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PROJECT DESCRIPTION

Dustin Perbetsky is seeking a Major Use Permit from the County of Lake for a commercial cannabis cultivation operation with Self-Distribution at 22698 Elk Mountain Road near Lake Pillsbury, CA on Lake County APN 001-037-25 (Project Parcel). The proposed cultivation operation would composed of a 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy area, a 7,160 ft^2 A-Type 2 "Small Outdoor" cultivation/canopy area, a 192 ft^2 Security Room/Building, and a 192 ft^2 Pesticides & Agricultural Chemicals Storage Shed. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.38005° and Longitude -122.97895°.

The 80.5-acre TPZ-zoned Project Parcel is a private inholding that is situated on Log Ridge within the Mendocino National Forest and approximately 15 miles north of Upper Lake, CA. The proposed cultivation operation will be located in the southern half of the Project Parcel and accessed via Log Ridge Spur A (Forest Service Road 18 N 25 A) off of Log Ridge Road. Log Ridge Road connects to Elk Mountain Road west of the Project Parcel, approximately 2,000 feet west of the proposed cultivation operation. A metal gate across Log Ridge Road Spur A controls access to the Project Parcel.

The Project Parcel is mountainous and supports a mixed coniferous forest. An unnamed perennial Class II watercourse and tributary to Packsaddle Creek, flows from southwest to northeast through the Project Parcel. Multiple ephemeral Class III watercourses form on the Project Parcel, then flow into the unnamed perennial Class II watercourse. The proposed cultivation operation will be located in the southern half of the Project Parcel and over 150 feet from any surface water body. The Project Parcel has been enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger since March 5th, 2020 (WDID: 1_17CC423448).

There are no areas on the lands of the Mendocino National Forest within 1,000 feet of the Project Parcel, where it is clear that the public is invited for recreation and/or other destination activities (please see Mendocino Motor Vehicle Use Map - South Central). The Ranch Fire, of the Mendocino Complex, burned the entire Project Parcel in 2018. The only treeless area of the Project Parcel has been selected for the location of the proposed cultivation operation, so that no trees will need to be removed. The area of the proposed cultivation operation cannot be seen from a publicly accessible vantage point, due to the topography and dense forest of the Project Parcel.

The cultivation season for the proposed outdoor cannabis cultivation operation will begin in June and end in November of each year. The proposed outdoor cultivation areas will be enclosed with 6-foot tall galvanized woven wire fences. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soil mixture in aboveground fabric pots and wood-framed garden beds, with drip irrigation systems to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be composted on-site. Composted cannabis waste will be stored in the designated composting area until it is incorporated into the soils of the cultivation areas as a soil amendment. Chemicals stored and used at the proposed cultivation operation included fertilizers/nutrients, pesticides, and petroleum products (Agricultural Chemicals). All chemicals and tools will be securely stored inside the proposed

Pesticides and Agricultural Chemicals Storage Area. Only pesticides approved for use in commercial cannabis cultivation by the State of California will be used at the proposed cultivation operation.

Mr. Perbetsky is seeking to obtain a Type 13 Cannabis Distributor Transport Only, Self-Distribution license, so that he may use an unmarked, registered, and insured enclosed trailer to transport cannabis from the proposed cultivation operation to licensed cannabis processing and manufacturing facilities throughout the State of California. Mr. Perbetsky's distribution trailer will only travel from the Project Parcel to the premises of licensed cannabis processing and manufacturing facilities, and back to the Project Parcel. The trailer will be locked and secured whenever it is not being loaded or unloaded, and it will never be left unattended while transporting cannabis. Mr. Perbetsky will adhere to the reporting requirements of the California Cannabis Track-and-Trace system at all times, to record and report all cannabis transfers and movements.

SITE PLANS AND MAPS

Sheet 1 – Location Map

Sheet 2 – Surrounding Area Aerial

Sheet 3 – Existing Conditions Site Plan

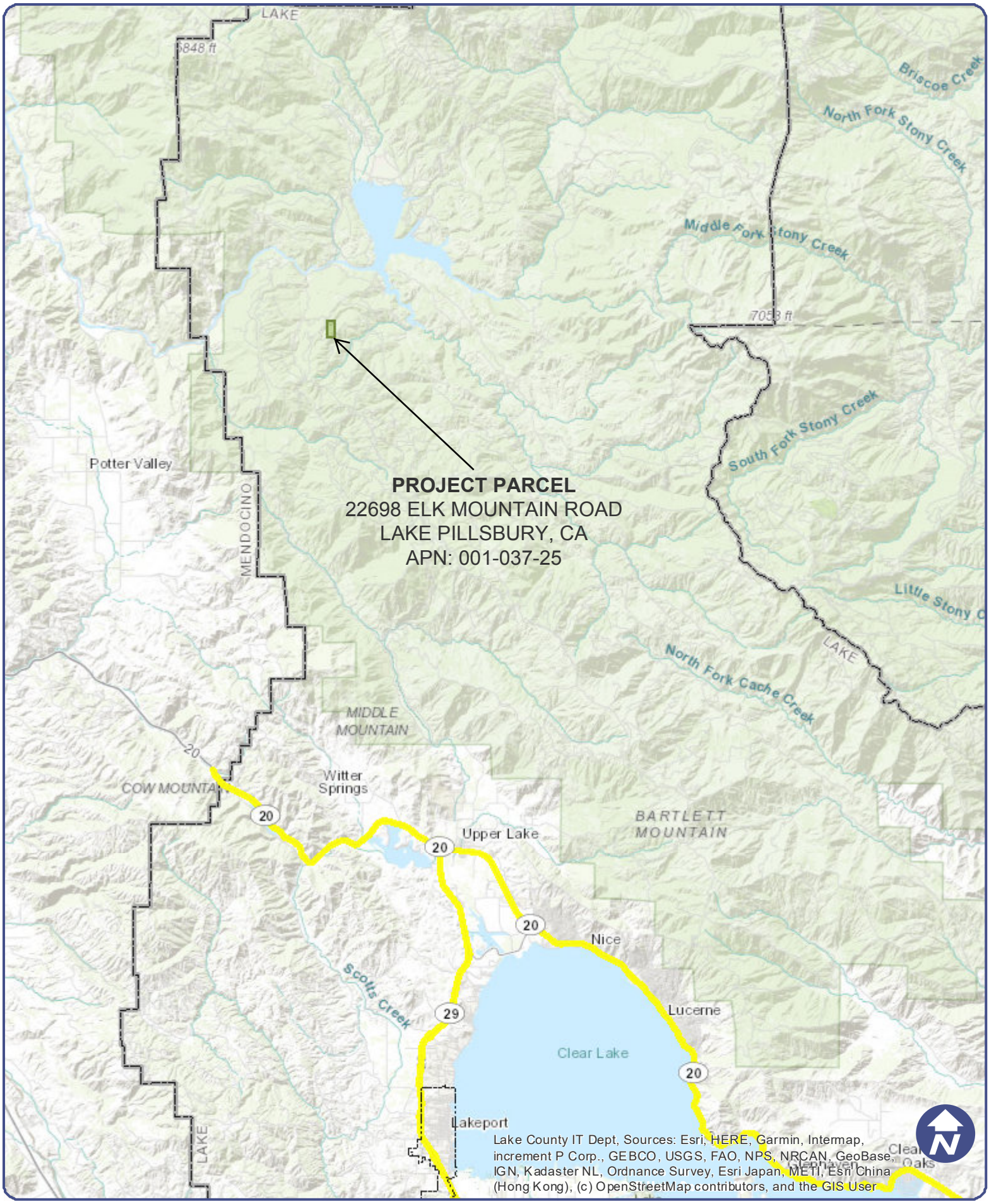
Sheet 4 – Proposed Conditions Site Plan

Sheet 5 – Cannabis Cultivation Site Plan

Sheet 6 – Security Site Plan

Sheet 7 – Proposed Security Center Layout

Sheet 8 – Erosion and Sediment Control Plan



Lake County, CA

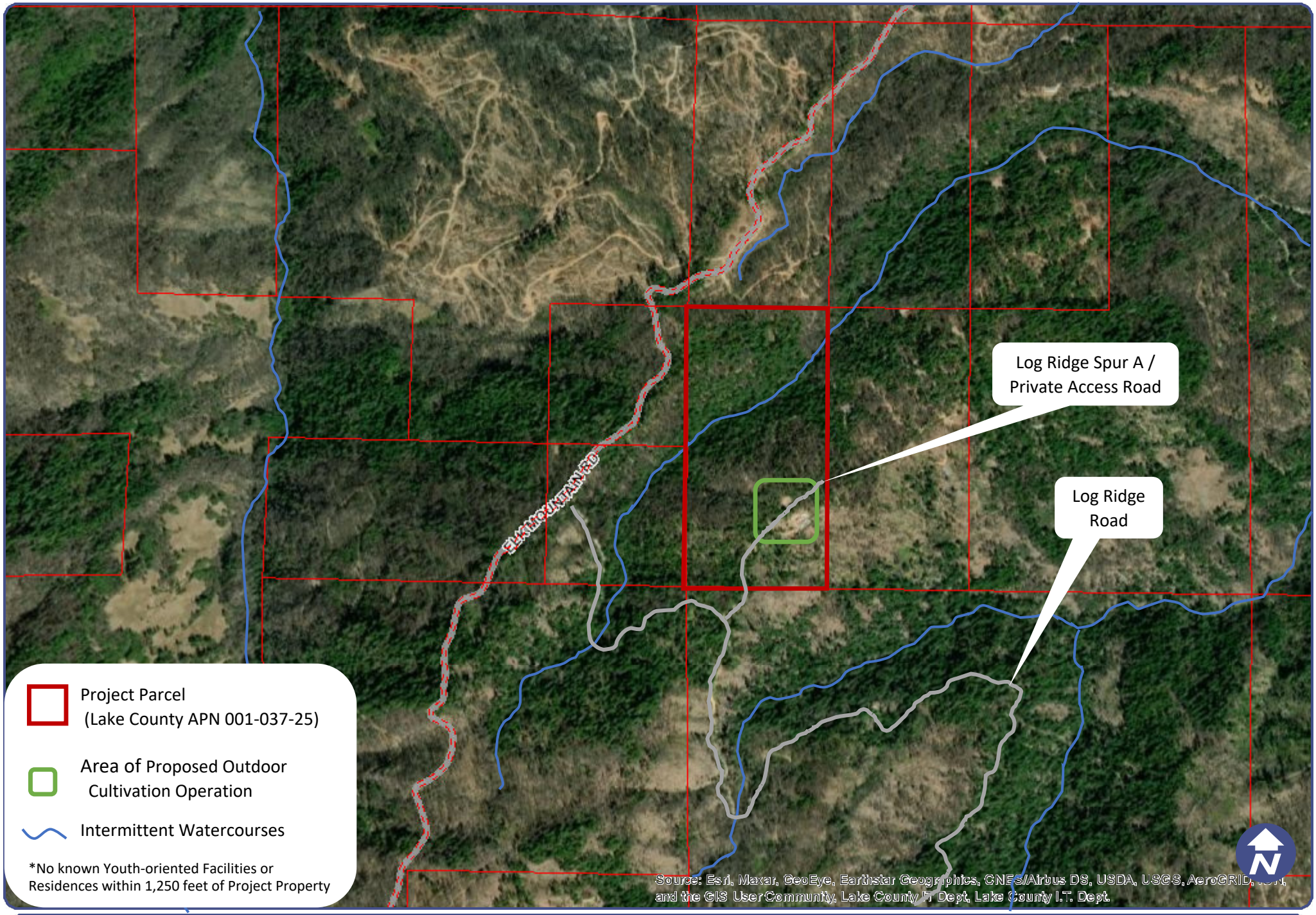
22698 Elk Mountain Road

built with Web AppBuilder for ArcGIS

mi
0 4.5 9

All parcel boundaries are *approximate*. Discrepancies in acerage, shape and location are common.
This map is not the legal survey document to be used in single site determinations. Consult your deed for a legal parcel description.

Print Date: 1/31/2023



Lake County, CA

Dustin's Farm - 22698

Web AppBuilder for ArcGIS

mi
0 0.25 0.5

Print Date: 9/1/2020

EXISTING CONDITIONS SITE PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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) GROUNDWATER WELL
LAT: 39.38139°
LONG: -122.986825°

(B) (E) 12'x16' WOODEN SHED

(C) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: -122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

Revisions:

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

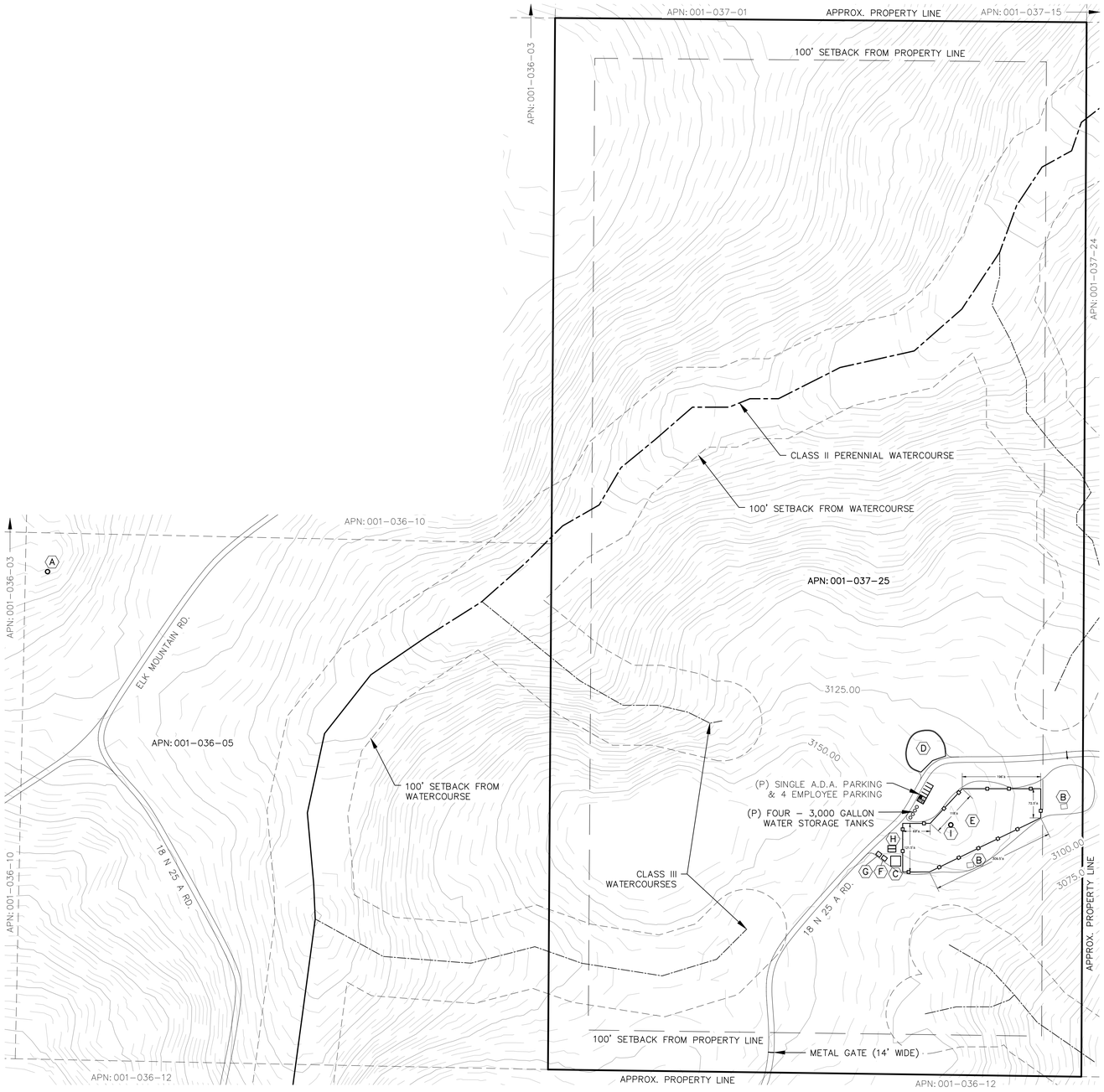
PLANS PREPARED UNDER THE SUPERVISION OF:

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

EXISTING CONDITIONS SITE PLAN

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY - APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 8/31/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1



PROPOSED CONDITIONS SITE PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:
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(A) (E) GROUNDWATER WELL
LAT: 39.38139°
LONG: -122.986825°

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

(C) (P) 25'x25' COMPOSTING AREA

(D) (P) 7,160 SF OUTDOOR CULTIVATION AREA

(E) (P) 1 ACRE OUTDOOR CULTIVATION AREA

(F) (P) 10'X12' PESTICIDE AND AGRICULTURAL CHEMICALS STORAGE SHED

(G) (P) DESIGNATED REFUSE AREA

(H) (P) TWO - 8'x20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(I) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: -122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

Revisions:

