BIOLOGICAL RESOURCES ASSESSMENT FOR THE AKWAABA LLC CANNABIS CULTIVATION OPERATION AT 11795 NORTH DRIVE, CLEARLAKE, CALIFORNIA

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1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Natural Investigations Company conducted a biological resources assessment for a proposed cannabis cultivation operation on a 97-acre property (2 parcels: APNs 010-019-15 and -10) at 11795 North Drive, Clearlake, in Lake County, California. For this assessment, the Project Area was defined as the entire 97-acre property, which was also the boundary of the Study Area. The Study Area is defined to identify biological resources adjacent to the Project Area, and is the area subject to potential indirect effects from Project implementation.

Akwaaba, LLC ("Akwaaba") is seeking a Major Use Permit from the County of Lake for a proposed Outdoor Commercial Cannabis Cultivation Operation on the 88-acre parcel (APN 010-019-15; Project Parcel). Akwaaba's proposed cultivation operation will be composed of four (4) A-Type 3 Medium Outdoor cultivation/canopy areas, with a total combined cultivation/canopy area of 174,240 square feet. Additionally, Akwaaba is applying for an Early Activation of Use Permit for 50,000 square feet of the total proposed 174,240 square feet cultivation/canopy area. The total cultivation area of the proposed cannabis cultivation operation, including the combined cultivation/canopy areas, a 1,440 square feet Metal Barn (proposed Drying & Harvest Storage Facility), and a 160 square foot Metal Shipping/Storage Container (proposed Pesticide & Agricultural Chemicals Storage Area), is 175,840 square feet.

The Project Property has been improved with a metal barn, and a groundwater well. A private gravel and native soil surfaced access road winds through the Project Parcel, connecting North Drive to Crestview Drive through the Project Parcel. Metal gates control access to the private gravel and native soil surfaced access road from North Drive and Crestview Drive. There are no watercourses, wetlands, or watercourse crossings on the Project Parcel. The existing onsite groundwater well (38.99555°, -122.68973°) will serve as the sole water source for the proposed cultivation operation.

Development of the proposed cultivation operation will occur in three phases. The first phase will occur in 2021 under an Early Activation of Use Permit, and will not involve any construction, grading, or vegetation removal. The second and third phases will occur in 2022 and 2023 (respectively), after a Major Use Permit for Commercial Cannabis Cultivation has been obtained, and will require some vegetation removal, including ~30 mature blue oak trees (+6" DBH). A 30-acre No Development Zone will be established in the northern half of the Project Parcel, to mitigate for the six acres of the Blue Oak Woodland habitat disturbed as a result of developing the proposed cultivation operation. Five oak trees will be planted and cared for until established, within the No Development Zone for each oak tree removed, to mitigate for their loss within the area of the proposed cultivation operation. Additionally, a special-status plant, Konocti Manzanita, has been identified in the western half of the Project Parcel. No disturbance/development is proposed within 500 feet of the Konocti Manzanita, and a 50- foot buffer will be marked and maintained around the Konocti Manzanita.

The cultivation season for Akwaaba's proposed outdoor cultivation operation will begin on April 15th and end on November 15th of each year. The proposed outdoor cultivation areas will be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen/mesh where necessary to screen the cultivation/canopy areas from public view. Locking metal gates will control access to the proposed cultivation/canopy areas, and the metal gates will be locked whenever Akwaaba's cultivation personnel are not present. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in aboveground fabric pots. Akwaaba will use drip and micro-spray irrigation systems to deliver irrigation water to the aboveground fabric pots, and to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be chipped and composted onsite. Composted cannabis waste will be stored in the designated composting area, until it is incorporated into the soilless growing medium of the cultivation areas, as an organic soil amendment. All agricultural chemicals (fertilizers,

amendments, pesticides, and petroleum products) will be stored within a proposed 20-square foot metal shipping/storage container (Pesticide & Agricultural Chemicals Storage Area).

Variance – Phase III

The third phase of proposed site/project development is the establishment of 44,240 square feet of outdoor cultivation/canopy area in the western half of the Project Parcel, within 1,000 feet of a Substandard Older Subdivision Combining District (Cannabis Exclusion Zone). To use this area, Lake County must grant a variance. Akwaaba will submit a Variance Application as soon as a Lake County Planner has been assigned to their Major Use Permit Application.

Project Timeline

If Akwaaba is able to obtain an Early Activation of Use Permit for the 50,000 square feet of outdoor cultivation/canopy area planned under Phase I prior to April 1st, 2021, then they will begin preparing for planting on April 15th, 2021 (after the appropriate State Cultivation Licenses have been obtained).

1.2. PURPOSE AND SCOPE OF ASSESSMENT

This Biological Resources Assessment was prepared to assist in compliance with the California Environmental Quality Act and the state and federal Endangered Species Acts. This assessment also functions to fulfill requirements for obtaining enrollment (a Notice of Applicability) in the State Water Resources Control Board's Order WQ 2019-0001-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (General Order).

This assessment provides information about the biological resources within the Study Area, the regulatory environment affecting such resources, any potential Project-related impacts upon these resources, and finally, to identify mitigation measures and other recommendations to reduce the significance of these impacts. The specific scope of services performed for this assessment consisted of the following tasks:

- Compile all readily-available historical biological resource information about the Study Area;
- Spatially query state and federal databases for any occurrences of special-status species or habitats within the Study Area and vicinity;
- Perform a reconnaissance-level field survey of the Study Area, including photographic documentation;
- Inventory all flora and fauna observed during the field survey;
- Characterize and map the habitat types present within the Study Area, including any potentially-jurisdictional water resources;
- Evaluate the likelihood for the occurrence of any special-status species;
- Assess the potential for the Project to adversely impact any sensitive biological resources;
- Recommend mitigation measures designed to avoid or minimize Project-related impacts; and
- Prepare and submit a report summarizing all of the above tasks.

The scope of services does not include other services that are not described in this Section, such as formal aquatic resource delineations or protocol-level surveys for special-status species.

1.3. REGULATORY SETTING

The following section summarizes some applicable regulations of biological resources on real property in California.

1.3.1. Special-status Species Regulations

The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service implement the Federal Endangered Species Act of 1973 (FESA) (16 USC §1531 et seq.). Threatened and endangered species on the federal list (50 CFR §17.11, 17.12) are protected from "take" (direct or indirect harm), unless a FESA Section 10 Permit is granted or a FESA Section 7 Biological Opinion with incidental take provisions is rendered. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact upon such species. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC §1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation. Species that are candidates for listing are not protected under FESA; however, USFWS advises that a candidate species could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

The California Endangered Species Act of 1970 (CESA) (California Fish and Game Code §2050 *et seq*., and CCR Title 14, §670.2, 670.51) prohibits "take" (defined as hunt, pursue, catch, capture, or kill) of species listed under CESA. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Section 2081 establishes an incidental take permit program for state-listed species. Under CESA, California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of threatened and endangered species designated under state law (CFG Code 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to requirements of CESA, an agency reviewing proposed projects within its jurisdiction must determine whether any state-listed species may be present in the Study Area and determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation.

California Fish and Game Code Sections 4700, 5050, and 5515 designates certain mammal, amphibian, and reptile species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The California Native Plant Protection Act of 1977 (CFG Code §1900 *et seq*.) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. Section 19131 of the code requires that landowners notify CDFW at least 10 days prior to initiating activities that will destroy a listed plant to allow the salvage of plant material.

Many bird species, especially those that are breeding, migratory, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbances must be reduced or eliminated during the nesting cycle. California Fish and Game Code (§3503, 3503.5, and 3800) prohibits the possession, incidental take, or needless destruction of any bird nests or eggs. Fish and Game Code §3511 designates certain bird species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The Bald and Golden Eagle Protection Act (16 USC §668) specifically protects bald and golden eagles from harm or trade in parts of these species.

California Environmental Quality Act (CEQA) (Public Resources Code §15380) defines "rare" in a broader sense than the definitions of threatened, endangered, or fully protected. Under the CEQA definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the impacts of a project upon environmental resources must be analyzed and assessed using criteria determined by the lead agency. Sensitive species that would qualify for listing but are not currently listed

may be afforded protection under CEQA. The CEQA Guidelines (§15065) require that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines (§15380) provide for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Plant species on the California Native Plant Society (CNPS) Lists 1A, 1B, or 2 are typically considered rare under CEQA. California "Species of Special Concern" is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. While they do not have statutory protection, Species of Special Concern are typically considered rare under CEQA and thereby warrant specific protection measures.

1.3.2. Water Resource Protection

Real property that contains water resources are subject to various federal and state regulations and activities occurring in these water resources may require permits, licenses, variances, or similar authorization from federal, state and local agencies, as described next.

The Federal Water Pollution Control Act Amendments of 1972 (as amended), commonly known as the Clean Water Act (CWA), established the basic structure for regulating discharges of pollutants into "waters of the United States". Waters of the US includes essentially all surface waters, all interstate waters and their tributaries, all impoundments of these waters, and all wetlands adjacent to these waters. CWA Section 404 requires approval prior to dredging or discharging fill material into any waters of the US, especially wetlands. The permitting program is designed to minimize impacts to waters of the US, and when impacts cannot be avoided, requires compensatory mitigation. The US Army Corps of Engineers (USACE) is responsible for administering Section 404 regulations. Substantial impacts to jurisdictional wetlands may require an Individual Permit. Small-scale projects may require only a Nationwide Permit, which typically has an expedited process compared to the Individual Permit process. Mitigation of wetland impacts is required as a condition of the CWA Section 404 Permit and may include on-site preservation, restoration, or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

Under CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. The California State Water Resources Control Board is responsible for administering CWA Section 401 regulations.

Section 10 of the Rivers and Harbors Act of 1899 requires approval from USACE prior to the commencement of any work in or over navigable Waters of the US, or which affects the course, location, condition or capacity of such waters. Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use, as a means to transport interstate or foreign commerce up to the head of navigation. Rivers and Harbors Act Section 10 permits are required for construction activities in these waters.

California Fish and Game Code (§1601 - 1607) protects fishery resources by regulating "*any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake*." CDFW requires notification prior to commencement, and issuance of a Lake or Streambed Alteration Agreement, if a proposed project will result in the alteration or degradation of ''waters of the State". The limit of CDFW jurisdiction is subject to the judgment of the Department; currently, this jurisdiction is interpreted to be the "stream zone", defined as "*that portion of the stream channel that restricts lateral movement of water*" and delineated at "*the top of the bank or the outer edge of any riparian vegetation, whichever is more landward*". CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the

Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a CWA 404 Section Permit and/or CWA Section 401 Water Quality Certification.

For construction projects that disturb one or more acres of soil, the landowner or developer must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

The State Water Resources Control Board's Order WQ 2019-0007-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities protects receiving water bodies from water-quality impacts associated with cannabis cultivation using a combination of Best Management Practices, buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

1.3.3. Tree Protection

At the State level, in areas inside timberland, any tree removal is subject to the conditions and requirements set forth in the Z'berg-Nejedly Forest Practice Act and the California Forest Practice Rules. If development of a project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased, Fuelwood, or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.

Lake County does not have a specific ordinance protecting native trees. However, under the Cannabis Ordinance 3084, Section 4, Subsection iii) Prohibited Activities (a) Tree Removal, Lake County restricts tree removal as follows:

> *"The removal of any commercial tree species as defined by the California Code of Regulations section 895.1, Commercial Species for the Coast Forest District and Northern Forest District, and the removal of any true oak species (Quercus species) or Tan Oak (Notholithocarpus species) for the purpose of developing a cannabis cultivation site should be avoided and minimized. This shall not include the pruning of any such tree species for the health of the tree or the removal of such trees if necessary for safety or disease concerns."*

During the permitting process, Lake County requires mitigation for the removal of protected trees; typical mitigation is tree replacement at a ratio of 2:1 or 3:1.

2. ENVIRONMENTAL SETTING

The Study Area is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Study Area and vicinity is in Climate Zone 7 - California's Gray Pine Belt, defined by hot summers and mild but pronounced winters without severe winter cold or high humidity (Sunset, 2020). The Study Area is located just west of the City of Clearlake, along the spine of Sulphur Bank Ridge, and is accessed via North Drive and Crestview Drive. The topography of the Study Area consists of a ridge top with moderate to steeply sloping sides. The elevation ranges from approximately 1,580 feet to 1,890 feet above mean sea level. Drainage runs north, south and east, and eventually flows into either Clear Lake or Borax Lake. Prior to the establishment of this cultivation operation, land uses were open space. The surrounding land uses are private estates and open space.

3. METHODOLOGY

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Any readily-available previous biological resource studies pertaining to the Study Area or vicinity
- Aerial photography of the Study Area (current and historical)
- United States Geologic Service 7.5 degree-minute topographic quadrangles of the Study Area and vicinity
- USFWS National Wetland Inventory
- USDA Natural Resources Conservation Service soil survey maps
- California Natural Diversity Database (CNDDB), electronically updated monthly by subscription
- USFWS species list (IPaC Trust Resources Report).

3.2. FIELD SURVEY

Consulting biologist Tim Nosal, MS. conducted a reconnaissance-level field survey on September 15, 2020. Weather conditions were warm and sunny with a light breeze. A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible fauna and flora observed were recorded in a field notebook, and identified to the lowest possible taxon. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDB within the vicinity of the Study Area and those species on the USFWS species list (Appendix 1).

When a specimen could not be identified in the field, a photograph or voucher specimen (depending upon permit requirements) was taken and identified in the laboratory using a dissecting scope where necessary. Dr. Graening holds the following scientific collection permits: CDFW Scientific Collecting Permit No. SC-006802; and CDFW Plant Voucher Specimen Permit 09004. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2020); CDFW (2020b,c); NatureServe 2020; and University of California at Berkeley (2020a,b).

The locations of any special-status species sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Habitat types occurring in the Study Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded. The Study Area was also informally

assessed for the presence of potentially-jurisdictional water features, including riparian zones, isolated wetlands and vernal pools, and other biologically-sensitive aquatic habitats

3.3. MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the Study Area were digitized to produce the final habitat maps. The boundaries of potentially jurisdictional water resources within the Study Area were identified and measured in the field, and similarly digitized to calculate acreage and to produce informal delineation maps. Geographic analyses were performed using geographical information system software (ArcGIS 10, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Informal wetland delineation methods consisted of an abbreviated, visual assessment of the three requisite wetland parameters (hydrophytic vegetation, hydric soils, hydrologic regime) defined in the US Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). Wildlife habitats were classified according to the CDFW's California Wildlife Habitat Relationships System (CDFW, 2020c). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2020), Calflora (2020); CDFW (2020a,b,c); and University of California at Berkeley (2020a,b).

4. RESULTS

4.1. INVENTORY OF FLORA AND FAUNA FROM FIELD SURVEY

All plants detected during the field survey of the Study Area are listed in Appendix 2. The following animals were detected within the Study Area during the field survey: northwestern fence lizard (*Sceloporus occidentalis occidentalis*); western sagebrush lizard (*Sceloporus graciosus gracilis*); Botta's pocket gopher (*Thomomys bottae*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); coyote (*Canis latrans*); gray fox (*Urocyon cinereoargenteus*); raccoon (*Procyon lotor*); western gray squirrel (*Sciurus griseus*); Anna's hummingbird (*Calypte anna*); black phoebe (*Sayornis nigricans*); California quail (*Callipepla californica*); California scrub jay (*Aphelocoma californica*); California towhee (*Melozone crissalis*); mourning dove (*Zenaida macroura*); northern flicker (*Colaptes auratus*); Nuttall's woodpecker (*Picoides nuttallii*); oak titmouse (*Baeolophus inornatus*); red-winged blackbird (*Agelaius phoeniceus*); turkey vulture (*Cathartes aura*); western bluebird (*Sialia mexicanus*); white-breasted nuthatch (*Sitta carolinensis*); wild turkey (*Meleagris gallopavo*); and other common songbirds.

4.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

4.2.1. Terrestrial Vegetation Communities

The Study Area contains 1 terrestrial vegetation community: Blue Oak Woodland. This vegetation community is discussed here and is delineated in the Exhibits.

> **Blue Oak Woodland:** One habitat is found within the Study Area: blue oak woodland. Although the canopy density and composition of the woodland changes with the slope and aspect, the dominant tree across the landscape is blue oak (*Quercus douglasii*). Other trees found within the canopy include gray pine (*Pinus sabiniana*), California black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni*) and oracle oak (*Quercus* x *morehus*). The oracle oak is a hybrid between the California black oak and the interior live oak, and can be found along the ridge top near the center of the parcel. Several shrubs are common within the understory, including common manzanita (*Arctostaphylos manzanita* spp. *manzanita*), poison-oak (*Toxicodendron diversilobum*) and birch leaf mountain mahogany (*Cercocarpus betuloides*). The herbaceous layer within the oak woodland consists of a variety of grasses and herbs, including wild oats (*Avena* spp.), Pacific fescue (*Festuca microstachys*), bromes (*Bromus* spp.), California melic grass (*Melica californica*), blue wild rye (*Elymus glaucus*), whiskerbrush (*Leptosiphon ciliatus*) and miniature lupine (*Lupinus bicolor*). This vegetation type can be classified as the Holland Type "Blue Oak Woodland" or as "*Quercus douglasii-Quercus wislizeni-Pinus sabiniana*" (CDFW 2020).

4.2.2. Wildlife Habitat Types

Wildlife habitat types were classified using CDFW's Wildlife Habitat Relationship System. The Study Area contains the following wildlife habitat type: Blue Oak Woodland.

4.2.3. Critical Habitat and Special-status Habitat

No critical habitat for any federally-listed species occurs within the Project Area or the surrounding Study Area. The CNDDB reported no special-status habitats within the Project Area or surrounding Study Area. The CNDDB reported the following special-status habitats in a 10-mile radius outside of the Study Area: Clear Lake Drainage Resident Trout Stream; Clear Lake Drainage Cyprinid/Catostomid Stream; Clear Lake Drainage Seasonal Lakefish Spawning Stream; Northern Basalt Flow Vernal Pool; Northern Volcanic Ash Vernal Pool; Coastal and Valley Freshwater Marsh and Great Valley Mixed Riparian Forest.

No special-status habitats were detected within the Project Area or surrounding Study Area during the field survey.

4.2.4. Habitat Plans and Wildlife Corridors

Wildlife movement corridors link remaining areas of functional wildlife habitat that are separated primarily by human disturbance, but natural barriers such as rugged terrain and abrupt changes in vegetation cover are also possible. Wilderness and open lands have been fragmented by urbanization, which can disrupt migratory species and separate interbreeding populations. Corridors allow migratory movements and act as links between these separated populations.

