	Year-round	**No**, suitable habitat for this species not present within Study Area.
Phalacrocorax auritus double-crested cormorant	--/WL/--	A yearlong resident along the entire coast of California and on inland lakes, in fresh, salt and estuarine waters.	Colonial nester on coastal cliffs, offshore islands and along lake margins in the interior of the state. Prefers water less than 9 meters deep with rocky or gravel bottom. Roosts beside water on offshore rocks, islands, steep cliffs, dead branches of trees, wharfs, jetties, or transmission lines. Perching sites must be barren of vegetation.	All Year	**No**, suitable habitat for this species not present within Study Area.
Strix occidentalis caurina northern spotted owl	FT/CT; CSC/--	Geographic range extends from British Colombia to northwestern California south to San Francisco. The breeding range includes the Cascade Range, North Coast Ranges, and the Sierra Nevada. Some breeding populations	Resides in mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2,300 meters. Appear to prefer old-growth forests, but use of managed (previously logged) lands is	Year-round	**No**, suitable habitat to support this species present in Study Area, forest-specific habitats not present.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
		also occur in the Transverse Ranges and Peninsular Ranges.	not uncommon. Owls do not appear to use logged habitat until approximately 60 years after logging unless some larger trees or snags remain after logging. Nesting habitat is a tree or snag cavity, or the broken top of a large tree. Requires a nearby, permanent source of water. Foraging habitat consists of any forest habitat with sufficient prey (e.g. flying squirrels, mice, and voles).		
Mammals					
Antrozous pallidus pallid bat	--/CSC/--	Locally common species at low elevations. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino county.	Habitats occupied include grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests, generally below 2,000 meters. The species is most common in open, dry habitats with rocky areas for roosting. Roosts also include cliffs, abandoned buildings, bird boxes, under exfoliating bark, and under bridges.	Year-round	**No**, suitable habitat for this species not present within Study Area. Trees are nearly absent and shallow rock outcrops and yound, tightly barked trees do not provide suitable roosting.
Invertebrates					
Branchinecta conservatio Conservancy fairy shrimp	FE/--/--	The species is currently known from several disjunct populations: the Vina Plains in Tehama County, south of Chico in Butte County, the Jepson Prairie Preserve and surrounding area in Solano County, Sacramento National Wildlife Refuge in Glenn County, Mapes Ranch west of Modesto, San Luis National Wildlife Refuge and the Haystack Mountain/Yosemite Lake area in Merced County, and two locations on the Los Padres National Forest in Ventura County.	Endemic to vernal pools in the northern two-thirds of the Central Valley.	December-May	**No**, suitable habitat for this species not present within Study Area.
Syncaris pacifica California freshwater shrimp	FE/CE/--	Known only throughout Marin, Napa, and Sonoma counties.	Small, low-gradient, perennial coastal streams. Prefers relatively shallow streams with depths of 12-36 inches, exposed live roots of trees such as alder	Consult Agency	**No**, suitable habitat for this species not present within Study Area.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR WITHIN STUDY AREA
			and willow, undercut banks greater than 6 inches, overhanging woody debris or stream vegetation and vines. Elevations range from 0-116 meters.		
Reptiles					
Emys marmorata western pond turtle	--/CSC/--	Distribution ranges from Washington to northern Baja California.	Inhabit rivers, streams, lakes, ponds, reservoirs, stock ponds, and permanent wetland habitats with basking sites.	Year-round	**No**, suitable habitat for this species not present within Study Area.
SOURCE: CDFW, 2022b and **Attachment 1**					

STATUS CODES

FEDERAL: United States Fish and Wildlife Service

FE Federally Endangered
FT Federally Threatened
FC Candidate for Federal Listing

STATE: California Department of Fish and Game

CE California Listed Endangered
CT California Listed Threatened
CCT California Candidate Threatened
CSC California Species of Special Concern
FP California Fully Protected

CNPS: California Native Plant Society (California Rare Plant Rank [CRPR])

1A Plants Presumed Extinct in California
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 Plants about Which We Need More Information – A Review List
4 Plants of Limited Distribution – A Watch List

CNPS Threat Ranks

0.1 - Seriously threatened in California
0.2 - Fairly threatened in California
0.3 - Not Very Threatened in California

5.0 RESULTS & RECOMMENDED MITIGATION

5.1 SENSITIVE HABITATS

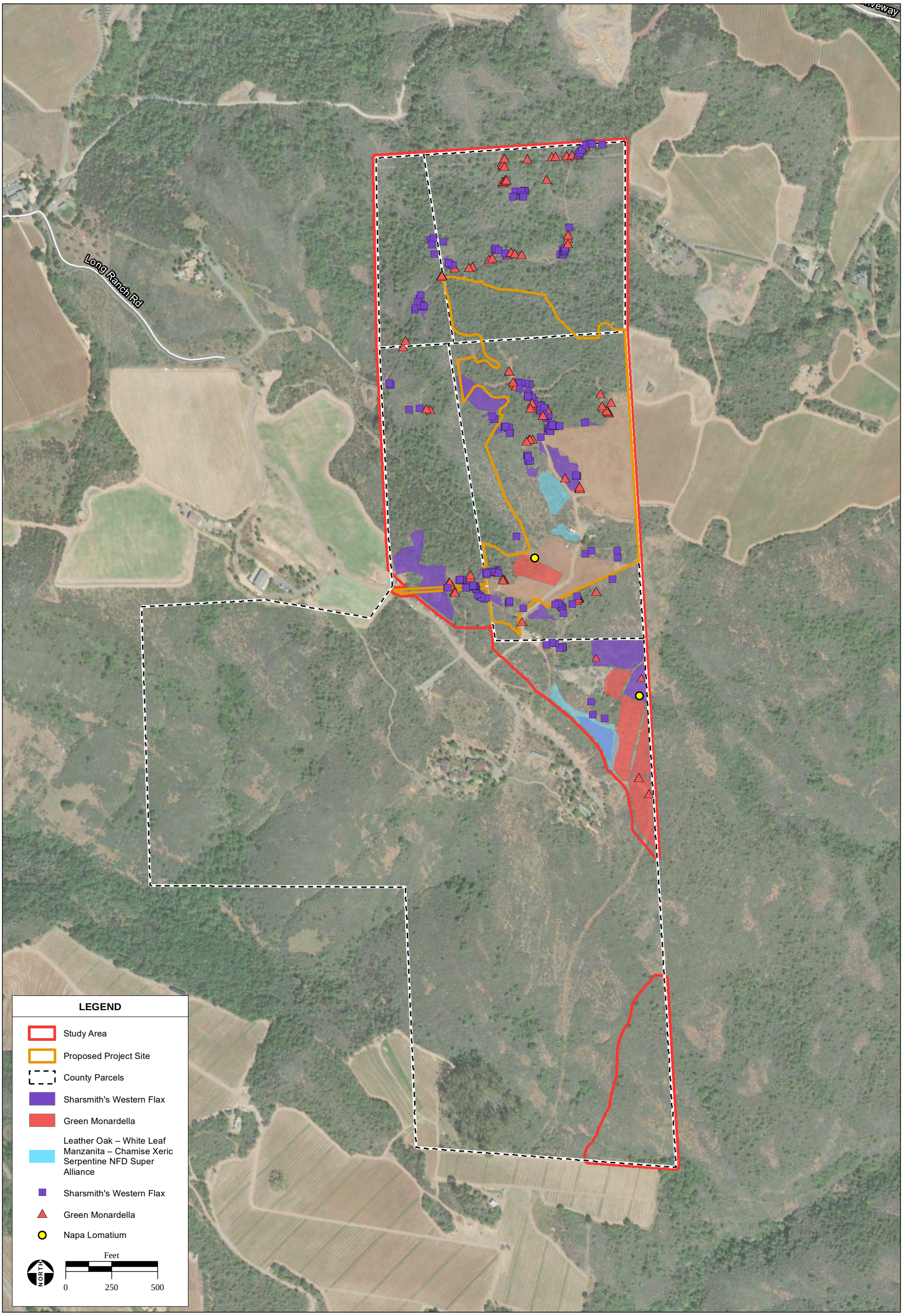
Approximately 1.61 acres of Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance occurs within the Study Area (**Figure 7**). This biological community is not considered sensitive by CDFW, but it is considered sensitive by Napa County per the NCBDR (Napa County, 2005). The Study Area also consists of disturbed/graded, Sclerophyllous shrubland formation, mixed manzanita, scrub interior live oak – scrub oak, chamise alliance which are not considered sensitive by Napa County or CDFW. A majority of the acreage designated as disturbed/graded habitat is included within the Project Site through project design.

Approximately 0.70 acres of Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance sensitive habitat would be cleared within the Project Site. The NCBDR lists Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance as covering 5.32 percent of the County's land cover and totaling 26,986 acres. The removal of 0.7 acres of Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance represents 2.6 x 10^-6 percent of the total land cover within Napa County. Avoidance or preservation of Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance at a 2:1 ratio is recommended. A total of 0.90 acres of Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance is proposed to be preserved outside of the Project Site with the remaining acreage (0.5 acres), completed via compensatory planting per Napa County General Plan Open Conservation Policy CON-2, and ensuring there is no net loss of this habitat type.

The Proposed Project has been largely designed to avoid sensitive habitats and special-status plant species. A proposed mitigation area, totaling approximately 68.06 acres, would be preserved through a conservation easement, and would be used for both preservation and compensatory plantings of sensitive habitats and special-status plant species that are impacted as a result of the Proposed Project (**Figure 8**).

5.2 WETLANDS AND WATERS OF THE U.S. AND STATE

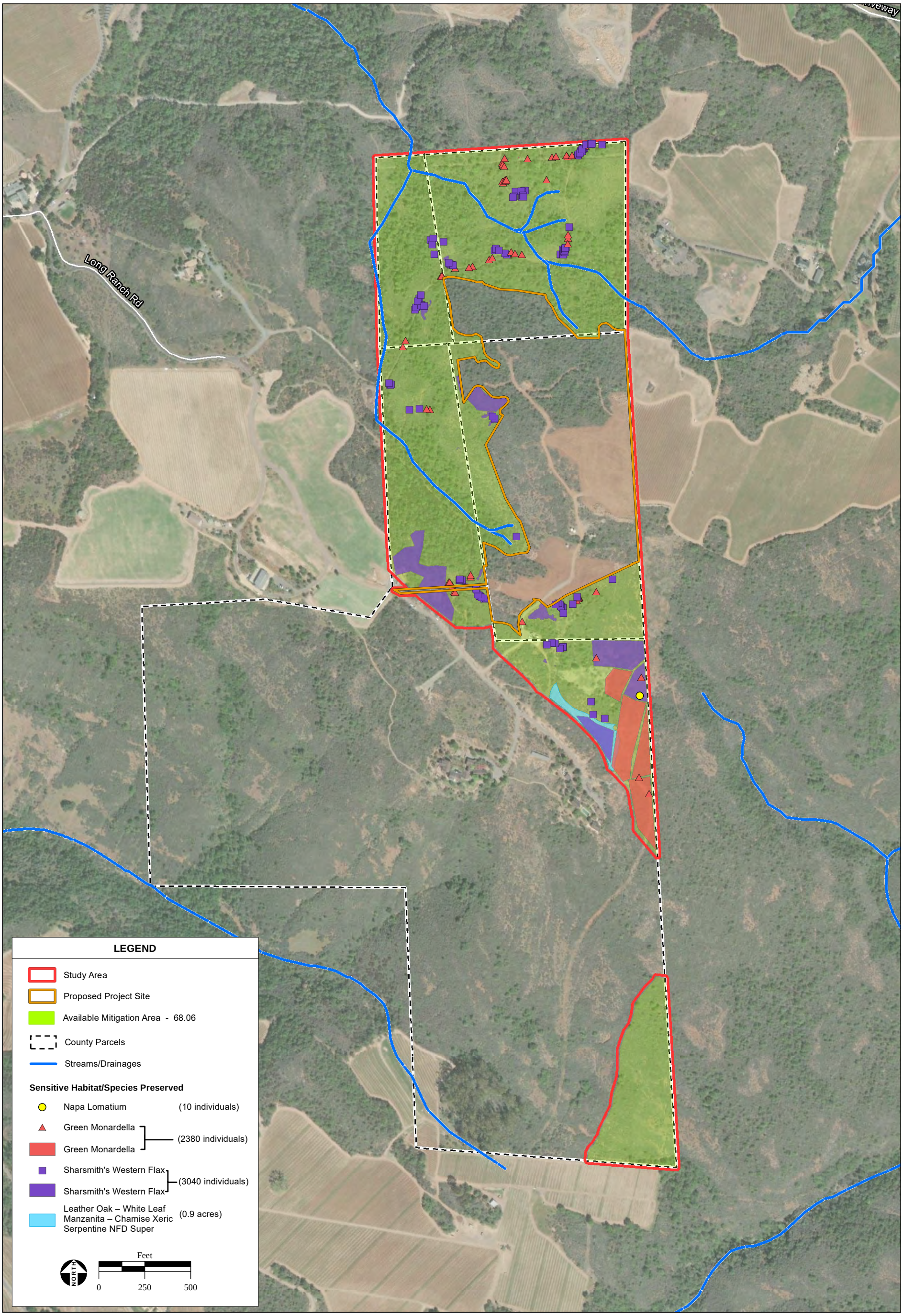
Two ephemeral drainages occur within the Study Area. These two ephemeral drainages are classified as Class III streams. Construction activities near streams that meet the Napa County definition of a stream will maintain setbacks in compliance with the Napa County Code of Ordinance, Conservation Regulations Code 18.108.025. **Table 3** shows the Napa County required stream setbacks per ground slope adjacent to the stream.



SOURCE: Napa County Parcels; Vivid Maxar aerial photograph, 4/8/2021; ESRI, 2022; Montrose, 3/9/2022

Figure 7

Special-Status Species and Sensitive Habitats



SOURCE: Napa County Parcels; Vivid Maxar aerial photograph, 4/8/2021, 4/16/2021; ESRI, 2022; Montrose, 4/11/2022

Figure 8

Proposed Mitigation Area

TABLE 3
NAPA COUNTY STREAM SETBACKS

Stream Slope (%)	Required Setback
< 1 %	35 feet
1 – 5 %	45 feet
5 – 15 %	55 feet
15 – 30 %	65 feet
30 – 40 %	85 feet
40 – 50 %	105 feet
50 – 60 %	125 feet
60 – 70 %	150 feet

For drainages that do not meet the Napa County definition of a stream, but are considered ephemeral streams, 35-foot minimum setbacks are maintained from the top of bank (Napa County Code Section 18.108.025). In accordance with setback requirements and on-site bank slopes (over 5%), appropriate setbacks have been provided for streams in the vicinity of the Project Site as shown on the Erosion Control Plan (ECP; **Attachment 5**). Additionally, implementation of **Recommended Mitigation 1** would reduce impacts to potential waters of the U.S. and state.

Recommended Mitigation 1

- Temporary construction fencing shall be installed along the edges of stream bank setbacks prior to commencement of earthmoving activities and shall remain in place until construction in the vicinity of streams has been completed.
- Standard precautions shall be employed by the construction contractor to prevent accidental releases of fuel, oil, lubricant, or other hazardous materials associated with construction activities into nearby streams.
- All erosion control measures outlined in the ECP shall be adhered to.