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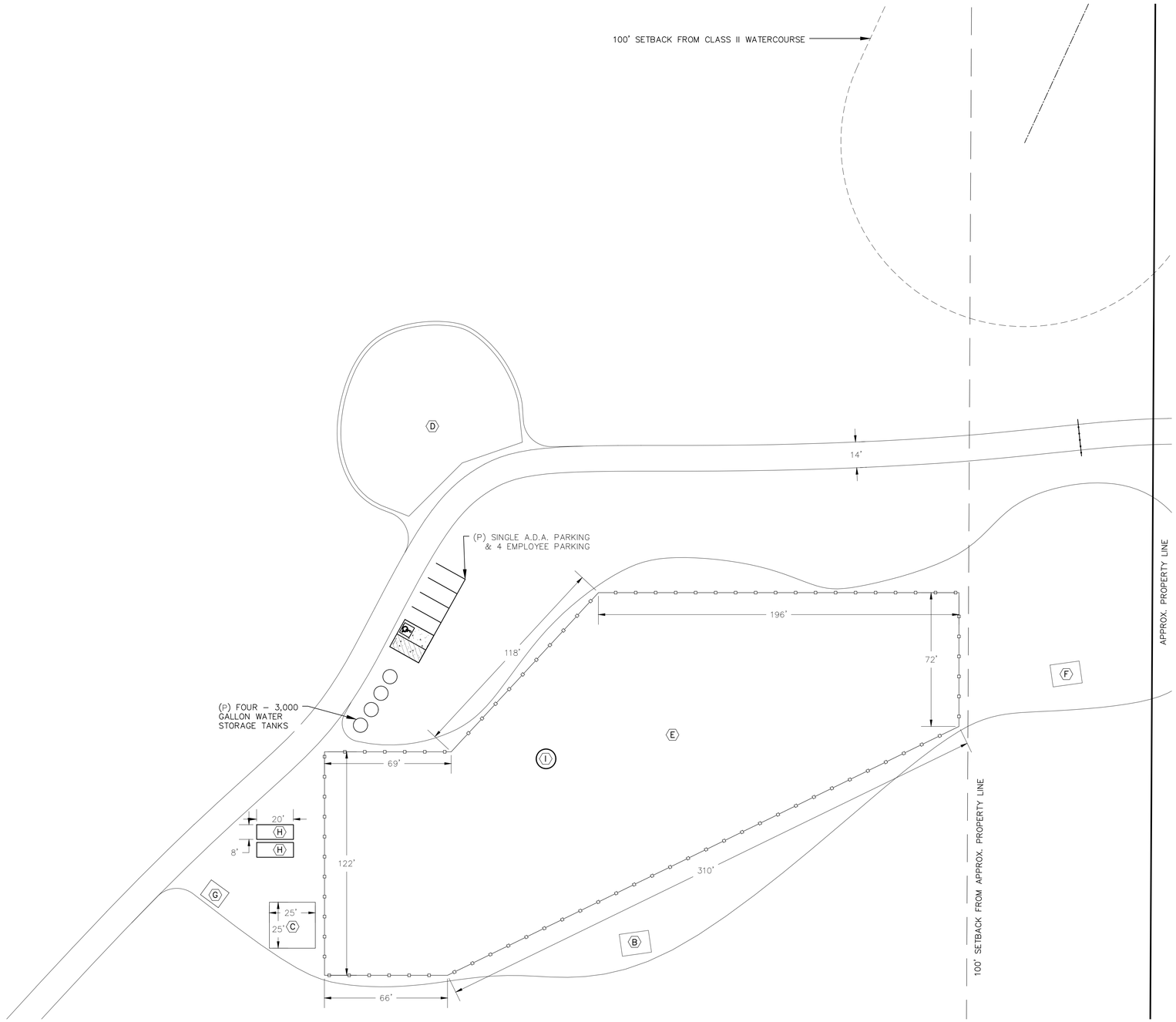
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN - PHASE I

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY - APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1



MAIN ENTRANCE (14' WIDE METAL GATE)

CULTIVATION SITE PLAN WITH CANOPY

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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'

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(I) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

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CULTIVATION SITE PLAN WITH CANOPY

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001-037-25

PLOTTED BY: ---
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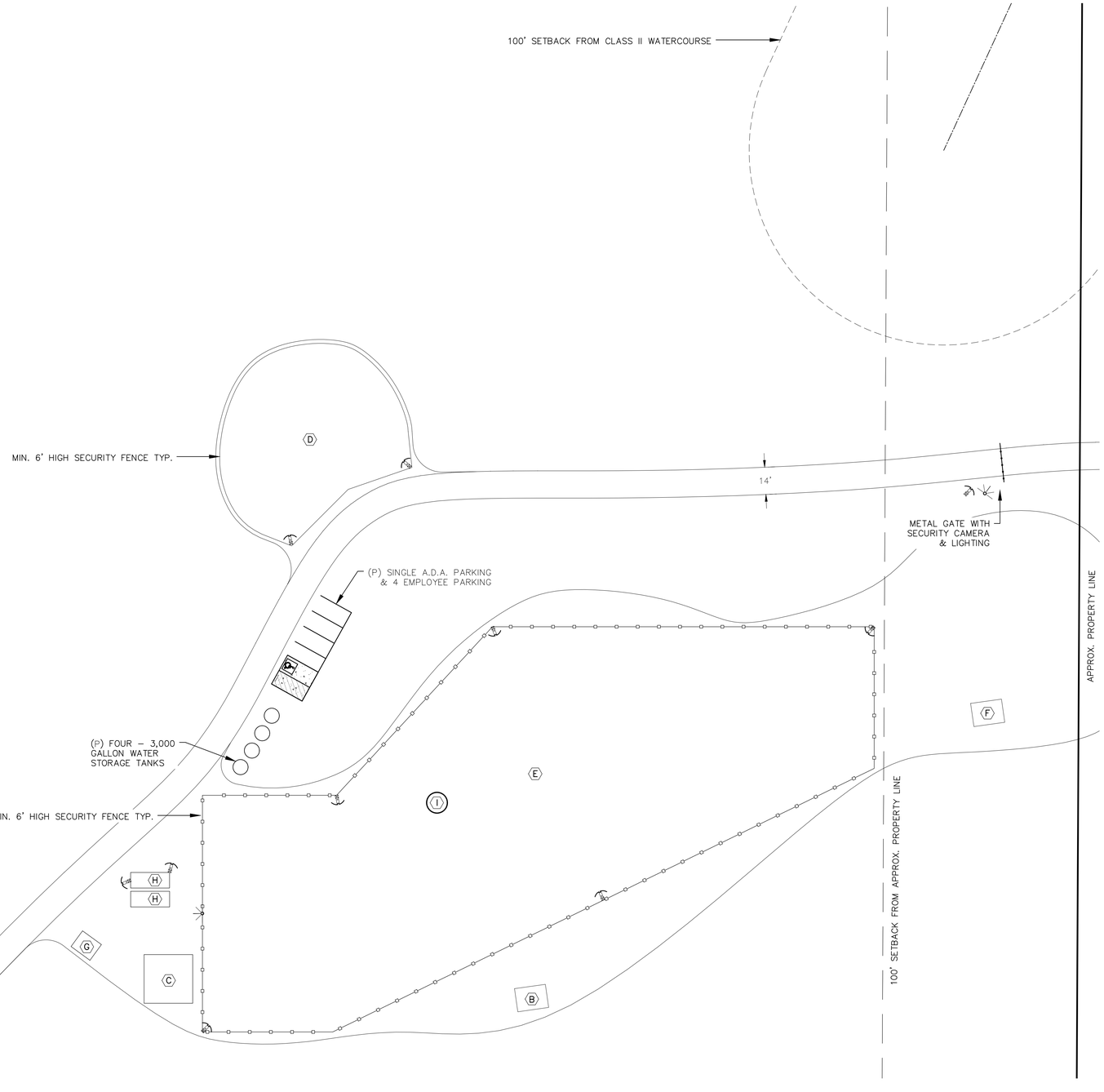

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	ASPHALT
	GRAVEL
	EARTH
	WATERCOURSE / SWALE
	EXISTING POWER POLE
	(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

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

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(I) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

SECURITY SITE PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

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PLOTTED BY: ---
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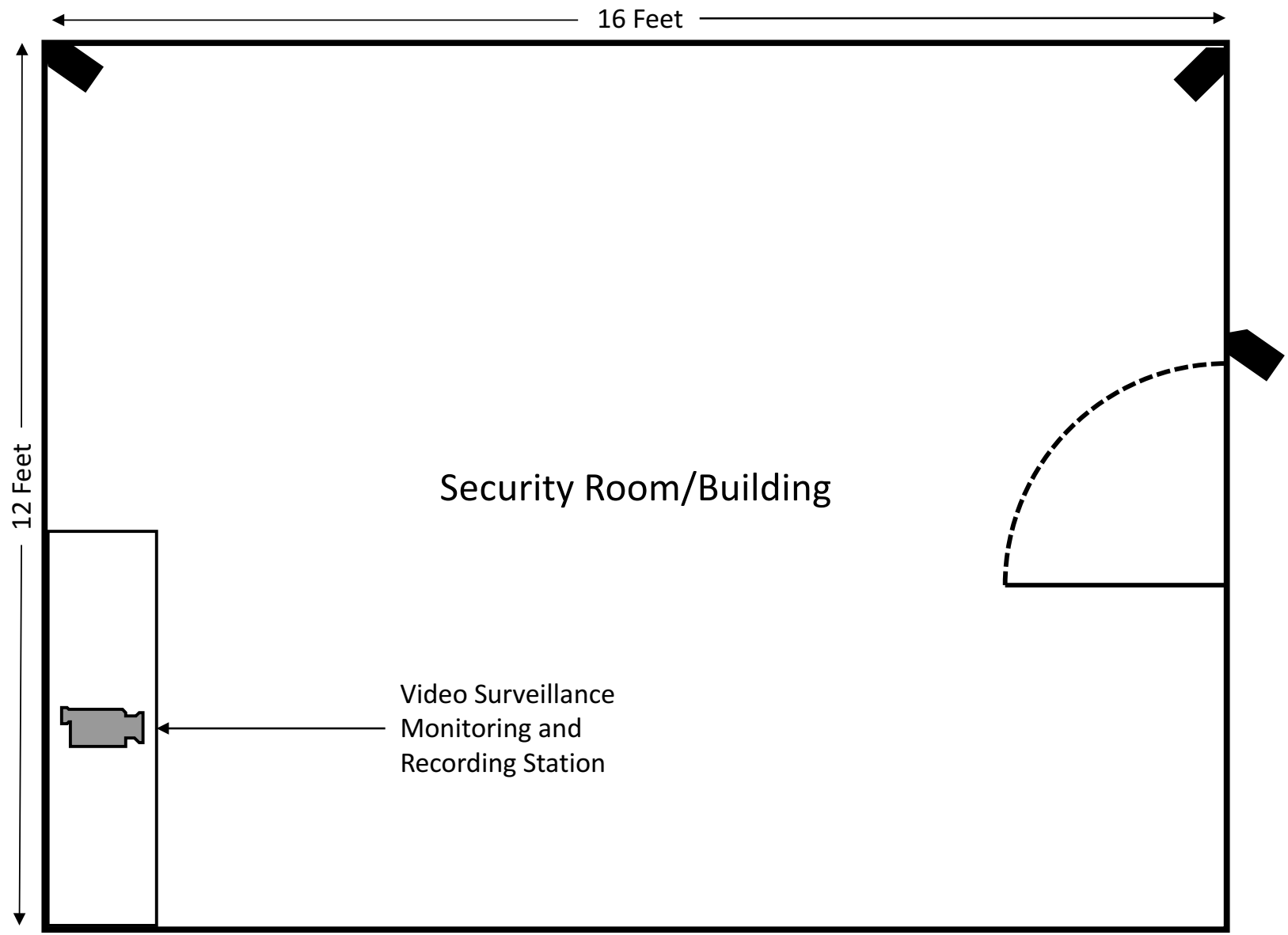
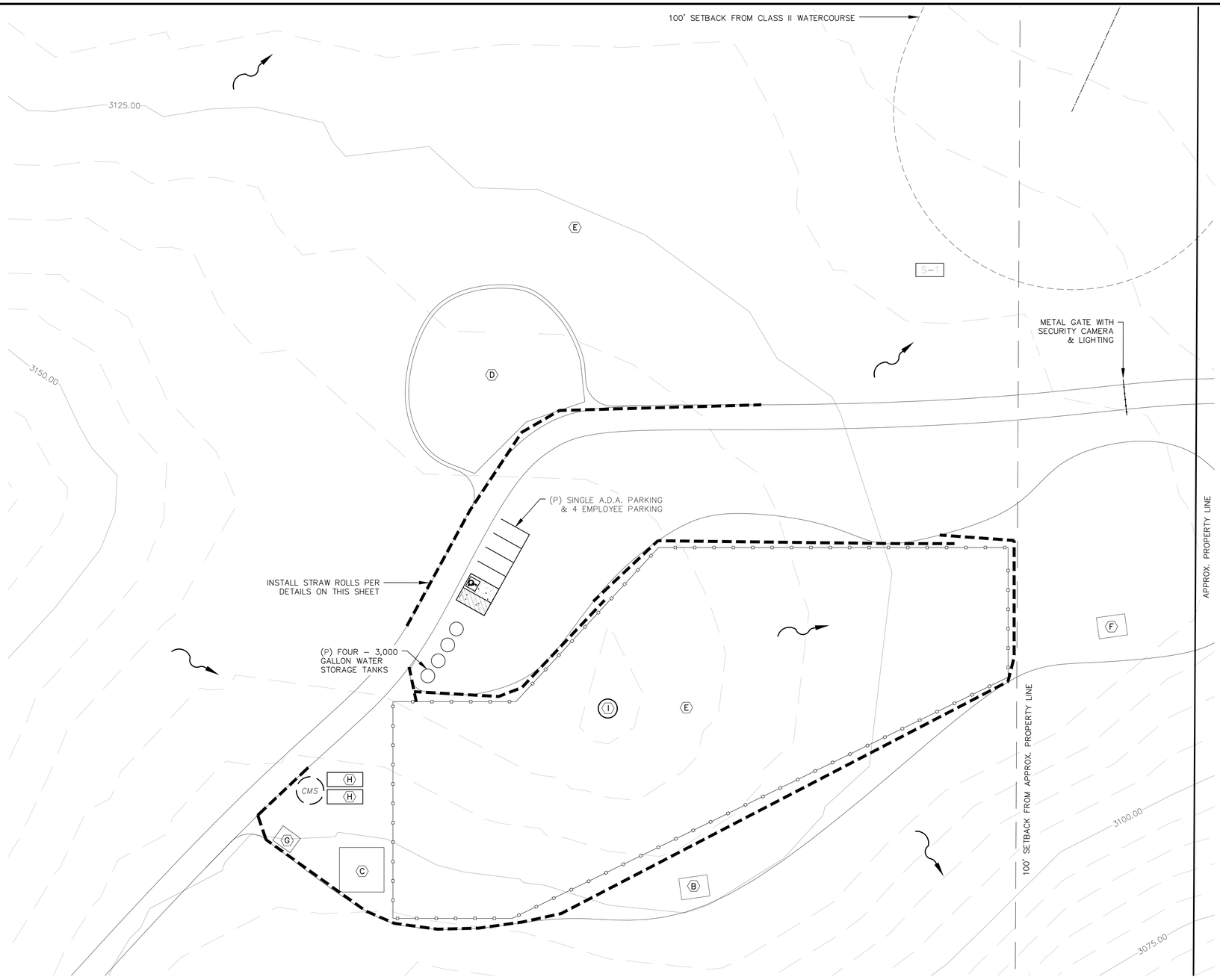
SHEET: 1

Security Room/Building
(Existing Wooden Shed)





Ⓑ (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

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Ⓘ (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

EXISTING TREES

DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

S-1 SAMPLING LOCATION

CMS CONSTRUCTION MATERIALS STORAGE AREA

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.

EROSION & SEDIMENT CONTROL PLAN

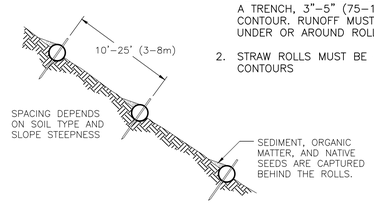
GRAPHIC SCALE

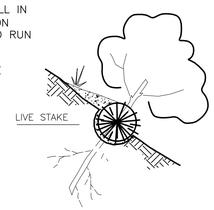
150 0 75 150

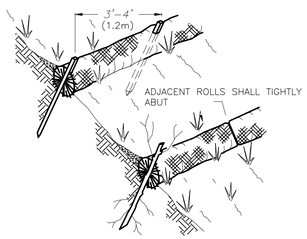
(IN FEET)
1 inch = 150 ft.

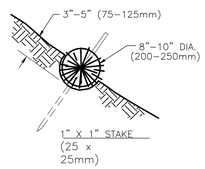
STRAW ROLL DETAILS

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









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CULTIVATION SITE PLAN WITH CANOPY

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001–037–25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

SECTION – C

AIR QUALITY MANAGEMENT PLAN

Air Quality Management Plan

Purpose and Overview

Dustin Perbetsky is seeking a Major Use Permit from the County of Lake for a commercial cannabis cultivation operation with Self-Distribution at 22698 Elk Mountain Road near Lake Pillsbury, CA on Lake County APN 001-037-25 (Project Parcel). The proposed cultivation operation would composed of a 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy area, a 7,160 ft^2 A-Type 2 "Small Outdoor" cultivation/canopy area, a 192 ft^2 Security Room/Building, and a 192 ft^2 Pesticides & Agricultural Chemicals Storage Shed. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soil mixture in aboveground fabric pots and wood-framed garden beds, with drip irrigation systems to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be composted on-site. All chemicals and tools will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Area. All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°.