No designated wildlife corridors exist within or near the Study Area. No fishery resources exist in or near the Study Area; the nearest is Clear Lake. Although there are no designated wildlife corridors, the open space within the Study Area allows for unrestricted animal movement. The Study Area is not located within any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

4.3. LISTED SPECIES AND OTHER SPECIAL-STATUS SPECIES

For the purposes of this assessment, “special status” is defined to be species that are of management concern to state or federal natural resource agencies, and include those species that are:

- Listed as endangered, threatened, proposed, or candidate for listing under the Federal Endangered Species Act;
- Listed as endangered, threatened, rare, or proposed for listing, under the California Endangered Species Act of 1970;
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as a species of special concern by CDFW;
- Plants considered to be rare, threatened or endangered in California by the California Native Plant Society (CNPS); this consists of species on Lists 1A, 1B, and 2 of the CNPS Ranking System; or
- Plants listed as rare under the California Native Plant Protection Act.

4.3.1. Reported Occurrences of Listed Species and Other Special-status Species

A list of special-status plant and animal species that have occurred within the Study Area and vicinity was compiled based upon the following:

- Any previous and readily-available biological resource studies pertaining to the Study Area;
- Informal consultation with USFWS by generating an electronic Species List (Information for Planning and Conservation website at https://ecos.fws.gov/ipac/); and
- A spatial query of the CNDDB.

The CNDDB was queried and any reported occurrences of special-status species were plotted in relation to the Study Area boundary using GIS software (see exhibits).

The CNDDB reported the following special-status species occurrences within the Study Area: eel-grass pondweed (*Potamogeton zosteriformis*); watershield (*Brasenia schreberi*) and Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*). The CNDDB has mapped occurrences of these species within the Study Area; however, the exact location of these occurrences is not known. Suitable aquatic habitat for eel-grass pondweed and watershield is not found within the Study Area. Suitable volcanic soil habitat for Konocti manzanita is not found within the Study Area; however, several plants along the ridgetop have been tentatively identified as this species.

Within a 10-mile buffer of the Study Area boundary, the CNDDB reported several special-status species occurrences, summarized in the following table.

A USFWS species list was generated online using the USFWS' IPaC Trust Resource Report System (see Appendix 1). This list is generated using a regional and/or watershed approach and does not necessarily indicate that the Study Area provides suitable habitat. The following listed species should be considered in the impact assessment:

- Northern Spotted Owl (*Strix occidentalis caurina*) Threatened
- Yellow-billed Cuckoo (*Coccyzus americanus*) Threatened
- California Red-legged Frog (*Rana draytonii*) Threatened
- Delta Smelt (*Hypomesus transpacificus*) Threatened
- Burke's Goldfields (*Lasthenia burkei*) Endangered
- Few-flowered Navarretia (*Navarretia leucocephala ssp. pauciflora)* Endangered
- Lake County Stonecrop (*Parvisedum leiocarpum)* Endangered
- Loch Lomond Coyote Thistle (*Eryngium constancei)* Endangered
- Many-flowered Navarretia (*Navarretia leucocephala ssp. plieantha)* Endangered
- Slender Orcutt Grass (*Orcuttia tenuis*) Threatened

Migratory birds should also be considered in the impact assessment.

Special-status Species Reported by CNDDB in the Vicinity of the Study Area

Common Name Scientific Name	Status*	General Habitat**	Microhabitat**
Red-bellied newt *Taricha rivularis*	CSSC	Found in coastal woodlands and redwood forests along the coast of Northern California	A stream or river dweller. Larvae retreat into vegetation and under stones during the day.
California giant salamander *Dicamptodon ensatus*	CSSC	Mendocino and Lake Counties south to Santa Cruz and Santa Clara Counties.	Wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages.
Foothill yellow-legged frog *Rana boylii*	CCT/CSSC	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.
Osprey *Pandion haliaetus*	CWL	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
Golden eagle *Aquila chrysaetos*	CFP/CWL	Rolling foothills, mountain areas, sage-juniper flats, & desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
Prairie falcon *Falco mexicanus*	CWL	Inhabits dry, open terrain, either level or hilly.	Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/CE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.
Purple martin *Progne subis*	CSSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, & Monterey pine.	Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.
Clear Lake hitch *Lavinia exilicauda chi*	CT	Found only in clear lake, lake co, and associated ponds. Spawns in streams flowing into clear lake.	Adults found in the limnetic zone. Juveniles found in the nearshore shallow-water habitat hiding in the vegetation.
Sacramento perch *Archoplites interruptus*	CSSC	Historically found in the sloughs, slow-moving rivers, and lakes of the central valley.	Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.
Long-eared myotis *Myotis evotis*	CSSC	Found in all brush, woodland & forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands & forests.	Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.
Fringed myotis *Myotis thysanodes*	CSSC	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer.	Uses caves, mines, buildings or crevices for maternity colonies and roosts.
Hoary bat *Lasiurus cinereus*	CSSC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding.	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
Western red bat *Lasiurus blossevillii*	CSSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests.	Prefers habitat edges & mosaics with trees that are protected from above & open below with open areas for foraging.
Townsend's big-eared bat *Corynorhinus townsendii*	CSSC	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.
Pallid bat *Antrozous pallidus*	CSSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
North American porcupine *Erethizon dorsatum*	CSSC		
Western pond turtle *Emys marmorata*	CSSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, be	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying
An isopod *Calasellus californicus*	CSSC	Known from Lake, Napa, Marin, Santa Cruz and Santa Clara counties.	
Brownish dubiraphian riffle beetle *Dubiraphia brunnescens*	CSSC	Aquatic; known only from the NE shore of Clear Lake, Lake County.	Inhabits exposed, wave-washed willow roots.
Ricksecker's water scavenger beetle	CSSC	Aquatic.	

Common Name Scientific Name	Status*	General Habitat**	Microhabitat**
*Hydrochara ricksecker*i			
Obscure bumble bee *Bombus caliginosus*	CSSC	Open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests.	Food plants include *Ceanothus, Cirsium, Clarkia, Keckiella, Lathyrus, Lotus, Lupinus, Rhododendron, Rubus, Trifolium,* and *Vaccinium.*
Borax Lake cuckoo wasp *Hedychridium milleri*	CSSC	Endemic to central California. Only collection is from the type locality.	External parasite of wasp and bee larva.
Clear Lake pyrg *Pyrgulopsis ventricosa*	CSSC	Restricted to Seigler Creek drainage in the south end of the Clear Lake Basin.	Freshwater.
Toren's grimmia *Grimmia torenii*	1B.3	Cismontane woodland, lower montane coniferous forest, chaparral.	Openings, rocky, boulder and rock walls, carbonate, volcanic. 325-1160 m.
Loch Lomond button-celery *Eryngium constancei*	FE/CE/1B.1	Vernal pools.	Volcanic ash flow vernal pools. 460-855 m.
Small-flowered calycadenia *Calycadenia micrantha*	1B.2	Chaparral, valley and foothill grassland, meadows and seeps.	Rocky talus or scree; sparsely vegetated areas. Occasionally on roadsides; sometimes on serpentine. 5-1500 m.
Pappose tarplant *Centromadia parryi ssp. parryi*	1B.2	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland.	Vernally mesic, often alkaline sites. 2-420m.
Burke's goldfields *Lasthenia burkei*	FE/CE/1B.1	Vernal pools, meadows and seeps.	Most often in vernal pools and swales. 15-600 m.
Colusa layia *Layia septentrionalis*	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 145-1095m.
Hall's harmonia *Harmonia hallii*	1B.2	Chaparral.	Serpentine hills and ridges. Open, rocky areas within chaparral. 500-900 m.
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Serpentine cryptantha *Cryptantha dissita*	1B.2	Chaparral.	Serpentine outcrops. 330-730m.
Watershield *Brasenia schreberi*	2B.3	Freshwater marshes and swamps.	Aquatic from water bodies both natural and artificial in California.
Cascade downingia *Downingia willamettensis*	2B.2	Cismontane woodland, valley and foothill grasslands.	Lake margins and vernal pools.
Legenere *Legenere limosa*	1B.1	Vernal pools.	In beds of vernal pools. 1-880 m.
Oval-leaved viburnum *Viburnum ellipticum*	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Lake County stonecrop *Sedella leiocarpa*	FE/CE/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland.	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 365-790 m.
Raiche's manzanita *Arctostaphylos stanfordiana ssp. raichei*	1B.1	Chaparral, lower montane coniferous forest.	Rocky, serpentine sites. Slopes and ridges. 450-1000 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Commonly on serpentine in grassland or openings in chaparral. 180-1000 m.
Anthony Peak lupine *Lupinus antoninus*	1B.2	Upper montane coniferous forest, lower montane coniferous forest.	Open areas with surrounding forest; rocky sites. 1220-2285 m.
Napa bluecurls *Trichostema ruygtii*	1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest.	Often in open, sunny areas. Also has been found in vernal pools. 30-590m.
Woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	4.2	Chapparal, cismontane woodland, valley and foothill grassland, vernal pools.	Vernally wet areas, ditches, and ponds. 60-1335 m.
Glandular western flax *Hesperolinon adenophyllum*	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils; generally found in serpentine chaparral. 150-1315 m.
Two-carpellate western flax *Hesperolinon bicarpellatum*	1B.2	Serpentine chaparral.	Serpentine barrens at edge of chaparral. 60-1005 m.

Common Name Scientific Name	Status*	General Habitat**	Microhabitat**
Marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	1B.2	Meadows and seeps, riparian forest.	Wet soil of streambanks, meadows. 1100-2300 m.
Brandegee's eriastrum *Eriastrum brandegeeae*	1B.1	Chaparral, cismontane woodland.	On barren volcanic soils; often in open areas. 425-840 m.
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Vernal pools and swales; adobe or alkaline soils. 5-1740 m.
Few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	Vernal pools.	Volcanic ash flow, and volcanic substrate vernal pools. 400-855 m.
Many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE/CE/1B.2	Vernal pools.	Volcanic ash flow vernal pools. 30-950 m.
Rincon Ridge ceanothus *Ceanothus confusus*	1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland.	Known from volcanic or serpentine soils, dry shrubby slopes. 75-1065 m.
Bolander's horkelia *Horkelia bolanderi*	1B.2	Lower montane coniferous forest, chaparral, meadows, valley and foothill grassland.	Grassy margins of vernal pools and meadows. 450-1100 m.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE/1B.2	Marshes and swamps (freshwater), vernal pools.	Clay soils; usually in vernal pools, sometimes on lake margins. 10-2375 m.
Adobe-lily *Fritillaria pluriflora*	1B.2	Chaparral, cismontane woodland, foothill grassland.	Usually on clay soils; sometimes serpentine. 60-705 m.
California satintail *Imperata brevifolia*	2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 0-1215 m.
Slender Orcutt grass *Orcuttia tenuis*	FT/CE/1B.1	Vernal pools.	Often in gravelly pools. 35-1760 m.
Eel-grass pondweed *Potamogeton zosteriformis*	2B.2	Marshes and swamps.	Ponds, lakes, streams. 0-1860 m.

*Definitions of Status Codes: FE = Federally listed as endangered; FT = Federally listed as threatened; FPE = Federally proposed for listing as endangered; FPT = Federally proposed for listing as threatened; FC = Candidate for Federal listing; MB = Migratory Bird Act; CE = California State listed as endangered; CT = California State listed as threatened; CR = California rare species; CCE= California candidate for listing as Endangered; CCT= California candidate for listing as Threatened; CSSC = California species of special concern; CWL= California Watch List; CFP = California fully protected species; CBR = Considered but Rejected; CNPS (California Native Plant Society) List 1A = Plants presumed extinct in California by CNPS; CNPS List 1B = CNPS designated rare or endangered plants in California and elsewhere; CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere; and CNPS List 4 = CNPS Watch List: Plants of limited distribution.
** Copied verbatim from CNDDB.

4.3.2. Listed Species or Special-status Species Observed During Field Survey

During the field survey one plant was tentatively identified as a special-status species within the Study Area: Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*).

4.3.3. Potential for Listed Species or Special-status Species to Occur in the Study Area

The blue oak woodland within the Study Area has a moderate potential for harboring special-status plant species due to the lack of disturbance and abundance of native shrubs, grasses and forbs. There are no non-wetland water resources, such as watercourses, within the Study Area that can sustain aquatic special-status species.

4.4. POTENTIALLY-JURISDICTIONAL WATER RESOURCES

The USFWS National Wetland Inventory reported no water features within the Project Area or the surrounding Study Area (see Exhibits).

An informal assessment for the presence of potentially-jurisdictional water resources within the Study Area was also conducted during the field survey. For purposes of this biological site assessment, non-wetland waters (i.e., channels) were classified using the California Forest Practice Rules. The California Forest Practice Rules define a Class I watercourse as 1) a watercourse providing habitat for fish always or seasonally, and/or 2) providing a domestic water source; a Class II watercourse is 1) a watercourse capable of supporting non-fish aquatic species, or 2) a watercourse within 1000 feet of a watercourse that seasonally or always has fish present; a Class III watercourse is a watercourse with no aquatic life present and that shows evidence of being capable of transporting sediment to Class I and Class II waters during high water flow conditions.

The field survey determined that the Project Area and the surrounding Study Area do not contain any channels or wetlands. There are no vernal pools or other isolated wetlands in the Study Area.

5. IMPACT ANALYSES AND MITIGATION MEASURES

This section establishes the impact criteria, then analyzes potential Project-related impacts upon the known biological resources within the Study Area, and then suggests mitigation measures to reduce these impacts to a less-than-significant level.

5.1. IMPACT SIGNIFICANCE CRITERIA

The significance of impacts to biological resources depends upon the proximity and quality of vegetation communities and wildlife habitats, the presence or absence of special-status species, and the effectiveness of measures implemented to protect these resources from Project-related impacts. As defined by CEQA, the Project would be considered to have a significant adverse impact on biological resources if it would:

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

5.2. IMPACT ANALYSIS

The following discussion evaluates the potential for Project-related activities to adversely affect biological resources. The Project boundaries were digitized and then overlaid on the habitat map using GIS to quantify potential impacts. Historical aerial photos were also analyzed for changes in land use.

5.2.1. Potential Direct / Indirect Adverse Effects Upon Special-status Species

- *Will the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

During the field survey, no listed species or special-status species were observed within the Project Area. One special-status plant species was detected within the Study Area (in the area marked, see Exhibits). Oak woodland habitat within the Project Area may provide suitable habitat for additional special status plant species. This is a potentially significant impact before mitigation.

Special-status bird species were reported in databases (CNDDB and USFWS) in the vicinity of the Project Area. The Project Area, and adjacent trees, contain suitable nesting habitat for various bird species. However, no occupied nests were observed during the field survey. If construction activities are conducted during the nesting season, nesting birds could be directly impacted by tree removal and indirectly impacted by noise, vibration, and other construction-related disturbance. Therefore, Project construction is considered a potentially significant adverse impact to nesting birds.

Recommended Mitigation Measures

If Konocti manzanita is present within project areas, it should be preserved or transplanted to another portion of the property that will never be developed; periodic waterings and other plant health maintenance activities should be performed for at least 3 years. The project has been designed to avoid the Konocti manzanita; a "no disturbance/development zone" is proposed, and is defined by placing a 50-foot buffer around the special-status plant, with some combination of marking, fencing, and signage. this avoidance measure will reduce any impacts to Konocti manzanita to a less than significant level.

Because suitable habitat for special-status plant and animal species is found within the Project Area and adjacent Study Area, a pre-construction survey for special-status plant and animal species should be performed by a qualified biologist to ensure that special-status species are not present. If any listed species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed. With the implementation of this mitigation measure, adverse impacts upon special-status species would be reduced to a less-than-significant level.

If construction activities would occur during the nesting season (typically February through August), a pre-construction survey for the presence of special-status bird species or any nesting bird species should be conducted by a qualified biologist within 500 feet of proposed construction areas. If active nests are identified in these areas, CDFW and/or USFWS should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site. With the implementation of this mitigation measure, adverse impacts upon special-status bird species and nesting birds would be reduced to a less-than-significant level.

5.2.2. Potential Direct / Indirect Adverse Effects Upon Special-status Habitats or Natural Communities or Corridors

- *Will the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The Project Area and surrounding Study Area are not within any designated listed species' critical habitat. The Study Area does not contain channels, wetlands or isolated wetlands. The Project Area does not contain terrestrial special-status habitats. Implementation of the project will require some vegetation removal and the conversion of oak woodland habitat, including the removal of approximately 30 mature blue oak trees. To compensate for any project impacts, a 30-acre No Development Zone will be established in the northern half of the Project Parcel, to mitigate for the six acres of the Blue Oak Woodland habitat disturbed as a result of developing the proposed cultivation operation. Five oak trees will be planted and cared for until established, within the No Development Zone for each oak tree removed, to mitigate for their loss within the area of the proposed cultivation operation. These mitigation measures will reduce project impacts upon habitat loss to a less than significant level.

Recommended Mitigation Measures

No mitigation is necessary.

5.2.3. Potential Direct / Indirect Adverse Effects on Jurisdictional Water Resources

- *Will the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

There are no water resources within the Project Area or Study Area.

If the total area of ground disturbance from installation of the cultivation operation is 1 acre or more, the Cultivator must enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). Implementation of a stormwater pollution prevention plan, and erosion control plan, along with regular inspections, will ensure that construction activities do not pollute receiving waterbodies.

Potential adverse impacts to water resources could occur during operation of cultivation activities resources by discharge of sediment or other pollutants (fertilizers, pesticides, human waste, etc.) into receiving waterbodies. However, the project proponent must file a Notice of Intent and enroll in Cannabis Cultivation Order WQ 2019-0007-DWQ. Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

Cultivators who enroll in the State Water Board's Waste Discharge Requirements for Cannabis Cultivation Order WQ 2019-0007-DWQ must comply with the Minimum Riparian Setbacks, as summarized in the following table. The Project would be considered to have a significant adverse impact on jurisdictional water resources if it would be non-compliant with these requirements. The minimum riparian setbacks apply to all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, diesel powered pump locations, water storage areas, and chemical toilet placement). The proposed project is compliant with the setback requirements of Cannabis Cultivation Order WQ 2019-0007-DWQ.

Minimum Riparian Setbacks

Common Name	Watercourse Class	Distance
Perennial watercourses, waterbodies (e.g. lakes, ponds), or springs	I	150 ft.
Intermittent watercourses or wetlands	II	100 ft.
Ephemeral watercourses	III	50 ft.
Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established riparian zone vegetation

Recommended Mitigation Measures

No impacts were identified, and therefore no mitigation measures are proposed.

5.2.4. Potential Impacts to Wildlife Movement, Corridors, etc.

- *Will the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

No wildlife corridors exist within or near the Study Area. Implementation of the proposed project would necessitate erection of security fences around the cultivation compounds. These fences do not allow animal movement and may act as a local barrier to wildlife movement. However, the fenced cultivation areas are surrounded by open space, allowing wildlife to move around these fenced areas. Thus, implementation of the proposed project is a less than significant impact upon wildlife movement. Implementation of the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Recommended Mitigation Measures

No mitigation is necessary.