5.3 SPECIAL-STATUS SPECIES

Based on survey results and the review of regionally occurring special-status species and associated habitat requirements, the Study Area may contain suitable habitat for 10 special-status plant species: holly-leaved ceanothus, Sharsmith's western flax, two-carpellate western flax, green jewelflower, Sonoma beardtongue, narrow-anthered brodiaea, Napa lomatium, Mt. Diablo cottonweed, Jepson's leptosiphon, and green monardella and one special-status animal species: white-tailed kite. Special-status plant species were observed within the Study Area and Project Site during the survey, and protocol-level botanical surveys were timed to the appropriate bloom season. No special-status lichens or bryophytes were observed. Special-status plant species will be impacted as part of the Proposed Project; however, the project has been designed to avoid and minimize impacts to special-status plant species to the maximum extent feasible. Mitigation is required for impacts to special-status plant species, and will likely involve avoidance, preservation, and/or restoration at a 2:1 ratio. Avoidance has largely been accounted for in project design. Special-status plant species acreage and individual count estimates resulting from the surveys are presented in the table below along with proposed mitigation quantities for preservation outside of the Project Site. Special-status species observed within the Study Area are displayed in **Figure 7** and a proposed mitigation area is provided in **Figure 8**.

TABLE 4
SPECIAL-STATUS PLANT SPECIES OBSERVED IN THE STUDY AREA

Special-Status Species Occurring in Study Area	CRPR Rank	Individuals /Acres In Study Area	Individuals/ Acres In Project Site	Individuals/ Acres Outside Project Site	2:1 Preservation Target	Available Preservation Ratio
Holly-leaved ceanothus	1B.2	3.1 ac	0.71 ac	2.37 ac	1.42 ac	3.3:1
Sharsmith's western flax	1B.2	4850 indiv.	1800 indiv.	3040 indiv.	3600 indiv.	1.7:1
Green monardella	4	3440 indiv.	1060 indiv.	2380 indiv.	2120 indiv.	2.2:1
Napa lomatium	1B.2	11 indiv.	1 indiv.	10 indiv.	2 indiv.	10:1

The Project Site contains suitable habitat to support special-status species and supports holly-leaved ceanothus, Sharsmith's western flax, green monardella, and Napa lomatium as presented above. These four special-status plants were observed within all habitats and vegetation alliances or their margins and are present both within and outside of the Project Site. Additionally, Sharsmith's western flax, green monardella, and Napa lomatium were observed within historically and recently disturbed areas and their margins such as roadway cuts, vineyard blocks, and utility line right-of-way clearing operations, as these species commonly occur in disturbed areas. Since these special-status plants are present across habitat types and vegetation alliances, in the case where a direct 2:1 mitigation ratio is not feasible (for Sharsmith's western flax), it is recommended that suitable habitat be preserved at a 2:1 ratio and include a combination of restoration, reseeding, or preservation of the species. The land within the proposed mitigation area (**Figure 8**) is considered suitable habitat for all of the special-status plant species identified within the Project Area. Surveys subjectively estimated quantities of individuals for Sharsmith's western flax, and the condition and quantity of plants of this species may vary with season. It is assumed that additional individuals of special-status plants exist beyond what was observed during the surveys, as suitable habitat for these species exists throughout the Study Area. Therefore, preserving a total of 68.06 acres of suitable habitat acreage within the mitigation area as well as known locations of Sharsmith's western flax individuals would allow for additional individuals to grow or be reseeded to meet or exceed a 2:1 mitigation ratio and ensure there is no net loss of this species. **Recommended Mitigation 2** is recommended to reduce and mitigate the impacts to special-status plants as a result of the Proposed Project.

Recommended Mitigation 2

- Any CNPS rank 1-4 plants that are removed within the Proposed Project site shall be preserved and/or replanted at a 2:1 ratio within the proposed mitigation area. A mitigation plan shall be prepared detailing the preservation and/or compensatory planting within the mitigation area. The plan shall include a monitoring and reporting program developed in consultation with the County. Monitoring of mitigation locations shall occur yearly over a 3-year minimum period to ensure success criteria are met.
- Fencing shall be installed along the perimeter of the Proposed Project site in order to protect preserved special-status plant populations from grading effects, dust and sediment migration, and the presence and/or spread of invasive species.

5.4 NESTING MIGRATORY BIRDS

Areas within 500 feet of construction may provide potential nesting habitat for migratory birds. The general nesting season for migratory birds occurs from February 1 through September 15. Construction activities have the potential to impact populations of nesting migratory birds on the Study Area should such activities occur during the general nesting season. Implementation of **Recommended Mitigation 3** would reduce potential impacts to nesting migratory birds.

Recommended Mitigation 3

- Should construction activities associated with the Proposed Project occur during the general nesting season (February 1 to September 15), a preconstruction nesting bird survey shall be conducted no more than 7 days prior to the start of ground-disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests.
- Should an active nest be identified, an avoidance buffer shall be established by a qualified biologist based on the needs of the species identified. Avoidance buffers may vary in size depending on habitat characteristics, project-related activities, and disturbance levels.
- Avoidance buffers shall remain in place until the end of the general nesting season or upon a determination by a qualified biologist that young have fledged or the nest has failed.
- Should work activity cease for 7 days or greater during the breeding season, surveys shall be repeated to ensure birds have not established nests during inactivity.

5.5 CRITICAL HABITAT

Contra Costa Goldfield Designated Critical Habitat is present approximately 6 miles to the southeast of the Study Area. No designated critical habitat occurs within the Project Site or Study Area, and therefore the Proposed Project would not affect critical habitat.

5.6 VEGETATION UNDERSTORY

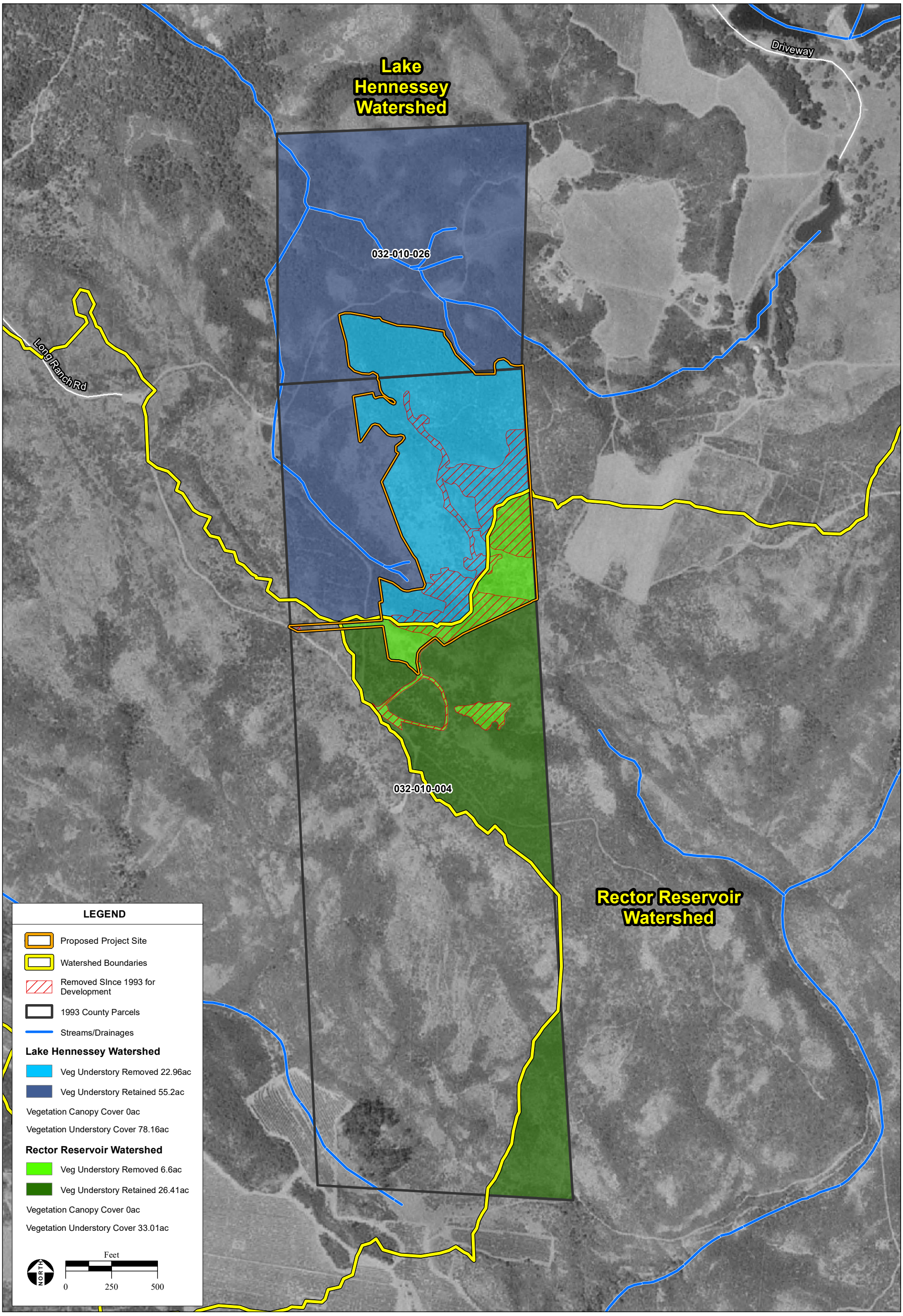
In accordance with the Vegetation Preservation and Replacement component of the Napa County Code 18.108.027 and Policy CON 18, which requires a minimum of 40 percent retention of the vegetation understory present in 1993, a total of 70 to 80 percent of the vegetation understory is retained within the Study Area (1993 County APNs 032-010-026 and 032-010-004). The Proposed Project meets the County's goals of vegetation understory retention for sensitive domestic water supply drainages, including the two municipal watersheds within the Study Area (**Table 5** and **Figure 9**).

TABLE 5
1993 VEGETATION UNDERSTORY RETENTION

Watershed	Vegetation Understory Removed (ac)	Vegetation Understory Retained (ac)	Total Vegetation Understory Cover (ac)	Percent Vegetation Understory Retained (%)
Lake Hennessey	22.96	55.20	78.16	70.6
Rector Reservoir	6.60	26.41	33.01	80.0

5.7 WILDLIFE MOVEMENT

The Study Area is located within the mapped "Essential Connectivity Area," in the California Essential Connectivity Project and ranked as low permeability (CDFW, 2022). The surrounding area includes vineyards, development, local roadways, and vineyard fencing which currently limit wildlife movement



SOURCE: USGS "Yountville NW" Orthophoto, 1993; Montrose, 7/29/2022

Figure 9

1993 Vegetation Understory

in the area. Development of the Proposed Project would partially occur on previously disturbed areas and abut an existing property line fence on the eastern boundary. Wildlife movement likely occurs within the riparian corridors, as evidence of large and small mammal scat and/or tracks were observed in this area. Wildlife movement therefore likely moves in a north-south direction along riparian corridors and/or through saddles in the hills and mountaintops surrounding the Study Area. Proposed fencing would be limited to the vineyard blocks within the Proposed Project Site area and would avoid riparian corridors along existing streams in the Study Area; therefore, the Proposed Project would not affect existing wildlife movement along the western riparian corridor.

6.0 REFERENCES

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ATTACHMENTS

ATTACHMENT 1

CNDDB, CNPS, NMFS AND USFWS DATABASE QUERIES

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Yountville (3812243))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Brodiaea leptandra narrow-anthered brodiaea	PMLIL0C022	None	None	G3?	S3?	1B.2
Castilleja ambigua var. meadii Mead's owls-clover	PDSCR0D404	None	None	G4T1	S1	1B.1
Ceanothus purpureus holly-leaved ceanothus	PDRHA04160	None	None	G2	S2	1B.2
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erigeron greenei Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G3	S3	1B.2
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hesperolinon sharsmithiae Sharsmith's western flax	PDLIN010E0	None	None	G2Q	S2	1B.2
Leptosiphon jepsonii Jepson's leptosiphon	PDPLM09140	None	None	G2G3	S2S3	1B.2
Limnanthes vinculans Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
Navarretia leucocephala ssp. pauciflora few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	G4T1	S1	1B.1
Penstemon newberryi var. sonomensis Sonoma beardtongue	PDSCR1L483	None	None	G4T3	S3	1B.3
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Rana boylii foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Streptanthus hesperidis green jewelflower	PDBRA2G510	None	None	G2G3	S2S3	1B.2
Stygobromus cowani Cowan's amphipod	ICMAL05D70	None	None	G1	S1	
Trichostema ruygtii Napa bluecurls	PDLAM220H0	None	None	G1G2	S1S2	1B.2

Record Count: 24

California Native Plant Society

Search Results

24 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [**1A:1B:2A:2B:3:4**] , Quad is one of [**3812243**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	Jun-Sep	None	None	G4	S4	4.3
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	None	None	G3?	S3?	1B.2
Castilleja ambigua var. *ambigua*	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	None	None	G4T4	S3S4	4.2
Castilleja ambigua var. *meadii*	Mead's owls-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-May	None	None	G4T1	S1	1B.1
Ceanothus purpureus	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	None	None	G2	S2	1B.2
Clarkia gracilis ssp. *tracyi*	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	None	None	G5T3	S3	4.2
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	None	None	GU	S2	2B.2
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	perennial herb	May-Sep	None	None	G3	S3	1B.2
Eryngium jepsonii	Jepson's coyote-thistle	Apiaceae	perennial herb	Apr-Aug	None	None	G2	S2	1B.2
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	Mar-May	None	None	G3	S3	4.3
Hesperolinon sharsmithiae	Sharsmith's western flax	Linaceae	annual herb	May-Jul	None	None	G2Q	S2	1B.2
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	None	None	G2G3	S2S3	1B.2
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3
Limnanthes vinculans	Sebastopol meadowfoam	Limnanthaceae	annual herb	Apr-May	FE	CE	G1	S1	1B.1
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	None	None	G2G3	S2S3	1B.2
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	None	None	G3G4	S3S4	3.2
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	None	None	G3	S3	4.3
Navarretia leucocephala ssp. *pauciflora*	few-flowered navarretia	Polemoniaceae	annual herb	May-Jun	FE	CT	G4T1	S1	1B.1

Penstemon newberryi var. *sonomensis*	Sonoma beardtongue	Plantaginaceae	perennial herb	Apr-Aug	None	None	G4T3	S3	1B.3
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	G4	S3	4.2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	May-Jul	None	None	G2G3	S2S3	1B.2
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	Jun-Oct	None	None	G1G2	S1S2	1B.2

Showing 1 to 24 of 24 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 14 December 2021].