This Air Quality Management Plan (AQMP) is designed to promote the health, safety, welfare and environmental quality of the community, operational staff, and the Project Parcel. In-line with the directives of the Lake County Air Quality Management District, this AQMP includes measures to monitor and evaluate the performance of the plan, as well as ensure that all data and information is reported to Lake County and the proper local agencies. This AQMP identifies equipment and activities that may cause odor, contaminates, or other air quality hazards, and measures that operational staff will be required to follow to mitigate/minimize the amount of air pollution and particulates generated from the proposed cultivation operation. This AQMP also includes an Odor Response Program that establishes responsible parties and procedures for operational staff to follow in the event of an odor complaint.

Equipment or Activities that May Cause the Issuance of Air Contaminants

The following sources are anticipated to be the most significant emitters of odor, air pollutants and particulates from the proposed cultivation operation. However, no single source or combined sources is anticipated to be harmful or detrimental to neighboring residences or the community of Lake County.

Gasoline and Diesel Powered Equipment: The proposed cultivation operation will generate small amounts of carbon dioxide from the operation of small gasoline engines (tillers, weed eaters, lawnmowers, etc…) and from vehicular traffic associated with staff commuting. All equipment use will be minimized to the extent possible, and all equipment will be professionally maintained to ensure efficient operation. Additionally, the generation of carbon dioxide would be partially offset by the cultivation of plants, which remove carbon dioxide in the air for photosynthesis.

Fugitive Dust: The proposed cultivation operation may generate small amounts of fugitive dust through ground-disturbing activities, uncovered soil or compost piles, and vehicle or truck trips on unpaved roads. Fugitive dust will be controlled by wetting soils with a mobile water tank and hose, or by delaying ground disturbing activities until site conditions are not windy, and by eliminating soil stockpiles. Additionally, the driveways/access roads and parking areas of the Project Parcel are/will be graveled and will be well maintained and monitored monthly for quality of its surfacing.

Odors: Cannabis cultivation can generate objectionable odors, particularly when the plants are mature/flowering in the cultivation area(s), or when being dried/cured after harvest. No significant odor impacts are anticipated from the proposed cultivation operation, due to the generous setbacks provided from property lines and neighboring residences/outdoor activity areas.

Odor Response Program/Procedures

A Community Liaison/Emergency Contact will be made available to Lake County Officials/Staff and the Lake County Sheriff's Office at all times to address any needs or issues that may arise. The Community Liaison/Emergency Contact will be responsible for responding to odor complaints 24 hours a day, seven days a week, including holidays. Mr. Perbetsky will provide the name, cell phone number, and email address of the Community Liaison/Emergency Contact to all interested County Departments, Law Enforcement Officials, and neighboring property owners and residents. Mr. Perbetsky will encourage neighboring residents to contact the Community Liaison/Emergency Contact to resolve any operating problems before contacting County Officials/Staff.

When an odor complaint is received, the Community Liaison/Emergency Contact will immediately halt all odor producing activities on the Project Parcel and take action to determine the source of the odor for which the complaint was received. Then mitigation methods will be immediately implemented to reduce/eliminate odors from emanating from the source. Depending on the source, mitigation measures include erecting windscreens and/or the installation of air pollution/odor control equipment.

SECTION – D

CULTURAL RESOURCES PROTECTION PLAN

SECTION – E

BIOLOGICAL RESOURCE ASSESSMENT

Biological Resource Assessment

Purpose and Overview

Dustin Perbetsky is seeking a Major Use Permit from the County of Lake for a commercial cannabis cultivation operation with Self-Distribution at 22698 Elk Mountain Road near Lake Pillsbury, CA on Lake County APN 001-037-25 (Project Parcel). The proposed cultivation operation would composed of a 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy area, a 7,160 ft^2 A-Type 2 "Small Outdoor" cultivation/canopy area, a 192 ft^2 Security Room/Building, and a 192 ft^2 Pesticides & Agricultural Chemicals Storage Shed. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soil mixture in aboveground fabric pots and wood-framed garden beds, with drip irrigation systems to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be composted on-site. All chemicals and tools will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Area. All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°.

The proposed outdoor cultivation operation will utilize aboveground fabric pots, wood-framed garden beds, and small structures, place on or at ground surface in a treeless area of the Project Parcel. No ground disturbing activities, such as grading or vegetation removal, will be needed to establish the proposed cultivation operation. A wildlife and botanical surveys of the Project Parcel were conducted on March 16th, 2020 by Dr. Christopher DiVittorio of Pinecrest Environmental Consulting, and May 20th and July 9th, 2021 by Evan Carlson of Jacobszoon & Associates, Inc. A Biological Resource Assessment was prepared August 24, 2021 for the proposed cultivation operation. The purpose of the Biological Resource Assessment was to evaluate the existence of special-status species and/or habitats, as well as assess the potential for special-status species to occur on or near the site of the proposed cultivation operation. This Biological Resource Assessment includes a description of fish and wildlife that live on, or seasonally inhabit the Project Parcel, a description of the habitats found on the Project Parcel, the watershed in which the Project Parcel is located, and avoidance and protection measures to minimize adverse impacts to fish and wildlife. No impacts are predicted for any State or Federal special-status plant or animal species, wetlands or waters of the U.S., or sensitive habitats as a result of the proposed project's development or operation, as long as the Best Management Practices and Avoidance & Minimization Measures outlined in the Biological Resource Assessment are followed.

JACOBSZOON & ASSOCIATES, INC.

natural resource planning & management

Biological Resource Assessment

Prepared For:

Dustin Perbetsky
22698 Elk Mountain Rd.
Upper Lake, CA, 95469

APN: 001-037-25

Prepared by Jacobszoon & Associates, Inc.

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Date: August 24, 2021

Table of Contents

Section 1.0: Introduction

This biological assessment was prepared by Jacobszoon and Associates Inc. for Dustin Perbetsky for the purpose of obtaining a Lake County commercial cannabis permit and CalCannabis State cultivation license. The project site is located approximately 19.6 miles east of the town of Potter Valley, CA within Section 27, Township 18N, Range 10W, Mount Diablo Base and Meridian, in the Lake Pillsbury USGS 7.5 minute quadrangle at 22698, Upper Lake, California, 95469 APN: 001-019-230 (Appendix D: Map 1, Study Area. Site visits were conducted on May 20, 2021, and July 9, 2021 during the blooming periods for all species of special concern. An additional biological/botanical visit was conducted on March 16, 2020 by Pinecrest Environmental Consulting, thus fulfilling all blooming period requirements. Their final report can be found in Appendix E: Supporting Documents.

The purpose of this study was to identify and map areas within the parcel that are potential sensitive natural communities and to locate special-status plants and special-status animal habitats to determine if they would be directly or potentially impacted by the existing project. The combined Study Area referred to within this report comprises an area of approximately 3.38 acres and includes areas proposed for development and existing cultivation sites (Appendix C: Photos 1-11; Appendix D: Map 2, Study Area).

This report includes the following:

- Regulations and Project Description (Section 2)
- Field Survey Methodology (Section 3)
- Study Area Setting (Section 4)
- Field Survey Results (Section 5)
- Assessment Summary and Recommendations (Section 6)
- Tables of Special-Status Plants and Wildlife within CNDDB nine quads (Appendix A)
- List of Species Observed (Appendix B)
- Representative Photographs of Study Area (Appendix C)
- Supporting Maps (Appendix D)
- Supporting Documents (Appendix E)

Section 2.0: Regulations and Descriptions

2.1 Regulatory Setting

In addition to the requirements of Lake County's Ordinance, the project shall comply with Federal, State, and local regulations designed to protect sensitive natural resources. The following natural resources are protected under one or more of several Federal and/or State regulations and should be considered when designing and/or implementing the proposed project within the Study Area:

Essential Fish Habitat: protected through changes to the Magnuson-Stevens Fishery Conservation and Management Act to maintain sustainable fisheries in the United States, administered by National Marine Fisheries Service (NMFS):

- Includes habitats (rivers, creeks, estuaries) that may support anadromous fish (fish migrating from ocean habitat into freshwater river habitat), as well as commercially and/or ecologically valuable fishes.

Local Regulations: The Lake County Regulations for the Cultivation of Medical Marijuana (Article 72 Sec. 21-72) stipulates and outlines rules set forth by the Lake County Board of Supervisors for the purpose of the cultivation of cannabis.

- Lake County Code Ordinance No. 3073, Amending Chapter 21, Article 27 of the Lake County Code Pertaining to Cannabis Cultivation provides parameters for medical and commercial cannabis cultivation within the County and definitions for adult personal use, qualified patient, and primary caregiver cannabis cultivation. Additionally, the Ordinance describes subcategories including but not limited to Enforcement, Development Standards and Restrictions, Permits Required, and Development Standards for the cultivation of medical and commercial cannabis within the County.

Streams, Lakes, and Riparian Habitat: protected under the California Fish and Game Code (CFGC), administered by the California Department of Fish and Wildlife (CDFW):

- Includes creeks and rivers (bodies where water flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life), and vegetation adjacent to and associated with (riparian habitat).

Waters of the State: protected under the State Water Resources Control Board (SWRCB) Cannabis General Order (CANGO).

Waters of the U.S.: protected under the Clean Water Act (CWA), administered by the Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE):

- Includes wetlands, streams, rivers, and other aquatic habitats meeting the guidance issued by USACE.

2.2 Natural Communities and Sensitive Natural Communities

Sensitive Natural Communities: protected under the California Fish and Game Code (CFGC), administered by California Department of Fish and Wildlife (CDFW 2020):

- Includes terrestrial vegetation or plant communities that are ranked S1-3 by NatureServe and are considered "sensitive" by CDFW. Lists of these vegetative communities are included in the *List of California Sensitive Natural Communities* (CDFW 2020).

2.3 Special-Status Species

Special-Status Plant and Wildlife Species including Critical Habitat: protected under one or more of the Federal Endangered Species Act (ESA), California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), administered by the U.S. Fish and Wildlife Service (USFWS), and/or CDFW:

- Includes plants listed under the ESA and/or CESA, or those plants ranked by the California Native Plant Society (CNPS) as Rank 1, 2, 3 and 4.

- Includes wildlife listed under the ESA and/or CESA, and wildlife listed by CDFW as Species of Special Concern, Fully Protected Species, and/or Special-status including Invertebrates, Birds of Conservation Concern listed by USFWS, Species of Concern listed by National Marine Fisheries Service (NMFS), Western Bat Working Group (WBWG).

Section 3.0: Field Survey Methodology

3.1 Assessment Methods

The Biological Resource Assessment is designed to identify sensitive communities within the Study Area and determine the existence or potential occurrence for special-status species. The assessment is also designed to address the potential for cumulative impacts to biological resources that may occur as a result of the project and to make recommendations to reduce or mitigate potential impacts. The Biological Resource Assessment includes the analysis and comparison of existing habitat conditions within the Study Area and the documented range and habitat requirements of sensitive plant and wildlife species described in CDFW's California Wildlife Habitat Relationships System (CWHR).

The Rare Plant Survey employs the methods and guidance outlined in the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018) and constitutes a seasonally appropriate floristic survey. The Rare Plant Survey was conducted during appropriate blooming periods for all potentially occurring rare plant species within a nine-quad scoping range of the project area. If special-status plant species are located during a survey, mitigation measures will be recommended to avoid or minimized damage to the species.

Plant species observed during the site assessment were recorded and are listed in Appendix B: List of Observed Taxa. Plants listed in Appendix B were identified to the taxonomic level necessary to determine rarity using *The Jepson Manual: Vascular Plants of California 2nd Edition* (Baldwin et al. 2012). The names provided in this biological assessment report follow *The Jepson Flora Project* (JFP 2020).

Jacobszoon & Associates, Inc. biologist Evan Carlson conducted a biological resource assessment Study Area on May 20, 2021, consisting of approximately one (1) hour. Additional botanical surveys to accommodate for the three distinct blooming periods were conducted on March 16, 2020 and July 9, 2021. The Study Area was assessed to document: (1) the on-site plant communities, (2) existing conditions and their ability to provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive biological communities are present.

3.2 Database and Resource Descriptions

Prior to conducting field surveys available reference materials were reviewed including the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey, the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), the Upper Lake 7.5' USGS quadrangle topographic map, and the most recent available aerial imagery. The 100-year flood zone was assessed using the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer (NFHL). The location of streams and watercourses within the project vicinity were reviewed using datasets from California Streams and the California Department of Forestry and Fire Protection (CAL FIRE).

Existing vegetative communities were reviewed using CDFW's Vegetation Classification and Mapping Program (VegCAMP) data for the potential existence and location of sensitive biological communities (i.e. *Hesperocyparis pygmaea* Woodland Alliance-Mendocino pygmy cypress woodland) and related vegetation. Where VegCAMP data was not available, existing vegetative communities were reviewed using USDA Forest Service Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) data.

Databases queried for the occurrence of special-status species include the USFWS Information for Planning and Consultation (IPaC), CDFW's California Natural Diversity Database (CNDDB) Spotted Owl Data Viewer, RareFind and Quick Viewer processed and unprocessed data (online edition, v5.94.01), and California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). The CNDDB consists of mapped overlays of all known populations of sensitive plants and wildlife. The database is continually updated with new sensitive species population data.

The CNPS database produces a list of sensitive plants that have population occurrences registered within the scoping range. Various habitat characteristics are included with each listed species including the geographic and elevation range of the species, location(s) of known populations of the species as mapped in the CNDDB, and special soils or habitat features (vernal pools, serpentine/volcanic soils, etc.) associated with each species. While use of the CNPS inventory does not eliminate the need for an in-season botanical survey, it can, when used in conjunction with other information, provide an indication of the suitability of a site as habitat for sensitive plant species.

California Wildlife Habitat Relationships (CWHR) Predicted Habitat Suitability is a dataset accessed through CNDDB BIOS Commercial/Spotted Owl Viewer that represents areas of suitable habitat within species' documented ranges. Examination of the CWHR dataset was applied when: 1) the data is available for the species of concern, and 2) when the species of concern was listed in a nine-quad scoping search of the CNDDB. Habitat suitability ranks of Low (less than 0.34), Medium (0.34-0.66) and High (greater than 0.66) suitability are based on the mean expert opinion suitability value for each habitat type for breeding, foraging, and cover (CDFW 2020).

3.3 Database Resource Assessment

A scoping of the CNDDB and CNPS Inventory of Rare and Endangered Plants was performed to identify existing and historical occurrences of special status species and sensitive terrestrial communities within the project vicinity. The scoping extended to nine quads surrounding and including the Upper Lake 7.5-minute USGS Quadrangle and included the Crockett Park, Elk Mountain, Hull Mountain, Kneecap Ridge, Lake Pillsbury, Potato Hill, Potter Valley, Sanhedrin Mountain, and the Van Arsdale Reservoir 7.5-minute USGS Quadrangles (Appendix E: Supporting Documents). In addition, a 0.25-mile radius scoping area was completed for the identification of northern spotted owl (*Strix occidentalis caurina*, NSO) Activity Centers. In addition, a 0.25-mile radius scoping area was completed for the identification of northern spotted owl (*Strix occidentalis caurina*, NSO) Activity Centers.

Prior to the site visit, the databases listed above were accessed to determine whether sensitive biological communities, special-status species or other sensitive areas were documented within the vicinity of the Study Area (Appendix D: Map 3, CNDDB Vicinity). Existing habitat conditions were evaluated using field observations and the resources listed above to assess the potential for presence of special-status species. The potential for each special-status species to occur in the Study Area was then evaluated according to the following criteria:

- No Potential: Habitat on and adjacent to the Study Area is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

- Low Potential: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the Study Area is unsuitable or of very poor quality. The species is not likely to be found on-site.
- Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the Study Area is suitable. The species has a moderate probability of being found on-site.
- High Potential: All the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the Study Area is highly suitable. The species has a high probability of being found on-site.
- Present: Species is observed on the site or has been recorded (i.e. CNDDB) on-site recently.

A complete list of all special-status species and communities listed in the nine-quad scoping of the CNDDB and CNPS as well as those listed in an official IPaC search of the project area is included in Appendix A: Scoping Table of Special-Status Species and Communities and Potential to occur within the Study Area.

3.4 Natural Communities

Natural communities present within the Study Area were classified based on existing plant community descriptions described by Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986), USDA Forest Service Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) system, and the Manual of California Vegetation Online Edition (MCV2 Alliances, CNPS 2021b). However, in some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

The currently accepted vegetation classification system for the state that is standardly used by CDFW, CNPS, and other state and federal agencies, organizations, and consultants for survey and planning purposes is the *Manual of California Vegetation* (MCV; Sawyer, Keeler-Wolf, and Evans 2009). Unlike Holland, this vegetation classification system is based on the standard National Vegetation Classification System (NVCS) and includes alliances (a floristically defined vegetation unit identified by its dominant and/or characteristic species) and associations (the finer level of classification beneath alliance).