5.2.5. Potential Conflicts with Ordinances, Habitat Conservation Plans, etc.

- *Will the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*
- *Will the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Construction of the project may require the removal of trees protected by Lake County and Cal Fire. This is a potentially significant impact before mitigation.

The project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or another approved governmental habitat conservation plan. The Study Area is not within the coverage area of any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Recommended Mitigation Measures

Implementation of the project will require the conversion of oak woodland habitat, including the removal of approximately 30 mature blue oak trees. To compensate for any project impacts, a 30-acre No Development Zone will be established in the northern half of the Project Parcel, to mitigate for the six acres of the Blue Oak Woodland habitat disturbed as a result of developing the proposed cultivation operation. Five oak trees will be planted and cared for until established, within the No Development Zone for each oak tree removed, to mitigate for their loss within the area of the proposed cultivation operation. These mitigation measures will reduce project impacts upon tree resources to a less than significant level.

Note that if development of the project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased, Fuelwood, or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.

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EXHIBITS

Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

1:24,000

11795 North Drive
Parcel Location Map

Natural Investigations Company

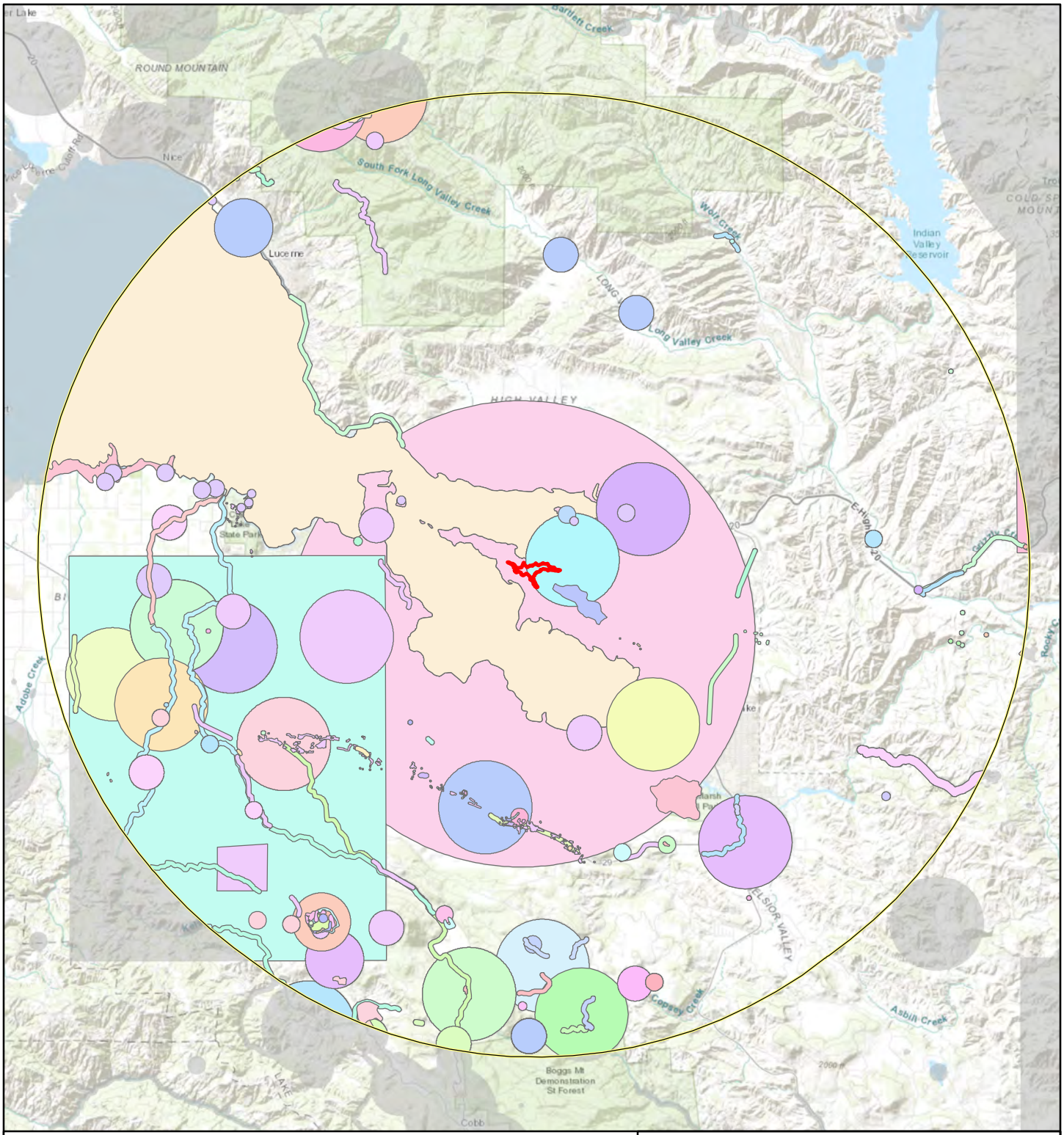
Map Date 9/4/2020

Clearlake Highlands 1993 Quadrangle:Township 13N, Range 7W, Section 7,12

Habitat Types

11795 North Drive, Clearlake

Natural Investigations Company



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.Data Sources: California Department of Fish and Wildlife. 2020. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California.
(updated monthly by subscription service)

Special-Status Species Occurrences Map

11795 North Drive

Clearlake Highlands 1993 Quadrangle:
Township 13N, Range 7W, Section 7,12

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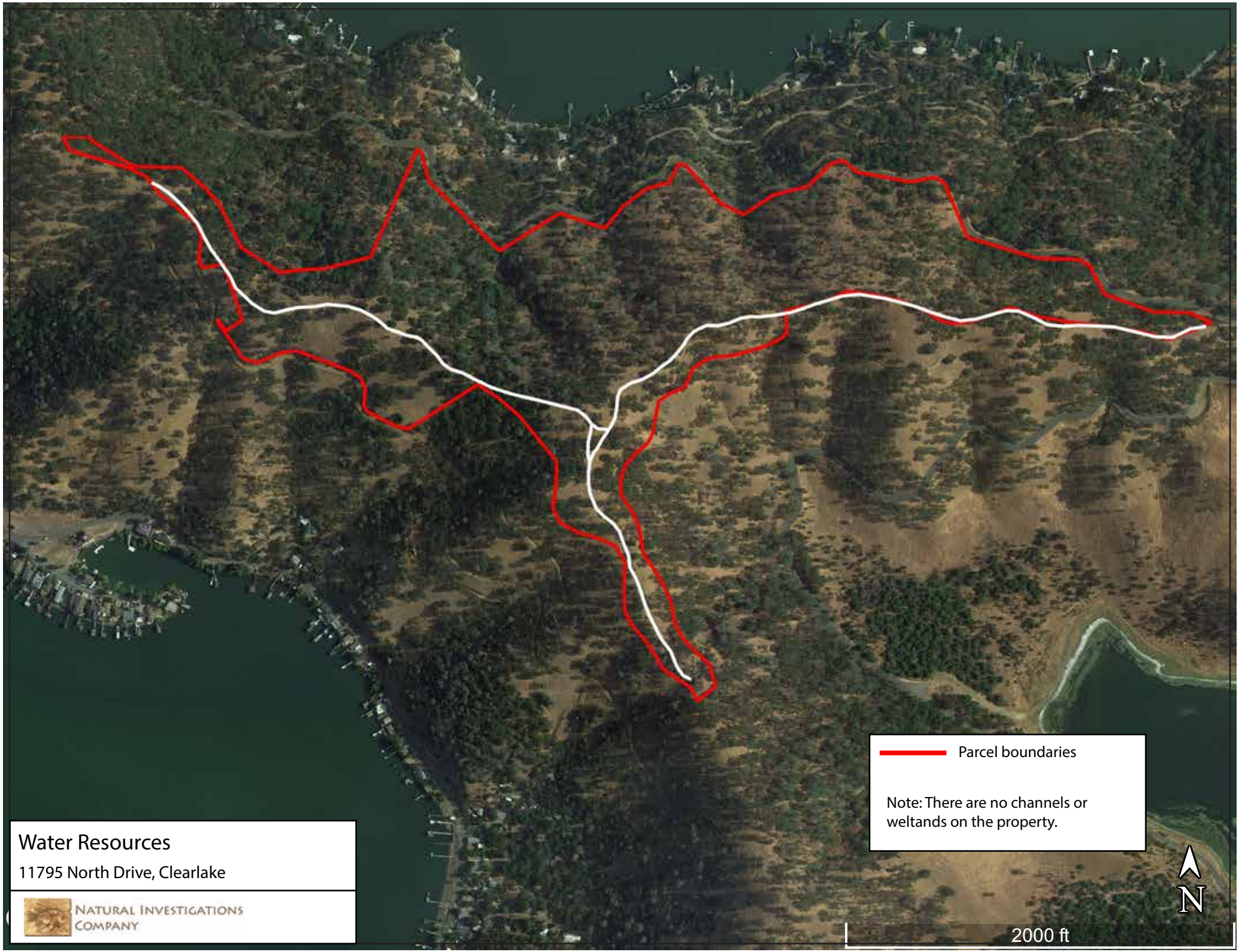


Water Resources

11795 North Drive, Clearlake

Natural Investigations Company

Parcel Location

Wetlands and Chanels

0 250 500 Meters

0 1,000 2,000 Feet

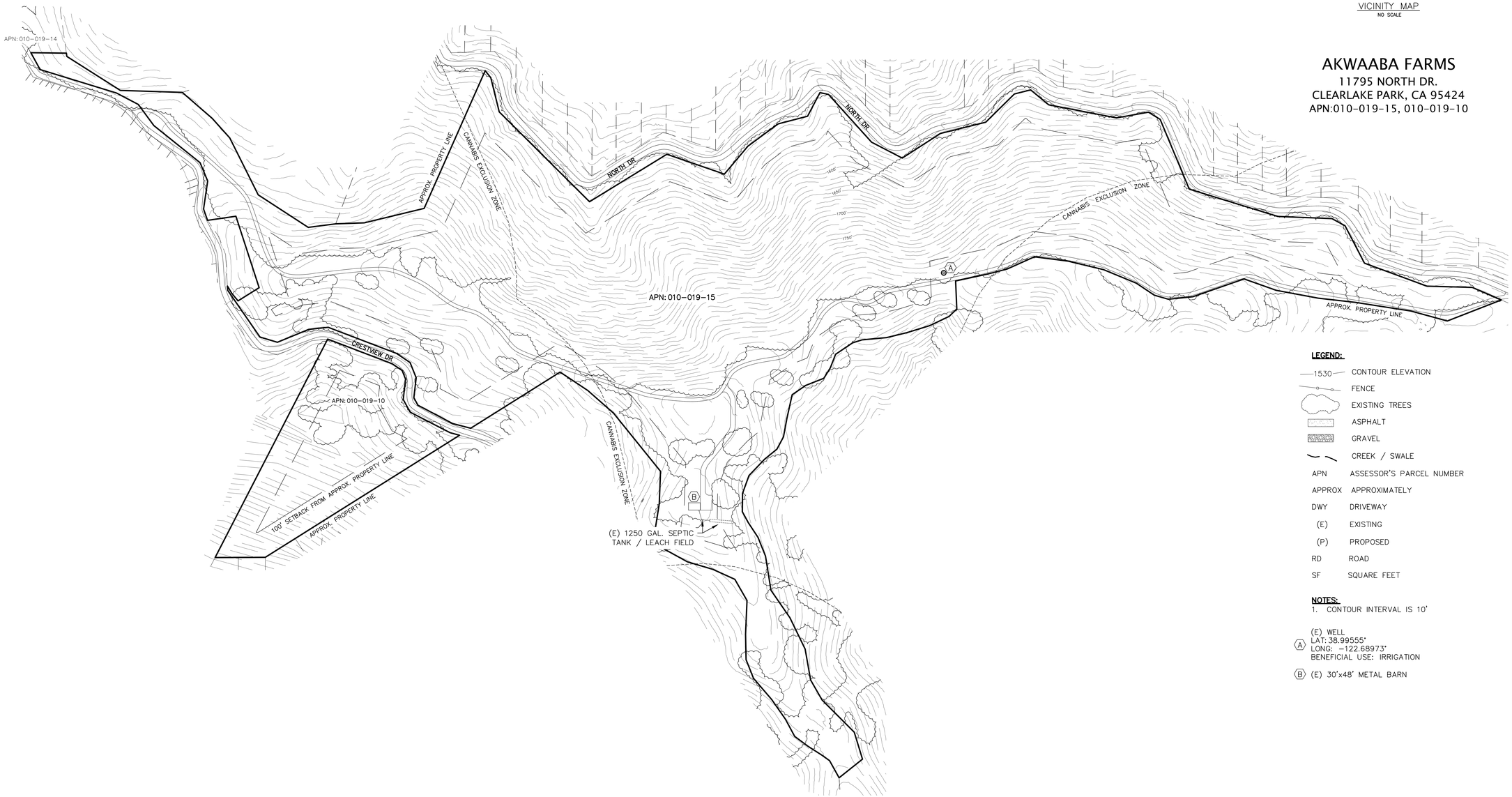
1:10,000

11795 North Drive
National Wetlands Inventory
Features Map

Natural Investigations Company

Map Date 9/4/2020

Clearlake Highlands 1993 Quadrangle:Township 13N, Range 7W, Section 7,12



VICINITY MAP
NO SCALE

AKWAABA FARMS

11795 NORTH DR.
CLEARLAKE PARK, CA 95424
APN:010-019-15, 010-019-10

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	EXISTING TREES
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:
1. CONTOUR INTERVAL IS 10'

(A) (E) WELL
LAT: 38.99555°
LONG: -122.68973°
BENEFICIAL USE: IRRIGATION

(B) (E) 30'x48' METAL BARN

EXISTING CONDITIONS SITE PLAN

GRAPHIC SCALE

150 0 75 150
(IN FEET)
1 inch = 150 ft.

Revisions:

REALM ENGINEERING
CIVIL ENGINEERING, SURVEYING & PLANNING
1767 MARKET STREET SUITE c
REDDING, CA. 96001
530-526-7493

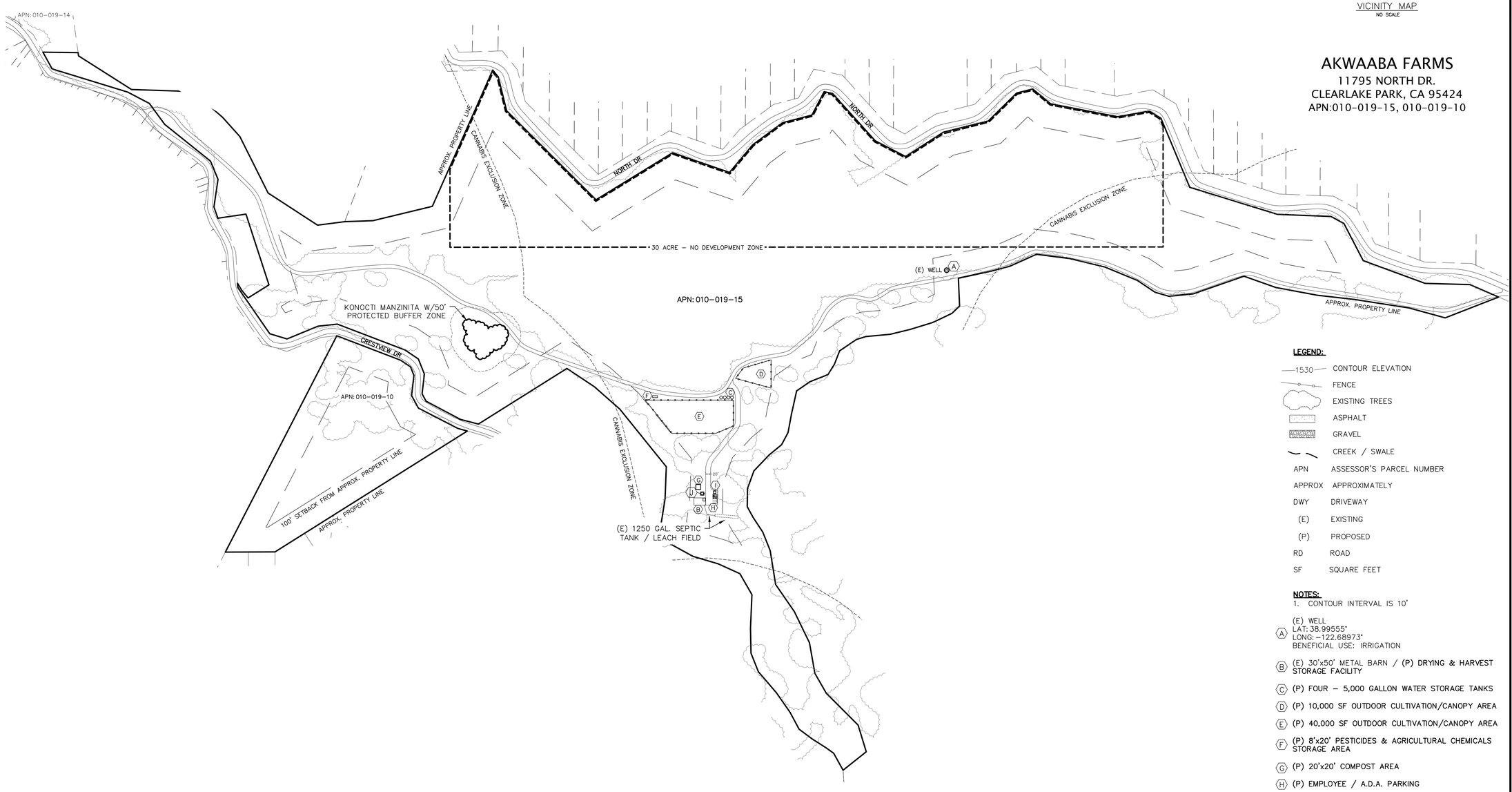
PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
exp.06/30/21
CIVIL
STATE OF CALIFORNIA

EXISTING CONDITIONS SITE PLAN

APN:010-019-15, 010-019-10 & 010-019-14
11795 NORTH DRIVE
CLEARLAKE, CA 95422
LAKE COUNTY

PLOTTED BY: ---
DATE PLOTTED: 12/08/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1



VICINITY MAP
NO SCALE

AKWAABA FARMS

11795 NORTH DR.
CLEARLAKE PARK, CA 95424
APN:010-019-15, 010-019-10

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	EXISTING TREES
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:
1. CONTOUR INTERVAL IS 10'

(A) (E) WELL
LAT: 38.99555°
LONG: -122.68973°
BENEFICIAL USE: IRRIGATION

(B) (E) 30'x50' METAL BARN / (P) DRYING & HARVEST STORAGE FACILITY

(C) (P) FOUR - 5,000 GALLON WATER STORAGE TANKS

(D) (P) 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA

(E) (P) 40,000 SF OUTDOOR CULTIVATION/CANOPY AREA

(F) (P) 8'x20' PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

(G) (P) 20'x20' COMPOST AREA

(H) (P) EMPLOYEE / A.D.A. PARKING

(I) (P) REFUSE AREA

(J) (P) FOUNDATION WITH 8' DIAMETER - 5,000 GALLON METAL FIRE WATER STORAGE TANK

PROPOSED CONDITIONS SITE PLAN
PHASE I

GRAPHIC SCALE

200 0 100 200

(IN FEET)
1 inch = 200 ft.