Quad Name **Yountville**
Quad Number **38122-D3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - **X**
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

United States Department of the Interior

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

In Reply Refer To:
Consultation Code: 08ESMF00-2022-SLI-0595
Event Code: 08ESMF00-2022-E-01756
Project Name: Red Dirt

December 14, 2021

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2022-SLI-0595
Event Code: Some(08ESMF00-2022-E-01756)
Project Name: Red Dirt
Project Type: ** OTHER **
Project Description: BRA
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.46318652550008,-122.33922059419203,14z

Counties: Napa County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/1123

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2891

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Crustaceans

NAME	STATUS
California Freshwater Shrimp *Syncaris pacifica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered

Flowering Plants

NAME	STATUS
Contra Costa Goldfields *Lasthenia conjugens* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Few-flowered Navarretia *Navarretia leucocephala ssp. pauciflora (=N. pauciflora)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8242	Endangered
Sebastopol Meadowfoam *Limnanthes vinculans* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/404	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

ATTACHMENT 2

NRCS SOILS REPORT

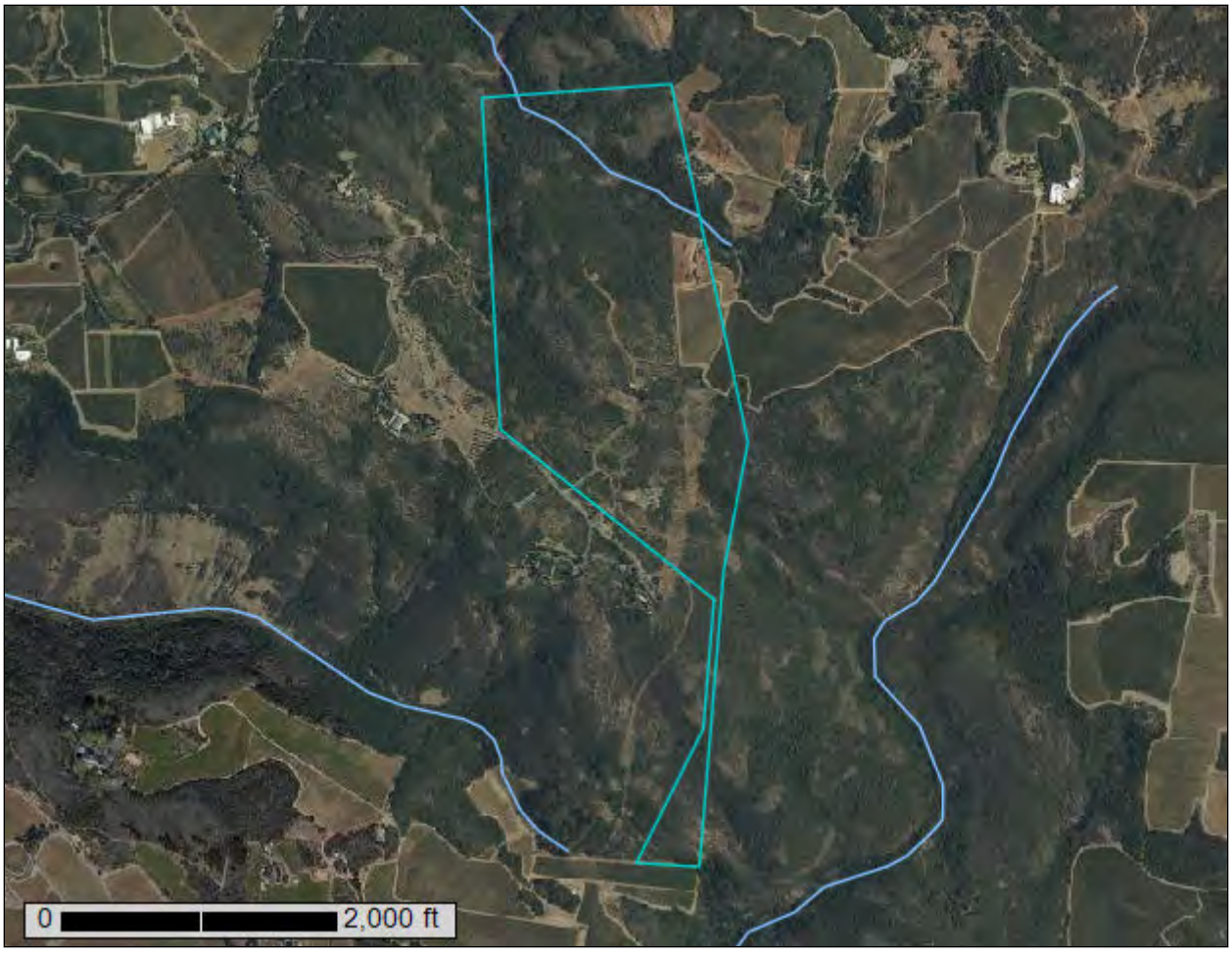
United States Department of Agriculture

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 Napa County, California



February 10, 2022

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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.

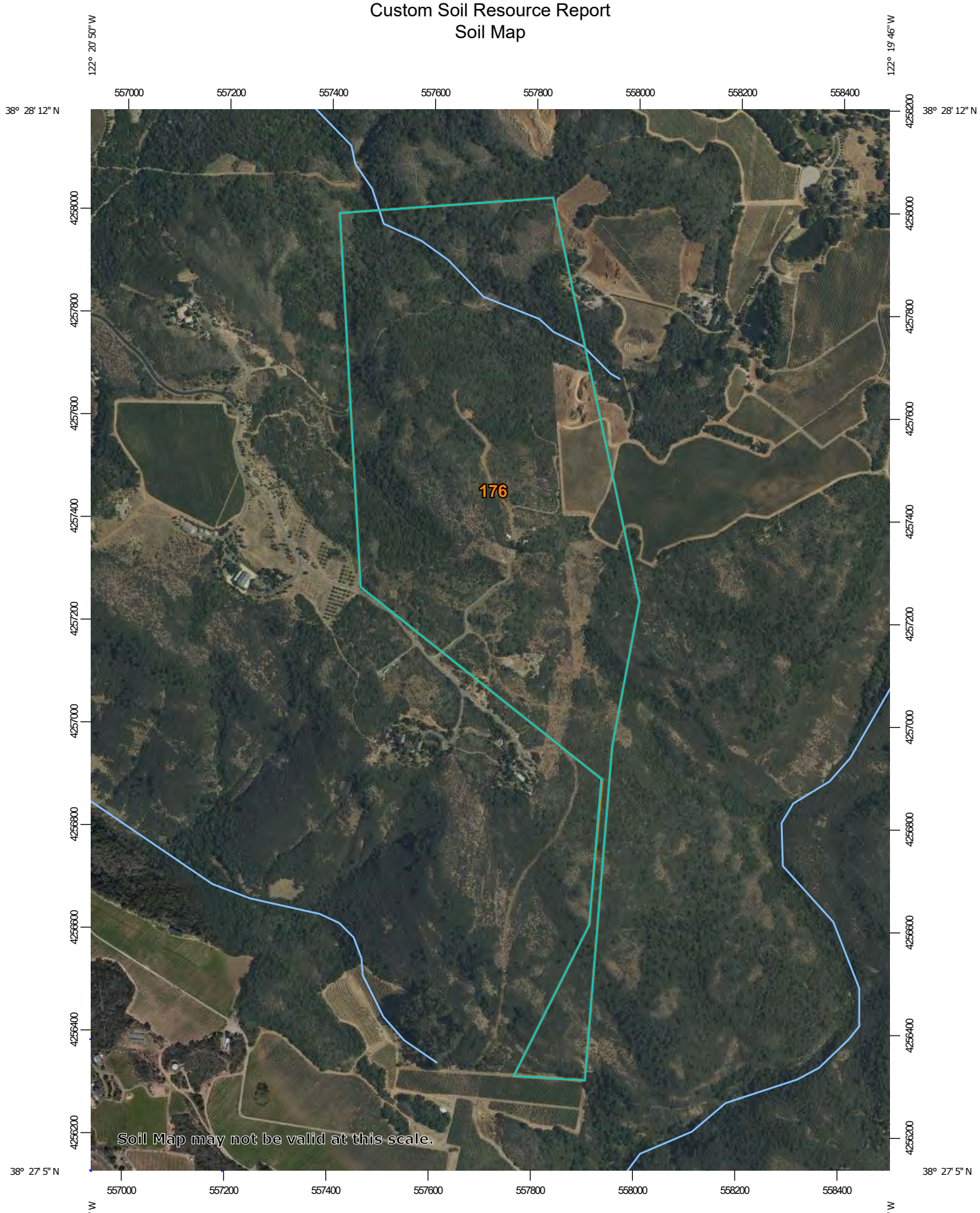
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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.

Custom Soil Resource Report
Soil Map



Map Scale: 1:10,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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: Napa County, California
Survey Area Data: Version 14, Sep 9, 2021

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

Date(s) aerial images were photographed: Mar 15, 2019—Jul 5, 2019

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
176	Rock outcrop-Hambright complex, 50 to 75 percent slopes	121.5	100.0%
Totals for Area of Interest		**121.5**	**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.

Napa County, California

176—Rock outcrop-Hambright complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: hdmg
Elevation: 200 to 3,000 feet
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 220 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 60 percent
Hambright and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Free face
Down-slope shape: Convex
Across-slope shape: Convex

Typical profile

H1 - 0 to 10 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)

Interpretive groups

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

Description of Hambright

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from basic volcanic rock

Typical profile

H1 - 0 to 12 inches: very stony loam
H2 - 12 to 22 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 75 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

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ATTACHMENT 3

LIST OF PLANT SPECIES OBSERVED

List of vascular plant species observed within the Study Area during surveys conducted on April 12-15, May 25-27, June 23, and December 7, 2021.

Scientific Name	Common Name	Family
Acer negundo	box elder	Aceraceae
Achillea millefolium	yarrow	Asteraceae
Acmispon americanus var. americanus	Spanish lotus	Fabaceae
Acmispon glaber var. glaber	deerweed	Fabaceae
Adenostoma fasciculatum	chamise	Asteraceae
Adiatum jordanii	California maidenhair	Pteridaceae
Aesculus californica	buckeye	Sapindaceae
Agoseris grandiflora	giant mountain dandelion	Asteraceae
Agoseris retrorsa	retrorse mountain dandelion	Asteraceae
Aira caryophyllea	European silver hairgrass	Poaceae
Amaranthus albus	tumbleweed	Amaranthaceae
Amsinkia sp.	fiddleneck	Boraginaceae
Anthriscus caucalis	bur-chervil	Apiaceae
Aphanes occidentalis	field parsley piert	Rosaceae
Aquilegia formosa	columbine	Ranunculaceae
Arbutus menziesii	madrone	Ericaceae
Arctostaphylos glandulosa ssp. glandulosa	Eastwood manzanita	Ericaceae
Arctostaphylos manzanita ssp. manzanita	common manzanita	Ericaceae
Artemisia douglasiana	California mugwort	Asteraceae
Asclepias cordifolia	purple milkweed	Apocynaceae
Avena barbata	slender wild oat	Poaceae
Avena fatua	wild oats	Poaceae
Baccharis pilularis	coyote brush	Asteraceae
Bellardia trixago	Mediterranean lineseed	Orobanchaceae
Brassica nigra	black mustard	Brassicaceae
Brassica rapa	field mustard	Brassicaceae
Briza maxima	rattlesnake grass	Poaceae
Briza minor	little rattlesnake grass	Poaceae
Brodiaea elegans ssp. elegans	harvest brodiaea	Themidaceae
Bromus carinatus	California brome	Poaceae
Bromus diandrus	ripgut brome	Poaceae
Bromus hordeaceus	soft chess	Poaceae
Bromus madritensis	foxtail chess	Poaceae
Calandrinia menziesii	red maids	Montiaceae
Calochortus amabilis	golden fairy lantern	Liliaceae
Calochortus luteus	yellow mariposa	Liliaceae

Calystegia collina ssp. collina	Coast range false bindweed	Convolvulaceae
Capsella bursa-pastoris	shepherd's purse	Brassicaceae
Cardamine californica	milk maids	Brassicaceae
Carduus pycnocephalus ssp. pycnocephalus	Italian thistle	Asteraceae
Castilleja attenuata	valley tassels	Orobanchaceae
Ceanothus cuneatus var. cuneatus	buckbrush	Rhamnaceae
Ceanothus foliosus var. foliosus	wavy leaved ceanothus	Rhamnaceae
Ceanothus oliganthus var. soriedatus	Jim bush	Rhamnaceae
Ceanothus purpureus	holly-leaf ceanothus	Rhamnaceae
Centaurea calcitrapa	purple star-thistle	Asteraceae
Centaurea melitensis	Tocalote	Asteraceae
Centaurea solstitialis	yellow star-thistle	Asteraceae
Cerastium glomeratum	mouse-ear chickweed	Caryophyllaceae
Cercocarpus betuloides var. betuloides	birch-leaved mountain-mahogany	Rosaceae
Chenopodium album	lamb’s quarters	Chenopodiaceae
Chlorogalum pomeridianum var. pomeridianum	common soap plant	Agavaceae
Cichorium intybus	chicory	Asteraceae
Cirsium vulgare	bull thistle	Asteraceae
Claytonia perfoliata ssp. perfoliata	miner's lettuce	Montiaceae
Clematis lasiantha	chaparral clematis	Ranunculaceae
Collinsia heterophylla var. heterophylla	Chinese houses	Plantaginaceae
Conium maculatum	poison hemlock	Apiaceae
Convolvulus arvensis	field bindweed	Convolvulaceae
Crassula connata	Sand pygmyweed	Euphorbiaceae
Croton setiger	turkey-mullein	Euphorbiaceae
Cynodon dactylon	Bermuda grass	Poaceae
Cynoglossum grande	hound’s-tongue	Boraginaceae
Cynosurus echinatus	bristly dogtail grass	Poaceae
Cyperus eragrostis	tall flatsedge	Cyperaceae
Cytisus scoparius	Scotch broom	Fabaceae
Dactylis glomerata	orchard grass	Poaceae
Dendromecon rigida	bush poppy	Papaveraceae
Deschampsia danthonioides	annual hairgrass	Poaceae
Dichelostemma capitatum	wild hyacinth	Themidaceae
Diplacus aurantiacus	Sticky monkeyflower	Phrymaceae
Diplacus guttatus	common monkeyflower	Phrymaceae
Dipsacus sativus	Fuller’s teasel	Dipsacaceae
Dodecatheon hendersonii	Henderson’s shooting stars	Primulaceae

Elymus glaucus	blue wildrye	Poaceae
Elymus triticoides	alkali ryegrass	Poaceae
Epilobium ciliatum	slender willlow herb	Onagraceae
Epilobium densiflorum	willow herb	Onagraceae
Erigeron canadensis	Canada horseweed	Asteraceae
Eriodictyon californicum	yerba santa	Boraginaceae
Eriogonum nudum var. nudum	naked buckwheat	Polygonaceae
Eriophyllum lanatum var. achilleoides	yarrow wooly sunflower	Asteraceae
Erodium botrys	big heron bill	Geraniaceae
Erodium cicutarium	red-stemmed filaree	Geraniaceae
Eschscholzia californica	California poppy	Papaveraceae
Euphorbia peplus	petty spurge	Euphorbiaceae
Festuca bromoides	six-weeks fescue	Poaceae
Festuca microstachys	small fescue	Poaceae
Festuca myuros	rattail grass	Poaceae
Festuca perennis	Italian rye grass	Poaceae
Frangula californica ssp.tomentella	hoary cofeeberry	Rhamnaceae
Fraxinus bipetala	California ash	Oleaceae
Fritillaria recurva	scarlet fritillary	Liliaceae
Galium porrigens	climbing bedstraw	Rubiaceae
Gamochaeta ustulata	purple cudweed	Asteraceae
Garrya elliptica	chaparral silktassel	Garryaceae
Gastridium phleoides	nit grass	Poaceae
Geranium dissectum	wild geranium	Geraniaceae
Geranium molle	dove's-foot geranium	Geraniaceae
Gilia sp.	gilia	Polemoniaceae
Helminthotheca echioides	bristly ox-tongue	Asteraceae
Hesperolinon sharsmithiae	Sharsmith's western flax	Linaceae
Heteromeles arbutifolia	toyon	Rosaceae
Hirschfeldia incana	short-podded mustard	Brassicaceae
Hordeum vulgare	barley	Poaceae
Hypericum concinnum	gold wire	Hypericaceae
Hypericum perforatum	Klamath weed	Hypericaceae
Hypochaeris radicata	hairy cats ear	Asteraceae
Iris macrosiphon	wild iris	Iridaceae
Juncus balticus	Baltic rush	Juncaceae
Juncus sp.	rush	Juncaceae
Keckiella breviflora var. glabrisepala	hairless gaping keckiella	Plantaginaceae
Kickxia elatine	sharp-leaved fluellin	Plantaginaceae
Lactuca saligna	willow lettuce	Asteraceae