Although the CNDDB still maintains records of some of the old Holland vegetation types, these types are no longer the accepted standard, and the CDFW Vegetation Classification and Mapping Program (VegCAMP) has published more recent vegetation lists for the state based on a standardized vegetation classification system that is currently being developed for California and which is consistent with the MCV classification system. Global and state rarity rankings have been assigned for various types on the recent VegCAMP lists.

3.4.1 Non-sensitive Natural Communities

Non-sensitive natural communities are those communities that are not afforded special protection under CEQA, and other Federal, State, and local laws, regulations, and ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species, and are described in Section 5.1.

3.4.2 Sensitive Natural Communities

Sensitive natural communities include those that are listed in CNDDB as well as MCV2 alliances or associations with state ranks of S1-S3. Critical habitat for ESA listed species are considered sensitive natural communities. Aquatic resources (e.g. watercourses, ponds, wetlands, vernal pools, etc.) are also considered sensitive communities and are afforded special protections under CEQA and other Federal, State, and local laws, regulations, and ordinances. Sources for assessing sensitive terrestrial or aquatic natural communities include *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), *List of Vegetation Alliances* (CDFW 2020), and *A Manual of California Vegetation* (CNPS 2021b).

<u>Sensitive Natural Communities</u>

CDFW considers any MCV2 alliance or association with a state rank of S1-S3 a sensitive natural community. Global and state rankings are defined below.

Global Ranking:

- G1-Critically Imperiled: At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2-Imperiled: At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3-Vulnerable: At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4-Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5-Secure: Common; widespread and abundant.

State Ranking:

- S1-Critically Imperiled: Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- S2-Imperiled: Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
- S3-Vulnerable: Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.
- S4-Apparently Secure: Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors.
- S5-Secure: Common, widespread, and abundant in the state.

Critical Habitat

Critical habitat is a term defined by the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. Federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species, but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

Aquatic Resources

Watercourses and other waterbodies were classified using guidance from the *California Forest Practice Rules 2020* (FPR). Wetlands are determined using the USFWS National Wetland Inventory (NWI) database and are defined in the *1987 USACE Wetlands Delineation Manual* as "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs, and similar areas. "Wet areas" are areas with observed hydrophytic vegetation and/or other hydrologic indicators that suggest the area is influenced by ponding or flooding for a significant amount of time throughout the growing season. Wet areas are given the same special protections as wetlands for the purposes of this assessment until a wetland delineation is conducted to confirm the presence and extent of wetlands.

3.5 Special-status Species

Special-status plants (native, vascular and non-vascular) and animals assessed are of limited abundance in California, with known occurrence or distribution in Lake County, and were derived from the following lists:

- Federal listed or threatened or endangered plants or species of concern (FT, FE, FSC)
- California State listed or rare, threatened or endangered plants or species of concern (SR, ST, SE, SP, SSC)
- Board of Forestry Sensitive (BFS)
- California Department of Fish and Wildlife (CDFW) Status animals: Fully Protected, Species of Special Concern and Watch List (FP, SSC, WL)
- California Native Plant Society Rare Plant Rank (CRPR) list 1A species (plants presumed extirpated in California, and either rare or extinct elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 1B species (plants rare, threatened or endangered in California and elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2A species (plants presumed extirpated in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2B species (plants rare, threatened, or endangered in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 3 (plants which more information is needed- a review list)
- California Native Plant Society Rare Plant Rank (CRPR) list 4 (plants of limited distribution – a watch list)

Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, is rare, threatened, and/or endangered under the following definitions:

> A species, subspecies, or variety of plant is **"endangered"** when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is **"threatened"** when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is **"rare"** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its habitat continues to deteriorate.

Biological resource assessments are intended to identify the presence or absence of suitable habitat for special-status species and sensitive natural communities within the Study Area.

Rare plant assessments and botanical surveys are conducted to maximize the likelihood of locating rare, threatened, or endangered plants and plant communities that may be present within a Study Area. Survey findings are useful in assessing the potential for significant adverse impacts on botanical resources and critical in mitigating those impacts. If special status plant species are located during a survey, mitigation measures will be recommended to avoid or minimized damage to the species.

Section 4.0: Study Area Setting

4.1 Climate and Hydrology

The project site is located approximately 19.6 miles east of the town of Potter Valley, CA within Section 27, Township 18N, Range 10W, Mount Diablo Base and Meridian, in the Lake Pillsbury USGS 7.5-minute quadrangle at 22698, Upper Lake, California, 95469 APN: 001-019-230 (Appendix D: Map 1, Study Area). The Study Area is located predominantly within the Rice Creek-Rice Fork (HUC-12, 180101030103) watershed The average annual precipitation is 40 to 60 inches, the average annual air temperature is 49 to 55 degrees F, and the average frost-free period is 120 to 180 days.

4.2 Topography and Soils

The Study Area is at approximately 3,100 feet in elevation and is underlain by one (1) soil mapping unit according to the United States Department of Agriculture, Natural Resources Conservation Service's *Web Soil Survey* (Appendix D: Map 6, Soil Map). A description of the soil mapping unit is as follows:

Map Unit Symbol 202, Sanhedrin-Kekawaka-Speaker complex, 30 to 50 percent slopes: The Sanhedrin soil is deep and well drained. It formed in material weathered from sandstone or shale. Permeability of the Sanhedrin soil is moderately slow.Surface runoff is rapid, and the hazard of erosion is severe.

The Kekawaka soil is very deep and well drained. It formed in material weathered from sandstone or shale. Permeability of the Kekawaka soil is moderately slow. Surface runoff is rapid, and the hazard of erosion is severe.

The Speaker soil is moderately deep and well drained. It formed in material weathered from sandstone. Permeability of the Speaker soil is moderately slow. Surface runoff is rapid, and the hazard of erosion is severe. Douglas-fir, ponderosa pine, sugar pine, California black oak, and Pacific madrone are the main tree species on this unit. Among the common forest understory plants are bedstraw, wild rose, manzanita, and annual forbs. The elevation of this series is 2,200 to 4,800 feet.

4.3 Biota and Land Use

This unit is used mainly for timber production, wildlife habitat, and watershed. (USDA Web Soil Survey, 2021).

Section 5 provides a detailed account of the biological communities found on-site, including sensitive and non-sensitive biological communities and additionally the special-status flora and fauna with potential to occur within the Study Area.

Section 5.0: Field Survey Results

5.1 Natural Communities

The Study Area and immediate surroundings were assessed on May 20, 2021, to determine local natural communities present and develop a comprehensive list of all plant and wildlife species observed. Natural communities referred to in this report include Holland 1986 descriptions, USFS CALVEG classifications, and the Manual of California Vegetation (MCV2) alliance descriptions.

Holland Descriptions:

The Study Area is within Cismontane Woodland and Lower Montane Coniferous Forest habitat according to the habitat classification system described by Holland 1986. Descriptions of these habitat types are as follows:

- Cismontane Woodland: Trees deciduous, evergreen, or both, with open canopies. Broadleaved trees, especially oaks, dominate, although conifers may be present in or emergent through the canopy. Understories may be open and herbaceous or closed and shrubby. This type occurs on a variety of sites below the conifer forests in Mediterranean California.
- Lower Montane Coniferous Forest: Open to dense stands of conifers found at lower and middle elevations in the mountains. Broadleaved trees may be present in the understory. Shrubstories may be dense assemblages of chaparral species, especially in seral stands. The upper limit of lower montane coniferous forests more or less coincides with the elevation of maximum annual precipitation.

USFS CALVEG Classifications:

According to USDA Forest Service CALVEG mapping delineation, the regionally dominant vegetation types within the Study Area is comprised of two (2) dominant vegetation types including Mixed Conifer – Pine Alliance (MP) and the Douglas-fir Ponderosa Pine Alliance (DP) (Appendix D: Map 3, CALVEG Classification). Descriptions of these vegetation types are as follows:

Mixed Conifer – Pine Alliance

No single conifer dominates the overstory of this extensively occurring mixed conifer type. It occurs on non- serpentinized or slightly (weathered) serpentinized soils at elevations below about 7,000 feet (2,135 m) in this zone. These stands have been mapped very commonly in twenty subsections of the Mountains Section and less abundantly in four subsections of the Ranges and five in the Coast Sections. Ponderosa Pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*) and White Fir (*Abies concolor*) are prominent in this mixture. Incense Cedar (*Calocedrus decurrens*) and Sugar Pine (*P. lambertiana*) are also found in this type. California Black Oak (*Quercus kelloggii*) and the shrub Greenleaf Manzanita (*Arctostaphylos patula*) typically associate on better sites, while Oregon White Oak (*Q. garryana*), Canyon Live Oak (Q. chrysolepis) and the shrub Whiteleaf Manzanita (*A. viscida*) may occur on harsher sites. Other shrub associates include Poison Oak (*Toxicodendron diversilobum*), Western Redbud (*Cercis occidentalis*), Mountain Whitethorn (*Ceanothus cordulatus*) and California Honeysuckle (*Lonicera hispidula*).

Douglas-fir – Pine Alliance

Douglas-fir (*Psuedotsuga menziesii*) shares canopy dominance with Ponderosa Pine (*Pinus ponderosa*) at elevations below about 6,000 feet (1,830 m) in drier sites of the Mountains and Ranges Sections, and more rarely in the eastern sectors of the Coast Section. The type has been mapped within twenty-nine subsections, having greater spatial frequency towards the east and south sections of the zone. Knobcone Pine (*P. attenuata*) may occasionally be present as a minor component of the conifer overstory. Pacific Madrone (*Arbutus menziesii*), California Black Oak (*Quercus kelloggii*), Canyon Live Oak (*Q. chrysolepis*) and Bigleaf Maple (*Acer macrophyllum*) are often present in the understory, while Tanoak *(Lithocarpus densiflorus var. densiflorus*) is usually absent. This type may grade into the Mixed Conifer - Pine type in the Coast Ranges as site conditions become more mesic or disturbance factors less significant in the landscape. It is less prominent in the moister, outermost Klamath Mountains area where it intermixes with Pacific Douglas-fir forests.

MCV2 Alliances:

Biological communities observed were classified using data collected in the field and the Manual of California Vegetation Online Edition (MCV2 Alliances, CNPS 2021b). One (1) MCV2 Alliance was observed within the Study Area: *Pinus ponderosa - Pseudotsuga menziesii* Forest & Woodland Alliance: Ponderosa pine - Douglas fir forest and woodland.

Please refer to Appendix C (Photographs: 1-8) for photographs of the MCV2 Alliance community. Detailed descriptions of this community are as follows:

Pinus ponderosa - Pseudotsuga menziesii Forest & Woodland Alliance
Ponderosa pine - Douglas fir forest and woodland:

- *Pinus ponderosa* and *Pseudotsuga menziesii* are co-dominant in the tree canopy with *Abies concolor*, *Arbutus menziesii*, *Calocedrus decurrens*, *Pinus jeffreyi*, *Pinus lambertiana*, *Quercus chrysolepis, Quercus garryana* and *Quercus kelloggii*.
- Trees < 75 m; canopy is continuous or intermittent. Shrub layer is sparse or intermittent. Herbaceous layer is sparse.
- Membership rules:
    - *Pseudotsuga menziesii and Pinus ponderosa* both > 30% relative cover in the canopy (Bingham 1999).
- Habitats: Raised stream benches, terraces, slopes, and ridges of all aspects. Soils are deep and well drained. The USFWS Wetland Inventory (1996 national list) recognizes *Pinus ponderosa* and *Pseudotsuga menziesii* as FACU plants.
- Global Rarity Rank: G4
- State Rarity Rank: S4

5.1.1 Non-sensitive Natural Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other Federal, State, and local laws, regulations, and ordinances. The Study Area is comprised of one (1) non-sensitive biological community, as classified under the MCV2 system:

Pinus ponderosa - Pseudotsuga menziesii Forest & Woodland Alliance: Ponderosa pine - Douglas fir forest and woodland: This community is present within the entirety of the Study Area besides areas of disturbed habitat. State Rarity Rank: S4, Global Rarity Rank: G4.

A description of this communities is listed above in section 5.1, Biological Communities, and include the Manual of California Vegetation (MCV2) alliance descriptions.

5.1.2 Sensitive Natural Communities

Sensitive biological communities include those that are listed in CNDDB as well as observed MCV2 alliances or associations with state ranks of S1-S3 and are listed on CDFW's *List of California Sensitive Natural Communities* (CDFW 2021). There are no sensitive terrestrial communities present within the Study Area.

Aquatic resources, communities and habitats (e.g. watercourses, ponds, wetlands, vernal pools, etc.) are considered sensitive biological communities and are afforded special protections under CEQA and other Federal, State, and local laws, regulations, and ordinances. The Study Area is adjacent to two (2) Class III watercourses.

The Study Area is approximately 750 feet away from the closest mapped wetland to according to the USFWS National Wetland Inventory (Appendix D: Map 7, NWI mapped wetlands).

The wetland is classified as a Riverine System which includes all wetland and deepwater habitats contained within a channel. Riverine Systems are considered watercourses for the purposes of this assessment and are afforded special protections under CEQA, Federal, State, and local laws, regulations, and ordinances as such.

100-Year Flood Zone: The Study Area is located approximately 1.87 miles away from the 100-year flood zone according to the FEMA National Flood Hazard Layer (NFHL) (Appendix D: Map 8, NFHL 100-Year Flood Zone).

Recommendations to avoid or mitigate potential impacts to aquatic resources are discussed in Section 6.0, Assessment Summary and Recommendations.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Upon review of the resource databases listed in Section 3.2, fifty (50) special-status plant species have been documented within the nine-quad scoping of the Study Area. Please refer to Appendix A for a table of all special-status plant species which occur within a nine-quad search surrounding the Study Area as well as discussion of the potential for each species to occur within the Study Area. Special-status species documented within five miles of the Study Area are depicted in the CNDDB Vicinity map (Appendix D: Map 3, CNDDB Vicinity).

Of the fifty (50) special-status plant species within the vicinity of the Study Area, six (6) special-status plant species have a moderate to high potential to occur within the Study Area. The remaining forty-four (44) special-status plant species documented within the vicinity of the Study Area are unlikely to occur or do not have the potential to occur due to one or more of the following reasons:

- Hydrologic conditions (e.g., vernal pools, riverine) necessary to support the special-status plant species are not present within the Study Area.
- Edaphic conditions (soils, e.g., rocky outcrops, serpentinite) necessary to support the special-status plant species are not present within the Study Area.
- Topographic conditions (e.g., montane) necessary to support the special-status plant species are not present within the Study Area.
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present within the Study Area.
- Associated vegetation communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not present within the Study Area.
- The Study Area is geographically isolated (e.g., outside of required elevations, coastal environment) from the documented range of the special-status plant species.

- Ecological conditions (last recorded observations, human-made or natural disturbance) have encroached on species to a point to cause presumed extinction.

The habitat requirements for the six (6) special-status plant species with moderate or high potential to occur within the Study Area is described in the table below:

SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Plants			
Brewer's milk-vetch *Astragalus breweri*	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Often in grassy flats, meadows moist in spring, and open slopes in chaparral. Commonly on or near volcanic or serpentine soils (Ultramafic affinity: (3.2, strong indicator). Elevation ranges from 296 to 2395 feet (90 to 730 meters). An annual herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Rattan's milk-vetch *Astragalus rattanii var. rattanii*	Chaparral, cismontane woodland, lower montane coniferous forest, often found on open grassy hillsides, gravelly flats in the valleys and gravel bars of stream beds. Elevation ranges from 99 to 2707 feet (30 to 825 meters). A perennial herb, the blooming period is from Apr-Jul.	**Moderate Potential.** Habitat contains cismontane woodlands and gravelly flats that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
small-flowered calycadenia *Calycadenia micrantha*	Chaparral, valley and foothill grassland, meadows and seeps. Rocky talus or scree; sparsely vegetated areas, occasionally on roadsides, sometimes serpentine. Elevation ranges from 1427 to 4610 feet (435 to 1405 meters). An annual herb, the blooming period is from Jun-Sep.	**Moderate Potential.** The Study Area is within chapparal habitat and contains some rocky, sparsely vegetated areas that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Mendocino tarplant *Hemizonia congesta ssp. calyculata*	Cismontane woodland, valley and foothill grassland, open woods and forests, sometimes on serpentine (1.5, weak indicator). Elevation ranges from 738 to 4593 feet (225 to 1400 meters). An annual herb, the blooming period is from Jul-Nov.	**Moderate Potential.** The Study Area is within cismontane woodland and open woods habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
bristly leptosiphon *Leptosiphon acicularis*	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 181 to 4922 feet (55 to 1500 meters). An annual herb, the blooming period is from Apr-Jul.	**Moderate Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
broad-lobed leptosiphon *Leptosiphon latisectus*	Broadleaved upland forest, cismontane woodland. Elevation ranges from 558 to 4922 feet (170 to 1500 meters). An annual herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

No special-status plant species were observed within the Study Area during the biological site visit. The initial site visit was conducted outside of the blooming period for some special-status plants within the nine-quad scoping area and does not constitute a full and seasonally appropriate botanical assessment.