Revisions:

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REDDING, CA. 96001
530-526-7493

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No. 67800
EXP. 06/30/21
CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN - PHASE I

APN:010-019-15, 010-019-10 & 010-019-14
11795 NORTH DRIVE
CLEARLAKE, CA 95422
LAKE COUNTY

PLOTTED BY: ---
DATE PLOTTED: 12/08/20
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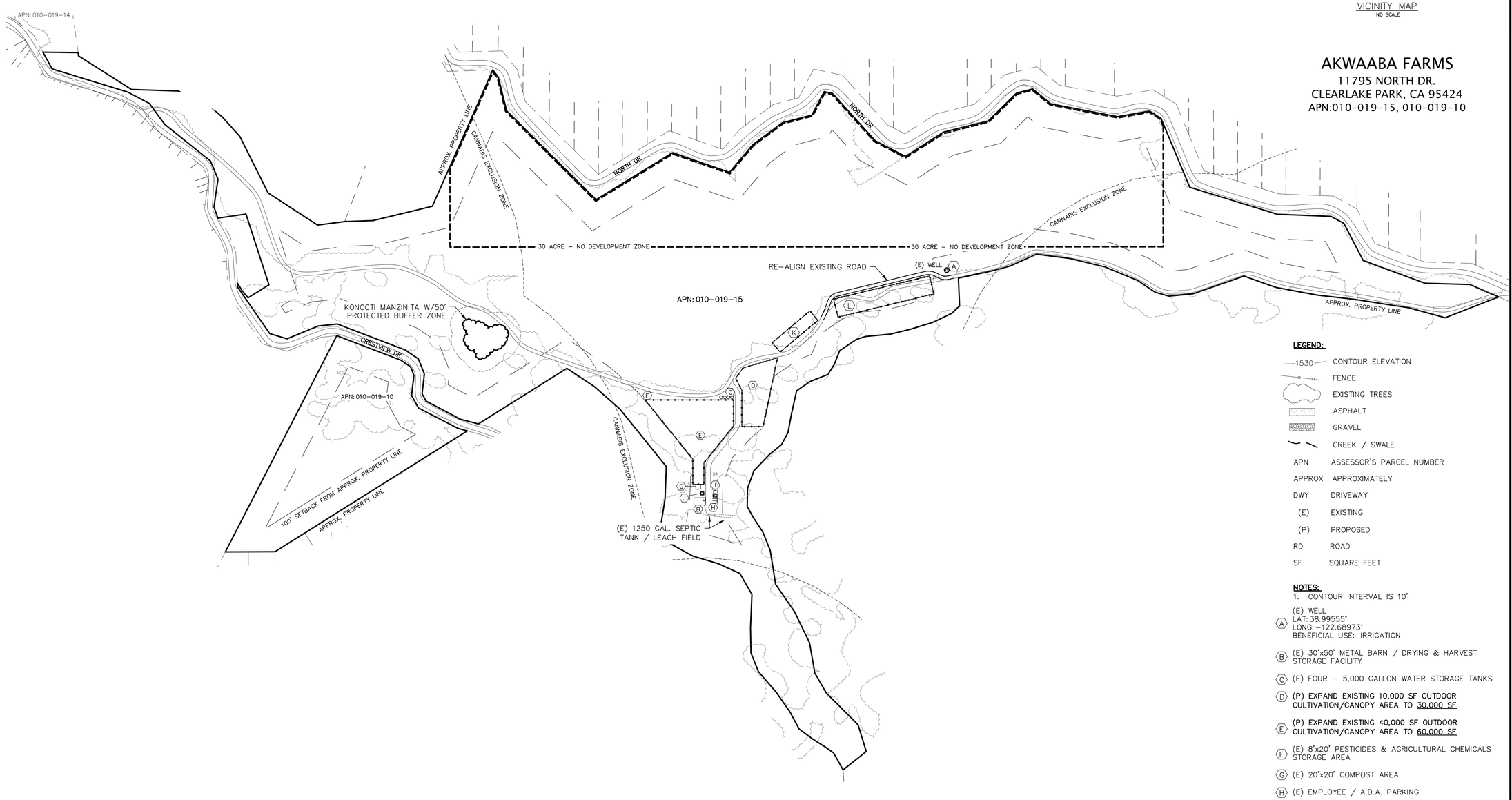
SHEET: 1



VICINITY MAP
NO SCALE

AKWAABA FARMS

11795 NORTH DR.
CLEARLAKE PARK, CA 95424
APN:010-019-15, 010-019-10

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	EXISTING TREES
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:

1. CONTOUR INTERVAL IS 10'

(A) (E) WELL
LAT: 38.99555°
LONG: -122.68973°
BENEFICIAL USE: IRRIGATION

(B) (E) 30'x50' METAL BARN / DRYING & HARVEST STORAGE FACILITY

(C) (E) FOUR - 5,000 GALLON WATER STORAGE TANKS

(D) (P) EXPAND EXISTING 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA TO 30,000 SF

(E) (P) EXPAND EXISTING 40,000 SF OUTDOOR CULTIVATION/CANOPY AREA TO 60,000 SF

(F) (E) 8'x20' PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

(G) (E) 20'x20' COMPOST AREA

(H) (E) EMPLOYEE / A.D.A. PARKING

(I) (E) REFUSE AREA

(J) (E) FOUNDATION WITH 8' DIAMETER - 5,000 GALLON METAL FIRE WATER STORAGE TANK

(K) (P) 50'x200' - 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA

(L) (P) 75'x400' - 30,000 SF OUTDOOR CULTIVATION/CANOPY AREA

PROPOSED CONDITIONS SITE PLAN
PHASE II

GRAPHIC SCALE

200 0 100 200
(IN FEET)
1 inch = 200 ft.

Revisions:

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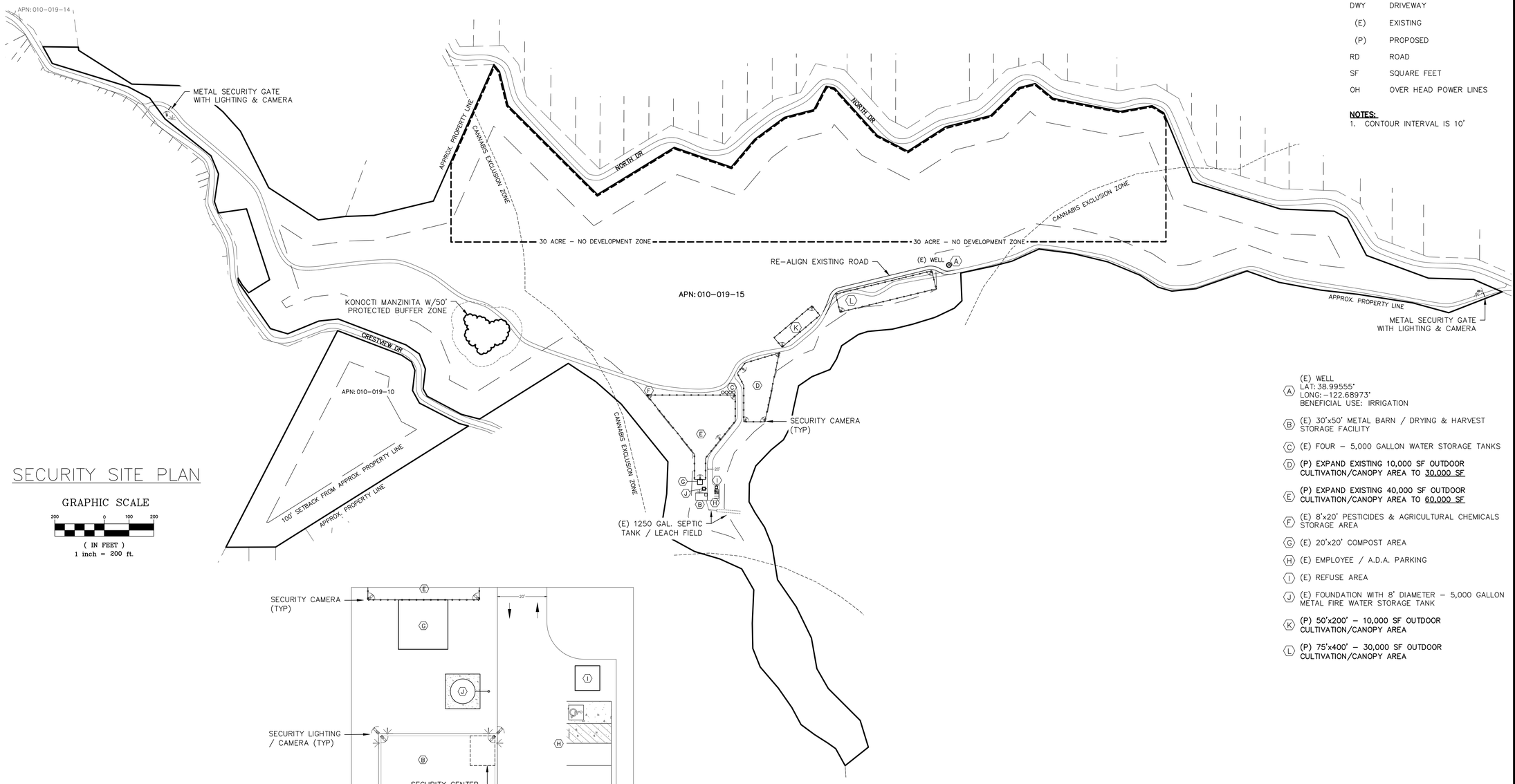
No. 67800
EXP. 06/30/21
CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN - PHASE II

APNs:010-019-15, 010-019-10 & 010-019-14
11795 NORTH DRIVE
CLEARLAKE, CA 95422
LAKE COUNTY

PLOTTED BY: ---
DATE PLOTTED: 12/08/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1



SECURITY SITE PLAN

GRAPHIC SCALE

200 0 100 200

(IN FEET)
1 inch = 200 ft.

ENLARGED VIEW

GRAPHIC SCALE

20 0 10 20

(IN FEET)
1 inch = 20 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	WATERCOURSE / SWALE
	TREES
	(P) SECURITY LIGHTS
	(P) SECURITY CAMERAS
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET
OH	OVER HEAD POWER LINES

NOTES:
1. CONTOUR INTERVAL IS 10'

(A) (E) WELL
LAT: 38.99555°
LONG: -122.68973°
BENEFICIAL USE: IRRIGATION

(B) (E) 30'x50' METAL BARN / DRYING & HARVEST STORAGE FACILITY

(C) (E) FOUR - 5,000 GALLON WATER STORAGE TANKS

(D) (P) EXPAND EXISTING 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA TO 30,000 SF

(E) (P) EXPAND EXISTING 40,000 SF OUTDOOR CULTIVATION/CANOPY AREA TO 60,000 SF

(F) (E) 8'x20' PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

(G) (E) 20'x20' COMPOST AREA

(H) (E) EMPLOYEE / A.D.A. PARKING

(I) (E) REFUSE AREA

(J) (E) FOUNDATION WITH 8' DIAMETER - 5,000 GALLON METAL FIRE WATER STORAGE TANK

(K) (P) 50'x200' - 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA

(L) (P) 75'x400' - 30,000 SF OUTDOOR CULTIVATION/CANOPY AREA

Revisions:

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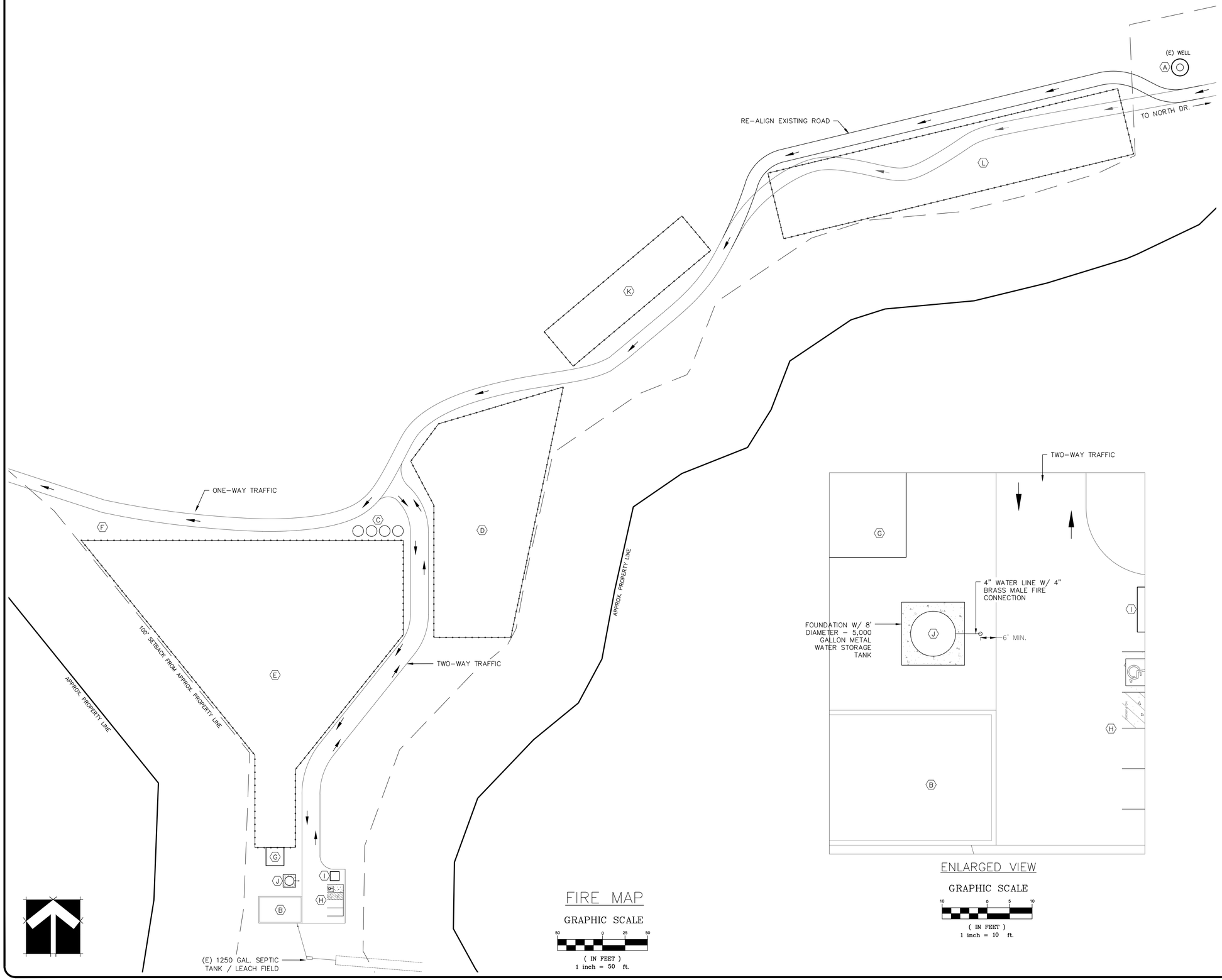
exp.06/30/21
CIVIL
STATE OF CALIFORNIA

SECURITY SITE PLAN

APNs:010-019-15, 010-019-10 & 010-019-14
11795 NORTH DRIVE
CLEARLAKE, CA 95422
LAKE COUNTY

PLOTTED BY: ---
DATE PLOTTED: 12/08/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

30 ACRE – NO DEVELOPMENT ZONE



FIRE MAP

GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.

VICINITY MAP
NO SCALE

AKWAABA FARMS

11795 NORTH DR.
CLEARLAKE PARK, CA 95424
APN:010-019-15, 010-019-10

ENLARGED VIEW

GRAPHIC SCALE

10 0 5 10

(IN FEET)
1 inch = 10 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	EXISTING TREES
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:
1. CONTOUR INTERVAL IS 10'

(A) (E) WELL
LAT: 38.99555°
LONG: –122.68973°
BENEFICIAL USE: IRRIGATION

(B) (E) 30'x50' METAL BARN / DRYING & HARVEST STORAGE FACILITY

(C) (E) FOUR – 5,000 GALLON WATER STORAGE TANKS

(D) (P) EXPAND EXISTING 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA TO 30,000 SF

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(F) (E) 8'x20' PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

(G) (E) 20'x20' COMPOST AREA

(H) (E) EMPLOYEE / A.D.A. PARKING

(I) (E) REFUSE AREA

(J) (E) FOUNDATION WITH 8' DIAMETER – 5,000 GALLON METAL FIRE WATER STORAGE TANK

(K) (P) 50'x200' – 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA

(L) (P) 75'x400' – 30,000 SF OUTDOOR CULTIVATION/CANOPY AREA

Revisions:

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CIVIL ENGINEERING, SURVEYING & PLANNING
1767 MARKET STREET SUITE c
REDDING, CA. 96001
530-526-7493

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No. 67800
exp.06/30/21
CIVIL
STATE OF CALIFORNIA