Lactuca serriola	prickly lettuce	Asteraceae
Lamium amplexicaule	Henbit deadnettle	Lamiaceae
Lasthenia californica	California goldfields	Asteraceae
Lathyrus vestitus var. vestitus	hillside pea	Fabaceae
Leontodon saxatilis	hawkbit	Asteraceae
Lepechinia calycina	pitcher sage	Lamiaceae
Lepidium nitidum	shining peppergrass	Brassicaceae
Leptosiphon parviflorus	common leptosiphon	Polemoniaceae
Linum bienne	narrow leaf flax	Linaceae
Logfia filaginoides	California cottonrose	Asteraceae
Logfia gallica	Narrowleaf cottonrose	Asteraceae
Lomatium californicum	Celery weed	Apiaceae
Lomatium repostum	Napa lomatium	Apiaceae
Lomatium utriculatum	bladder lomatium	Apiaceae
Lonicera hispidula	hairy honeysuckle	Caprifoliaceae
Lonicera interrupta	chaparral honeysuckle	Caprifoliaceae
Lotus corniculatus	bird's-foot trefoil	Fabaceae
Lupinus microcarpus	Chick lupine	Fabaceae
Lysimachia arvensis	scarlet pimpernel	Myrsinaceae
Lythrum hyssopifolia	hyssop loosestrife	Lythraceae
Madia exigua	small tarweed	Asteraceae
Malva parviflora	little mallow	Malvaceae
Marah fabacea	California manroot	Cucurtibaceae
Marrubium vulgare	horehound	Lamiaceae
Matricaria discoidea	pineapple weed	Asteraceae
Medicago polymorpha	burclover	Fabaceae
Melica californica	California melic	Poaceae
Melilotus indicus	annual yellow clover	Fabaceae
Mentha arvensis	field mint	Lamiaceae
Micropus californicus var. californicus	cottontop	Asteraceae
Microseris douglasii ssp. douglasii	Douglas' microseris	Asteraceae
Minuartia douglasii	Douglas' sandwort	Caryophyllaceae
Monardella viridis	Green monardella	Lamiaceae
Oxalis pes-caprae	Bermuda sorrel	Oxalidaceae
Parentucellia viscosa	yellow parentucellia	Orobanchaceae
Pedicularis densiflora	Indian warrior	Orobanchaceae
Pellaea andromedifolia	coffee fern	Pteridaceae
Pellaea mucronata	bird's foot fern	Pteridaceae
Pentagramma triangularis	gold back fern	Pteridaceae
Perideridia kelloggii	Yampah	Apiaceae
Petrorhagia dubia	windmill pink	Caryophyllaceae

Phalaris sp.	canary grass	Poaceae
Phoradendron sp.	mistletoe	Viscaceae
Phyla nodiflora	common lippia	Verbenaceae
Pickeringia montana var. montana	chaparral pea	Fabaceae
Pinus sabiniana	foothill pine	Pinaceae
Plagiobothrys sp.	popcorn-flower	Boraginaceae
Plantago erecta	erect plantain	Plantaginaceae
Plantago lanceolata	ribwort	Plantaginaceae
Plantago major	English plantain	Plantaginaceae
Plectritis sp.	plecritis	Valerianaceae
Poa annua	annual bluegrass	Poaceae
Poa secunda	one-sided blue grass	Poaceae
Pogogyne serpylloides	thymeleaf mesamint	Lamiaceae
Polygala californica	milkwort	Polygalaceae
Polygonum aviculare ssp. depressum	common knotweed	Polygonaceae
Polypogon monspeliensis	annual beardgrass	Poaceae
Potentilla glandulosa	Sticky sinquefoil	Roasaceae
Pseudognaphalium californicum	Ladies' tabacco	Asteraceae
Pseudognaphalium luteoalbum	weedy cudweed	Asteraceae
Pseudognaphalium stramineum	cotton-batting cudweed	Asteraceae
Quercus agrifolia	coast live oak	Fagaceae
Quercus berberidifolia	scrub oak	Fagaceae
Quercus durata var. durata	leather oak	Fagaceae
Quercus kelloggii	black oak	Fagaceae
Quercus lobata	valley oak	Fagaceae
Quercus wislizeni var. wislizeni	interior live oak	Fagaceae
Quercus wislizenii var. frutescens	Interior live oak	Fagaceae
Ranunculus californicus	buttercup	Ranunculaceae
Raphanus sativus	wild radish	Brassicaceae
Rhamnus crocea	redberry	Rhamnaceae
Rhus aromatica	fragrant sumac	Anacardiaceae
Rosa gymnocarpa var. gymnocarpa	wood rose	Rosaceae
Rumex acetosella	common sheep sorrel	Polygonaceae
Rumex conglomeratus	green dock	Polygonaceae
Rumex crispus	curly dock	Polygonaceae
Rumex pulcher	fiddle dock	Polygonaceae
Salvia sonomensis	Sonoma sage	Lamiaceae
Sanicula bipinnatifida	poisen sanicle	Apicaeae
Sanicula crassicaulis	Pacific sanicle	
Scrophularia californica	California bee plant	Scrophulariaceae
Senecio vulgaris	Common groundsel	

Silene gallica	common catchfly	Caryophyllaceae
Silybum marianum	milk thistle	Asteraceae
Sisyrinchium bellum	blue eyed grass	Iridaceae
Sonchus asper ssp. asper	sow thistle	Asteraceae
Sonchus oleraceus	sow thistle	Asteraceae
Spergularia rubra	purple sand spurry	Caryophyllaceae
Stachys albens	cobwebby hedge nettel	Lamiaceae
Stellaria media	chickweed	Caryophyllaceae
Stipa pulchra	Purple needle grass	Poaceae
Symphoricarpos mollis	Creeping snowberry	Caprifoliaceae
Thysanocarpus curvipes	Fringe pod	Brassicaceae
Torilis arvensis	Field hedge parsley	Apiaceae
Toxicodendron diversilobum	poisen oak	Anacardiaceae
Trifolium dubium	little hop clover	Fabaceae
Trifolium hirtum	rose clover	Fabaceae
Trifolium subterraneum	subterranean clover	Fabaceae
Trifolium willdenovii	tomcat clover	Fabaceae
Triphysaria eriantha ssp. eriantha	Johnny-tuck	Orobanchaceae
Triphysaria pusilla	dwarf owl-clover	Orobanchaceae
Triteleia laxa	Ithuriel's spear	Themidaceae
Triticum aestivum	wheat	Poaceae
Umbellularia californica	bay laurel	Lauraceae
Urtica dioica	stinging nettle	urticaceae
Verbascum sp.	moth mullein	Scrophulariaceae
Vicia sativa ssp. sativa	spring vetch	Fabaceae
Vicia villosa	vetch	fabaceae
Viola lobata ssp. integrifolia	yellow wood violet	Violaceae
Zeltnera sp.	centaury	Gentianaceae

ATTACHMENT 4

SITE PHOTOGRAPHS

PHOTO 1: South facing view of Chamise Alliance and utility lines north of the Project Site.

PHOTO 2: West facing view of holly-leaved ceanothus within Mixed Manzanita habitat.

PHOTO 3: Disturbed/Graded habitat.

PHOTO 4: East facing view of Sclerophyllous Shrubland Formation within the Project Site and off site development, vineyards, and habitats.

PHOTO 5: South facing overlooking view of the southern portion of the Study Area.

PHOTO 6: North facing overlooking view of the Project Site and Study Area from prominent hill feature.

SOURCE: Montrose Environmental, 2/16/2022

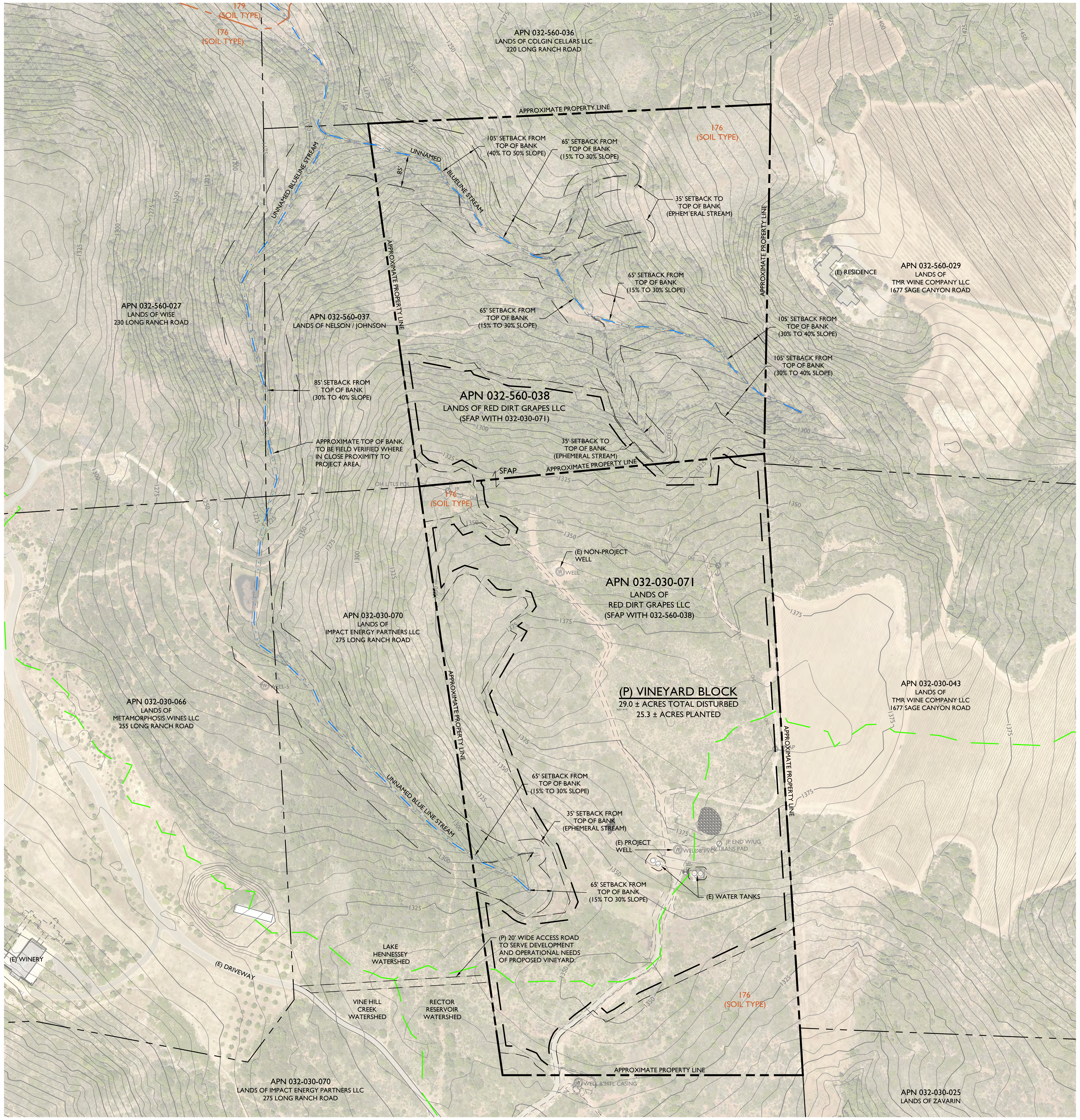
Attachment 4
Site Photographs

ATTACHMENT 5

EROSION CONTROL PLAN

RED DIRT GRAPES LLC

VINEYARD DEVELOPMENT EROSION CONTROL PLAN

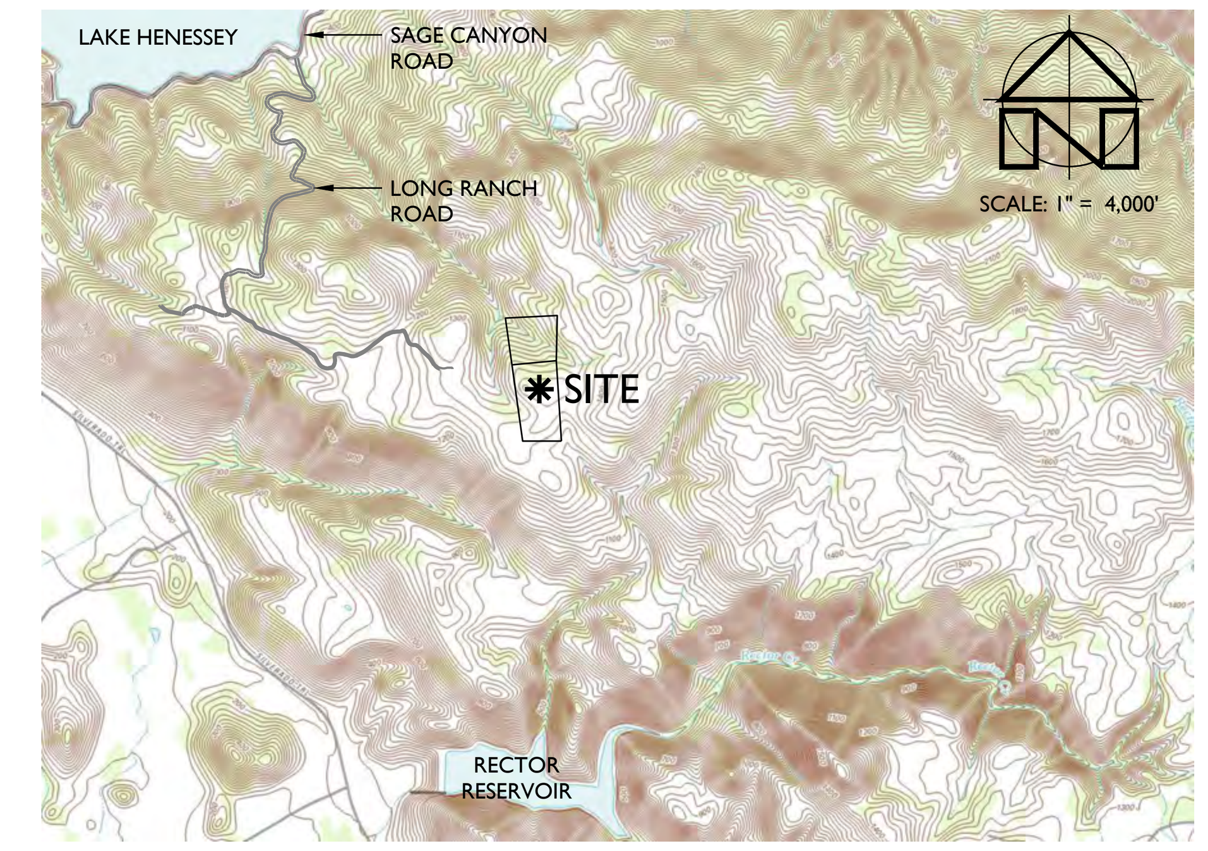


SCALE: 1" = 150'

0 150' 300'

OVERALL SITE PLAN

SCALE: 1" = 150'



LOCATION MAP

SCALE: 1" = 4,000'

PROJECT INFORMATION:

PROPERTY OWNER & APPLICANT:
RED DIRT GRAPES LLC
9000 CAMERON PARKWAY
OKLAHOMA CITY, OK 73114

SITE ADDRESS:
LONG RANCH ROAD

ASSESSOR'S PARCEL NUMBERS:
032-030-071 & 032-560-038 (SFAP)

PARCEL SIZES:
32.2 ± ACRES & 22.5 ± ACRES (RESPECTIVELY)

PROJECT SIZE:
29.0 ± ACRES TOTAL DISTURBED AREA
25.3 ± ACRES PLANTED

ZONING:
AGRICULTURAL WATERSHED (AW)

SHEET INDEX:

FLOOD HAZARD NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 06055C0405E, EFFECTIVE SEPTEMBER 26, 2008, THE PROJECT SITE IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA.

NOTES:

1. FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC FEATURES. TOPOGRAPHIC INFORMATION WAS TAKEN FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATABASE. APPLIED CIVIL ENGINEERING INCORPORATED ASSUMES NO LIABILITY REGARDING THE ACCURACY OR COMPLETENESS OF THE TOPOGRAPHIC INFORMATION.
2. AERIAL PHOTOGRAPHS WERE OBTAINED FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM (GIS) DATABASE, TAKEN APRIL TO JUNE 2018 AND MAY NOT REPRESENT CURRENT CONDITIONS.
3. CONTOUR INTERVAL: FIVE (5) FEET, HIGHLIGHTED EVERY TWENTY FIVE (25) FEET.
4. BENCHMARK: NAVD 88
5. THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR GENERAL INFORMATIONAL PURPOSES ONLY.
6. STREAM SETBACKS ARE ESTIMATED BASED ON INTERPRETATION OF 5' CONTOUR INTERVALS MAPS. SETBACKS MUST BE CONSIDERED APPROXIMATE AND BE FIELD VERIFIED PRIOR TO FINAL DESIGN.