5.2.2 Special-status Animal Species

A total of thirty-six (36) special-status wildlife species have been documented within the vicinity of the Study Area. Please refer to Appendix A for a table of all special-status wildlife species which occur within the vicinity of the Study Area and discussion of the potential for each species to occur within the Study Area. Special-status species documented within five miles of the Study Area are depicted in the CNDDB Vicinity map (Appendix D: Map 5, CNDDB Vicinity).

There is a Northern Spotted Owl (NSO) Activity Center (AC), LAK0033, approximately 2,360 feet from the Study Area (Appendix D: Map 9, NSO Activity Center). The last positive observation at this AC was in 2000.

Of the thirty-six (36) special-status wildlife species within the vicinity of the Study Area, ten (10) special-status wildlife species recorded have a moderate to high potential to occur within the Study Area. The remaining twenty-seven (27) special-status wildlife species documented within the vicinity of the Study Area are unlikely to occur or do not have the potential to occur due to one or more of the following reasons:

- Aquatic Habitats (e.g., streams, rivers, vernal pools) necessary to support special-status wildlife species are not present within the Study Area.
- Vegetation Habitats (e.g., forested area, riparian, grassland) that provide nesting and/or foraging resources necessary to support special-status wildlife species are not present within the Study Area.
- Physical Structures and Vegetation (e.g., caves, old-growth trees) that provide nesting, cover, and/or foraging habitat necessary to support special-status wildlife species are not present within the Study Area.
- Host Plants (e.g., *Cirsium sp.*) that provide larval and nectar resources necessary to support special-status wildlife species are not present within the Study Area.

- Historic and Contemporary Disturbance (e.g., cattle grazing, agriculture) deter the presence of the special-status wildlife species from occupying the Study Area.
- The Study Area is outside the documented nesting range of special-status wildlife species.

The habitat requirements for the ten (10) special-status wildlife species with moderate or high potential to occur within the Study Area are described in the table below.

SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Amphibians			
foothill yellow-legged frog *Rana boylii*	*R. boylii* occupy a diverse range of ephemeral and permanent streams, rivers, and adjacent moist terrestrial habitats. Occupied streams are often partly shaded, low gradient, and dominated by coarse, unconsolidated rocky substrates. Adults breed and tadpoles develop in slow water velocity habitats. Dispersing juvenile and adult frogs will seek refuge in Class II streams pre-and-post breeding.	**Moderate Potential.** Habitat within the Study Area is ranked as low (0.33) in suitability for this species according to the CWHR Predicted Habitat Suitability Map. There are 2 Class III watercourses present within the Study Area that may be suitable for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.
Avifauna			
Northern goshawk *Accipiter gentilis*	*A. gentilis* are often found in dense, mature and oldgrowth stands of conifer and deciduous habitats. Younger seral stands that include larger residual or defective trees are also used. Nest often on cooler (northerly or easterly) moderate slopes in dense vegetation or within riparian zones, but close to openings. Nest sites are often located next to water, which may provide a break in canopy for easy access to the nest stand or may influence microclimate or prey distribution.	**Moderate Potential.** Habitat within the Study Area is ranked as High (0.77) suitability for this species according to the CWHR Predicted Habitat Suitability Map. The Study Area does not contain dense, mature or old-growth stands of conifers suitable for this species. The Study Area and immediate vicinity is made up predominantly of mixed conifer and oak woodland, which is marginal habitat for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.
sharp-shinned hawk *Accipiter striatus*	*A. striatus* are found in cismontane woodland, lower montane coniferous forest, riparian forest/woodland and typical species include ponderosa pine (*P. ponderosa*), California black oak (*Q. kelloggii*), and Jeffrey pine (*P. jeffreyi*). Riparian habitats are preferred and north-facing slopes with plucking perches are critical for this species. Nests are typically within 275 ft. from the nearest waterbody.	**High Potential.** Habitat within the Study Area is ranked as High (0.77) suitability for this species according to the CWHR Predicted Habitat Suitability Map. The Study Area encompasses many of that habitat features this species requires.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.

SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
American peregrine falcon *Falco peregrinus anatum*	*F. peregrinus anatum* are year-long residents in Mendocino County. Peregrine falcons require protected cliffs and ledges for cover, and often breed near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes or mounds; however, they will nest on human-made structures and will occasionally use snag cavities or old nests of other raptors. Nests are a scrape on a depression or ledge in an open site. Peregrines feed almost exclusively on other birds, usually songbirds, pigeons, shorebirds and waterfowl, which they kill in midair. The Peregrine falcon has re-occupied most of its historical breeding range in California, including the Coast and Cascade Ranges. They inhabit all counties in the state at various times of the year.	**Moderate Potential:** Habitat within the Study Area is ranked High (0.89) in suitability according to the CWHR Predicted Habitat Suitability Map. Although there is marginal nesting habitat, human-made structures and abundant prey may make suitable habitat for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.
purple martin *Progne subis*	*P. subis* often inhabit tall old-growth trees or snags in coniferous forests with multilayered canopy and are second-cavity nesters using old woodpecker cavities, crevices in rocks, trees and cactus. Typically, *P. subis* forage in open areas near water, and their diet consists primarily of invertebrates (dragonflies, beetles, flies etc.).	**Moderate Potential.** Habitat within the Study Area is unranked (0) to High (0.77) in suitability according to the CWHR Predicted Habitat Suitability Map. There is marginal habitat in the northern edge of the Study Area that may be suitable for nesting. Much of the Study Area's open habitat may be suitable for foraging.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.
Northern spotted owl *Strix occidentalis caurina*	*S. occidentalis caurina* are year-round residents in dense, structurally complex forests, primarily with old-growth conifers. Nests on snags and within tree cavities, and often is associated with existing structures (old raptor nests, squirrel nests and *A. pomo* nests).	**Moderate Potential.** Habitat within the Study Area is unranked (0) in suitability, according to the CWHR Predicted Habitat Suitability Map. The Study Area and immediate vicinity does not contain any dense, structurally complex forests with old-growth conifers. The Study Area is within a mile of Critical Habitat and an Activity Center as seen in Appendix D: Map 9.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.

SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Mammals			
Western red bat *Lasiurus blossevillii*	*L. blossevillii* roosts primarily in trees, often 2-40ft above the ground from sea level through mixed conifer forests. Typical habitats include cismontane woodland, lower montane coniferous forest, riparian forests and woodlands. This species prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Moderate Potential.** Habitat within the Study Area is ranked as Medium (0.55) in suitability by the CWHR Habitat Suitability Map. The Study Area is edge habitat of mixed conifer and oak forest with open areas on the southern portion, which may be suitable for foraging.	**Not Observed.** This species was not observed during the biological assessment See section 6.0 for recommendations.
hoary bat *Lasirius cinereus*	*L. cinereus* are yearlong residents of Mendocino County. This bat is one of the few bats known to both migrate south for winter and to hibernate locally. *L. cinereus* prefers a diet of moths, yet will also consume beetles, wasps, flies, grasshoppers, dragonflies, and termites. *L. cinereus* roosts are typically dense foliage of medium to large sized trees. This bat occupies a variety of habitats including dense forest, forest edges, coniferous forests, deserts, and broadleaf forests.	**Moderate Potential.** Habitat within the Study Area is ranked Medium (0.55) to High (1) in suitability according to the CWHR Habitat Suitability Map. There is mined conifer, oak woodland and forest edge habitat present within the Study Area that may be suitable for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations
Humboldt marten *Martes caurina humboldtensis*	*M. caurina humboldtensis* favors old-growth, conifer-dominated forests with dense shrub cover in large, contiguous patches. This species occurs only in the coastal redwood zone from the Oregon border south to Sonoma County, CA. This species uses hollow trees and fallen logs for resting and protection.	**Moderate Potential.** Existing habitat surrounded the Study Area may be suitable habitat for this species. According to CNDDB, a border around Lake Pillsbury that begins a mile away from the Study Area exists that labels the area as "presumably extant". Last records of the species were from 1946-1948 estimating between 115-130 individuals.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations
fisher [West Coast DPS] *Pekania pennanti*	Primarily solitary, except during breeding season (February - April), *P. pennanti* inhabit forest stands with late-successional characteristics including intermediate-to-large tree stages of coniferous forest and deciduous-riparian areas with high percent canopy closure. Den site and prey availability are often associated with these characteristics. *P. pennanti* use cavities, snags, logs and rocky areas for cover and denning and require large areas of mature, dense forest.	**Moderate Potential.** Habitat within the Study Area is ranked Low to High (0.33 – 0.89) in suitability according to the CWHR Predicted Habitat Suitability Map. Although a majority of the Study Area is open, the north edge of the Study Area and surrounding habitat contains potentially suitable continuous coniferous forest habitat for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations

No special status animal species were observed within the Study Area during the biological site assessment. Recommendations for special-status wildlife species are discussed in section 6.2.2.

Section 6.0: Assessment Summary and Recommendations

6.1 Natural Communities

The Study Area and immediate surroundings were assessed during site visits on May 20, 2021 and July 9, 2021 to determine local natural communities present. Natural communities observed were classified using data collected in the field and the Manual of California Vegetation Online Edition (MCV2 Alliances, CNPS 2021b). The Study Area is comprised of one (1) non-sensitive biological community, with no sensitive terrestrial or aquatic communities present.

Non-Sensitive Communities:

Under the MCV2 alliance classification system, site visits on May 20, 2021 and July 9, 2021 determined that non-sensitive communities within the Study Area are best classified as *Pinus ponderosa - Pseudotsuga menziesii* Forest & Woodland Alliance: Ponderosa pine - Douglas fir forest and woodland. Detailed descriptions of these biological communities are discussed in section 5.1. There are no recommendations for non-sensitive communities.

Sensitive Communities:

Sensitive biological communities include those that are listed in CNDDB as well as observed MCV2 alliances or associations with state rarity ranks of S1-S3 and are listed on CDFW's *List of California Sensitive Natural Communities* (CDFW 2021). No sensitive communities, as classified under the MCV2 classification system, are present within the Study Area.

The Study Area is approximately 750 feet away from the closest mapped wetland to according to the USFWS National Wetland Inventory (Appendix D: Map 6, NWI mapped wetlands). The wetland is classified as a Riverine System which includes all wetland and deepwater habitats contained within a channel. Riverine Systems are considered watercourses for the purposes of this assessment and are afforded special protections under CEQA, Federal, State, and local laws, regulations, and ordinances as such. Other

6.2 Special-status Species

Six (6) special-status plant species and ten (10) wildlife species have a moderate or high potential to occur within the Study Area based on habitat present. Please refer to the tables in section 5.2, Special-Status Species, for a complete list, state rarity ranks, and habitat descriptions of species with moderate or high potential to occur within the Study Area.

No special status plant or wildlife species were observed within the Study Area during the biological site assessment. Recommendations for special-status species is discussed below.

6.2.1 Special-status Plant Species

Six (6) special-status plant species have a moderate or high potential to occur within the Study Area. These species include the Brewer's milk-vetch (*Astragalus breweri*), Rattan's milk-vetch (*Astragalus rattanii var. rattanii*), small-flowered calycadenia (*Calycadenia micrantha*), Mendocino tarplant (*Hemizonia congesta ssp. calyculata*), bristly leptosiphon (*Leptosiphon acicularis*), and the broad-lobed leptosiphon (*Leptosiphon latisectus*).

Botanical site visits were conducted on May 20, 2021, and July 9, 2021 during the blooming periods for all species of special concern species. An additional biological/botanical visit was conducted on March 16, 2020 by Pinecrest Environmental Consulting, thus fulfilling all blooming period requirements. Their final report can be found in Appendix E: Supporting Documents.

There are no recommendations for plant species on this site. No special-status plant species were observed during the biological site assessment.

6.2.2 Special-status Wildlife Species

Ten (10) special-status wildlife species have a moderate or high potential to occur within the Study Area. These species include the foothill yellow-legged frog (*Rana boylii*), Northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*Accipiter striatus*), American peregrine falcon (*Falco peregrinus anatum*), purple martin (*Progne subis*), Northern spotted owl, (*Strix occidentalis caurina*), Western red bat (*Lasiurus blossevillii*), hoary bat (*Lasirius cinereus*), Humboldt marten (Martes *caurina, humboldtensis*), and the fisher [West Coast DPS] (*Pekania pennanti*).

Recommendations to protect special-status wildlife and species with moderate or high potential to occur within the Study Area are discussed below.

<u>Amphibians</u>

One (1) special-status amphibian species has moderate or high potential to occur within the Study Area. This species is the foothill yellow-legged frog (*Rana boylii)*. Development within the Study Area has the potential to impact special-status amphibian species. The two Class III watercourses within the northern portion of the Study Area could provide suitable habitat for this species. Please refer to Appendix B for additional information on these species, their habitat characteristics, and their likelihood to occur within the Study Area.

Recommendations for special-status amphibian species are listed below:

- It is recommended that all earthwork within or adjacent to any watercourse or wet area adhere to standard Best Management Practices (BMPs) and methods of erosion and sediment control.
- It is recommended that a qualified biologist be on site for any groundbreaking activities or dewatering event within or adjacent to a watercourse or wet area to address the potential for the presence of special-status amphibian species.

- It is recommended that any work within a watercourse with the potential to impact special-status amphibian species be conducted in compliance with a CDFW Lake and Streambed Alteration Agreement.
- It is recommended that any future expansions or development associated with the project be located outside of the SWRCB setbacks.

No special-status amphibian species were observed within the Study Area during the biological site assessment. No American bullfrogs (*Lithobates catesbeianus)* were observed within the Study Area during the biological site assessment.

Avifauna

Five (5) special-status avian species have moderate or high potential to occur within the Study Area including the northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*Accipiter striatus*), American peregrine falcon (*Falco peregrinus anatum*), purple martin (*Progne subis*) and the Northern spotted owl (*Strix occidentalis caurina*). Future development within the Study Area is unlikely to impact special-status avian species. Suitable habitat for these species is not present within in the Study Area. Please refer to Appendix B for additional information on these species, their habitat characteristics and their likelihood to occur within the Study Area.

Most non-game bird species in California are protected under the Migratory Bird Treaty Act (MBTA) and CDFW FGC which prohibits the deliberate destruction of active nests belonging to protected species. Groundbreaking activities, specifically vegetation removal, and mechanical noise within the Study Area during avian breeding periods could significantly impact nesting bird species. It is recommended that any development activities which occur between March 1st and August 31st of any year require a nesting bird survey prior to the commencement of any groundbreaking activities.

There is a northern spotted owl (NSO) Activity Center (AC), LAK0033, approximately 2,360 feet from the Study Area (Appendix D: Map 9, NSO Activity Center). The last positive observation at this AC was in 1995.

Recommendations for special-status avian species and migratory bird species are listed below:

- It is recommended that noise and light pollution be avoided or reduced within 0.25 miles of known NSO Activity Centers.
- It is recommended that any active bird nest not be removed, relocated, or otherwise disturbed for any purpose until all fledglings have left the nest.
- It is recommended that nesting bird surveys be conducted by a qualified biologist prior to the commencement of any major activity that results in the removal of vegetation during nesting bird season. Nesting bird season is between March 1st and August 31st of any year.

No avian special-status species were observed within the Study Area during the biological assessment.

Fish

Future development within the Study Area does not have the potential to impact special-status fish species. The Study Area does not contain any special-status fish species or fish bearing watercourses or waterbodies. All existing and future cannabis cultivation on the parcel will be located outside of the State Water Resources Control Board's (SWRCB) setbacks to protect aquatic resources. There are no watercourses of any kind present within the Study Area.

No special-status fish were observed during the biological site assessment.

Insects

Future development within the Study Area is unlikely to impact special-status insect species, for which there is not suitable habitat present within the Study Area. If a special-status insect nests are observed, it is recommended that active nests not be removed, relocated, or otherwise disturbed until the nest becomes inactive.

No special-status insects or nests were observed within the Study Area during the biological site assessment.

Mammals

Four (4) special-status mammal species have moderate or high potential to occur within the Study Area. Future development within the Study Area has the potential to affect special-status mammal species, including the Western red bat (*Lasiurus blossevillii*), the hoary bat (*Lasirius cinereus*), Humboldt marten (*Martes caurina humboldtensis*), fisher [West Coast DPS] (*Pekania pennanti*).

Recommendations for special-status mammal species are listed below:

- If evidence of bat roosts are observed (i.e. bat guano, ammonia odor, grease stained cavities) around trees or structures, it is recommended that pre-construction bat surveys be conducted by a qualified biologist for activities that may affect bat roosting habitat.
- If evidence of special-status mammal borrows or denning activity is observed it is recommended that pre-construction surveys be conducted by a qualified biologist for activities that may affect den sites.

No special-status mammals were observed during the biological site assessment. No evidence of special-status mammal species was observed during the biological site visits.

Reptiles

Future development within the Study Area does not have the potential to impact special-status reptile species. The Study Area is atop a ridge, and along dry slopes, and there are no watercourses or other aquatic communities within the Study Area or immediate vicinity that could provide suitable habitat for western pond turtle (*Emys* marmorata).
No special-status reptiles were observed during the biological site assessment.

6.3 Wildlife Corridors

No change to foraging or wintering habitat for migratory birds is expected as a result of the existing cultivation or proposed expansions. Additionally, no significant impacts to migratory corridors for amphibian, aquatic, avian, mammalian, or reptilian species is expected as a result of the existing cannabis cultivation or proposed expansions.