FIRE MAP

APNs:010-019-15, 010-019-10 & 010-019-14
11795 NORTH DRIVE
CLEARLAKE, CA 95422
LAKE COUNTY

PLOTTED BY: ---
DATE PLOTTED: 12/08/20
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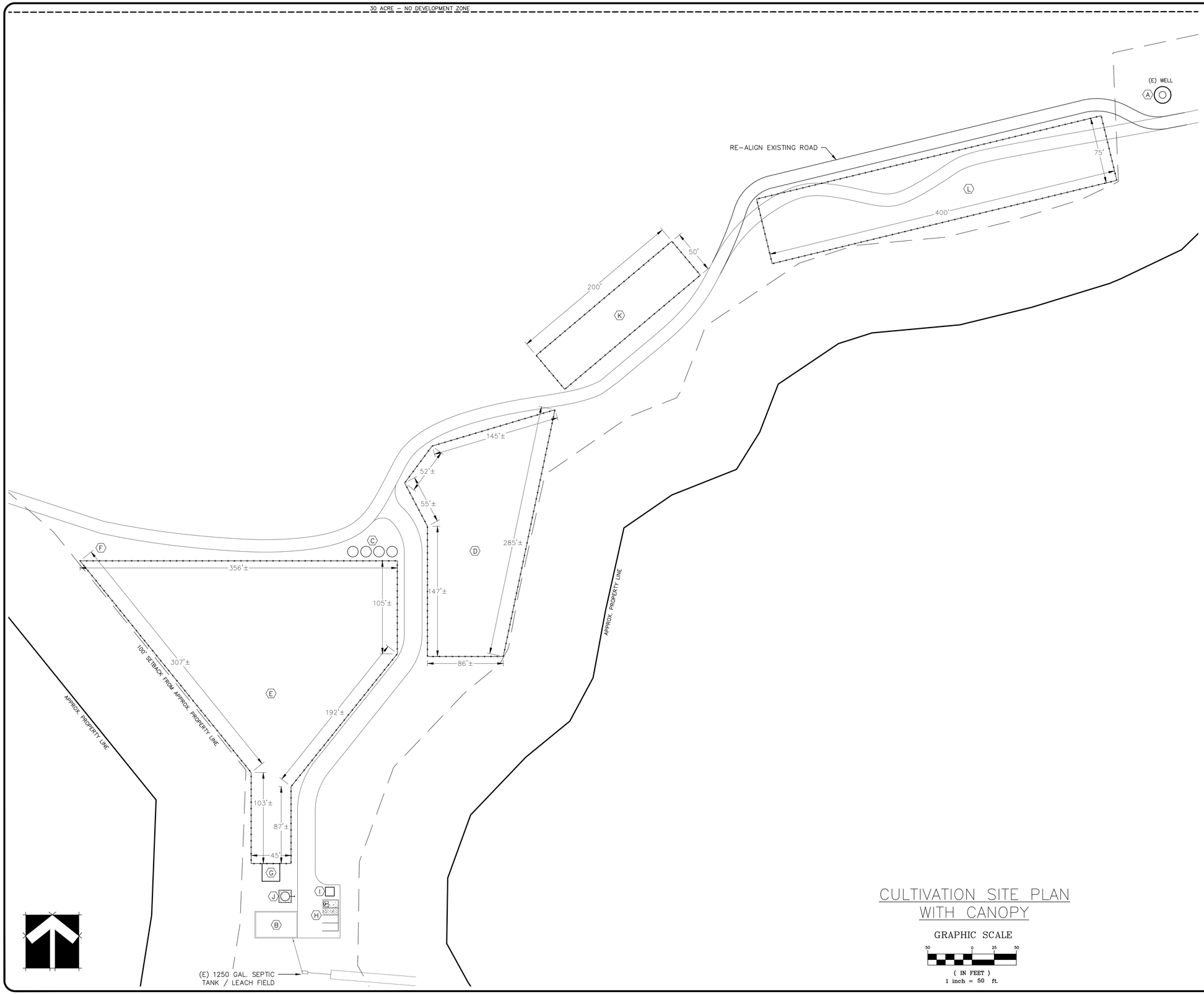
SHEET: 1



VICINITY MAP
NO SCALE

AKWAABA FARMS

11795 NORTH DR.
CLEARLAKE PARK, CA 95424
APN:010-019-15, 010-019-10

CULTIVATION SITE PLAN WITH CANOPY

GRAPHIC SCALE

50 0 25 50
(IN FEET)
1 inch = 50 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	EXISTING TREES
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:

1. CONTOUR INTERVAL IS 10'

(A) (E) WELL
LAT: 38.99555°
LONG: –122.68973°
BENEFICIAL USE: IRRIGATION

(B) (E) 30'x50' METAL BARN / DRYING & HARVEST STORAGE FACILITY

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(G) (E) 20'x20' COMPOST AREA

(H) (E) EMPLOYEE / A.D.A. PARKING

(I) (E) REFUSE AREA

(J) (E) FOUNDATION WITH 8' DIAMETER – 5,000 GALLON METAL FIRE WATER STORAGE TANK

(K) (P) 50'x200' – 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA

(L) (P) 75'x400' – 30,000 SF OUTDOOR CULTIVATION/CANOPY AREA

Revisions:

REALM ENGINEERING
CIVIL ENGINEERING, SURVEYING & PLANNING
1767 MARKET STREET SUITE c
REDDING, CA. 96001
530-526-7493

PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
EXP.06/30/21
CIVIL
STATE OF CALIFORNIA

CULTIVATION SITE PLAN WITH CANOPY

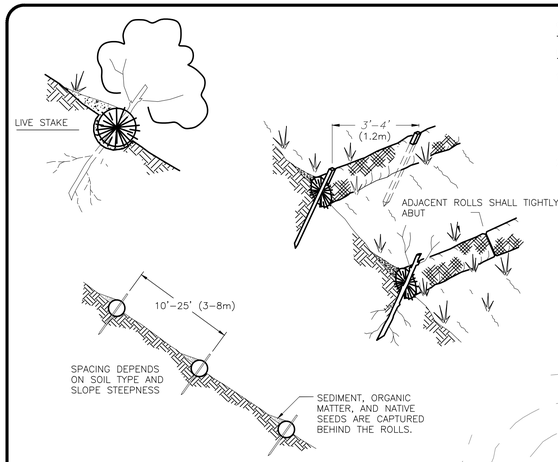
APNs:010-019-15, 010-019-10 & 010-019-14
11795 NORTH DRIVE
CLEARLAKE, CA 95422
LAKE COUNTY

PLOTTED BY: ---
DATE PLOTTED: 12/08/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

STRAW ROLL DETAILS

NOTES:

1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"–5" (75–125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
2. STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS



DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

S–1 SAMPLING LOCATION

CMS CONSTRUCTION MATERIALS STORAGE AREA

EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.

EROSION & SEDIMENT CONTROL NOTES:

1. CONTRACTOR IS TO IMPLEMENT BEST MANAGEMENT PRACTICES (BMPS) TO CONTROL EROSION CONTROL AND REDUCE THE OFF–SITE DISCHARGE OF SEDIMENT TO THE MAXIMUM EXTENT PRACTICABLE.
2. EROSION CONTROL BMPS SHALL BE IN PLACE AND MAINTAINED ALL YEAR ROUND.
3. HE CONTRACTOR SHALL FOLLOW THE GUIDELINES FROM THE "CALIFORNIA STORMWATER BMP HANDBOOK" FOR THE MEASURES SHOWN OR STATED ON THESE PLANS.
4. CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE QUALIFIED SWPPP PRACTITIONER (QSP).
6. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO ANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF A REPRESENTATIVE OF LAKE COUNTY.
7. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
8. CONTRACTOR SHALL MAINTAIN A LOG AT THE SITE OF ALL INSPECTIONS OR MAINTENANCE OF BMPS, AS WELL AS, ANY CORRECTIVE CHANGES TO THE BMPS OR EROSION AND SEDIMENT CONTROL PLAN.
9. THE CONTRACTOR SHALL INSTALL THE STABILIZED CONSTRUCTION ENTRANCE PRIOR TO COMMENCEMENT OF GRADING. LOCATION OF THE ENTRANCE MAY BE ADJUSTED BY THE CONTRACTOR TO FACILITATE GRADING OPERATIONS. ALL CONSTRUCTION TRAFFIC ENTERING THE PAVED ROAD MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE.
10. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEPT AT THE END OF EACH WORKING DAY OR AS NECESSARY.
11. ANY LOOSE GROUND FROM EXCAVATING GRADING OPERATIONS SHALL BE SECURED PRIOR TO ANY RAIN EVENT. STRAW OR TARP ALL DISTURBED OR EXCAVATED GROUND.
12. CONTRACTOR SHALL PLACE GRAVEL BAGS AROUND ALL NEW DRAINAGE STRUCTURE OPENINGS IMMEDIATELY AFTER THE STRUCTURE OPENING IS CONSTRUCTED. THESE GRAVEL BAGS SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
13. AS A MINIMUM, ALL GRADED AREAS AND EXPOSED SOIL WITHIN THE PROJECT SHALL BE SEEDED PER THE REQUIREMENTS OF LAKE COUNTY.
14. DUST GENERATION MUST BE MINIMIZED AND A WATER TRUCK MUST BE AVAILABLE ON–SITE FOR ADEQUATE DUST CONTROL.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	EXISTING TREES
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:

1. CONTOUR INTERVAL IS 10'

(A) (E) WELL
LAT: 38.99555°
LONG: –122.68973°
BENEFICIAL USE: IRRIGATION

(B) (E) 30'x50' METAL BARN / DRYING & HARVEST STORAGE FACILITY

(C) (E) FOUR – 5,000 GALLON WATER STORAGE TANKS

(D) (P) EXPAND EXISTING 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA TO 30,000 SF

(E) (P) EXPAND EXISTING 40,000 SF OUTDOOR CULTIVATION/CANOPY AREA TO 60,000 SF

(F) (E) 8'x20' PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

(G) (E) 20'x20' COMPOST AREA

(H) (E) EMPLOYEE / A.D.A. PARKING

(I) (E) REFUSE AREA

(J) (E) FOUNDATION WITH 8' DIAMETER – 5,000 GALLON METAL FIRE WATER STORAGE TANK

(K) (P) 50'x200' – 10,000 SF OUTDOOR CULTIVATION/CANOPY AREA

(L) (P) 75'x400' – 30,000 SF OUTDOOR CULTIVATION/CANOPY AREA

Revisions:

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EROSION & SEDIMENT CONTROL PLAN

APNs:010–019–15, 010–019–10 & 010–019–14
11795 NORTH DRIVE
CLEARLAKE, CA 95422
LAKE COUNTY

PLOTTED BY: ---
DATE PLOTTED: 12/08/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

APPENDIX 1: USFWS SPECIES LIST

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: September 04, 2020
Consultation Code: 08ESMF00-2020-SLI-2824
Event Code: 08ESMF00-2020-E-08658
Project Name: 11795 North Drive

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

To Whom It May Concern:

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

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

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2020-SLI-2824

Event Code: 08ESMF00-2020-E-08658

Project Name: 11795 North Drive

Project Type: ** OTHER **

Project Description: Bio Assessment

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.99382122718327N122.69321080347258W

Counties: Lake, CA

Endangered Species Act Species

There is a total of 10 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* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Burke's Goldfields *Lasthenia burkei* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	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
Lake County Stonecrop *Parvisedum leiocarpum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2263	Endangered
Loch Lomond Coyote Thistle *Eryngium constancei* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5106	Endangered
Many-flowered Navarretia *Navarretia leucocephala ssp. plieantha* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2491	Endangered
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

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

APPENDIX 2: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Appendix 2:

Plants Observed at 11795 North Road, Clearlake on September 15, 2020

Common Name	Scientific Name
California buckeye	*Aesculus californicus*
Fiddleneck	*Amsinckia sp.*
Pine dwarf mistletoe	*Arceuthobium campylopodum*
Konocti manzanita?	*Arctostaphylos manzanita ssp. elegans c.f.*
Common manzanita	*Arctostaphylos manzanita ssp. manzanita*
Wild oat	*Avena barbata*
Slender wild oat	*Avena fatua*
Coyote brush	*Baccharis pilularis*
Ripgut brome	*Bromus diandrus*
Soft chess	*Bromus hordeaceus*
Madrid brome	*Bromus madritensis*
Poverty brome	*Bromus sterilis*
Italian thistle	*Carduus pycnocephalus*
Maltese star thistle	*Centaurea melitensis*
Yellow star thistle	*Centaurea solstitialis*
Western redbud	*Cercis occidentalis*
Birch leaf mountain mahogany	*Cercocarpus betuloides*
Dogtail grass	*Cynosurus echinoides*
Larkspur	*Delphinium sp.*
Blue wild rye	*Elymus glaucus*
California fescue	*Festuca californica*
Pacific fescue	*Festuca microstachys*
Sixweeks rattail fescue	*Festuca myuros*
Two-petaled ash	*Fraxinus dipetala*
Bedstraw	*Galium sp.*
Great Valley gum plant	*Grindelia camporum*
Toyon	*Heteromeles arbutifolia*
Wall barley	*Hordeum murinum*
Iris	*Iris sp.*
Whiskerbrush	*Leptosiphon ciliatus*
Miniature lupine	*Lupinus bicolor*
Slender tarplant	*Madia gracilis*
California melic grass	*Melica californica*
Slender cottonweed	*Micropus californicus*
Sunkbush	*Navarretia squarrosa*
Windmill pink	*Petrorhagia dubia*
American mistletoe	*Phoradendron leucarpum*
Gray pine	*Pinus sabiniana*
Popcorn flower	*Plagiobothrys sp.*
Bluegrass	*Poa sp.*
Blue oak	*Quercus douglasii*
California black oak	*Quercus kelloggii*
Oracle oak	*Quercus x morehus*
Hollyleaf redberry	*Rhamnus ilicifolia*
Blue elderberry	*Sambucus nigra ssp. caerulea*
Pacific sanicle	*Sanicula crassicaulis*
Purple needlegrass	*Stipa pulchra*
Tall sock destroyer	*Torilis arvensis*
Poison oak	*Toxicodendron diversilobum*

APPENDIX 3: SITE PHOTOS

















































BOTANICAL SURVEY REPORT
FOR THE
AKWAABA LLC CANNABIS CULTIVATION OPERATION AT
11795 NORTH DRIVE, CLEARLAKE, CALIFORNIA

June 12, 2021

Prepared by:

G.O. Graening, PhD and Tim Nosal, MS
Natural Investigations Company, Inc.
3104 O Street, #221, Sacramento, CA 95816

NATURAL INVESTIGATIONS CO.
WWW.NATURALINVESTIGATIONS.COM

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1. PROJECT LOCATION AND DESCRIPTION

Natural Investigations Company conducted botanical field surveys for a proposed cannabis cultivation operation on a 97-acre property (2 parcels: APNs 010-019-15 and -10) at 11795 North Drive, Clearlake, in Lake County, California. Akwaaba, LLC ("Akwaaba") is seeking a Major Use Permit from the County of Lake for a proposed Outdoor Commercial Cannabis Cultivation Operation on the 88-acre parcel (APN 010-019-15; Project Parcel). Akwaaba's proposed cultivation operation will be composed of four (4) A-Type 3 Medium Outdoor cultivation/canopy areas, with a total combined cultivation/canopy area of 174,240 square feet. Additionally, Akwaaba is applying for an Early Activation of Use Permit for 50,000 square feet of the total proposed 174,240 square feet cultivation/canopy area. The total cultivation area of the proposed cannabis cultivation operation, including the combined cultivation/canopy areas, a 1,440 square feet Metal Barn (proposed Drying & Harvest Storage Facility), and a 160 square foot Metal Shipping/Storage Container (proposed Pesticide & Agricultural Chemicals Storage Area), is 175,840 square feet.

The Property has been improved with a metal barn, and a groundwater well. A private gravel and native soil surfaced access road winds through the Property, connecting North Drive to Crestview Drive through the Property. Metal gates control access to the private gravel and native soil surfaced access road from North Drive and Crestview Drive. There are no watercourses, wetlands, or watercourse crossings on the Property. The existing onsite groundwater well will serve as the sole water source for the proposed cultivation operation.

Development of the proposed cultivation operation will occur in three phases. The first phase will occur in 2021 under an Early Activation of Use Permit, and will not involve any construction, grading, or vegetation removal. The second and third phases will occur in 2022 and 2023 (respectively), after a Major Use Permit for Commercial Cannabis Cultivation has been obtained, and will require some vegetation removal, including 18 mature blue oak trees (+6" DBH). A 30-acre No Development Zone will be established in the northern half of the Project Parcel, to mitigate for the six acres of the Blue Oak Woodland habitat disturbed as a result of developing the proposed cultivation operation. Five oak trees will be planted and cared for until established, within the No Development Zone for each oak tree removed, to mitigate for their loss within the area of the proposed cultivation operation. Additionally, a special-status plant, Konocti Manzanita, has been identified in the western half of the Project Parcel. No disturbance/development is proposed within 500 feet of the Konocti Manzanita, and a 50-foot buffer will be marked and maintained around the Konocti Manzanita.

The cultivation season for Akwaaba's proposed outdoor cultivation operation will begin on April 15th and end on November 15th of each year. The proposed outdoor cultivation areas will be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen/mesh where necessary to screen the cultivation/canopy areas from public view. Locking metal gates will control access to the proposed cultivation/canopy areas, and the metal gates will be locked whenever Akwaaba's cultivation personnel are not present. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in aboveground fabric pots. Akwaaba will use drip and micro-spray irrigation systems to deliver irrigation water to the aboveground fabric pots, and to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be chipped and composted onsite. Composted cannabis waste will be stored in the designated composting area, until it is incorporated into the soilless growing medium of the cultivation areas, as an organic soil amendment. All agricultural chemicals (fertilizers, amendments, pesticides, and petroleum products) will be stored within a proposed 20-square foot metal shipping/storage container (Pesticide & Agricultural Chemicals Storage Area).

Variance – Phase III

The third phase of proposed site/project development is the establishment of 44,240 square feet of outdoor cultivation/canopy area in the western half of the Project Parcel, within 1,000 feet of a Substandard Older Subdivision Combining District (Cannabis Exclusion Zone). To use this area, Lake County must grant a variance. Akwaaba will submit a Variance Application as soon as a Lake County Planner has been assigned to their Major Use Permit Application.

Project Timeline

If Akwaaba is able to obtain an Early Activation of Use Permit for the 50,000 square feet of outdoor cultivation/canopy area planned under Phase I prior to April 1st, 2021, then they will begin preparing for planting on April 15th, 2021 (after the appropriate State Cultivation Licenses have been obtained)

2. BIOLOGICAL SETTING

The Property is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Property and vicinity is in Climate Zone 7 - California's Gray Pine Belt, defined by hot summers and mild but pronounced winters without severe winter cold or high humidity (Sunset, 2020). The Property is located just west of the City of Clearlake, along the spine of Sulphur Bank Ridge, and is accessed via North Drive and Crestview Drive. The topography of the Property consists of a ridge top with moderate to steeply sloping sides. The elevation ranges from approximately 1,580 feet to 1,890 feet above mean sea level. Drainage runs north, south and east, and eventually flows into either Clear Lake or Borax Lake. Prior to the establishment of this cultivation operation, land uses were open space. There is extensive land disturbance (grubbing and/or grading) on the Property. The landowner stated that is was for previously-approved County permits for water lines, septic and building construction. The surrounding land uses are private estates, recreation, and open space.

3. SURVEY METHODOLOGY

Survey methodology followed the following protocols:

- California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.

- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento Fish and Wildlife Office, Sacramento, California. 2 pp.

- California Native Plant Society. 2001. CNPS botanical survey guidelines.

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Aerial photography of the Project Area (current and historical)
- United States Geologic Service 7.5 degree-minute topographic quadrangles
- USFWS National Wetland Inventory
- USDA Natural Resources Conservation Service soil survey maps
- California Natural Diversity Database (CNDDB), electronically updated monthly by subscription
- California Native Plant Society's database *Inventory of Rare and Endangered Plants of California* (online edition).

The following reference sites were visited: Deemed not necessary.