SOIL TYPE LEGEND:

176	ROCK OUTCROP - HAMBRIGHT COMPLEX, 50% TO 75% SLOPES.
179	SOBRANTE LOAM, 30% TO 50% SLOPES.

SOIL TYPE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATA AND SHOULD BE CONSIDERED APPROXIMATE.

LEGEND:

- APPROXIMATE PROPERTY LINE
- VINEYARD CLEARING LIMITS / VINEYARD AVENUE
- LIMIT OF VINEYARD BLOCK
- SOIL TYPE BOUNDARY
- WATERSHED BOUNDARY
- BLUELINE STREAM
- WATERS OF THE US / EPHEMERAL STREAM (AS LOCATED BY AES)

APPLIED
CIVIL ENGINEERING INCORPORATED
2074 West Lincoln Avenue
Napa, CA 94558
(707) 320-4968 (707) 320-2395 Fax
www.appliedcivil.com

RED DIRT GRAPES LLC
VINEYARD DEVELOPMENT EROSION CONTROL PLAN
OVERALL SITE PLAN

PREPARED UNDER THE DIRECTION OF:

REGISTERED PROFESSIONAL ENGINEER · MICHAEL R. MUELRATH · CIVIL · STATE OF CALIFORNIA
PRELIMINARY NOT FOR CONSTRUCTION

DRAWN BY: PowerCAD

CHECKED BY: MRM

DATE: JANUARY 2022

REVISIONS:	BY:
01/XX/2022 PERMIT SUBMITTAL	YMS

JOB NUMBER: 21-113

FILE: 21-113ECP-OSP.DWG

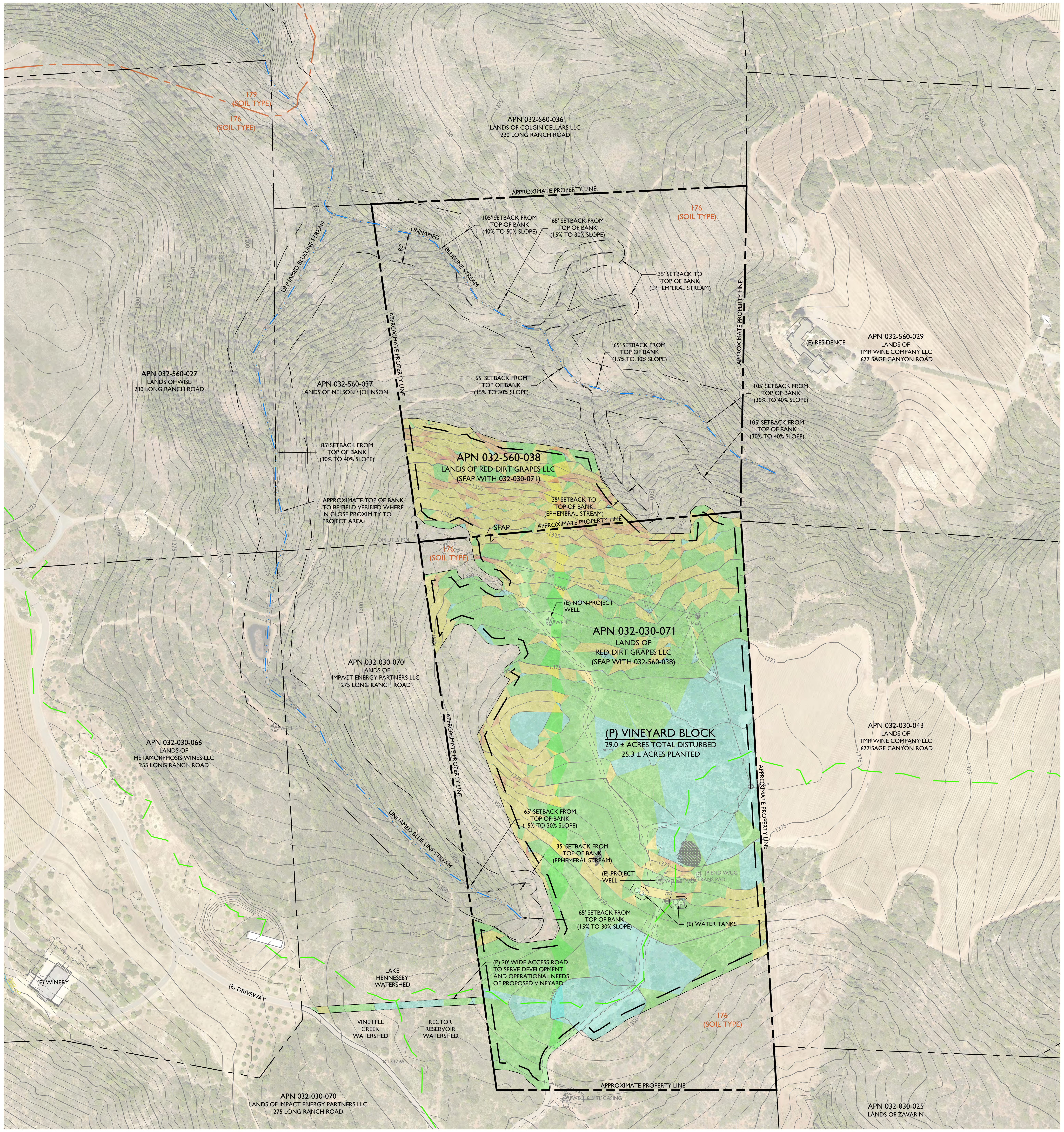
ORIGINAL SIZE: 24" X 36"

SHEET NUMBER:

C1

OF

5



SLOPE ANALYSIS EXHIBIT

SCALE: 1" = 150'

SCALE: 1" = 150'

0 150' 300'

Slopes Table

Number	Minimum Slope	Maximum Slope	Color
1	0.00%	5.00%	cyan
2	5.00%	15.00%	green
3	15.00%	30.00%	yellow
4	30.00%	50.00%	orange
5	50.00%	28032.19%	red

SOIL TYPE LEGEND:

176 ROCK OUTCROP - HAMBRIGHT COMPLEX, 50% TO 75% SLOPES.

179 SOBRANTE LOAM, 30% TO 50% SLOPES.

SOIL TYPE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATA AND SHOULD BE CONSIDERED APPROXIMATE.

LEGEND:

- APPROXIMATE PROPERTY LINE
- VINEYARD CLEARING LIMITS / VINEYARD AVENUE
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RED DIRT GRAPES LLC

VINEYARD DEVELOPMENT EROSION CONTROL PLAN

SLOPE ANALYSIS EXHIBIT

PREPARED UNDER THE DIRECTION OF:

REGISTERED PROFESSIONAL ENGINEER MICHAEL R. MUELRATH STATE OF CALIFORNIA CIVIL

PRELIMINARY NOT FOR CONSTRUCTION

DRAWN BY: PowerCAD

CHECKED BY: MRM

DATE: JANUARY 2022

REVISIONS: BY:

01/XX/2022 PERMIT SUBMITTAL YMS

JOB NUMBER: 21-113

FILE: 21-113ECP-OSP.DWG

ORIGINAL SIZE: 24" X 36"

SHEET NUMBER: C1A

OF 5

GENERAL NOTES:

1. THESE DRAWINGS WERE DEVELOPED EXCLUSIVELY FOR THIS PROJECT AND ARE NOT TO BE REPRODUCED OR USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF APPLIED CIVIL ENGINEERING INCORPORATED.
2. ALL MATERIALS AND WORKMANSHIP FOR THE WORK DESCRIBED ON THESE PLANS SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AS ADOPTED AND AMENDED BY NAPA COUNTY:
   A. CALIFORNIA BUILDING CODE (2019)
   B. CALIFORNIA ELECTRIC CODE (2019)
   C. CALIFORNIA PLUMBING CODE (2019)
   D. CALIFORNIA MECHANICAL CODE (2019)
   E. CALIFORNIA FIRE CODE (2019)
   F. CALIFORNIA DEPARTMENT OF TRANSPORTATION (2018)
   G. NAPA COUNTY CODE (CURRENT)

   CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR BEING FAMILIAR WITH ALL STANDARDS, CODES AND REGULATIONS APPLICABLE TO THIS PROJECT.
3. CONTRACTOR SHALL BE APPROPRIATELY LICENSED WITH THE STATE OF CALIFORNIA TO PERFORM THE WORK SHOWN ON THESE PLANS.
4. CONTRACTOR SHALL SUPPLY ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO CONSTRUCT THE IMPROVEMENTS ILLUSTRATED ON THESE PLANS.
5. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS AND PRODUCTS TO BE USED FOR THE SITE IMPROVEMENTS TO APPLIED CIVIL ENGINEERING INCORPORATED FOR REVIEW AND APPROVAL.
6. THE IMPROVEMENTS SHOWN ON THESE PLANS REQUIRE INSPECTION BY THE NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL INSPECTIONS.
7. CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH APPLIED CIVIL ENGINEERING INCORPORATED AND NAPA COUNTY AT LEAST ONE WEEK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO REVIEW THE PROJECT PLANS AND SPECIFICATIONS AND NAPA COUNTY REQUIREMENTS.
8. CONTRACTOR IS RESPONSIBLE FOR SECURING ALL CONSTRUCTION RELATED PERMITS FROM THE GOVERNING AGENCIES AND MAINTAINING A COPY OF THE PERMITS AND THE APPROVED PLANS ON THE JOB SITE AT ALL TIMES.
9. ALL WORK DONE WITHIN THE STATE **OR** COUNTY RIGHT OF WAY SHALL BE DONE UNDER AN ENCROACHMENT PERMIT ISSUED BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION **OR** NAPA COUNTY PUBLIC WORKS DEPARTMENT.
10. CONTRACTOR SHALL CONTACT THE NAPA COUNTY PUBLIC WORKS, FIRE AND SHERIFF DEPARTMENTS TO PROVIDE EMERGENCY TELEPHONE NUMBERS AND KEEP THE DEPARTMENTS INFORMED DAILY OF ANY STREETS THAT ARE UNDER CONSTRUCTION AND DETOURS. DETOURS ARE NOT PERMITTED UNLESS APPROVED IN ADVANCE IN WRITING BY THE NAPA COUNTY PUBLIC WORKS DEPARTMENT.
11. THE PROPERTY OWNER AND CONTRACTOR ARE RESPONSIBLE FOR OBTAINING ALL APPROPRIATE PERMITS FOR WORK WITHIN ANY RIPARIAN AREA PRIOR TO COMMENCING WORK IN THAT AREA.
12. CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE CONDITIONS AND THE SAFETY OF PROPERTY AND PEOPLE ON THE JOB SITE AT ALL TIMES. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A SAFE CONDITION, IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS, AT ALL TIMES, INCLUDING OUTSIDE OF NORMAL WORKING HOURS. CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
13. CONTRACTOR SHALL PROVIDE AND MAINTAIN BARRICADES TO PROVIDE FOR THE SAFETY OF THE GENERAL PUBLIC TO THE SATISFACTION OF NAPA COUNTY AND THE OWNER.
14. THESE PLANS ARE INTENDED TO PROVIDE HORIZONTAL AND VERTICAL CONTROL FOR THE PROPOSED SITE IMPROVEMENTS SHOWN HEREON.
15. ALL DIMENSIONS SHOWN ON THESE PLANS SHOW MEASUREMENTS IN A HORIZONTAL PLANE UNLESS OTHERWISE SPECIFIED.
16. ALL WRITTEN DIMENSIONS SUPERCEDE ANY SCALED DIMENSIONS. IF AN APPARENT DISCREPANCY IS IDENTIFIED CONTACT APPLIED CIVIL ENGINEERING INCORPORATED IMMEDIATELY FOR A WRITTEN CLARIFICATION.
17. IF ANY CONTRACTOR, SUBCONTRACTOR, OR SURVEYOR IDENTIFIES ANY OMISSIONS, DEFICIENCIES, CONFLICTS OR ERRORS IN THESE PLANS AND SPECIFICATIONS OR IF THERE IS ANY DOUBT AS TO THEIR MEANING OR INTENT, THEY SHALL CONTACT APPLIED CIVIL ENGINEERING INCORPORATED FOR A WRITTEN ADDENDUM OR CLARIFICATION. CONTRACTOR IS NOT ELIGIBLE FOR ADDITIONAL COMPENSATION IF THEY FAIL TO DO SO BEFORE PROVIDING A PROPOSAL.
18. CONTRACTOR IS TO PROTECT ALL EXISTING SITE IMPROVEMENTS, UTILITIES, BUILDINGS AND NATURAL FEATURES FROM DAMAGE THROUGHOUT THE DURATION OF CONSTRUCTION. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
19. IN THE EVENT THAT ARCHEOLOGICAL ARTIFACTS OR HUMAN REMAINS ARE DISCOVERED DURING CONSTRUCTION, WORK SHALL CEASE IN A 50-FOOT RADIUS SURROUNDING THE AREA OF DISCOVERY. THE PERMITTEE SHALL CONTACT NAPA COUNTY PLANNING BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT AT (707) 253-4417 FOR FURTHER GUIDANCE, WHICH WILL LIKELY INCLUDE THE REQUIREMENT FOR THE PERMITTEE TO HIRE A QUALIFIED PROFESSIONAL TO ANALYZE THE ARTIFACTS ENCOUNTERED AND TO DETERMINE IF ADDITIONAL MEASURES ARE REQUIRED.

    IF HUMAN REMAINS ARE ENCOUNTERED DURING THE DEVELOPMENT, ALL WORK IN THE VICINITY MUST BE, BY LAW, HALTED, AND THE NAPA COUNTY CORONER INFORMED, SO THAT THE CORONER CAN DETERMINE IF AN INVESTIGATION OF THE CAUSE OF DEATH IS REQUIRED, AND IF THE REMAINS ARE OF NATIVE AMERICAN ORIGIN. IF THE REMAINS ARE OF NATIVE AMERICAN ORIGIN, THE NEAREST TRIBAL RELATIVES AS DETERMINED BY THE STATE NATIVE AMERICAN HERITAGE COMMISSION SHALL BE CONTACTED BY THE PERMITTEE TO OBTAIN RECOMMENDATIONS FOR TREATING OR REMOVAL OF SUCH REMAINS, INCLUDING GRAVE GOODS, WITH APPROPRIATE DIGNITY, AS REQUIRED UNDER PUBLIC RESOURCES CODE SECTION 5097.98.

SURVEY NOTES:

1. FADED BACKGROUND REPRESENTS EXISTING TTOPOGRAPHIC INFORMATION ON SHEET C1 WAS TAKEN FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATABASE. TOPOGRAPHIC INFORMATION ON OTHER SHEETS WAS TAKEN FROM THE "TOPOGRAPHIC MAP OF A PORTION OF THE LANDS OF NELSON / JOHNSON" PREPARED BY RSA+ CIVIL ENGINEERING + SURVEYING + PLANNING, DATED MARCH 2021.
2. APPLIED CIVIL ENGINEERING INCORPORATED ASSUMES NO LIABILITY REGARDING THE ACCURACY OR COMPLETENESS OF THE TOPOGRAPHIC INFORMATION.
3. AERIAL PHOTOGRAPHS WERE OBTAINED FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM (GIS) DATABASE, TAKEN APRIL TO JUNE 2018 AND MAY NOT REPRESENT CURRENT CONDITIONS.
4. CONTOUR INTERVAL:
   SHEET C1: FIVE (5) FEET, HIGHLIGHTED EVERY TWENTY FIVE (25) FEET.
   OTHER SHEETS: ONE (1) FOOT, HIGHLIGHTED EVERY FIVE (5) FEET.
5. BENCHMARK: NAVD 88
6. THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
7. CONTRACTOR SHALL PRESERVE ALL EXISTING MONUMENTS THROUGHOUT THE DURATION OF CONSTRUCTION OR HAVE THEM REPLACED AT THEIR OWN EXPENSE. IF MONUMENTS ARE DISTURBED THEY NEED TO BE RE-SET BY A LICENSED LAND SURVEYOR AND A CORNER RECORD MUST BE FILED.
8. ALL CONSTRUCTION STAKING SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR.