6.4 Critical Habitat

The Study Area is within approximately 513 feet from northern spotted owl (*Strix occidentalis caurina*) critical habitat (Appendix D: Map 9: NSO Activity Center. Appendix E: USFWS IPAC Official Species List).

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Sincerely,

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Appendix A: Table of Potential for Special-Status Plants and Wildlife within the Study Area

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Amphibians				
foothill yellow-legged frog *Rana boylii*	BLM: S CDFW: SSC IUCN: NT USFS: S	*R. boylii* occupy a diverse range of ephemeral and permanent streams, rivers, and adjacent moist terrestrial habitats. Occupied streams are often partly shaded, low gradient, and dominated by coarse, unconsolidated rocky substrates. Adults breed and tadpoles develop in slow water velocity habitats. Dispersing juvenile and adult frogs will seek refuge in Class II streams pre-and-post breeding.	**Moderate Potential.** Habitat within the Study Area is ranked as low (0.33) in suitability for this species according to the CWHR Predicted Habitat Suitability Map. There are 2 Class III watercourses present within the Study Area that may be suitable for this species.	**Not Present.** There are no recommendations for this species.
California red-legged frog *Rana draytonii*	FT CDFW: SSC IUCN: VU	California red-legged frogs (CRLF) primarily inhabit permanent or nearly permanent water sources (quiet streams, marshes, and ponds) containing shorelines with extensive vegetation. Breeding tends to occur primarily in ponds, less likely in streams, and happens from November to April. This ranid frog will also use upland habitats outside of the breeding season and may be discovered under logs, rocks, and other debris during wet conditions.	**No Potential.** The Study Area lies outside the range for this species.	**Not Present.** There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Avifauna				
Northern goshawk *Accipiter gentilis*	BLM: S CDF: S CDFW: SSC IUCN: LC USFS: S	*A. gentilis* are often found in dense, mature and oldgrowth stands of conifer and deciduous habitats. Younger seral stands that include larger residual or defective trees are also used. Nest often on cooler (northerly or easterly) moderate slopes in dense vegetation or within riparian zones, but close to openings. Nest sites are often located next to water, which may provide a break in canopy for easy access to the nest stand or may influence microclimate or prey distribution.	**Moderate Potential.** Habitat within the Study Area is ranked as High (0.77) suitability for this species according to the CWHR Predicted Habitat Suitability Map. The Study Area does not contain dense, mature or old-growth stands of conifers suitable for this species. The Study Area and immediate vicinity is made up predominantly of mixed conifer and oak woodland, which is marginal habitat for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.
sharp-shinned hawk	CDFW: WL IUCN: LC	*A. striatus* are found in cismontane woodland, lower montane coniferous forest, riparian forest/woodland and typical species include ponderosa pine (*P. ponderosa*), California black oak (*Q. kelloggii*), and Jeffrey pine (*P. jeffreyi*). Riparian habitats are preferred and north-facing slopes with plucking perches are critical for this species. Nests are typically within 275 ft. from the nearest waterbody.	**High Potential.** Habitat within the Study Area is ranked as High (0.77) suitability for this species according to the CWHR Predicted Habitat Suitability Map. The Study Area encompasses many of those habitat features this species requires.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
tricolored blackbird *Agelaius tricolor*	SCE BLM: S CDFW: SSC IUCN: EN NABCI: RWL USFWS: BCC	Breeding and foraging occur in a variety of habitats including salt marshes, moist grasslands, freshwater marshes, bay-shore habitats, riparian forests and oak savannahs. *A. tricolor* use dense riparian vegetation such as Himalayan blackberry (*Rubus armeniacus*) for nesting and forage in cultivated fields, wetlands, and feedlots associated with dairy farms.	**Low Potential.** Habitat within the Study Area is unranked (0) in suitability for this species according to the CWHR Predicted Habitat Suitability Map. The Study Area is There are no riparian areas present within the Study Area or immediate vicinity.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.
great egret *Ardea alba*	CDF: S IUCN: LC	This species requires groves of trees suitable for nesting and roosting, relatively isolated from human activities, near aquatic foraging areas. Prey on small fish, aquatic insects, crabs, frogs, etc. Prefer to forage in shallow, relatively still waters of estuaries, lakes, slow moving watercourses, salt ponds, or mud flats. Colonial nesters that build groups of platform nests in large trees or snags, usually near a feeding area. Great egrets are highly dependent upon wetland habitats and riparian areas. The great egret requires forested areas for nesting and roosting and aquatic habitat for foraging. Night roosting and nesting occurs in trees; day roosting occurs in feeding habitat. Typical feeding habitats include fresh and saline emergent wetlands, the edges of estuaries, lakes and slow-moving rivers, mudflats and salt ponds and irrigated croplands and pastures. The method of hunting is similar to the great blue heron--standing motionless or stalking slowing then rapidly striking their prey is customary.	**No Potential.** The Study Area does not within the range of this species.	**Not Present.** There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
great blue heron *Ardea herodias*	CDF: S IUCN: LC	*A. herodias* are commonly found in shallow estuaries and fresh and saline emergent wetlands. Foraging areas include river and creek banks, ponds, lakes, and watercourses in mountainous areas. Diet consists primarily of aquatic invertebrates, frogs, snakes and fish. This species often nests in colonies within a rookery tree.	**Low Potential.** Habitat within the Study Area is unranked (0) to Low (0.22) in suitability according to the CWHR Predicted Habitat Suitability Map. There are no wetland, riparian or other aquatic habitat areas required of this species within the Study Area.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.
Bell's sage sparrow *Artemisiospiza belli belli*	CDFW: WL USFWS: BCC	*A. belli belli* inhabit coastal sagebrush, chaparral often dominated by chamise and/or California sagebrush, and other open, scrubby habitats. In chaparral *A. belli belli* tend toward younger, less dense stands, becoming less common in older, taller stands. Nest sites are often found within shrubs, bunchgrasses, and occasionally on the ground under shrubs including California sagebrush, brittlebush, white sage, black sage, California buckwheat, bush mallow, chamise, cholla, and willow.	**No Potential.** The Study Area lies outside this species' range.	**Not Present**. There are no further recommendations for this species.
American peregrine falcon *Falco peregrinus anatum*	CDF: S CDFW: FP USFWS: BCC	*F. peregrinus anatum* are year-long residents in Mendocino County. Peregrine falcons require protected cliffs and ledges for cover, and often breed near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes or mounds; however, they will nest on human-made structures and will occasionally use snag cavities or old nests of other raptors. Nests are a scrape on a depression or ledge in an open site. Peregrines feed almost exclusively on other birds, usually songbirds, pigeons, shorebirds and waterfowl, which they kill in midair. The Peregrine falcon has re-occupied most of its historical breeding range in California, including the Coast and Cascade Ranges. They inhabit all counties in the state at various times of the year.	**Moderate Potential:** Habitat within the Study Area is ranked High (0.89) in suitability according to the CWHR Predicted Habitat Suitability Map. Although there is marginal nesting habitat, human-made structures and abundant prey may make suitable habitat for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
bald eagle *Haliaeetus leucocephalus*	BLM: S CDF: S CDFW: FP IUCN: LC USFS: S USFWS: BCC	Bald eagles require large bodies of water or free-flowing rivers with abundant fish and adjacent snags, cliffs, or perches. Perches are often high in large-limbed trees on snags, broken-topped trees, or on rocks near water. Nests are found in large, old-growth, or dominant live trees with open branches. Nest stands frequently have less than 40% canopy, with some foliage shading the nest, and are within a mile of a permanent water source. In the winter, they roost communally in dense, sheltered, remote conifer stands often within 10 to 12 miles from feeding areas. Although bald eagle populations are recovering in the western U.S., nesting bald eagles are still very rare in this region. Bald eagles are tolerant of human activity when feeding, and may congregate around fish processing plants, dumps, and below dams where fish concentrate. In winter, bald eagles can also be seen in dry, open uplands if there is access to open water for fishing.	**Low Potential.** Habitat within the Study Area is ranked ranges widely from Low to High (0.33 – 0.77) in suitability for this species, according to the CWHR Predicted Habitat Suitability Map. There are no large bodies of water or free-flowing rivers within the Study Area or immediate vicinity that would be found in suitable habitat for this species.	**Not Observed.** This species was not observed during the biological assessment. There are no recommendations for this species.
yellow-breasted chat *Icteria virens*	CDFW: SSC IUCN: LC	*I. virens* inhabit riparian thickets of willow and other brushy tangles near watercourses. Required habitat for this species is riparian forest, woodland, or scrub. Nests in low, dense riparian habitat often consisting of willow, blackberry, and wild grape within 10ft. of the ground. *I. virens* is a frugivore and insectivore, eating mostly insects gleaned from foliage.	**Low Potential.** Habitat within the Study Area is unranked (0) in suitability for this species according to the CWHR Predicted Habitat Suitability Map. There is no flora species associated with riparian areas within the Study Area.	**Not Observed.** This species was not observed during the biological assessment. There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
osprey *Pandion haliaetus*	CDF: S CDFW: WL IUCN: LC	*P. haliaetus* are strictly associated with large, fish-bearing waters, primarily in ponderosa pine and mixed conifer stands. Foraging habitat consists of open, clear waters, rivers, lakes, reservoirs, estuaries, lagoons, swamps, marshes, and bays. Diet consists almost exclusively live fish. Large trees, snags, and blown-out treetops are used for cover and nesting. Nests are located on or near the tops of trees, snags, cliffs, or human-made structures.	**Low Potential.** Habitat within the Study Area is ranked High (0.88) suitability for this species according to the CWHR Predicted Habitat Suitability Map. There are no large, fish-bearing waters within the Study Area or immediate vicinity.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.
purple martin *Progne subis*	CDFW: SSC IUCN: LC	*P. subis* often inhabit tall old-growth trees or snags in coniferous forests with multilayered canopy and are second-cavity nesters using old woodpecker cavities, crevices in rocks, trees and cactus. Typically, *P. subis* forage in open areas near water, and their diet consists primarily of invertebrates (dragonflies, beetles, flies etc.).	**Moderate Potential.** Habitat within the Study Area is unranked (0) to High (0.77) in suitability according to the CWHR Predicted Habitat Suitability Map. There is marginal habitat in the northern edge of the Study Area that may be suitable for nesting. Much of the Study Area's open habitat may be suitable for foraging.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations.
yellow warbler *Setophaga petechia*	CDFW: SSC USFWS: BCC	*S. petechia* often inhabits riparian deciduous habitats of willows, alders, cottonwoods, and sometimes brushy mixed conifer habitats. Diet consists mostly of invertebrates, including midges, caterpillars, beetles, leafhoppers and wasps. *S. petechia* has strong associations with water and riparian habitat.	**Low Potential.** Habitat within the Study Area is unranked to Moderate (0-0.66) in suitability for this species according to the CWHR Predicted Habitat Suitability Map. There are no riparian habitats located within the Study Area that this species would inhabit.	**Not Observed.** This species was not observed during the biological assessment. There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
northern spotted owl *Strix occidentalis caurina*	FT, ST CDF: S CDFW: SSC IUCN: NT NABCI: YWL	*S. occidentalis caurina* are year-round residents in dense, structurally complex forests, primarily with old-growth conifers. Nests on snags and within tree cavities, and often is associated with existing structures (old raptor nests, squirrel nests and *A. pomo* nests).	**Moderate Potential.** Habitat within the Study Area is unranked (0) in suitability, according to the CWHR Predicted Habitat Suitability Map. The Study Area and immediate vicinity does not contain any dense, structurally complex forests with old-growth conifers. The Study Area is within a mile of Critical Habitat and an Activity Center as seen in Appendix D: Map 9.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.
Fish				
Pacific lamprey *Entosphenus tridentatus*	AFS: VU BLM: S CDFW: SSC USFS: S	*E. tridentatus* are anadromous, but also with a number of permanent freshwater resident populations. This species is parasitic as adults, feeding on blood and body fluids of its prey. To breed, *E. tridentatus* migrate into fresh water and dig nests. Adults die post-breeding. Larvae/juveniles live 5-6 years in freshwater before returning to the ocean.	**Not Potential.** The Study Area does not contain fish bearing water bodies suitable for this species.	**Not Present**. There are no recommendations for this species.
Russian River tule perch *Hysterocarpus traskii pomo*	AFS: VU CDFW: SSC	*H. traskii pomo* inhabits clear, flowing streams and rivers, and occupy deep pools that have complex cover in the form of aquatic and overhanging vegetation. This species is endemic to the Russian River and the lower parts of its tributaries. They feed on invertebrates, plants, and zooplankton. Mating occurs in July-Sept. In May-June the female bears 10-60 live fish.	**No Potential.** The Study Area does not contain fish bearing water bodies suitable for this species.	**Not Present.** There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Coho salmon – southern Oregon/northern California ESU *Oncorhynchus kisutch pop. 2*	FT ST AFS: TH	*O. kisutch* are anadromous, migrating and spawning in streams that flow directly into the ocean or tributaries of larger rivers. Migration peaks around mid-May till mid-June. Coho lay egg masses (redds), often located between a pool and a riffle. *O. kisutch* juveniles' diet consists primarily of insects. Upon reaching the sea, young feed primarily on planktonic crustaceans, and as they age *O. kisutch* will migrate farther into the sea and hunt larger organisms such as jellyfish, squid, and fishes.	**No Potential.** The Study Area does not contain fish bearing water bodies suitable for this species.	**Not Present.** There are no recommendations for this species.
steelhead – northern California DPS *Oncorhynchus mykiss irideus pop. 16*	FT AFS: TH	*O. mykiss irideus* are anadromous coastal rainbow trout. As adults, this species requires high flows, with depths of at least 18cm for passage. Clean well-aerated gravel beds, typically in steep, rocky reaches of upper tributaries are needed for spawning. The central California coast DPS are found from the Russian River south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins. This DPS does not include summer-run steelhead.	**No Potential.** The Study Area does not contain fish bearing water bodies suitable for this species.	**Not Present.** There are no recommendations for this species.
chinook salmon – California coastal ESU *Oncorhynchus tshawytscha pop. 17*	FT AFS: TH	The California coastal ESU includes all naturally spawned populations of Chinook salmon from the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures greater than 27°C are lethal.	**No Potential.** The Study Area does not contain fish bearing water bodies suitable for this species.	**Not Present.** There are no recommendations for this species.
Insects				
Wawona riffle beetle *Atractelmis wawona*		*A. wawona* are found in aquatic communities, often in riffles of rapid, small-to-medium clear mountain streams with a strong preference for inhabiting submerged aquatic mosses. Elevation ranges from 2000 to 5000 feet elevation (610 to 1524 meters).	**No Potential.** The Study Area and immediate vicinity do not contain any suitable aquatic habitat for this species.	**Not Present.** There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Mammals				
pallid bat *Antrozous pallidus*	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roosting sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various human structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low Potential.** Habitat within the Study Area is ranked as Low (0.33) in suitability, according to CWHR Predicted Habitat Suitability Map. The Study Area may contain marginal roosting habitat in trees or human structures, but no rocky outcrops, caves or mines exist on site.	**Not Observed.** This species was not observed during the biological assessment. There are no recommendations for this species.
Sonoma tree vole *Arborimus pomo*	CDFW: SSC IUCN: NT	*A. pomo* lives only in humid coastal forests consisting of Douglas-fir, grand fir, western hemlock, and/or Sitka spruce. This species requires Douglas-fir and grand fir needles as a food source and nesting materials. Nests are frequently found in trees along the bole, in branch crotches, or in the top of snags. Nests are most often found along roads, skid trails, or forest edges; however, they could exist further in the forest with dense canopies making nest identification difficult. This species is distributed along the North Coast from Sonoma County north to the Oregon border, being practically restricted to the fog belt.	**No Potential.** The Study Area is outside of the range of this species.	**Not Present.** This species was not observed during the biological assessment.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Townsend's big-eared bat *Corynorhinus townsendii*	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H	*C. townsendii* is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Low Potential.** Habitat within the Study Area is ranked Low (0.33) in suitability, according to CWHR Predicted Habitat Suitability Map. Open areas within the Study Area exist which may be suitable foraging habitat.	**Not Observed.** This species was not observed during the biological assessment. There are no recommendations for this species.
Western mastiff bat *Eumops perotis californicus*	BLM: S CDFW: SSC WBWG: H	*E. perotis californicus* occurs in a wide variety of habitats, including chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland. Roosting sites occur in rocky outcrops, crevices and cliffs with 50-100% rocky slopes. Day roosts are established in crevices in rocky canyons and cliffs, trees, tunnels and buildings with a minimum 2-meter (6.5 foot) drop-off to provide a takeoff or launching area. The animals are strong, fast fliers, with a likely extensive foraging range, up to 15 miles from the nearest possible roosting site. Foraging occurs in broad, open areas, woodlands and forest, scrub, chaparral, grassland, riparian and agricultural areas and there is no evidence of this species being habitat specialists.	**No Potential.** The Study Area lies outside the range for this species.	**Not Present.** There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
California wolverine *Gulo gulo*	FCT ST CDFW: FP IUCN: NT USFS: S	*G. gulo* are the largest member of the weasel family in North American. Wolverines tend to occupy extensive wilderness areas which are dominated by coniferous forests where they have been shown to use a variety of cover classes, forest ages, and stands dominated by differing conifer species, although are typically found in large contiguous tracks of high elevation, sub-alpine/alpine areas. Their diet is comprised of ungulates; however, this opportunistic carnivore and scavenger will eat most prey including porcupine, marmots, ground squirrels, voles, coyote, beavers, and other weasels to name a few.	**No Potential.** The Study Area lies outside the range of this species.	**Not Present.** There are no recommendations for this species.
silver-haired bat *Lasionycteris noctivagans*	CDFW: SSC IUCN: LC WBWG: M	*L. noctivagans* is primarily a coastal and montane forest dweller, feeding over streams, ponds, and open brushy areas. This species roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks. Additionally, *L. noctivagans* requires a water sources for drinking.	**Low Potential.** Habitat within the Study Area is unranked (0) by the CWHR Habitat Suitability Map. However varying ranges of suitability of Low to Medium (0.11-0.66) exists surrounding the Study Area. The Class II steam adjacent to the Study Area may provide the water resources this species requires.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.
Western red bat *Lasiurus blossevillii*	CDFW: SSC IUCN: LC WBWG: H	*L. blossevillii* roosts primarily in trees, often 2-40ft above the ground from sea level through mixed conifer forests. Typical habitats include cismontane woodland, lower montane coniferous forest, riparian forests and woodlands. This species prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Moderate Potential.** Habitat within the Study Area is ranked as Medium (0.55) in suitability by the CWHR Habitat Suitability Map. The Study Area is edge habitat of mixed conifer and oak forest with open areas on the southern portion, which may be suitable for foraging.	**Not Observed.** This species was not observed during the biological assessment See section 6.0 for recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
hoary bat *Lasirius cinereus*	CDFW: SSC IUCN: LC WBWG: M	*L. cinereus* are yearlong residents of Mendocino County. This bat is one of the few bats known to both migrate south for winter and to hibernate locally. *L. cinereus* prefers a diet of moths, yet will also consume beetles, wasps, flies, grasshoppers, dragonflies, and termites. *L. cinereus* roosts are typically dense foliage of medium to large sized trees. This bat occupies a variety of habitats including dense forest, forest edges, coniferous forests, deserts, and broadleaf forests.	**Moderate Potential.** Habitat within the Study Area is ranked Medium (0.55) to High (1) in suitability according to the CWHR Habitat Suitability Map. There is mined conifer, oak woodland and forest edge habitat present within the Study Area that may be suitable for this species.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations
Humboldt marten *Martes caurina humboldtensis*	SE CDFW: SSC USFS: S	*M. caurina humboldtensis* favors old-growth, conifer-dominated forests with dense shrub cover in large, contiguous patches. This species occurs only in the coastal redwood zone from the Oregon border south to Sonoma County, CA. This species uses hollow trees and fallen logs for resting and protection.	**Moderate Potential.** Existing habitat surrounded the Study Area may be suitable habitat for this species. According to CNDDB, a border around Lake Pillsbury that begins a mile away from the Study Area exists that labels the area as "presumably extant". Last records of the species were from 1946-1948 estimating between 115-130 individuals.	**Not Observed.** This species was not observed during the biological assessment. See section 6.0 for recommendations
fringed myotis *Myotis thysanodes*	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H	The fringed myotis is widespread in California, occurring in a wide variety of habitats including pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally found at 1300-2200m elevations (4000-7000ft). They forage around streams, lakes, and ponds and their prey consists mainly of beetles and other insects. Typical roosting habitat includes caves, mine tunnels, rock crevices and old buildings.	**Low Potential.** Habitat within the Study Area is ranked Low (0.33) in suitability, according to the CWHR Habitat Suitability Map. The elevation of the Study Area lies outside the typical range for this species.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Yuma myotis *Myotis yumanensis*	CDFW: SSC BLM: S IUCN: LC WBWG: LM	*M. yumanensis* commonly inhabits open forests and woodlands from British Columbia across the western U.S. and south into Baja and southern Mexico. This species will use a variety of lowland habitats from scrub to coniferous forest, always near slow-moving or standing water habitats. Foraging occurs almost exclusively over water, with distribution being closely tied to bodies of water. Typical roosting habitat are caves, mines, buildings, under bridges and in cliff and tree crevices. Maternity colonies are often in caves, mines, buildings and crevices.	**Low Potential.** Habitat within the Study Area is ranked Low (0.11) to Medium (0.66) in suitability for this species according to the CWHR Predicted Habitat Suitability Map. The Class II stream nearby may provide marginal foraging habitat unless it is not running.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species.
fisher [West Coast DPS] *Pekania pennanti*	ST CDFW: SSC USFS: S	Primarily solitary, except during breeding season (February - April), *P. pennanti* inhabit forest stands with late-successional characteristics including intermediate-to-large tree stages of coniferous forest and deciduous-riparian areas with high percent canopy closure. Den site and prey availability are often associated with these characteristics. *P. pennanti* use cavities, snags, logs and rocky areas for cover and denning and require large areas of mature, dense forest.	**Moderate Potential.** Habitat within the Study Area is ranked Low to High (0.33 – 0.89) in suitability according to the CWHR Predicted Habitat Suitability Map. Although a majority of the Study Area is open, the north edge of the Study Area and surrounding habitat contains potentially suitable continuous coniferous forest habitat for this species.	**Not Observed.** This species was not observed during the biological assessment. There are no further recommendations for this species. See section 6.0 for recommendations