3.2. FIELD SURVEYS

Dates of botanical field surveys (indicating the botanical field surveyor(s) that surveyed each area on each survey date), and total person-hours spent: Tim Nosal, MS., September 15, 2020, majority of day; April 6, 2021, half day; June 8, 2021, half day.

> Note: The qualifications of the botanical field surveyors and report authors are summarized at the end of this report.

Description of Survey Area: The 6-acre survey area was the combined project areas (the cultivation areas, plus the proposed drying & harvest storage facility and metal shipping/storage container) plus a buffer of several hundred feet.

Note: A map of the survey area relative to the project area is shown in the Exhibits.

A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible taxa observed were recorded in a field notebook. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDB within the vicinity of the Project Area and those species on the CNPS or USFWS species lists.

Taxa were identified to the taxonomic level necessary to determine whether or not they are a special status plant. When a specimen could not be identified in the field, a photograph was taken and/or a specimen was pressed and identified in the laboratory using a dissecting scope where necessary. Dr. Graening holds the following scientific collection permits: CDFW Scientific Collecting Permit No. SC-006802; and CDFW Plant Voucher Specimen Permit 09004. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2021); CDFW (2021b,c); NatureServe 2021; and University of California at Berkeley (2021a,b).

3.3. MAPPING AND OTHER ANALYSES

The locations of any special-status species or vegetation communities sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Vegetation community types occurring in the Survey Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded. Locations of any species' occurrences and sensitive natural community boundaries detected within the Project Area were digitized to produce the final maps. Geographic analyses were performed using geographical information system software (ArcGIS 11, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2021), Calflora (2021); CDFW (2021a,b,c); and University of California at Berkeley (2021a,b).

3.4. Previous Studies

The following previous studies have been performed:

- Natural Investigations Co. 2020. Biological Resources Assessment for the AKWAABA LLC Cannabis Cultivation Operation at 11795 North Drive, Clearlake, California.

Natural Investigations Company conducted a botanical survey during the biological resources assessment. No special-status plant species were detected within the Project Area but one was detected on the surrounding Property: Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*).

3.5. List of Sensitive Natural Communities with Potential to Occur in the Region

According to the results of a spatial query of the CNDDB, there are no reported no special-status habitats within the Project Area or surrounding Property boundary. Within the surrounding region (County-level), the CNDDB has mapped the following special-status habitats: Serpentine Bunchgrass; Northern Volcanic Ash Vernal Pool; Coastal and Valley Freshwater Marsh; Northern Basalt Flow Vernal Pool; Northern Volcanic Ash Vernal Pool; Northern Interior Cypress Forest; and Northern Vernal Pool.

Within the surrounding region, the following California Sensitive Natural Communities occur (listed in higher-order primary life forms: CDFG 2003; CDFW 2019):

- 32.000.00 Coast Scrub
  - 32.xxx.xx scrub with dominant *Artemisia*, Baccharis, *Eriogonum*, etc.
- 37.000.00 Chaparral
  - 37.1xx.xx Chamise Chaparral [*Adenostoma fasciculatum*]
  - 37.2xx.xx Chaparral with *Ceanothus* as principal indicator
  - 37.3xx.xx Chaparral with Manzanita [*Arctostaphylos* spp.] as principal indicator
  - 37.4xx.xx Chaparral with Oak [*Quercus* spp.] as principal indicator
- 40.000.00 Grass & Herb Dominated Communities
  - 41.xxx.xx Native Grassland
- 42.000.00 Non-native Grassland
  - certain rare associations
- 44.000.00 Vernal pools
  - all associations
- 45.000.00 Meadow and seeps not dominated by grasses
  - 45.11x.xx *Carex* marsh, meadow
  - 45.2xx.xx *Eleocharis* marsh, meadow
- 52.000.00 Marsh
  - all associations
- 60.000.00 Riparian and bottomland habitat
  - all associations
- 71.000.00 Oak Woodlands and Forests
  - 71.100.15 *Quercus agrifolia – Quercus garryana – Quercus kelloggii*
  - 71.060.xx Coast live oak woodland and forest
  - 71.050.xx Canyon live oak forest and woodland
  - 71.020.xx Blue oak woodland and forest
  - 71.070.xx Engelmann oak woodland and forest
  - 71.040.xx Valley oak woodland and forest
  - 71.080.xx Interior live oak woodland and forest
- 72.000.00 Upland Walnut Woodlands and Forests [*Juglans* spp.]
- 73.000.00 Tanoak Forest and Woodland
- 73.200.00 Pacific Madrone [*Arbutus menziesii*]
- 74.000.00 California bay forest and woodland
- 75.000.00 California Buckeye Woodland [*Aesculus* californica]
- 80.000.00 Coniferous Upland Forest and Woodland
  - various associations of *Calocedrus*, *Pinus*, or *Abies*

Some of these sensitive natural communities could occur specifically in the Project Area, and specifically, the following:

- 71.000.00 Oak Woodlands and Forests
    - 71.020.xx Blue oak woodland and forest

3.6. List of Special Status Plants with Potential to Occur in the Region

A list of special-status plant species with potential to occur in the region was compiled based upon the following:

- A spatial query of the CNDDB using a 10-mile buffer around the Property boundary.
- A 9-quadrangle query of the California Native Plant Society's database *Inventory of Rare and Endangered Plants of California* (online edition).

The databases were queried and any reported occurrences of special-status species were plotted in relation to the Project Area boundary using GIS software (see exhibits). The CNDDB reported the following special-status species occurrences within the Property: eel-grass pondweed (*Potamogeton zosteriformis*); watershield (*Brasenia schreberi*); and Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*). However, the exact location of these occurrences is not known. Suitable aquatic habitat for eel-grass pondweed and watershield is not found within the Property. Suitable volcanic soil habitat for Konocti manzanita is not found within the Study Area; however, several plants along the ridgetop have been tentatively identified as this species. Within a 10-mile buffer of the Property boundary, the CNDDB reported several special-status species occurrences, summarized in the Appendix.

Soils found within the Study Area are derived from sandstone, shale and sedimentary parent material. No soils derived from volcanic or serpentine rocks are mapped in or adjacent to the Study Area. The following table lists plant species with suitable habitat (oak woodland) present within the Project Area.

List of Special-status Species Whose Habitat Requirements Occur in the Project Area and Their Blooming Periods

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Oval-leaved viburnum *Viburnum ellipticum*	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Napa bluecurls *Trichostema ruygtii*	1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest.	Often in open, sunny areas. Also has been found in vernal pools. 30-590m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.

4. RESULTS

4.1. LIST OF PLANT TAXA DETECTED DURING FIELD SURVEY(S)

All plant taxa detected during the botanical field surveys are listed in the Appendix. During the botanical field survey, no special-status plant taxa were detected within the Project Area. However, one special-status species may have been detected on the surrounding Property: Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*), and specifically, 4 individual shrubs. Many of the manzanita were readily identified as common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*). Several plants were difficult to identify and had characteristics of both common manzanita and Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*). These specimens did not flower or fruit this year. Tentative identification was based upon old fruit found at the base of the shrubs. Four Konocti manzanita shrubs adjacent to the Project Area have been flagged (see Exhibits). It is unlikely that other special-status plant species are present within the Project Area.

Deposition locations of voucher specimens: n/a

4.2. LIST OF VEGETATION COMMUNITIES DETECTED DURING FIELD SUVERY(S)

The Property contains 1 terrestrial vegetation community: Blue Oak Woodland. This vegetation community is discussed here and is delineated in the Exhibits.

> **Blue Oak Woodland:** One habitat is found within the Study Area: blue oak woodland. Although the canopy density and composition of the woodland changes with the slope and aspect, the dominant tree across the landscape is blue oak (*Quercus douglasii*). Other trees found within the canopy include gray pine (*Pinus sabiniana*), California black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni*) and oracle oak (*Quercus* x *morehus*). The oracle oak is a hybrid between the California black oak and the interior live oak, and can be found along the ridge top near the center of the parcel. Several shrubs are common within the understory, including common manzanita (*Arctostaphylos manzanita* spp. *manzanita*), poison-oak (*Toxicodendron diversilobum*) and birch leaf mountain mahogany (*Cercocarpus betuloides*). The herbaceous layer within the oak woodland consists of a variety of grasses and herbs, including wild oats (*Avena* spp.), Pacific fescue (*Festuca microstachys*), bromes (*Bromus* spp.), California melic grass (*Melica californica*), blue wild rye (*Elymus glaucus*), whiskerbrush (*Leptosiphon ciliatus*) and miniature lupine (*Lupinus bicolor*). This vegetation type can be classified as the Holland Type "Blue Oak Woodland" or as "*Quercus douglasii-Quercus wislizeni-Pinus sabiniana*" (CDFW 2020).

More specifically, the following terrestrial natural communities occur in the Project Area (as categorized by CDFW 2019):

- 42.040.000 California Annual Grassland
- 71.000.00 Oak Woodlands and Forests
    - 71.020.xx Blue oak woodland and forest
- 11300 Disturbed Habitat

The dominant species are as follows, in order of greatest abundance: Blue oak (*Quercus douglasii*), brome grasses (*Bromus* spp.), wild oat (*Avena* sp.).

During the field survey, the following sensitive vegetation communities were detected within the Project Area:

- 71.020.xx Blue oak woodland and forest

4.3. Adequacy of Botanical Field Survey(s)

Potential for a false negative botanical field survey: Highly unlikely since an early-season, mid-season, and late-season botanical field survey was performed and many target genera are conspicuous.

Did climatic conditions affect the botanical field survey results? There were no unusual climatic conditions.

Did the timing of botanical field surveys affect the comprehensiveness of botanical field surveys? Much of the project area has been cleared of vegetation, including cultivation areas and locations for roads and other infrastructure. No species of *Viburnum* or *Trichostema* were observed within the Project Area. Identifying features from these two genera would have been apparent during the survey dates. One species of *Amsinckia* was observed within the property. Flowers were present, allowing for identification to the level of species. The *Amsinckia* was determined to be common fiddleneck (*Amsinckia menziesii*).

Since an early-season, mid-season, and late-season botanical field survey was performed, the assessment was extremely comprehensive.

5. POTENTIAL PROJECT IMPACTS AND MITIGATION

The project proponents and cultivators implemented mitigation by design. Mitigation has been employed in the design phase by inventorying sensitive habitats and water resources on the Property and then avoiding sensitive habitats, where possible, in selection of cultivation compound locations and sizes. Areas identified by biologists as sensitive habitats (rare plant areas) were also removed from consideration. The project design also includes vegetative buffers between cultivation compounds and sensitive habitats, and an erosion control plan and pollution prevention plan will be implemented. Implementation of the project will require the clearing of approximately 6 acres of oak woodland and annual grassland habitat. Vegetation clearing includes the removal of approximately 30 mature blue oak trees. In conjunction with County planners, mitigation measures have been identified for loss of oak woodland habitat and individual oak trees.

5.1. Special-status Plant Populations

During the botanical field survey, no special-status plant taxa were detected within the Project Area. However, one special-status species was detected on the surrounding Property: Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*), and specifically, 4 individual shrubs. The locations are near, but outside of, the Project Area. The project proponents have established a 'No disturbance/development' buffer of 500 feet of these Konocti Manzanitas, and fencing at a 50-foot radius will be marked and maintained around the Konocti Manzanitas. These avoidance measures will reduce any impacts to Konocti manzanita to a less than significant level. No other special-status plant species were observed within the Property. It is unlikely that special status plant species are present within the Project Area. Additional special status plant surveys are not deemed necessary.

Indirect impacts could occur from the loss of suitable habitat for regionally-occurring special-status species. Only a fraction of the regionally-occurring special-status species can utilize the habitat type in the Project Area (blue oak woodland). Nevertheless, project implementation will have a less-than significant impact upon habitat loss because the habitat conversion will occur on only 6 percent of the Property and a 30-acre oak woodland preserve will be created. This leaves the vast majority of the natural habitats undisturbed on the Property. For these reasons, project implementation will have a less than significant indirect or cumulative impact upon special-status species.

5.2. Sensitive Natural Communities

Project implementation will have a less-than significant impact upon sensitive natural communities for numerous reasons. The Project Area does contain one sensitive natural community type: 71.020.xx Blue Oak Woodland And Forest. Implementation of the project will require the clearing of approximately 6 acres of oak woodland and the removal of 30 mature blue oak trees. In consultation with County planners, the project proponents have offered to mitigate at a 5 to 1 ratio for both the loss of oak woodland habitat and individual oak trees. A 30-acre preserve (No Development Zone) will be established in the northern half of the Property to mitigate for the six acres of the Blue Oak Woodland habitat disturbed as a result of developing the proposed cultivation operation (see Exhibits). For each oak tree removed, five oak trees will be planted and cared for until establishment within the No Development Zone. The habitat conversion will occur on only 6 percent of the Property, with the vast majority of oak woodland communities on the Property protected and left undisturbed. For these reasons, project implementation will have a less than significant impact (direct, indirect, and cumulative) upon sensitive natural communities.

6. QUALIFICATIONS OF BOTANICAL FIELD SURVEYORS AND REPORT AUTHORS

G.O. GRAENING, Ph.D., M.S.E.
Dr. Graening holds a PhD in Biological Sciences and a Master of Science in Biological and Agricultural Engineering. Dr. Graening is an adjunct Professor at California State University at Sacramento, and is an active researcher in the area of conservation biology; his publication list is available online at http://www.csus.edu/indiv/g/graeningg/pubs.htm. Dr. Graening is also a Certified Arborist (ISA # WE-6725A). Dr. Graening has 24 years of experience in environmental assessment, including previous employment with The Nature Conservancy, Tetra Tech Inc., and CH2M Hill, Inc.

TIMOTHY R. D. NOSAL, M.S.
Mr. Nosal holds a B.S. and M.S. in Biological Sciences. Mr. Nosal has statewide experience performing sensitive plant and animal surveys in addition to terrestrial vegetation investigations. Mr. Nosal has over 25 years of experience in botanical surveys, environmental assessment, and teaching with employers that include California Department of Fish and Wildlife, State Water Resources Control Board, American River College, MTI College and Pacific Municipal Consultants. Mr. Nosal has intensive experience with the flora of the Pine Hill region includes leading numerous field trips exploring the botany of the region, co-authoring a fuel management plan for Pine Hill, and a Master's thesis on Stebbins's morning glory (*Calystegia stebbinsii*), an endangered plant of this region.