GRADING NOTES:

1. ALL EARTHWORK IS TO CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, NAPA COUNTY CONSERVATION REGULATIONS, NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT - ENGINEERING DIVISION STANDARDS AND THE PROJECT GEOTECHNICAL REPORT.
2. REFER TO THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY RGH CONSULTANTS (JOB NUMBER XXXXX) FOR DETAILED EARTHWORK REQUIREMENTS. THE GEOTECHNICAL REPORT AND ALL RECOMMENDATIONS CONTAINED THEREIN SHALL BE CONSIDERED A PART OF THESE PLANS AND ALL GRADING WORK IS REQUIRED TO BE IN ACCORDANCE WITH SAID REPORT AND IS TO BE PERFORMED UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER.
3. ALL CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 2:1 UNLESS OTHERWISE APPROVED BY A GEOTECHNICAL ENGINEER.
4. ALL DEBRIS GENERATED DURING DEMOLITION, SITE STRIPPING AND GRADING ACTIVITIES IS TO BE DISPOSED OF PROPERLY OFFSITE BY THE CONTRACTOR.
5. CONTRACTOR IS RESPONSIBLE FOR IMPORTING AND / OR EXPORTING MATERIALS AS NECESSARY TO ACHIEVE THE FINISH GRADES ILLUSTRATED ON THESE PLANS.
6. CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN A MANNER THAT PREVENTS WIND BLOWN DIRT AND DUST AND RELATED DAMAGE TO NEIGHBORING PROPERTIES.
7. CONTRACTOR SHALL CONFORM TO EXISTING IMPROVEMENTS WITH A SMOOTH TRANSITION TO AVOID ABRUPT CHANGES IN GRADE, LOW SPOTS OR OTHER HAZARDOUS CONDITIONS.
8. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTAINING ALL FINISH GRADED SLOPES AFTER THE COMPLETION OF CONSTRUCTION AND REPAIRING ANY EROSION DAMAGE.

EXISTING UTILITY NOTES:

1. THE EXISTING UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. THEY ARE BASED ON INFORMATION PROVIDED BY THE PROPERTY OWNER, THE SURVEYOR AND THE RESPECTIVE UTILITY COMPANIES. APPLIED CIVIL ENGINEERING INCORPORATED ASSUMES NO LIABILITY REGARDING THE ACCURACY OR THE COMPLETENESS OF THEIR LOCATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING UTILITY LOCATIONS PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION. IF A DISCREPANCY BETWEEN THE PLANNED AND ACTUAL HORIZONTAL OR VERTICAL LOCATION OF AN EXISTING UTILITY EXISTS, CONTACT APPLIED CIVIL ENGINEERING INCORPORATED FOR AN ALTERNATE DESIGN.
3. CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION TO MARK THE LOCATION OF EXISTING UTILITY LINES. CALL UNDERGROUND SERVICE ALERT (USA) AT (800) 227-2600.
4. EXISTING UTILITIES ARE TO REMAIN IN SERVICE AT ALL TIMES. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES PER THE REQUIREMENTS OF THE UTILITY OWNER.
5. CONTRACTOR SHALL COORDINATE ANY REQUIRED UTILITY RELOCATIONS WITH THE UTILITY OWNER.

EROSION CONTROL NOTES: PERMANENT COVER/ NO TILL

1. ALL EROSION CONTROL WORK WILL BE PERFORMED BY THE VINEYARD MANAGER IN ACCORDANCE WITH THIS APPROVED VINEYARD EROSION CONTROL PLAN.
2. ALL DISTURBED AREAS MUST BE WINTERIZED BY OCTOBER 15TH OF EACH YEAR THAT THE PROJECT IS UNDER CONSTRUCTION.
3. A REQUEST TO ALLOW GRADING TO EXTEND BEYOND OCTOBER 15TH MAY BE GRANTED BY THE NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT - CONSERVATION DIVISION IF A MAJORITY OF THE GRADING HAS BEEN COMPLETED AND THERE COULD BE A DETRIMENTAL EFFECT ON THE ENVIRONMENT IF THE REMAINING GRADING REMAINS INCOMPLETE. A REQUEST TO ALLOW GRADING TO EXTEND BEYOND OCTOBER 15TH MUST BE SUBMITTED IN WRITING TO NAPA COUNTY NO LATER THAN OCTOBER 1ST. GRADING BEYOND THE WINTERIZATION DEADLINE WILL NOT BE ALLOWED PRIOR TO APPROVAL BY NAPA COUNTY.
4. ALL PERMANENT DRAINAGE FACILITIES AND SEDIMENT RETENTION STRUCTURES MUST BE INSTALLED BY OCTOBER 1ST.
5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (WATER BARS, SILT FENCE & STRAW WATTLES) MUST BE INSTALLED BY OCTOBER 15TH.
6. ALL EROSION CONTROL MEASURES MUST BE INSPECTED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE RAINY SEASON (OCTOBER 15TH THROUGH APRIL 1ST). INSPECTIONS MUST BE PERFORMED AT LEAST ONCE PER WEEK DURING EXTENDED DRY PERIODS, IMMEDIATELY BEFORE ANTICIPATED RAIN EVENTS, ONCE EVERY 24 HOURS DURING EXTENDED RAIN EVENTS AND IMMEDIATELY FOLLOWING EACH RAIN EVENT.
7. ALL DISTURBED AREAS ARE TO BE STABILIZED BY PLANTING OF AN EROSION CONTROL COVER CROP. PRIOR TO APPLYING THE EROSION CONTROL SEED BLEND, THE SEED BED SHOULD BE PREPARED BY UNIFORMLY SCARIFYING THE GROUND SURFACE TO A DEPTH OF TWO TO FOUR INCHES AND CONDITIONING TO BREAK UP LARGE PEDS.
8. THE COVER CROP SEED BLEND SHOULD BE BROADCAST OR DRILLED AFTER THE SEED BED HAS BEEN PREPARED.
9. A TEMPORARY TILLED COVER CROP WILL BE ESTABLISHED IN THE VINEYARD BLOCK AREAS FOR THE FIRST THREE YEARS AFTER PLANTING WHILE THE VINEYARD IS GETTING ESTABLISHED. THE TEMPORARY COVER CROP SEED MIX FOR THE VINEYARD ESTABLISHMENT SHOULD BE THE "SOIL BUILDER" AVAILABLE FROM NAPA VALLEY AG SUPPLY APPLIED AT A MINIMUM RATE OF 75 POUNDS PER ACRE:

COMMON VETCH	10%
CALIFORNIA RED OATS	20%
FIELD PEAS	30%
BELL BEANS	40%

10. THE PERMANENT COVER CROP SEED MIX FOR ALL NO-TILL VINEYARD BLOCKS AND VINEYARD AVENUES SHOULD BE THE "VINTNER'S BLEND" AVAILABLE FROM NAPA VALLEY AG SUPPLY APPLIED AT A MINIMUM RATE OF 75 POUNDS PER ACRE:

CREEPING RED FESCUE	40%
CHEWING FESCUE	25%
DWARF PERENNIAL RYE	25%
ROSE CLOVER	8%
NEW ZEALAND WHITE CLOVER	2%

11. ALTERNATE SEED MIX MAY BE USED BY THE VINEYARD MANAGER PROVIDED THAT ATTENTION IS GIVEN TO CHOOSING A COVER CROP THAT IS SUITABLE FOR THE SITE SOIL AND TOPOGRAPHIC CONDITIONS. ANY ALTERNATE SEED MIX MUST BE APPROVED BY THE ENGINEER AND THE NAPA COUNTY RESOURCE CONSERVATION DISTRICT PRIOR TO USE.
12. ALL SEEDED AREAS ARE TO BE FERTILIZED TO PROMOTE SUCCESSFUL ESTABLISHMENT OF THE COVER CROP. THE RECOMMENDED FERTILIZER IS AMMONIUM PHOSPHATE (16-20-0) APPLIED AT A RATE OF 250 POUNDS PER ACRE.
13. ADDITIONAL SOIL AMENDMENTS WILL BE ADDED BASED ON FUTURE SOILS TESTING REPORTS BY OTHERS. TYPICAL AMENDMENTS INCLUDE: COMPOSTED ORGANIC MATTER, LIME AND / OR GYPSUM. THE AMENDMENTS SHOULD BE INCORPORATED DURING THE LAND PREPARATION PROCESS TO INCREASE SOIL NUTRIENT CONTENT AND AVAILABILITY, AND TO IMPROVE SOIL STRUCTURE AND WATER HOLDING CAPACITY.
14. AFTER THE SEED AND FERTILIZER HAVE BEEN PLACED THE SEEDED AREA SHOULD BE RAKED, DRAGGED OR HARROWED TO ENSURE THAT SEEDS ARE PROPERLY BEDDED.
15. ALL DISTURBED AREAS ARE TO BE MULCHED WITH STRAW AT A RATE OF 3,000 POUNDS PER ACRE TO PROTECT THE BARE SOILS WHILE THE COVER CROP IS GETTING ESTABLISHED.
16. STRAW SHOULD BE SPREAD BY HAND IN A MANNER THAT PROMOTES FORMATION OF AN INTERWOVEN MATRIX. CRIMPING STRAW INTO THE SOIL IS HIGHLY RECOMMENDED ESPECIALLY ON WINDY SITES AND IS MANDATORY ON SITES WHERE STRAW IS MECHANICALLY CHOPPED AND BLOWN INTO PLACE.
17. ALL SOIL CUT AND FILL SLOPES THAT ARE STEEPER THAN 4:1 (HORIZONTAL TO VERTICAL) MUST BE COVERED WITH NORTH AMERICAN GREEN C125BN EROSION CONTROL BLANKET AFTER THE EROSION CONTROL SEED AND FERTILIZER HAVE BEEN PLACED.
18. CONTRACTOR MUST MAINTAIN AN ADEQUATE SUPPLY OF EROSION CONTROL MATERIALS ONSITE TO FACILITATE MAINTENANCE AND REPAIR THROUGHOUT THE RAINY SEASON. TYPICAL MATERIALS THAT SHOULD BE KEPT ONSITE INCLUDE SILT FENCE AND STRAW WATTLE SEDIMENT BARRIERS, GRAVEL BAGS, EROSION CONTROL BLANKETS, STRAW AND EROSION CONTROL SEED MIX.

EROSION CONTROL COVER CROP MANAGEMENT NOTES:

1. ESTABLISHING AN EFFECTIVE VEGETATIVE COVER CROP WILL BE THE PRIMARY MEANS OF PREVENTING EROSION FROM THE PROPOSED VINEYARD DEVELOPMENT AREA. AFTER THE INITIAL LAND PREPARATION ACTIVITIES ARE COMPLETE A TEMPORARY COVER CROP WILL BE PLANTED AND STRAW MULCH WILL BE APPLIED THROUGHOUT THE CLEARED AREA TO STABILIZE THE PROJECT AREAS THROUGH THE WINTER. A MINIMUM COVERAGE OF 75% IS REQUIRED TO MAINTAIN EROSION RATES AT ACCEPTABLE LEVELS.
2. THE TEMPORARY COVER CROP WILL BE TILLED IN THE SPRING DURING THE INITIAL VINEYARD ESTABLISHMENT PERIOD (UP TO THE FIRST THREE YEARS). THE TILLED AREAS AND ANY OTHER DISTURBED AREAS OR AREAS WITH LESS THAN ADEQUATE COVER WILL ALSO BE MULCHED EACH YEAR IN THE FALL TO PROTECT THE BARE SOIL WHILE THE COVER CROP IS GETTING ESTABLISHED.
3. AFTER THE VINEYARD ESTABLISHMENT PERIOD ALL VINEYARD BLOCKS WILL BE CONVERTED TO A NO-TILL REGIME. THE NO-TILL COVER CROP WILL BE MOWED IN THE SPRING AND WILL BE RESEEDED AND MULCHED IN THE FALL AS NECESSARY TO ACHIEVE THE SPECIFIED 75% COVER.
4. ALL VINEYARD AVENUES WILL BE PROTECTED WITH A PERMANENT NO-TILL COVER CROP WITH DENSITIES MAINTAINED AT 75% OR MORE THROUGHOUT THE RAINY SEASON. VINEYARD AVENUES SHALL NOT BE TILLED.
5. THE COVER CROP SHOULD BE IRRIGATED PRIOR TO THE RAINY SEASON TO ESTABLISH A DENSE COVER PRIOR TO THE ONSET OF HEAVY RAINS. THIS IS ESPECIALLY IMPORTANT IN EROSION PRONE AREAS SUCH AS CROSS SLOPE DIVERSIONS. IN ORDER TO EFFECTIVELY ESTABLISH COVER IN THE CROSS SLOPE DIVERSIONS, AT LEAST TWO INCHES OF WATER SHOULD BE APPLIED TO A 20 FOOT WIDE STRIP CENTERED ALONG THE DIVERSIONS TO GERMINATE THE SEEDS. WATER SHOULD BE APPLIED BY SPRINKLER OR MICROSPRAYERS AT A RATE THAT DOES NOT CAUSE RUNOFF OR EROSION. ADDITIONAL WATER SHOULD BE APPLIED, AS NECESSARY, TO ACHIEVE THE DESIGN COVER PERCENTAGE AND TO MAINTAIN THE COVER CROP UNTIL SUFFICIENT RAINFALL OCCURS.

-----OR IF THERE ARE NO CROSS SLOPE DIVERSIONS:

5. THE COVER CROP SHOULD BE IRRIGATED PRIOR TO THE RAINY SEASON TO ESTABLISH A DENSE COVER PRIOR TO THE ONSET OF HEAVY RAINS. THIS IS ESPECIALLY IMPORTANT IN EROSION PRONE AREAS SUCH AS VINEYARD AVENUES AND MORE STEEPLY SLOPING AREAS. IN ORDER TO EFFECTIVELY ESTABLISH COVER, AT LEAST TWO INCHES OF WATER SHOULD BE APPLIED TO GERMINATE THE SEEDS. WATER SHOULD BE APPLIED BY SPRINKLER OR MICROSPRAYERS AT A RATE THAT DOES NOT CAUSE RUNOFF OR EROSION. ADDITIONAL WATER SHOULD BE APPLIED, AS NECESSARY, TO ACHIEVE THE DESIGN COVER PERCENTAGE AND TO MAINTAIN THE COVER CROP UNTIL SUFFICIENT RAINFALL OCCURS. IF ADEQUATE WATER IS NOT AVAILABLE TO IRRIGATE THE ENTIRE PROJECT AREA THEN 20 FOOT WIDE STRIPS, ORIENTATED ALONG THE CONTOUR, SHOULD BE IRRIGATED. LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

ABBREVIATIONS:

AB	AGGREGATE BASE	MIN	MINIMUM
AC	ASPHALT CONCRETE	OC	ON CENTER
AD	AREA DRAIN	OD	OUTSIDE DIAMETER
AP	ANGLE POINT	OG	ORIGINAL GRADE
BTM	BOTTOM	(P)	PROPOSED
CLR	CLEAR	PC	POINT OF CURVATURE
CONF	CONFORM	PCC	PORTLAND CEMENT CONCRETE
CP	CONTROL POINT	PL	PROPERTY LINE
DCV	DOUBLE CHECK VALVE	PT	POINT OF TANGENCY
DI	DROP INLET	PVC	POLYVINYL CHLORIDE
DS	DOWN SPOUT	PW	PROCESS WASTE
(E)	EXISTING	PWCO	PROCESS WASTE CLEANOUT
EC	END CURVE	RSV	RECIRCULATING SPLITTER VALVE
ELEV	ELEVATION	SAD	SEE ARCHITECTURAL DRAWINGS
EP	EDGE OF PAVEMENT	SD	STORM DRAIN
EOC	EDGE OF CONCRETE	SDCO	STORM DRAIN CLEANOUT
(F)	FUTURE	SDMH	STORM DRAIN MANHOLE
FDC	FIRE DEPARTMENT CONNECTION	SED	SEE ELECTRICAL DRAWINGS
FF	FINISH FLOOR	SF	SQUARE FEET
FG	FINISH GRADE	SHLDR	SHOULDER
FH	FIRE HYDRANT	SLD	SEE LANDSCAPE DRAWINGS
FL	FLOW LINE	SMD	SEE MECHANICAL DRAWINGS
FS	FINISH SURFACE	SPD	SEE PLUMBING DRAWINGS
FSR	FIRE SPRINKLER RISER	SSD	SEE STRUCTURAL DRAWINGS
GB	GRADE BREAK	SS	SANITARY SEWER
GM	GAS METER	SSCO	SANITARY SEWER CLEANOUT
HMA	HOT MIX ASPHALT	SSMH	SANITARY SEWER MANHOLE
HP	HIGH POINT	TC	TOP FACE OF CURB
INV	INVERT	TD	TERRACE DRAIN
IPS	IRON PIPE SIZE	TW	TOP OF WALL
IRR	IRRIGATION	TYP	TYPICAL
LF	LINEAR FEET	WM	WATER METER
LP	LOW POINT	WV	WATER VALVE
MAX	MAXIMUM	XFMR	TRANSFORMER

LEGEND:

APPROXIMATE PROPERTY BOUNDARY (SUBJECT PARCEL)
APPROXIMATE PROPERTY BOUNDARY (ADJACENT PARCEL)
ROW — VINE ROWS & ROW DIRECTION
BLUELINE STREAM
STRAW WATTLE SEDIMENT BARRIER
SLOPE SECTION. SEE TABLE, THIS SHEET.
WB — WATERBAR
ROCK ENERGY DISSIPATOR
PHOTO LOCATION AND DIRECTION

APPLIED CIVIL ENGINEERING INCORPORATED
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(707) 320-4968 (707) 320-2395 Fax
www.appliedcivil.com

RED DIRT GRAPES LLC

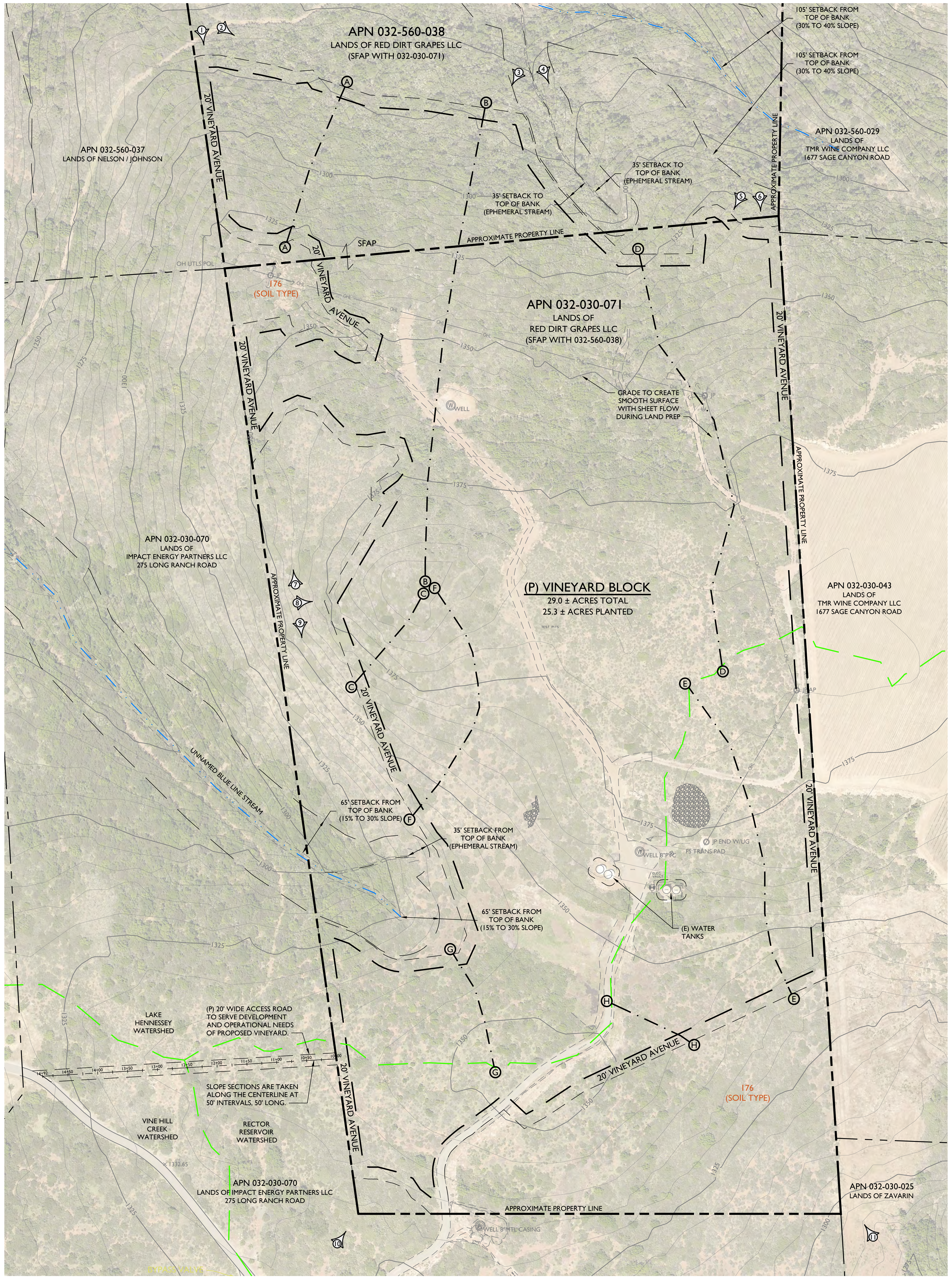
VINEYARD DEVELOPMENT EROSION CONTROL PLAN
NOTES, ABBREVIATIONS & LEGEND

PREPARED UNDER THE DIRECTION OF:

MICHAEL R. ... REGISTERED PROFESSIONAL ENGINEER, CIVIL, STATE OF CALIFORNIA — PRELIMINARY NOT FOR CONSTRUCTION

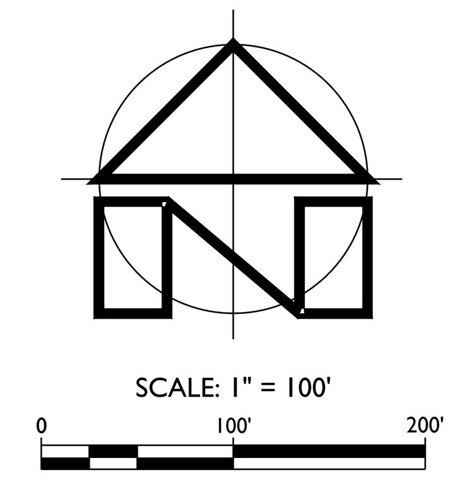
DRAWN BY: PowerCAD
CHECKED BY: MRM
DATE: JANUARY 2022
REVISIONS: BY:
01/XX/2022 PERMIT SUBMITTAL YMS

JOB NUMBER: 21-113
FILE: 21-113ECP-NOTES.DWG
ORIGINAL SIZE: 24" X 36"
SHEET NUMBER: C2 OF 5



SITE PLAN

SCALE: 1" = 100'



LEGEND:

- APPROXIMATE PROPERTY LINE
- VINEYARD CLEARING LIMITS / VINEYARD AVENUE
- LIMIT OF VINEYARD BLOCK
- BLUELINE STREAM
- SOIL TYPE BOUNDARY
- SLOPE SECTION. SEE TABLE, THIS SHEET.

SLOPE SECTIONS

A - A	22%
B - B	16%
C - C	19%
D - D	8%
E - E	8%
F - F	13%
G - G	5%
H - H	4%
10+00	5%
10+50	5%
11+00	5%
11+50	0%
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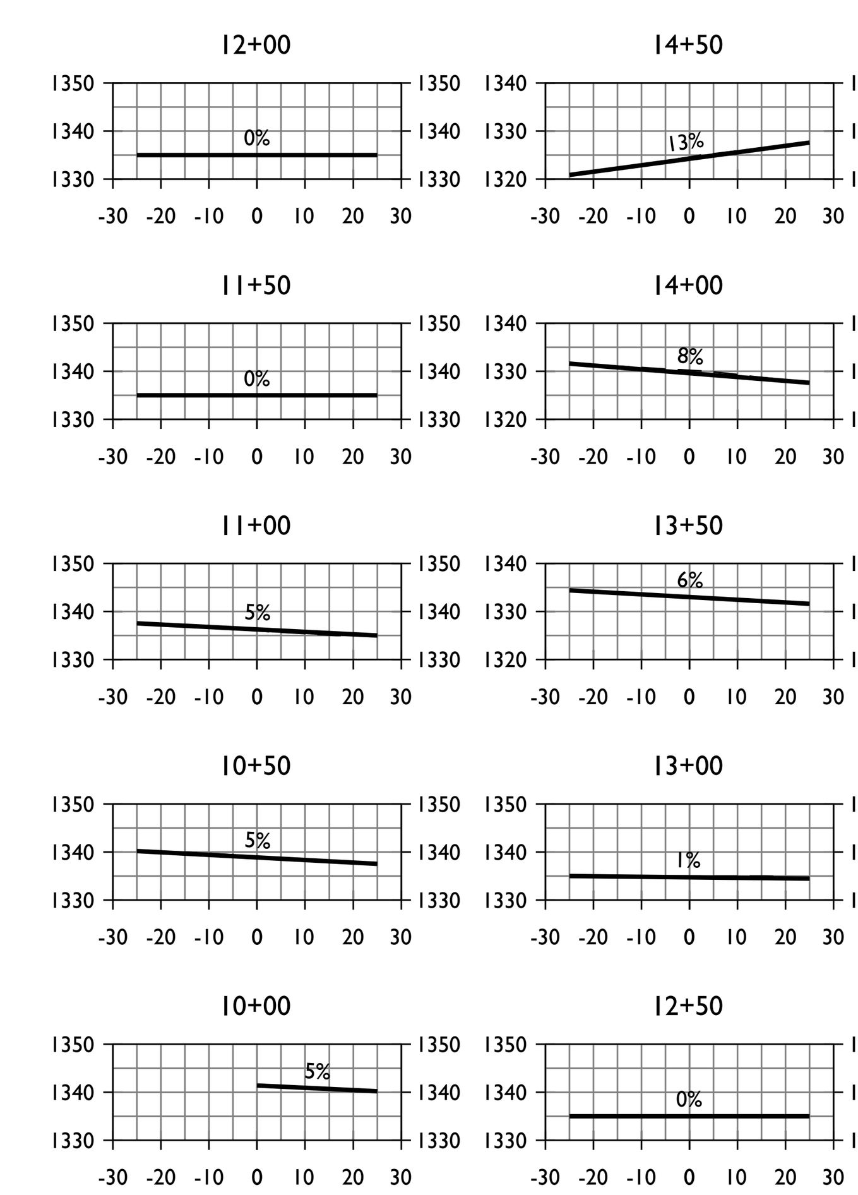
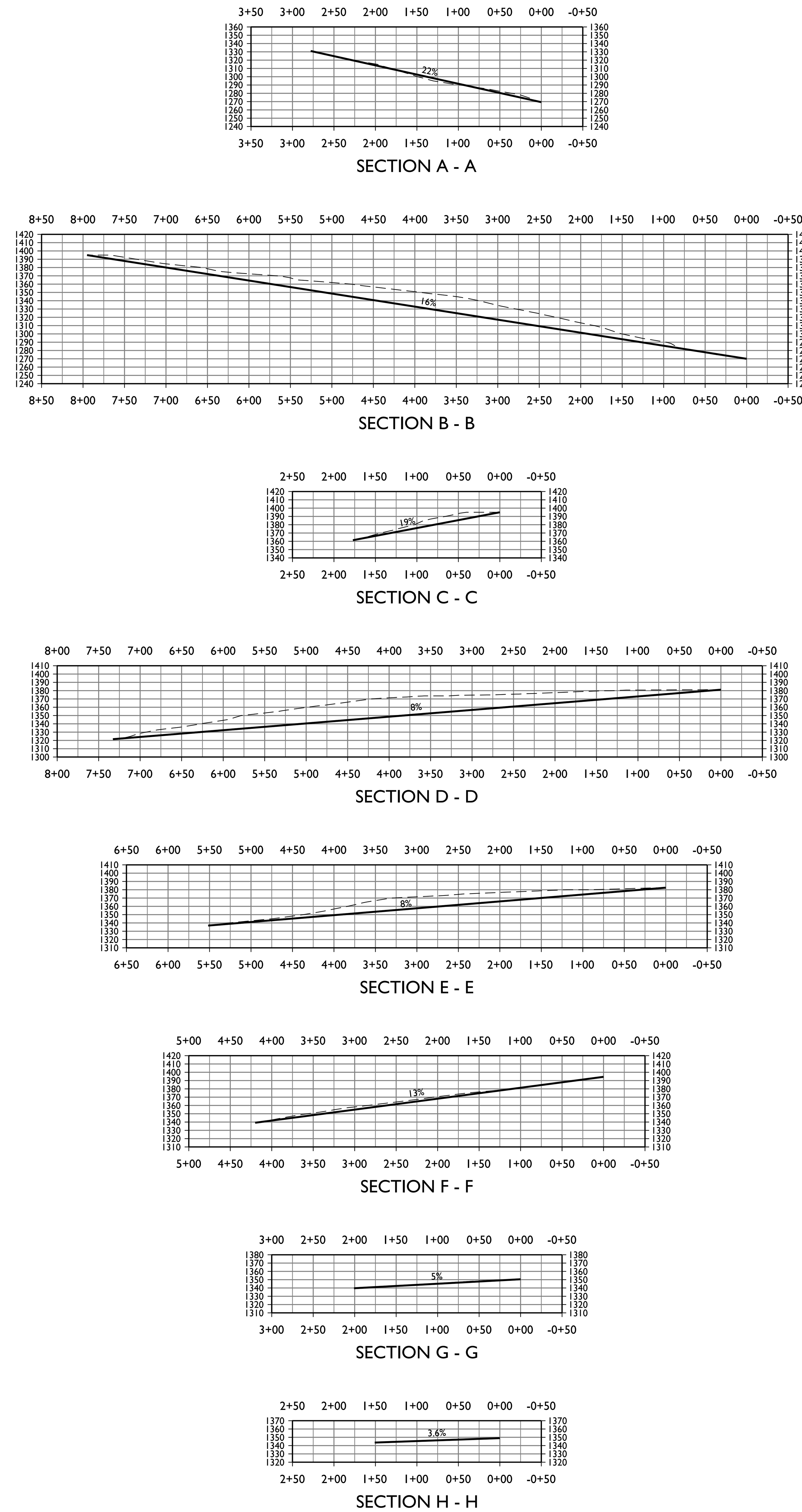
13+50	6%
14+00	8%
14+50	13%
AVERAGE	8%



ACCESS ROAD SLOPE DETERMINATION SECTIONS

SCALE: 1" = 40'



VINEYARD SITE SLOPE DETERMINATION SECTIONS

SCALE: 1" = 100'