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EXHIBITS

Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

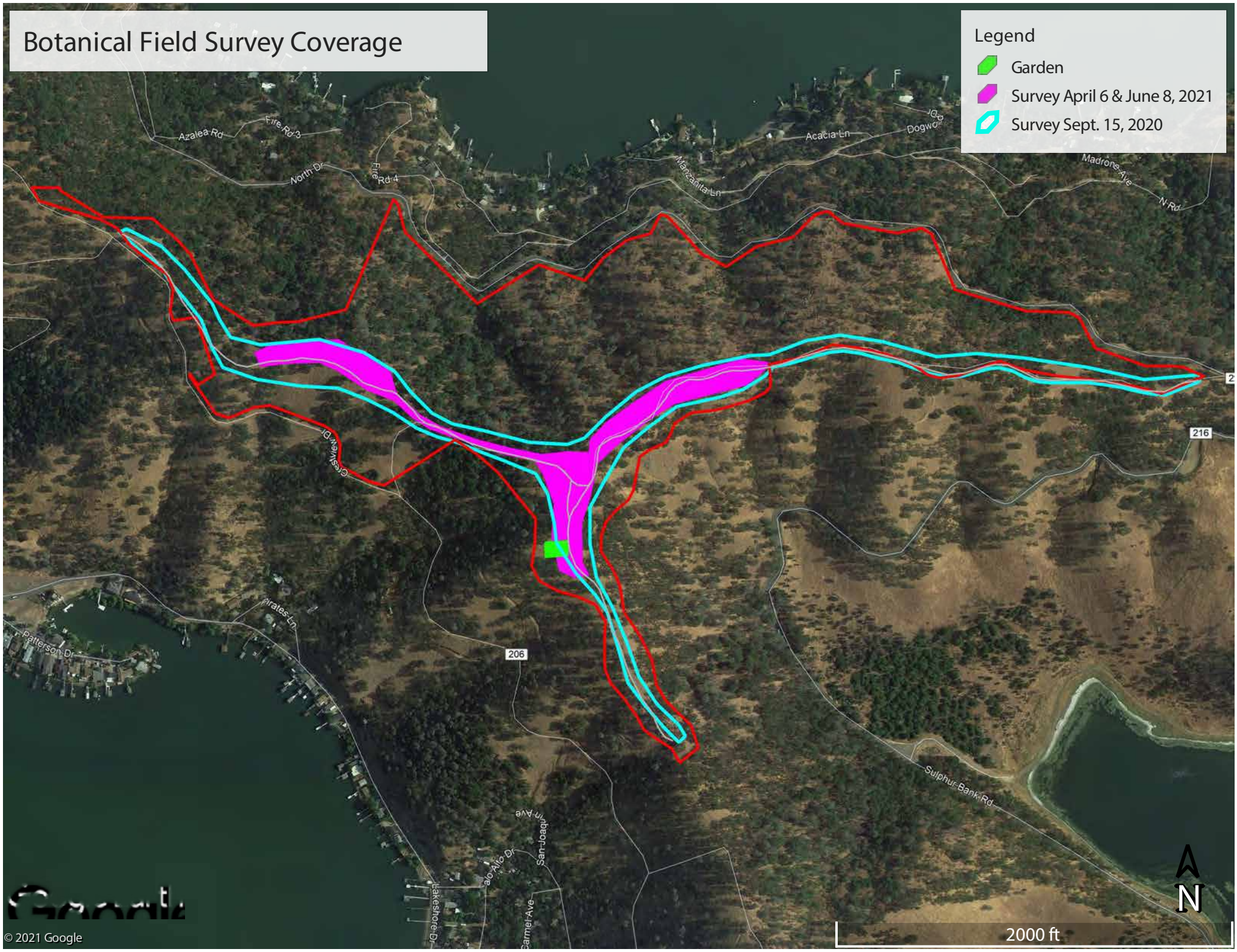
1:24,000

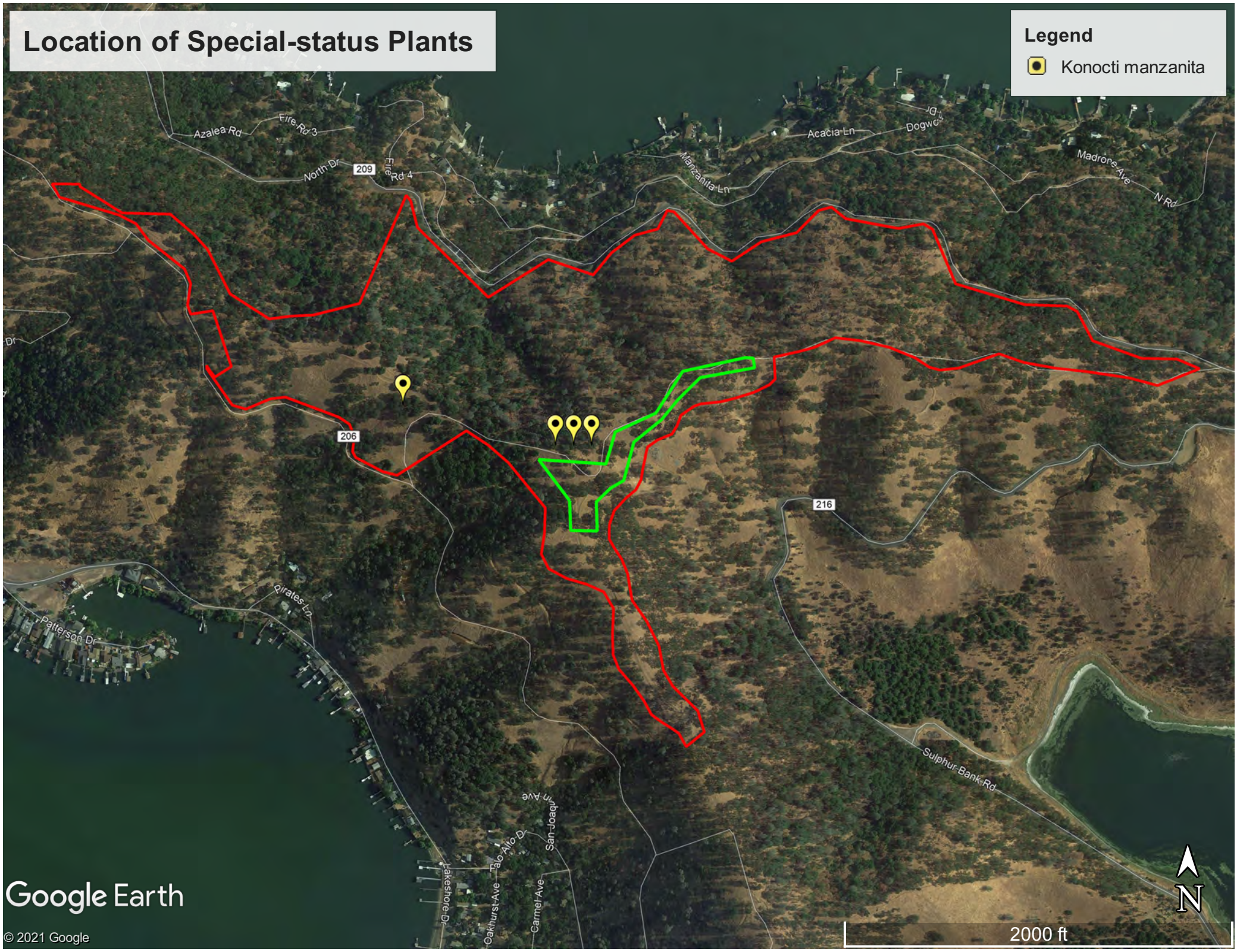
11795 North Drive
Parcel Location Map

Natural Investigations Company

Map Date 9/4/2020

Clearlake Highlands 1993 Quadrangle:Township 13N, Range 7W, Section 7,12


Botanical Field Survey Coverage
Legend
Garden
Survey April 6 & June 8, 2021
Survey Sept. 15, 2020
Azalea Rd
Fire Rd 3
North Dr
Fire Rd 4
Acacia Ln
Manzanita Ln
Madrone Ave
N Rd
216
206
Pirates Ln
Patterson Dr
Sulphur Bank Rd
Lakeshore Dr
Carmel Ave
N
2000 ft
© 2021 Google


Location of Special-status Plants
Legend
Konocti manzanita
Azalea Rd
Fire Rd 3
North Dr
209
Fire Rd 4
Acacia Ln
Manzanita Ln
Madrone Ave
N Rd
206
216
Pirates Ln
Patterson Dr
Sulphur Bank Rd
Lakeshore Dr
Oakhurst Ave
Tule Alto Dr
Carmel Ave
Google Earth
© 2021 Google
N
2000 ft

Habitat Types

11795 North Drive, Clearlake

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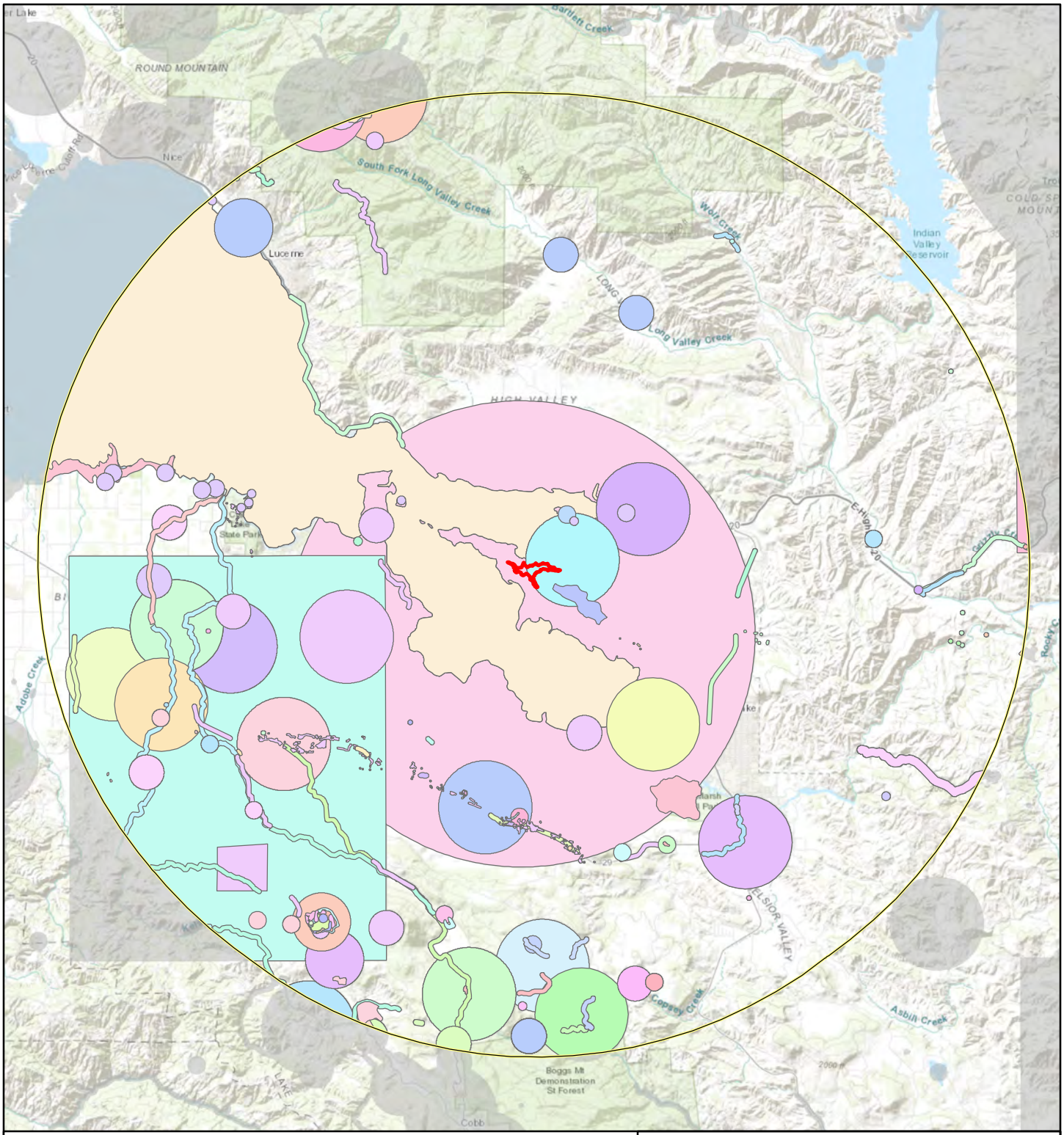

Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.Data Sources: California Department of Fish and Wildlife. 2020. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California.
(updated monthly by subscription service)

Special-Status Species Occurrences Map

11795 North Drive

Clearlake Highlands 1993 Quadrangle:
Township 13N, Range 7W, Section 7,12

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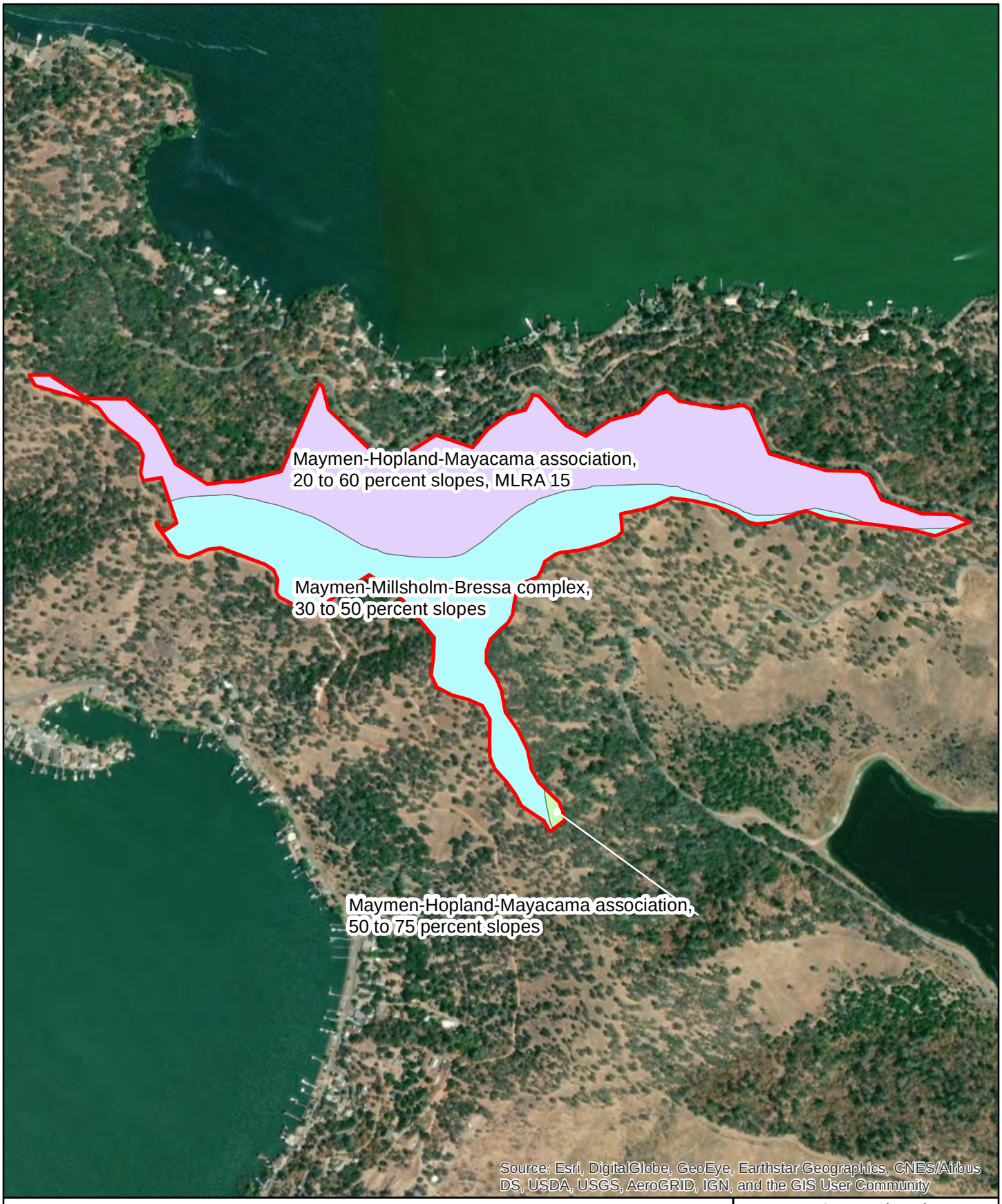

Parcel Location

0 250 500 Meters

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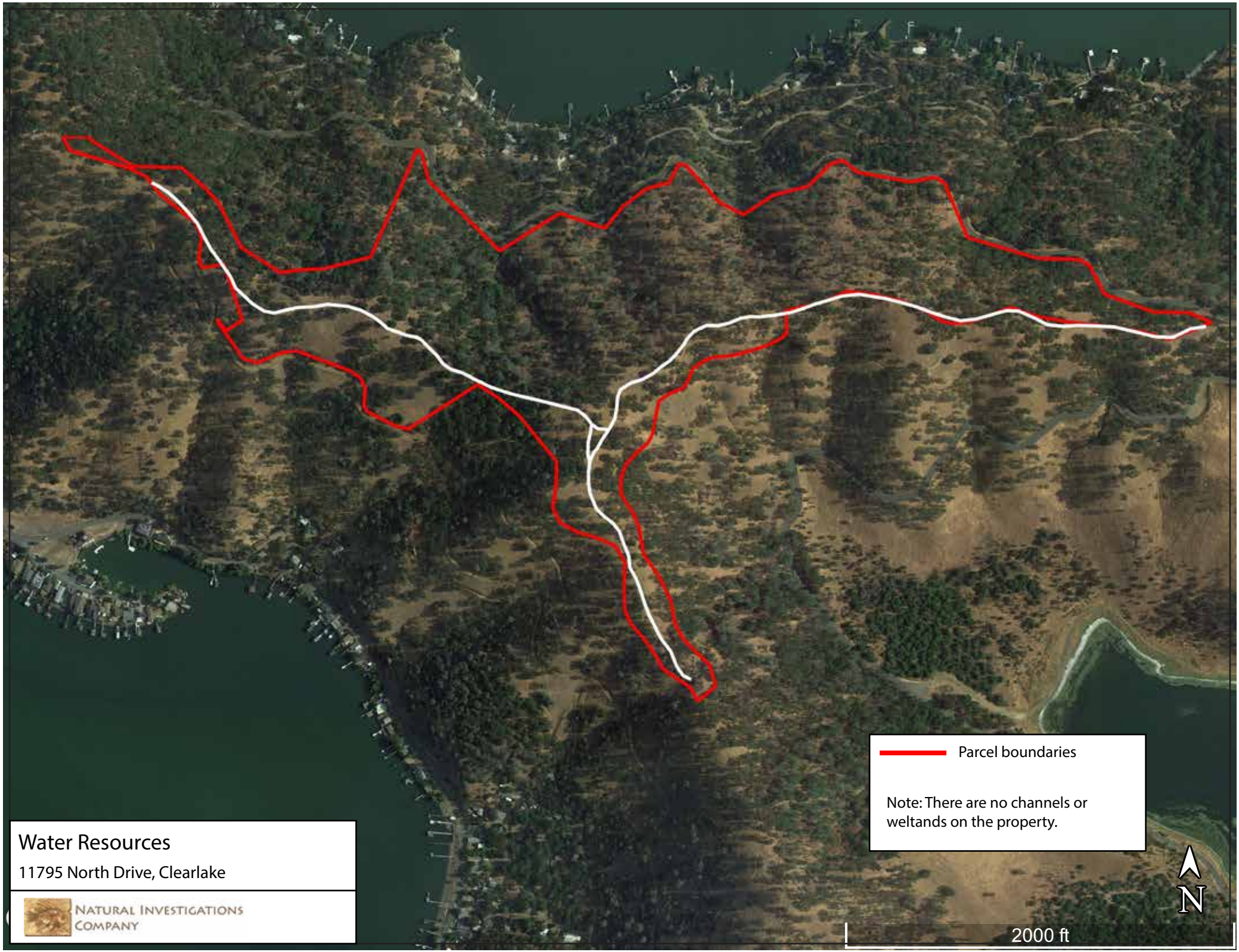
11795 North Drive
USDA Soils Map

Natural Investigations Company

Map Date 9/4/2020

Clearlake Highlands 1993 Quadrangle:Township 13N, Range 7W, Section 7,12



Water Resources

11795 North Drive, Clearlake

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APPENDIX: CNDDB AND CNPS SPECIES LISTS

Special-status Species Reported by CNDDB in the Vicinity of the Project Area

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Toren's grimmia *Grimmia torenii*	1B.3	Cismontane woodland, lower montane coniferous forest, chaparral.	Openings, rocky, boulder and rock walls, carbonate, volcanic. 325-1160 m.
Loch Lomond button-celery *Eryngium constancei*	FE/CE/1B.1	Vernal pools.	Volcanic ash flow vernal pools. 460-855 m.
Small-flowered calycadenia *Calycadenia micrantha*	1B.2	Chaparral, valley and foothill grassland, meadows and seeps.	Rocky talus or scree; sparsely vegetated areas. Occasionally on roadsides; sometimes on serpentine. 5-1500 m.
Pappose tarplant *Centromadia parryi ssp. parryi*	1B.2	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland.	Vernally mesic, often alkaline sites. 2-420m.
Burke's goldfields *Lasthenia burkei*	FE/CE/1B.1	Vernal pools, meadows and seeps.	Most often in vernal pools and swales. 15-600 m.
Colusa layia *Layia septentrionalis*	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 145-1095m.
Hall's harmonia *Harmonia hallii*	1B.2	Chaparral.	Serpentine hills and ridges. Open, rocky areas within chaparral. 500-900 m.
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Serpentine cryptantha *Cryptantha dissita*	1B.2	Chaparral.	Serpentine outcrops. 330-730m.
Watershield *Brasenia schreberi*	2B.3	Freshwater marshes and swamps.	Aquatic from water bodies both natural and artificial in California.
Cascade downingia *Downingia willamettensis*	2B.2	Cismontane woodland, valley and foothill grasslands.	Lake margins and vernal pools.
Legenere *Legenere limosa*	1B.1	Vernal pools.	In beds of vernal pools. 1-880 m.
Oval-leaved viburnum *Viburnum ellipticum*	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Lake County stonecrop *Sedella leiocarpa*	FE/CE/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland.	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 365-790 m.
Raiche's manzanita *Arctostaphylos stanfordiana ssp. raichei*	1B.1	Chaparral, lower montane coniferous forest.	Rocky, serpentine sites. Slopes and ridges. 450-1000 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Commonly on serpentine in grassland or openings in chaparral. 180-1000 m.
Anthony Peak lupine *Lupinus antoninus*	1B.2	Upper montane coniferous forest, lower montane coniferous forest.	Open areas with surrounding forest; rocky sites. 1220-2285 m.
Napa bluecurls *Trichostema ruygtii*	1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest.	Often in open, sunny areas. Also has been found in vernal pools. 30-590m.
Woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	4.2	Chapparal, cismontane woodland, valley and foothill grassland, vernal pools.	Vernally wet areas, ditches, and ponds. 60-1335 m.
Glandular western flax *Hesperolinon adenophyllum*	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils; generally found in serpentine chaparral. 150-1315 m.
Two-carpellate western flax *Hesperolinon bicarpellatum*	1B.2	Serpentine chaparral.	Serpentine barrens at edge of chaparral. 60-1005 m.
Marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	1B.2	Meadows and seeps, riparian forest.	Wet soil of streambanks, meadows. 1100-2300 m.