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RED DIRT GRAPES LLC

VINEYARD DEVELOPMENT EROSION CONTROL PLAN
SLOPE DETERMINATION SECTIONS

PREPARED UNDER THE DIRECTION OF:

PRELIMINARY NOT FOR CONSTRUCTION

DRAWN BY: PowerCAD

CHECKED BY: MRM

DATE: JANUARY 2022

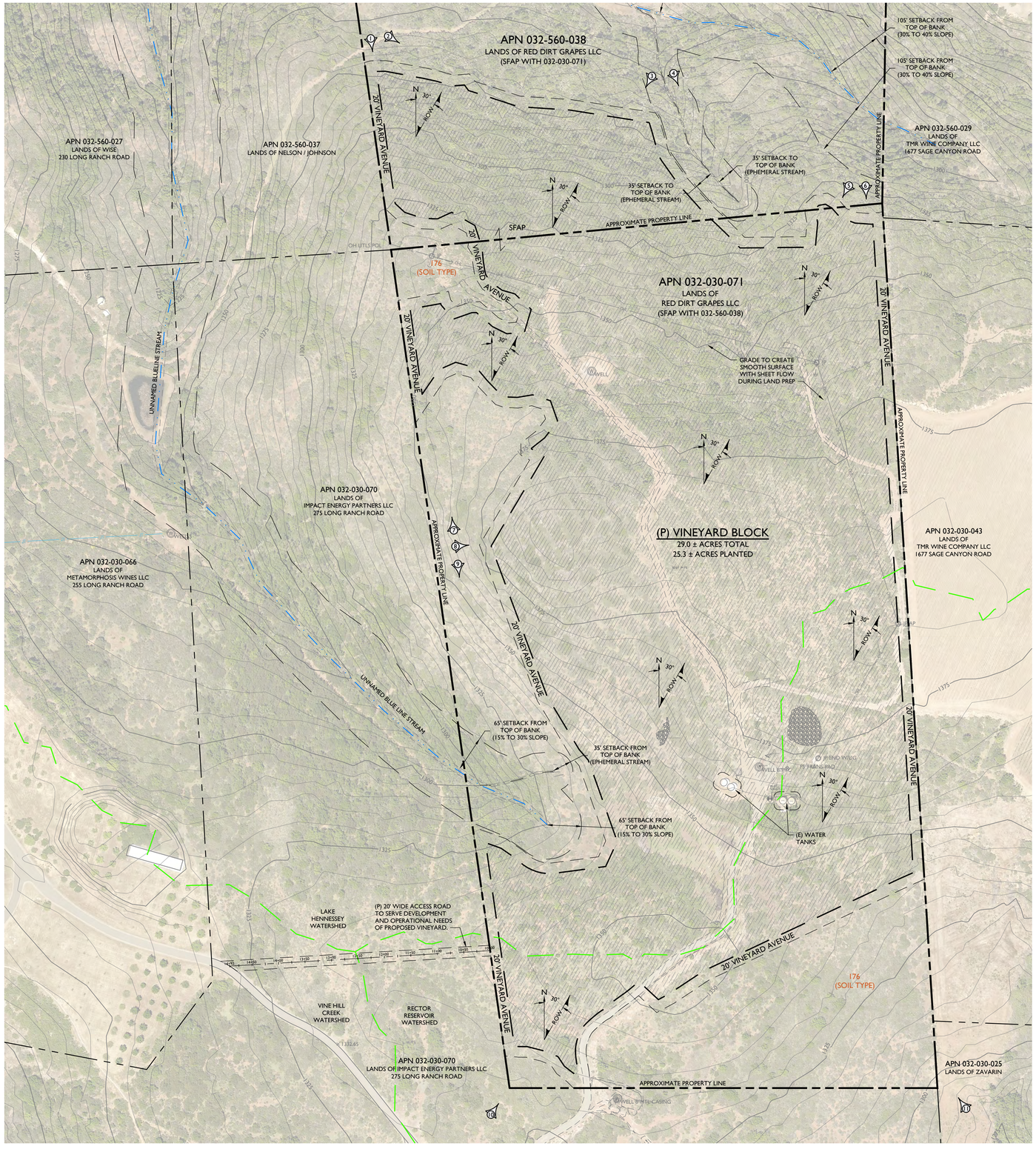
REVISIONS:	BY:
01/XX/2022 PERMIT SUBMITTAL	YMS

JOB NUMBER: 21-113

FILE: 21-113ECP-PLAN.DWG

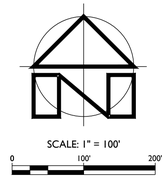
ORIGINAL SIZE: 24" X 36"

SHEET NUMBER: C3 OF 5



EROSION CONTROL PLAN

SCALE: 1" = 100'



SOIL TYPE LEGEND:

176	ROCK OUTCROP - HAMBRIGHT COMPLEX, 50% TO 75% SLOPES.
179	SOBRANTE LOAM, 30% TO 50% SLOPES.

SOIL TYPE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATA AND SHOULD BE CONSIDERED APPROXIMATE.

LEGEND:

- APPROXIMATE PROPERTY LINE
- VINEYARD CLEARING LIMITS / VINEYARD AVENUE
- LIMIT OF VINEYARD BLOCK
- VINE ROWS & ROW DIRECTION
- BLUELINE STREAM
- WATERS OF THE US / EPHEMERAL STREAM (AS LOCATED BY AES)
- SOIL TYPE BOUNDARY
- STRAW WATTLE SEDIMENT BARRIER
- WB — WATERBAR
- ROCK ENERGY DISSIPATOR
- PHOTO LOCATION AND DIRECTION

NOTES:

1. ALL CLEARING LIMITS SHALL BE MARKED BY THE ENGINEER OR SURVEYOR PRIOR TO CONSTRUCTION AND TEMPORARY CONSTRUCTION FENCING (ORANGE FENCING OR EQUIVALENT) SHALL BE INSTALLED ALONG THE CLEARING LIMITS PRIOR TO ANY LAND PREPARATION ACTIVITIES. THE TEMPORARY CONSTRUCTION FENCING SHALL BE ADJUSTED AROUND THE CANOPY OF ANY TREES THAT ARE TO REMAIN OUTSIDE OF THE CLEARING LIMITS WITH CANOPY THAT OVERHANGS INTO THE CLEARING LIMITS TO KEEP LAND PREPARATION ACTIVITIES OUTSIDE OF THE TREE CANOPY AREA.
2. ALL STREAM SETBACKS IN THE IMMEDIATE VICINITY OF THE PROPOSED DEVELOPMENT SHALL BE VERIFIED BY THE ENGINEER PRIOR TO CONSTRUCTION.
3. TRACK WALK ENTIRE DISTURBED AREA. SEE SURFACE ROUGHENING DETAIL, SHEET C5.
4. ALL TEMPORARY STAGING, STOCKPILE AND PARKING AREAS SHALL BE WITHIN THE PROPOSED DEVELOPMENT AREAS. NO STAGING, STOCKPILING, PARKING OR OTHER LAND DISTURBANCE SHALL OCCUR OUTSIDE OF THE PROPOSED DEVELOPMENT AREAS.
5. PERIMETER VINEYARD AVENUES ARE TO REMAIN UNDISTURBED DURING REPLANTING PROCESS TO PROVIDE VEGETATED BUFFER FOR RUNOFF LEAVING THE PROJECT SITE.

SITE PHOTOGRAPH NOTES:

① REPRESENTS APPROXIMATE LOCATION AND DIRECTION OF ISOMETRIC VIEW OBTAINED FROM GOOGLE EARTH IMAGERY DATED SEPTEMBER 10, 2021. SEE PHOTOGRAPHIC DOCUMENTATION OF EXISTING SITE CONDITIONS FOR THE RED DIRT GRAPES LLC VINEYARD DEVELOPMENT EROSION CONTROL PLAN FOR PHOTOGRAPHS.

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RED DIRT GRAPES LLC

VINEYARD DEVELOPMENT EROSION CONTROL PLAN
EROSION CONTROL PLAN

PREPARED UNDER THE DIRECTION OF:

REGISTERED PROFESSIONAL ENGINEER
MICHAEL R. MCELFRESH
No. 23312
CIVIL
STATE OF CALIFORNIA
PRELIMINARY NOT FOR CONSTRUCTION

DRAWN BY: PowerCAD
CHECKED BY: MRM
DATE: JANUARY 2022

REVISIONS:	BY:
01/XX/2022 PERMIT SUBMITTAL	YMS

JOB NUMBER: 21-113
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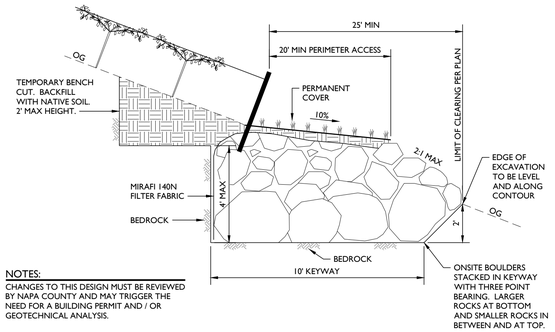
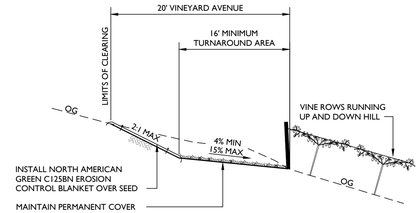
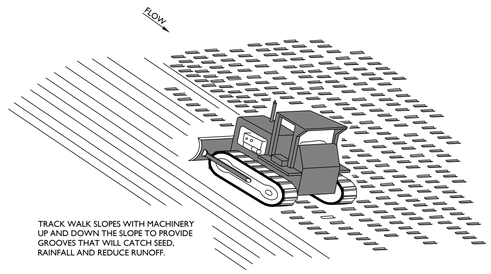


NOTES:
CHANGES TO THIS DESIGN MUST BE REVIEWED BY NAPA COUNTY AND MAY TRIGGER THE NEED FOR A BUILDING PERMIT AND / OR GEOTECHNICAL ANALYSIS.

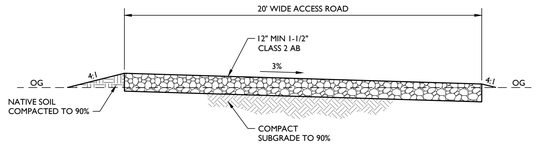
OUTSLOPED VINEYARD AVENUE AT BOTTOM OF BLOCK WITH ROCK BENCH DETAIL



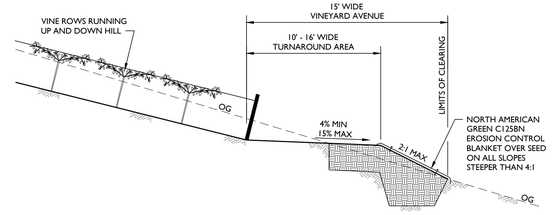
OUTSLOPED VINEYARD AVENUE AT TOP OF BLOCK DETAIL



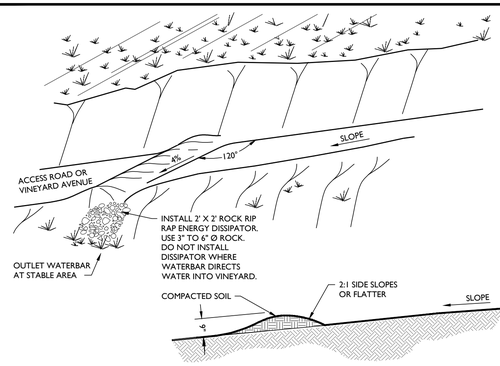
SURFACE ROUGHENING DETAIL



TYPICAL ACCESS ROAD DETAIL



OUTSLOPED VINEYARD AVENUE AT BOTTOM OF BLOCK



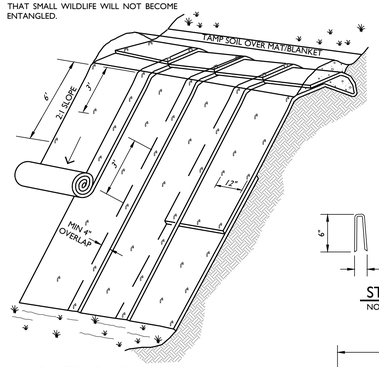
SECTION

MAXIMUM DISTANCE BETWEEN WATERBARS

EROSION HAZARD	SLOPE ALONG ROAD			
	<10%	11% - 25%	26% - 50%	>50%
EXTREME	100'	75'	50'	50'
HIGH	150'	100'	75'	50'
MODERATE	200'	150'	100'	75'
LOW	300'	200'	150'	100'

WATERBAR DETAIL

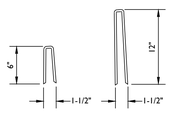
NOTE:
ALL EROSION CONTROL MATERIALS SHALL BE FREE OF PLASTIC MONOFILAMENT SO THAT SMALL WILDLIFE WILL NOT BECOME ENTANGLED.



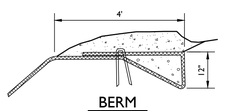
ISOMETRIC VIEW

TYPICAL SLOPE SOIL STABILIZATION

NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS / BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. MATS / BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.



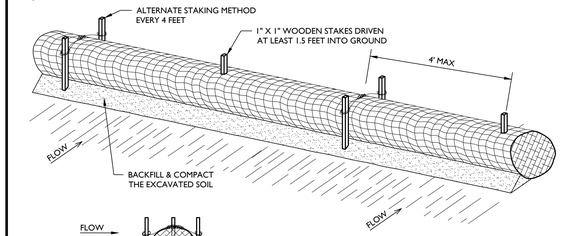
STAPLES
NOT TO SCALE



BERM
NOT TO SCALE

EROSION CONTROL BLANKET DETAIL

NOTES:
1. PREPARE SMOOTH SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
2. DIG SMALL TRENCHES ACROSS THE SLOPE ON CONTOUR, TO PLACE ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE ONE THIRD TO ONE HALF THE THICKNESS OF THE ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE.
3. IT IS CRITICAL THAT ROLLS ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR. A HAND LEVEL, LASER LEVEL OR EQUIVALENT TYPE OF INSTRUMENT SHOULD BE USED TO ENSURE LEVEL INSTALLATION. START DIGGING TRENCHES AND INSTALL ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.
4. LAY THE ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE.
5. USE A STRAIGHT BAR TO DRIVE CLEAN HOLES THROUGH THE WATTLE AND INTO THE SOIL. DRIVE THE STAKE THROUGH PREPARED HOLE INTO SOIL. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE ROLL.
6. INSTALL STAKES AT 4 FEET MAX INTERVALS.
7. USE EXCAVATED MATERIAL TO CREATE COMPACTED BERM ON UPSLOPE SIDE OF ROLL TO PREVENT WATER FROM PIPING UNDER ROLL AND FORCE IT TO FILTER THROUGHOUT THE ROLL.
8. ENDS OF ROLLS SHOULD BE OVERLAPPED 1' AND SHOULD BE SECURELY STAKED TO PREVENT WATER PASSAGE THROUGH THE JOINT.



NOTE:
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FIBER ROLL / WATTLE SEDIMENT BARRIER DETAIL

APPLIED CIVIL ENGINEERING INCORPORATED
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Napa, CA 94558
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RED DIRT GRAPES LLC

VINEYARD DEVELOPMENT EROSION CONTROL PLAN DETAILS

PREPARED UNDER THE DIRECTION OF:

REGISTERED PROFESSIONAL ENGINEER MICHAEL R. MCGRATH 28918 CIVIL STATE OF CALIFORNIA

PRELIMINARY NOT FOR CONSTRUCTION

DRAWN BY: PowerCAD

CHECKED BY: MRM

DATE: JANUARY 2022

REVISIONS:	BY:
01/XX/2022 PERMIT SUBMITTAL	YMS

JOB NUMBER: 21-113

FILE: 21-113ECP-DET.DWG

ORIGINAL SIZE: 24" X 36"

SHEET NUMBER: C5 OF 5