Brandegee's eriastrum *Eriastrum brandegeeae*	1B.1	Chaparral, cismontane woodland.	On barren volcanic soils; often in open areas. 425-840 m.
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Vernal pools and swales; adobe or alkaline soils. 5-1740 m.
Few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	Vernal pools.	Volcanic ash flow, and volcanic substrate vernal pools. 400-855 m.
Many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE/CE/1B.2	Vernal pools.	Volcanic ash flow vernal pools. 30-950 m.
Rincon Ridge ceanothus *Ceanothus confusus*	1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland.	Known from volcanic or serpentine soils, dry shrubby slopes. 75-1065 m.
Bolander's horkelia *Horkelia bolanderi*	1B.2	Lower montane coniferous forest, chaparral, meadows, valley and foothill grassland.	Grassy margins of vernal pools and meadows. 450-1100 m.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE/1B.2	Marshes and swamps (freshwater), vernal pools.	Clay soils; usually in vernal pools, sometimes on lake margins. 10-2375 m.
Adobe-lily *Fritillaria pluriflora*	1B.2	Chaparral, cismontane woodland, foothill grassland.	Usually on clay soils; sometimes serpentine. 60-705 m.
California satintail *Imperata brevifolia*	2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 0-1215 m.
Slender Orcutt grass *Orcuttia tenuis*	FT/CE/1B.1	Vernal pools.	Often in gravelly pools. 35-1760 m.
Eel-grass pondweed *Potamogeton zosteriformis*	2B.2	Marshes and swamps.	Ponds, lakes, streams. 0-1860 m.

*Definitions of Status Codes: FE = Federally listed as endangered; FT = Federally listed as threatened; FPE = Federally proposed for listing as endangered; FPT = Federally proposed for listing as threatened; FC = Candidate for Federal listing; MB = Migratory Bird Act; CE = California State listed as endangered; CT = California State listed as threatened; CSSC = California species of special concern; CR = California rare species; CFP = California fully protected species; CNPS (California Native Plant Society) List 1A = Plants presumed extinct in California by CNPS; CNPS List 1B = CNPS designated rare or endangered plants in California and elsewhere; and CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere. Global Ranking: G1 = Critically Imperiled; G2 = Imperiled; G3 = Vulnerable. State Ranking: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable.

**Copied verbatim from CNDDB, unless otherwise noted.

Special-status Species Reported by CNPS in the Vicinity of the Project Area (9-quadrangle Query)

Common name *Scientific name*	**Status**	**Bloom**	**Habitat**
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Mar-Jun	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland
Dimorphic snapdragon *Antirrhinum subcordatum*	4.3	Apr-Jul	Chaparral, Lower montane coniferous forest
Twig-like snapdragon *Antirrhinum virga*	4.3	Jun-Jul	Chaparral, Lower montane coniferous forest
Coast rockcress *Arabis blepharophylla*	4.3	Feb-May	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest
Raiche's manzanita *Arctostaphylos stanfordiana ssp. raichei*	1B.1	Feb-Apr	Chaparral, Lower montane coniferous forest (openings)
Serpentine milkweed *Asclepias solanoana*	4.2	May-Jul(Aug)	Chaparral, Cismontane woodland, Lower montane coniferous forest
Brewer's milk-vetch *Astragalus breweri*	4.2	Apr-Jun	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland (open, often gravelly)
Cleveland's milk-vetch *Astragalus clevelandii*	4.3	Jun-Sep	Chaparral, Cismontane woodland, Riparian forest
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	1B.2	Mar-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland
Mexican mosquito fern *Azolla microphylla*	4.2	Aug	Marshes and swamps (ponds, slow water)
Watershield *Brasenia schreberi*	2B.3	Jun-Sep	Marshes and swamps (freshwater)
Indian Valley brodiaea *Brodiaea rosea ssp. rosea*	CE/3.1	May-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland
Serpentine reed grass *Calamagrostis ophitidis*	4.3	Apr-Jul	Chaparral (open, often north-facing slopes), Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland
Pink star-tulip *Calochortus uniflorus*	4.2	Apr-Jun	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest
Four-petaled pussypaws *Calyptridium quadripetalum*	4.3	Apr-Jun	Chaparral, Lower montane coniferous forest
Mt. Saint Helena morning-glory *Calystegia collina ssp. oxyphylla*	4.2	Apr-Jun	Chaparral, Lower montane coniferous forest, Valley and foothill grassland
Three-fingered morning-glory *Calystegia collina ssp. tridactylosa*	1B.2	Apr-Jun	Chaparral, Cismontane woodland
Northern meadow sedge *Carex praticola*	2B.2	May-Jul	Meadows and seeps (mesic)
Pink creamsacs *Castilleja rubicundula var. rubicundula*	1B.2	Apr-Jun	Chaparral (openings), Cismontane woodland, Meadows and seeps, Valley and foothill grassland
Rincon Ridge ceanothus	1B.1	Feb-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland

Common name *Scientific name*	**Status**	**Bloom**	**Habitat**
Ceanothus confusus			
Calistoga ceanothus *Ceanothus divergens*	1B.2	Feb-Apr	Chaparral (serpentinite or volcanic, rocky)
Dwarf soaproot *Chlorogalum pomeridianum var. minus*	1B.2	May-Aug	Chaparral (serpentinite)
Tracy's clarkia *Clarkia gracilis ssp. tracyi*	4.2	Apr-Jul	Chaparral (openings, usually serpentinite)
Serpentine collomia *Collomia diversifolia*	4.3	May-Jun	Chaparral, Cismontane woodland
Serpentine bird's-beak *Cordylanthus tenuis ssp. brunneus*	4.3	Jul-Aug	Closed-cone coniferous forest, Chaparral, Cismontane woodland
Serpentine cryptantha *Cryptantha dissita*	1B.2	Apr-Jun	Chaparral (serpentinite)
Swamp larkspur *Delphinium uliginosum*	4.2	May-Jun	Chaparral, Valley and foothill grassland
Cascade downingia *Downingia willamettensis*	2B.2	Jun-Jul(Sep)	Cismontane woodland (lake margins), Valley and foothill grassland (lake margins), Vernal pools
Brandegee's eriastrum *Eriastrum brandegeeae*	1B.1	Apr-Aug	Chaparral, Cismontane woodland
Greene's narrow-leaved daisy *Erigeron greenei*	1B.2	May-Sep	Chaparral (serpentinite or volcanic)
Snow Mountain buckwheat *Eriogonum nervulosum*	1B.2	Jun-Sep	Chaparral (serpentinite)
Loch Lomond button-celery *Eryngium constancei*	FE/CE/1B.1	Apr-Jun	Vernal pools
Adobe-lily *Fritillaria pluriflora*	1B.2	Feb-Apr	Chaparral, Cismontane woodland, Valley and foothill grassland
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE/1B.2	Apr-Aug	Marshes and swamps (lake margins), Vernal pools
Toren's grimmia *Grimmia torenii*	1B.3		Chaparral, Cismontane woodland, Lower montane coniferous forest
Hall's harmonia *Harmonia hallii*	1B.2	Apr-Jun	Chaparral (serpentinite)
Congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	1B.2	Apr-Nov	Valley and foothill grassland
Glandular western flax *Hesperolinon adenophyllum*	1B.2	May-Aug	Chaparral, Cismontane woodland, Valley and foothill grassland
Two-carpellate western flax *Hesperolinon bicarpellatum*	1B.2	May-Jul	Chaparral (serpentinite)
Lake County western flax *Hesperolinon didymocarpum*	CE/1B.2	May-Jul	Chaparral, Cismontane woodland, Valley and foothill grassland
Sharsmith's western flax	1B.2	May-Jul	Chaparral

Common name *Scientific name*	**Status**	**Bloom**	**Habitat**
Hesperolinon sharsmithiae			
Bolander's horkelia *Horkelia bolanderi*	1B.2	(May)Jun-Aug	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland
California satintail *Imperata brevifolia*	2B.1	Sep-May	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub
Burke's goldfields *Lasthenia burkei*	FE/CE/1B.1	Apr-Jun	Meadows and seeps (mesic), Vernal pools
Colusa layia *Layia septentrionalis*	1B.2	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland
Legenere *Legenere limosa*	1B.1	Apr-Jun	Vernal pools
Bristly leptosiphon *Leptosiphon acicularis*	4.2	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland
Jepson's leptosiphon *Leptosiphon jepsonii*	1B.2	Mar-May	Chaparral, Cismontane woodland, Valley and foothill grassland
Woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	4.2	Mar-May(Jun)	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools
Napa lomatium *Lomatium repostum*	4.3	Mar-Jun	Chaparral, Cismontane woodland
Cobb Mountain lupine *Lupinus sericatus*	1B.2	Mar-Jun	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest
Heller's bush-mallow *Malacothamnus helleri*	3.3	May-Jul	Chaparral (sandstone), Riparian woodland (gravel)
Mt. Diablo cottonweed *Micropus amphibolus*	3.2	Mar-May	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland
Elongate copper moss *Mielichhoferia elongata*	4.3		Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Subalpine coniferous forest
Little mousetail *Myosurus minimus ssp. apus*	3.1	Mar-Jun	Valley and foothill grassland, Vernal pools (alkaline)
Cotula navarretia *Navarretia cotulifolia*	4.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland
Jepson's navarretia *Navarretia jepsonii*	4.3	Apr-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	1B.1	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools
Few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	May-Jun	Vernal pools (volcanic ash flow)
Many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE/CE/1B.2	May-Jun	Vernal pools (volcanic ash flow)
Porter's navarretia *Navarretia paradoxinota*	1B.3	May-Jun(Jul)	Meadows and seeps

Common name *Scientific name*	**Status**	**Bloom**	**Habitat**
Slender Orcutt grass *Orcuttia tenuis*	FT/CE/1B.1	May-Sep(Oct)	Vernal pools
Geysers panicum *Panicum acuminatum var. thermale*	CE/1B.2	Jun-Aug	Closed-cone coniferous forest, Riparian forest, Valley and foothill grassland
Sonoma beardtongue *Penstemon newberryi var. sonomensis*	1B.3	Apr-Aug	Chaparral (rocky)
Michael's rein orchid *Piperia michaelii*	4.2	Apr-Aug	Coastal bluff scrub, Closed-cone coniferous forest, Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest
Eel-grass pondweed *Potamogeton zosteriformis*	2B.2	Jun-Jul	Marshes and swamps (assorted freshwater)
Lake County stonecrop *Sedella leiocarpa*	FE/CE1B.1	Apr-May	Cismontane woodland, Valley and foothill grassland, Vernal pools
Cleveland's ragwort *Senecio clevelandii var. clevelandii*	4.3	Jun-Jul	Chaparral (serpentinite seeps)
Marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	1B.2	(Jun)Jul-Aug	Meadows and seeps, Riparian forest
Bearded jewelflower *Streptanthus barbiger*	4.2	May-Jul	Chaparral (serpentinite)
Socrates Mine jewelflower *Streptanthus brachiatus ssp. brachiatus*	1B.2	May-Jun	Closed-cone coniferous forest, Chaparral
Freed's jewelflower *Streptanthus brachiatus ssp. hoffmanii*	1B.2	May-Jul	Chaparral, Cismontane woodland
Hoffman's bristly jewelflower *Streptanthus glandulosus ssp. hoffmanii*	1B.3	Mar-Jul	Chaparral, Cismontane woodland, Valley and foothill grassland (often serpentinite)
Green jewelflower *Streptanthus hesperidis*	1B.2	May-Jul	Chaparral (openings), Cismontane woodland
Three Peaks jewelflower *Streptanthus morrisonii ssp. elatus*	1B.2	Jun-Sep	Chaparral (serpentinite)
Kruckeberg's jewelflower *Streptanthus morrisonii ssp. kruckebergii*	1B.2	Apr-Jul	Cismontane woodland (serpentinite)
Marsh zigadenus *Toxicoscordion fontanum*	4.2	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps
Napa bluecurls *Trichostema ruygtii*	1B.2	Jun-Oct	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, Vernal pools
Saline clover *Trifolium hydrophilum*	1B.2	Apr-Jun	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools
Oval-leaved viburnum *Viburnum ellipticum*	2B.3	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest

APPENDIX: LIST OF PLANT TAXA DETECTED IN THE PROJECT AREA AND IMMEDIATE VICINITY

A list of all plant taxa occurring in the project area, with all taxa identified to the taxonomic level necessary to determine whether or not they are a special status plant;

Plants Observed at 11795 North Road, Clearlake on September 15, 2020, April 6, 2021 and June 8, 2021

Common Name	**Scientific Name**
Yarrow	*Achillea millefolium*
Short-podded lotus	*Acmispon brachycarpus*
Lotus	*Acmispon sp.*
California buckeye	*Aesculus californicus*
Mountain dandelion	*Agoseris heterophylla*
Mountain dandelion	*Agoseris sp.*
Common fiddleneck	*Amsinckia menziesii*
Pine dwarf mistletoe	*Arceuthobium campylopodum*
Konocti manzanita*	*Arctostaphylos manzanita ssp. elegans c.f.*
Common manzanita	*Arctostaphylos manzanita ssp. manzanita*
Slender wild oat	*Avena barbata*
Wild oat	*Avena fatua*
Coyote brush	*Baccharis pilularis*
Black mustard	*Brassica nigra*
Kale	*Brassica oleracea*
Brodiaea	*Brodiaea sp.*
Ripgut brome	*Bromus diandrus*
Soft chess	*Bromus hordeaceus*
Madrid brome	*Bromus madritensis*
Poverty brome	*Bromus sterilis*
Red maids	*Calandrinia ciliata*
Italian thistle	*Carduus pycnocephalus*
Maltese star thistle	*Centaurea melitensis*
Yellow star thistle	*Centaurea solstitialis*
Common mouse-eared chickweed	*Cerastium fontanum*
Western redbud	*Cercis occidentalis*
Birchleaf mountain mahogany	*Cercocarpus betuloides*
Wavy leaf soap plant	*Chlorogalum pomeridianum*
Clarkia	*Clarkia sp.*
Clarkia	*Clarkia sp.*
Narrow leaved miner’s lettuce	*Claytonia parviflora*
Hillside collinsia	*Collinsia sparsiflora*
Sand pygmy weed	*Crassula connata*
Pacific houndstooth	*Cynoglossum grande*
Dogtail grass	*Cynosurus echinatus*
Larkspur	*Delphinium sp.*
Blue dicks	*Dichelostemma capitatum (=Dipterostemon capitatus)*
Medusa-head grass	*Elymus caput-medusae*
Squirreltail grass	*Elymus elymoides*
Blue wild rye	*Elymus glaucus*
Broad leaved filaree	*Erodium botrys*
Red-stemmed filaree	*Erodium cicutarium*
White stem filaree	*Erodium moschatum*
Foothill poppy	*Eschscholzia caespitosa*
California poppy	*Eschscholzia californica*

Common Name	Scientific Name
Brome fescue	*Festuca bromoides*
California fescue	*Festuca californica*
Pacific fescue	*Festuca microstachys*
Rattail sixweeks grass	*Festuca myuros*
Two-petaled ash	*Fraxinus dipetala*
Bedstraw	*Galium aparine*
Climbing bedstraw	*Galium porrigens*
Bedstraw	*Galium sp.*
Dove's foot geranium	*Geranium molle*
Bird's eye gilia	*Gilia tricolor*
Great Valley gum plant	*Grindelia camporum*
Toyon	*Heteromeles arbutifolia*
Wall barley	*Hordeum murinum*
Common barley	*Hordeum vulgare*
Iris	*Iris sp.*
Shining peppergrass	*Lepidium nitidum*
Whisker brush	*Leptosiphon ciliatus*
California cottonrose	*Logfia filaginoides*
Miniature lupine	*Lupinus bicolor*
Lupine	*Lupinus sp.*
Scarlet pimpernel	*Lysimachia arvensis*
Slender madia	*Madia gracilis*
California man-root	*Marah fabacea*
Pineapple weed	*Matricaria discoidea*
California burclover	*Medicago polymorpha*
California melic grass	*Melica californica*
Little California melica	*Melica imperfecta*
Slender cottonweed	*Micropus californicus*
Silverpuffs	*Microseris sp.*
Slender phlox	*Microsteris gracilis*
Sunkbush	*Navarretia squarrosa*
Canyon nemophila	*Nemophila heterophylla*
Windmill pink	*Petrorhagia dubia*
American mistletoe	*Phoradendron leucarpum*
Gray pine	*Pinus sabiniana*
Rusty popcorn flower	*Plagiobothrys nothofulvus*
Popcorn flower	*Plagiobothrys sp.*
Dwarf plantain	*Plantago erecta*
English plantain	*Plantago lanceolata*
Shortspur seablush	*Plectritis congesta*
Bulbous bluegrass	*Poa bulbosa*
Bluegrass	*Poa sp.*
Henderson's shooting star	*Primula hendersonii*
Blue oak	*Quercus douglasii*
California black oak	*Quercus kelloggii*
Interior live oak	*Quercus wislizeni var. wislizeni*
Oracle oak	*Quercus x morehus*
Hollyleaf redberry	*Rhamnus ilicifolia*

Common Name	Scientific Name
Blue elderberry	*Sambucus nigra ssp. caerulea*
Poison sanicle	*Sanicula bipinnata*
Pacific sanicle	*Sanicula crassicaulis*
Shepherd's needle	*Scandix pecten-veneris*
Windmill pinks	*Silene gallica*
Milk thistle	*Silybum marinum*
Tumble mustard	*Sisymbrium altissimum*
Hedge mustard	*Sisymbrium officinale*
Blue-eyed grass	*Sisyrinchium bellum*
Chickweed	*Stellaria media*
Purple needlegrass	*Stipa pulchra*
Needlegrass	*Stipa sp.*
Fringepod	*Thysanocarpus curvipes*
Showy fringepod	*Thysanocarpus radians*
Tall sock destroyer	*Torilis arvensis*
Poison oak	*Toxicodendron diversilobum*
Olive clover	*Trifolium olivaceum*
Clover	*Trifolium sp.*
Tomcat clover	*Trifolium willdenovii*
Ithuriel's spear	*Triteleia laxa*

*Observed specimens of *Arctostaphylos manzanita* at this location did not produce flowers or fruit during winter or spring 2020/2021. Flowers and fruit are required to make a positive identification of these species. Old fruit found near the base of some manzanita shrubs had characteristics of both common manzanita (free nutlets) and Konocti manzanita (fused nutlets). Plants will be afforded protection as if they were the rare Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans* CNPS 1B.1).

APPENDIX: SITE PHOTOS