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
American badger *Taxidea taxus*	CDFW: SSC IUCN: LC	A small carnivore, with a distinctive white badge-like mark on its forehead. This species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. *T. taxus* dig burrows in the friable soils and frequently reuse old burrows. They prey on burrowing rodents, especially ground squirrels and pocket gophers, also on birds, insects, reptiles and carrion. Their diet shifts seasonally depending on the availability of prey. *T. taxus* are non-migratory and are found throughout most of California, except the northern North Coast area.	**Low Potential.** Habitat within the Study Area is unranked (0) according to the CWHR Predicted Habitat Suitability Map. The open woodland habitat present may provide marginal habitat for this species. There have been no records or *T. taxus* living in or near the Study Area.	**Not Observed.** This species was not observed during the biological assessment.
Crustaceans				
Klamath crayfish *Pacifastacus leniusculus klamathensis*	CDFW: SSC	*P. leniusculus klamathensis'* range extends from British Columbia in Canada, Idaho and south to central California. Habitat ranges from small streams to large rivers and lakes from the coastal to the sub-alpine regions.	**No Potential.** There are no suitable water bodies within the Study Area for this species to survive.	**Not Present.** There are no recommendations for this species.
Reptiles				
western pond turtle *Emys marmorata*	BLM: S CDFW: SSC IUCN: VU USFS: S	*E. marmorata* are associated with permanent ponds, lakes, streams, stock ponds, marshes, seasonal wetlands, artificial areas including reservoirs or irrigation ditches, or permanent pools along intermittent streams in a wide variety of habitats. This species requires basking sites in the aquatic environment or upland, grassy openings with loose soil for nesting and overwintering. Nest sites can be found up to 100 meters from aquatic habitat.	**Low Potential.** There are no permanent water bodies within the Study Area that this species requires. The closest record of this species was located approximately 5.23 miles southeast from 1990.	**Not Observed.** This species was not observed during the biological assessment.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Plants				
scabrid alpine tarplant *Anisocarpus scabridus*	Rank 1B.3	Upper montane coniferous forest, open stony ridges, metamorphic scree slopes of mountain peaks and cliffs in, or near red fir forest. Elevation ranges from 3773 to 7710 feet (1150 to 2350 meters). A perennial herb, the blooming period is from Jul-Aug.	**No Potential.** The Study Area is outside the known elevation range of this species.	**Not Present.** No further recommendations for this species.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	Rank 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest, often on volcanic soils. Elevation ranges from 738 to 6004 feet (225 to 1830 meters). A shrub, the blooming period is from Mar-May.	**Low Potential.** The Study Area is within chapparal and cismontane woodland habitat that may be suitable for this species. The Study Area is predominantly made up of soils derived from sandstone or shale.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
serpentine milkweed *Asclepias solanoana*	Rank 4.2	Chaparral, cismontane woodland, lower montane coniferous forest, often grows on serpentine soils (ultramafic affinity: 6.0, strict endemic), confined to clearings and gentle slopes with southern exposure. Elevation ranges from 755 to 6103 feet (230 to 1860 meters). A perennial herb, the blooming period is from May-Jul.	**Low Potential.** The Study Area is cismontane woodland habitat that may be suitable for this species but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Brewer's milk-vetch *Astragalus breweri*	Rank 4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Often in grassy flats, meadows moist in spring, and open slopes in chaparral. Commonly on or near volcanic or serpentine soils (Ultramafic affinity: (3.2, strong indicator). Elevation ranges from 296 to 2395 feet (90 to 730 meters). An annual herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Cleveland's milk-vetch *Astragalus clevelandii*	Rank 4.3	Chaparral, cismontane woodland, riparian forest, ultramafic seeps and creeks; sandy stream banks, gravel bars moist in spring, hillside seeps on slopes. *A. clevelandii* has a strong serpentine affinity (6.1, strict endemic). Elevation ranges from 656 to 4922 feet (200 to 1500 meters). A perennial herb, the blooming period is from Jun-Sep.	**Low Potential.** The Study Area is cismontane woodland habitat that may be suitable for this species but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Rattan's milk-vetch *Astragalus rattanii var. rattanii*	Rank 4.3	Chaparral, cismontane woodland, lower montane coniferous forest, often found on open grassy hillsides, gravelly flats in the valleys and gravel bars of stream beds. Elevation ranges from 99 to 2707 feet (30 to 825 meters). A perennial herb, the blooming period is from Apr-Jul.	**Moderate Potential.** Habitat contains cismontane woodlands and gravelly flats that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Snow Mountain rockcress *Boechera ultraalsa*	Rank 1B.1	Upper montane coniferous forest, rocky sites. There is no distinct elevation range for this species. A perennial herb, the blooming period is from Jun-Jul.	**No Potential.** The Study Area is not within upper montane coniferous forest habitat suitable for this species.	**Not Present.** No further recommendations for this species.
scalloped moonwort *Botrychium crenulatum*	Rank 2B.2	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes and swamps, moist meadows, freshwater marsh and near creeks. Elevation ranges from 3888 to 10204 feet (1185 to 3110 meters). A fern (rhizomatous), the blooming period is from Jun-Sep.	**No Potential.** The Study Area is outside the known elevation range of this species.	**Not Present.** No further recommendations for this species.
watershield *Brasenia schreberi*	Rank 2B.3	Freshwater marshes and swamps. Aquatic, known from water bodies both natural and artificial. Elevation ranges from 3 to 7152 feet (1 to 2180 meters). A perennial rhizomatous herb (aquatic), the blooming period is from Jun-Sep.	**No Potential.** The Study Area contains no water bodies or other aquatic sources suitable for this species. There is a known occurrence of this species approximately 1.6 miles from the Study Area, according to CNDDB.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
small-flowered calycadenia *Calycadenia micrantha*	Rank 1B.2	Chaparral, valley and foothill grassland, meadows and seeps. Rocky talus or scree; sparsely vegetated areas, occasionally on roadsides, sometimes serpentine. Elevation ranges from 1427 to 4610 feet (435 to 1405 meters). An annual herb, the blooming period is from Jun-Sep.	**Moderate Potential.** The Study Area is within chapparal habitat and contains some rocky, sparsely vegetated areas that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
three-fingered morning-glory *Calystegia collina ssp. tridactylosa*	Rank 1B.2	Chaparral, cismontane woodland, often on rocky, gravelly openings on serpentine substrates (ultramafic affinity: 4.5, broad endemic). Elevation ranges from 1985 to 2313 feet (605 to 705 meters). A perennial herb, the blooming period is from Apr-Jun.	**Low Potential.** Although the Study Area contains cismontane woodlands, this species tends to be located on serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Kern ceanothus Ceanothus *pinetorum*	Rank 4.3	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, often on rocky, granitic sites. Elevation ranges from 5250 to 9006 feet (1600 to 2745 meters). A shrub, the blooming period is from May-Jul.	**No Potential.** The Study Area does not reside in the elevation range this species requires.	**Not Present.** No further recommendations for this species.
Tracy's clarkia *Clarkia gracilis ssp. tracyi*	Rank 4.2	Chaparral, openings, usually on serpentine (ultramafic affinity: 5.0, broad endemic). Elevation ranges from 214 to 2133 feet (65 to 650 meters). An annual herb, the blooming period is from Apr-Jul.	**Low Potential.** The Study Area is within chapparal habitat but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
serpentine collomia *Collomia diversifolia*	Rank 4.3	Chaparral, cismontane woodland, on serpentine soils (ultramafic affinity: 5.6, strict endemic), rocky or gravelly sites. Elevation ranges from 985 to 1969 feet (300 to 600 meters). An annual herb, the blooming period is from May-Jun.	**Low Potential.** The Study Area is within chapparal and cismontane woodland habitat but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Tracy's collomia *Collomia tracyi*	Rank 4.3	Lower montane coniferous forest, broadleaved upland forest, often found on rocky outcrops, at least sometimes on serpentine (ultramafic). Elevation ranges from 985 to 6890 feet (300 to 2100 meters). An annual herb, the blooming period is from Jun-Jul.	**Low Potential.** The Study Areas contains marginal habitat for this species and does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Jepson's dodder *Cuscuta jepsonii*	Rank 1B.2	Upper montane coniferous forest, lower montane coniferous forest, broadleaved upland forest, found on host species (*Ceanothus diversifolius* and *Ceanothus prostratus*). Elevation ranges from 3937 to 9006 feet (1200 to 2745 meters). An annual vine (parasitic), the blooming period is from (Jun)Jul-Sep.	**No Potential.** The Study Area is outside the known elevation range of this species	**Not Present.** No further recommendations for this species.
mountain lady's-slipper *Cypripedium montanum*	Rank 4.2	Lower montane coniferous forest, broadleaved upland forest, cismontane woodland, north coast coniferous forest, often on dry, undisturbed slopes. Elevation ranges from 607 to 7300 feet (185 to 2225 meters). A perennial herb (rhizomatous), the blooming period is from Mar-Aug.	**Low Potential.** Although the Study Area is in proximity to suitable habitat, most of the area within the Study Area is disturbed and moderately flat.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
California beard-moss *Didymodon californicus*	Rank 4.2	Lower montane coniferous forest openings and rocky streambeds. No blooming period. Found at elevations of 4510-5395ft.	**No Potential.** The Study Area is not in a suitable elevation range for this species.	**Not Present.** No further recommendations for this species.
Cascade downingia *Downingia willamettensis*	Rank 2B.2	Cismontane woodland, valley and foothill grassland, vernal pools, often along lake margins. Elevation ranges from 49 to 3642 feet (15 to 1110 meters). An annual herb, the blooming period is from Jun-Jul.	**No Potential.** The Study Area is within cismontane woodland habitat but does contain any mesic sites suitable for this species.	**Not Present.** No further recommendations for this species.
Snow Mountain willowherb *Epilobium nivium*	Rank 1B.2	Upper montane coniferous forest, chaparral, often found in crevices of volcanic and metavolcanics rock outcrops and associated talus. Elevation ranges from 4593 to 7218 feet (1400 to 2200 meters). A perennial herb, the blooming period is from Jun-Oct.	**No Potential.** The Study Area is outside the known elevation range of this species	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Humboldt County fuchsia *Epilobium septentrionale*	Rank 4.3	Broadleaved upland forest, north coast coniferous forest, often on dry, sandy or rocky ledges. Elevation ranges from 148 to 5906 feet (45 to 1800 meters). A perennial herb, the blooming period is from Jul-Sep.	**Low Potential.** The Study Area contains marginal habitat for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Snow Mountain buckwheat *Eriogonum nervulosum*	Rank 1B.2	Chaparral, ultramafic, dry serpentine outcrops, balds and barrens. *E. nervulosum* has a serpentine affinity (6.2, strict endemic). Elevation ranges from 1460 to 6906 feet (445 to 2105 meters). A perennial herb (rhizomatous), the blooming period is from Jun-Sep.	**Low Potential.** The Study Area does not contain serpentine soils as this species requires.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Greene's buckwheat *Eriogonum strictum var. greenei*	Rank 4.3	Lower montane coniferous forest, often found on rocky, serpentine sites (ultramafic). *E. strictum* var. *greenei* has a serpentine affinity (5.9, strict endemic). Elevation ranges from 2625 to 6890 feet (800 to 2100 meters). A perennial herb, the blooming period is from Jul-Sep.	**No Potential.** The Study Area lies outside the typical range for this species. Additionally, the area has no serpentine soils on site.	**Not Present.** No further recommendations for this species.
bay buckwheat *Eriogonum umbellatum var. bahiiforme*	Rank 4.2	Cismontane woodland, lower montane coniferous forest, often found on rocky, serpentine sites. *E. umbellatum* var. *bahiiforme* has a serpentine affinity (3.5, broad endemic, strong indicator). Elevation ranges from 2297 to 7218 feet (700 to 2200 meters). A perennial herb, the blooming period is from Jul-Sep.	**Low Potential.** Although the Study Area contains cismontane woodland, there are no rocky, serpentine soils on site.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
bare monkeyflower *Erythranthe nudata*	Rank 4.3	Chaparral, cismontane woodland, moist areas, often along drainages and roadsides in serpentine seeps (ultramafic affinity: 5.6, strong indicator). Elevation ranges from 820 to 2297 feet (250 to 700 meters). An annual herb, the blooming period is from May-Jun.	**Low Potential.** The Study Area is within chapparal and cismontane woodland habitat but does not contain serpentine soils or mesic sites suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Siskiyou aster *Eucephalus glabratus*	Rank 4.3	Lower montane coniferous forest, upper montane coniferous forest, often found on rocky openings. Elevation ranges from 394 to 8875 feet (120 to 2705 meters). A perennial herb, the blooming period is from Jul-Oct.	**Low Potential.** The Study Area contains marginal habitat for this species. Closest estimated range is located north of Lake Pillsbury.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Stinkbells *Fritillaria agrestis*	Rank 4.2	Cismontane woodland, chaparral, valley and foothill grassland, pinyon and juniper woodland, sometimes on serpentine, mostly found in non-native grassland or in grassy openings in clay soil. Elevation ranges from 33to 5102 feet (10 to 1555 meters). A perennial bulbiferous herb, the blooming period is from Mar-Jun.	**Low Potential.** Although the vegetation is suitable for this species, *R. agrestis* requires clay soils. The Study Area is primarily loamy soil.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Siskiyou fritillaria *Fritillaria glauca*	Rank 4.2	Upper montane coniferous forest, alpine boulder and rock field, subalpine coniferous forest, often found on serpentine, talus slopes. Elevation ranges from 5693 to 8005 feet (1735 to 2440 meters). A perennial herb, the blooming period is from Jun-Jul.	**No Potential.** The Study Area is outside the known elevation range of this species	**Not Present.** No further recommendations for this species.
Purdy's fritillary *Fritillaria purdyi*	Rank 4.3	Chaparral, cismontane woodland, lower montane coniferous forest, usually on serpentine (4.5, broad endemic). Elevation ranges from 574 to 7399 feet (175 to 2255 meters). A perennial bulbiferous herb, the blooming period is from Mar-Jun.	**Low Potential.** The Study Area is within cismontane woodland habitat but does not contain serpentine soils suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Toren’s grimmia *Grimmia torenii*	Rank 1B.3	Cismontane woodland, lower montane coniferous forest, chaparral, often found in openings, rocky, boulder and rock walls, carbonate, volcanic. Elevation ranges from 1067 to 3806 feet (325 to 1160 meters). A moss, no distinct blooming period.	**Low Potential.** The Study Area is within cismontane woodland and lower montane habitat, but does not contain rocky, boulder and rock walls, or carbonate and volcanic soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
amethyst stickseed *Hackelia amethystina*	Rank 4.3	Lower montane coniferous forest, upper montane coniferous forest, meadows and seeps, forest clearings, or along streambanks and roadsides, often in deep soil. Elevation ranges from 4922 to 7595 feet (1500 to 2315 meters). A perennial herb, the blooming period is from Jun-Jul.	**No Potential.** The Study Area is outside the elevation range of this species.	**Not Present.** There are no further recommendations for this species.
serpentine sunflower *Helianthus exilis*	Rank 4.2	Chaparral, cismontane woodland, serpentine seeps (ultramafic affinity: 5.7, strict endemic). Elevation ranges from 492 to 5004 feet (150 to 1525 meters). An annual herb, the blooming period is from Jun-Nov.	**Low Potential.** The Study Area is within cismontane woodland habitat but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Mendocino tarplant *Hemizonia congesta ssp. calyculata*	Rank 4.3	Cismontane woodland, valley and foothill grassland, open woods and forests, sometimes on serpentine (1.5, weak indicator). Elevation ranges from 738 to 4593 feet (225 to 1400 meters). An annual herb, the blooming period is from Jul-Nov.	**Moderate Potential.** The Study Area is within cismontane woodland and open woods habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
glandular western flax *Hesperolinon adenophyllum*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland, serpentine soils, generally found in serpentine chaparral (ultramafic affinity: 5.7, strict endemic). Elevation ranges from 1395 to 4413 feet (425 to 1345 meters). An annual herb, the blooming period is from May-Aug.	**Low Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
drymaria-like western flax *Hesperolinon drymarioides*	Rank 1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland, often associated with serpentine soils mostly within chaparral (ultramafic affinity: 6.2, strict endemic). Elevation ranges from 1313 to 3609 feet (400 to 1100 meters). An annual herb, the blooming period is from May-Aug.	**Low Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Bolander's horkelia *Horkelia bolanderi*	Rank 1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, valley and foothill grassland, often found in grassy margins of vernal pools and meadows. Elevation ranges from 1493 to 2805 feet (455 to 855 meters). A perennial herb, the blooming period is from Jun-Aug.	**No Potential.** The Study Area does not lie within a habitable elevation range for this species.	**Not Present.** There are no recommendations for this species.
Baker's globe mallow *Iliamna bakeri*	Rank 4.2	Chaparral, Great Basin scrub, pinyon and juniper woodland, lower montane coniferous forest, often in burned areas on volcanic substrates. Elevation ranges from 3281 to 8202 feet (1000 to 2500 meters). A perennial herb, the blooming period is from Jun-Sep.	**Low Potential.** The Study Area contains marginal habitat for this species and does not contain volcanic soils. However, areas surrounding the Study Area seem to have been burned within the past couple years.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
bristly leptosiphon *Leptosiphon acicularis*	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 181 to 4922 feet (55 to 1500 meters). An annual herb, the blooming period is from Apr-Jul.	**Moderate Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
broad-lobed leptosiphon *Leptosiphon latisectus*	Rank 4.3	Broadleaved upland forest, cismontane woodland. Elevation ranges from 558 to 4922 feet (170 to 1500 meters). An annual herb, the blooming period is from Apr-Jun.	**Moderate Potential.** The Study Area is within cismontane woodland habitat that may be suitable for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Rattan's leptosiphon *Leptosiphon rattanii*	Rank 4.3	Cismontane woodland, lower montane coniferous forest, often on rocky or gravelly soils. Elevation ranges from 5578 to 6562 feet (1700 to 2000 meters). An annual herb, the blooming period is from May-Jul.	**No Potential.** The Study Area is outside the elevation range of this species.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Stebbins' Lewisia *Lewisia stebbinsii*	Rank 1B.2	Upper montane coniferous forest, lower montane coniferous forest, often on relatively barren exposed ridges and slopes in nutrient poor soils (mostly serpentine, ultramafic). *L. stebbinsii* has a serpentine affinity (4.7, broad endemic). Elevation ranges from 5496 to 6775 feet (1675 to 2065 meters). A perennial herb, the blooming period is from May-Jul.	**No Potential.** The Study Area is outside the elevation range for this species.	**Not Present.** No further recommendations for this species.
Anthony Peak lupine *Lupinus antoninus*	Rank 1B.2	Upper montane coniferous forest, lower montane coniferous forest, often in open areas with surrounding forest; rocky sites. Elevation ranges from 3986 to 7399 feet (1215 to 2255 meters). A perennial herb, the blooming period is from May-Jul.	**No Potential.** The Study Area is outside the elevation range of this species.	**Not Present.** No further recommendations for this species.
northern adder's-tongue *Ophioglossum pusillum*	Rank 2B.2	Marshes and swamps, meadows and seeps, wetlands, often along the edge of the marsh, or in low pastures and grassy roadside ditches. Elevation ranges from 3560 to 6234 feet (1085 to 1900 meters). A fern (rhizomatous), the blooming period is in Jul.	**Not Present.** The Study Area does not contain the wetland habitat features required of this species.	**Not Present.** No further recommendations for this species.
Mayacamas popcornflower *Plagiobothrys lithocaryus*	Rank 1A	Chaparral, cismontane woodland, valley and foothill grassland, moist sites. Elevation ranges from 985 to 1477 feet (300 to 450 meters). An annual herb, the blooming period is from Apr-May.	**Low Potential.** The Study Area is outside the elevation range of this species and is presumed extinct.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
Lake Pillsbury checkerbloom *Sidalcea hickmanii ssp. pillsburiensis*	Rank 1B.2	Often found in chaparral on Franciscan soils. Elevation ranges from 2297 to 2461 feet (700 to 750 meters). A perennial herb, the blooming period is from Jul-Aug.	**No Potential.** The Study Area is outside the elevation range of this species.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Marin checkerbloom *Sidalcea hickmanii ssp. viridis*	Rank 1B.1	Chaparral, serpentine or volcanic soils (ultramafic), sometimes appears after burns. *S. hickmanii* ssp. *viridis* has a serpentine affinity (6.3, strict endemic). Elevation ranges from 4 to 1395 feet (1 to 425 meters). A perennial herb, the blooming period is from May-Jun.	**No Potential.** The Study Area lies outside the elevation range for this species.	**Not Present.** No further recommendations for this species.
marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	Rank 1B.2	Meadows and seeps, riparian forest, meadows, wet soils along streambanks. Elevation ranges from 1493 to 6660 feet (455 to 2030 meters). A perennial herb, the blooming period is from Jul-Aug.	**No Potential.** The Study Area does not contain aquatic or mesic sites suitable for this species.	**Not Present.** No further recommendations for this species.
pubescent needle grass *Stipa lemmonii var. pubescens*	Rank 3.2	Chaparral, lower montane coniferous forest, mostly found in serpentine chaparral. At upper elevations it may be found in Ponderosa pine (*Pinus ponderosa*) forest. Elevation ranges from 3380 to 4315 feet (1030 to 1315 meters). A perennial grass, the blooming period is from May-Jul.	**Low Potential.** The Study Area contains lower montane coniferous forest habitat but does not contain serpentine soils.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
alpine crisp-moss *Tortella alpicola*	Rank 2B.3	Cismontane woodland, often found on volcanic rock with wide ecological tolerance, shaded or exposed, wet or dry, low to high elevations. Elevation ranges from 66 to 10827 feet (20 to 3300 meters). A moss, there is no distinct blooming period.	**Low Potential.** Although the Study Area contains cismontane woodland habitat, there are no volcanic rocks in within the Study Area that this species prefers.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.
cylindrical trichodon *Trichodon cylindricus*	Rank 2B.2	Broadleaved upland forest, upper montane coniferous forest, meadows and seeps, often growing in openings on sandy or clay soils along roadsides, streambanks, trails or in fields. Elevation ranges from 115 to 6578 feet (35 to 2005 meters). A moss, there is no distinct blooming period.	**Low Potential.** The Study Area contains marginal habitat for this species.	**Not Observed.** This species was not observed during the biological or botanical assessments. There are no recommendations for this species.

TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA AND RECOMMENDATIONS
Clear Lake Drainage Cyprinid/Catostomid Stream	Description: Streams within the Clear Lake Drainage system recorded on CNDDB that contain suitable habitat for cyprinid and catostomid species.	**No Potential:** There are no watercourses within in the Study Area. This community was not observed during the biological assessment. There are no further recommendations for this community.
Clear Lake Drainage Seasonal Lakefish Spawning Stream	Description: Streams within the Clear Lake Drainage system recorded on CNDDB that contain suitable spawning habitat for lake fish.	**No Potential:** There are no watercourses within in the Study Area. This community was not observed during the biological assessment. There are no further recommendations for this community.
Coastal and Valley Freshwater Marsh	Description: Dominated by perennial, emergent monocots to 4-5 m tall. Often forming completely closed canapies. Scirpus and Typha dominated types and their environmental and floristic distinctions require clarification. Site Factors: Quiet sites (lacking significant current) permanently flooded by fresh water. Prolonged saturation permits accumulation of deep, peaty soils. Characteristic Species: *Carex lanuginose, C. senta, Cyperus esculentus, C. eragrostis, Eleocharis spp., Hydrocotyl verticillate triradiata, Limosella aqutica, Phragmites australis, Scirpus acutus, S. americanus, S. californicus, S. robustus, Sparganium eurycarpum, Typha angustifolia, T. damingensis, T. latifolia, Verbena bonariensis.* Distribution: Occasional along the coast and in coastal valleys near river mouths and around the margins of lakes and springs. Most extensive in the upper portion of the Sacramento-San Joaquin River Delta. Common in the Sacramento and San Joaquin Valleys in river oxbows and other areas on the flood plain. Occasional along the Colorado River on the California-Arizona border. Now much reduced in area through its entire range.	**No Potential.** The Study Area is atop a dry ridge and contains no marshland habitat. This community was not observed during the biological assessment. There are no further recommendations for this community.

TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA AND RECOMMENDATIONS
Northern Interior Cypress Forest	Description: An open, fire-maintained scrubby "forest" similar to Knobcone Pine Forest but dominated by one of several Cupressus species. These stands may be as much as 15m tall, but usually are lower. Site Factors: On dry, rocky, sterile, often ultramafic soils, frequently associated with Serpentine Chaparral. Integrades on less sever sites with Upper Sonoran Mixed Chaparral, Montane Chaparral, or Knobcone Pine Forest; and on more mesic site with Mixed Evergreen Forest or Montane Coniferous Forest. Characteristic Species: *Cupressus Abramsiana* (Santa Cruz Mountains, on sandstone), *C. Bakeri* (Cascade and northern Sierra Nevada, on serpentine or aerated basic sites), *C. Macnabiana* (North Coast Ranges and northern Sierra Nevada, on serpentine), *C. Sargentii* (North and South Coast ranges, on serpentine), *Pinus attenuata*, *Quercus durata* Distribution: Scattered through the Siskiyou Mountains, North and South Coast Ranges, Cascades and northern Sierra Nevada. Combining the four species into a single element is open to question, but does reflect a common pattern of occurring on serpentine or other sterile substrate and moisture status intermediate between mesic Coastal Closed Cone Conifer Forests and xeric Southern Interior Cypress Forests.	**Low Potential.** The Study Area does not contain rocky or serpentine soils. This community was not observed during the biological assessment. There are no further recommendations for this community.
Serpentine Bunchgrass	Description: An open grassland dominated by perennial bunchgrasses. Total cover typically is low, but is markedly dominated by native species (usually much more so than in Valley Needlegrass Grassland or Non-native Grasslands. Site Factors: Restricted to serpentine sites. Characteristic Species: *Bromus hordeaceus, Calamagrostis ophiditis, Eschscholtzia californica, Pestuca grayii, Hemizonia luzulaefolia, Lotus subpinnatus, Melica californica, Poa scabrella, Stipa cernua, S. lepida, S. pulchra, Vulpia microstachys* Distribution: Scattered widely through the Coast Ranges, less common in the Sierra Nevada and southern California mountains.	**Low Potential:** The Study Area does not contain grassland habitat and does not contain serpentine soils. This community was not observed during the biological assessment. There are no further recommendations for this community.

Abbreviation	Organization
FC	Federal Candidate
FE	Federal Endangered
FT	Federal Threatened
FPE	Federally Proposed for listing as Endangered
FPT	Federally Proposed for listing as Threatened
FPD	Federally Proposed for delisting
SC	State Candidate
SE	State Endangered
ST	State Threatened
SCE	State Candidate for listing as Endangered
SCT	State Candidate for listing as Threatened
SCD	State Candidate for delisting
Rank 1A	CRPR Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	CRPR Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2B	CRPR Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)

Potential to Occur:
No Potential. Habitat on and within 100 feet adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and within 100 feet adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or within 100 feet adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or within 100 feet adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:
Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.
Not Present. Species is assumed to not be present due to a lack of key habitat components.
Not Observed. Species was not observed during surveys.

Abbreviation	Organization
AFS_EN	American Fisheries Society - Endangered
AFS_TH	American Fisheries Society - Threatened
AFS_VU	American Fisheries Society – Vulnerable
BLM_S	Bureau of Land Management – Sensitive
BCC	USFWS Birds of Conservation Concern
CDF_S	Calif. Dept. of Forestry & Fire Protection – Sensitive
CDFW_SSC	Calif. Dept. of Fish & Wildlife – Species of Special Concern
CDFW_FP	Calif. Dept. of Fish & Wildlife – Fully Protected
CDFW_WL	Calif. Dept. of Fish & Wildlife – Watch List
IUCN_CR	IUCN – Critically Endangered
IUCN_EN	IUCN – Endangered
IUCN_NT	IUCN – Near Threatened
IUCN_VU	IUCN – Vulnerable
IUCN_LC	IUCN – Least Concern
IUCN_DD	IUCN – Data Deficient
IUCN_CD	IUCN – Conservation Dependent
NABCI_RWL	North American Bird Conservation Initiative – Red Watch List
NABCI_YWL	North American Bird Conservation Initiative – Yellow Watch List
NMFS_SC	National Marine Fisheries Service – Species of Concern
USFS_S	U. S. Forest Service - Sensitive
USFWS_BCC	U. S. Fish & Wildlife Service Birds of Conservation Concern
WBWG_H	Western Bat Working Group – High Priority
WBWG_MH	Western Bat Working Group – Medium-High Priority
WBWG_M	Western Bat Working Group – Medium Priority
WBWG_LM	Western Bat Working Group – Low-Medium Priority
Xerces: CI	Xerces Society – Critically Imperiled
Xerces: IM	Xerces Society – Imperiled
Xerces: VU	Xerces Society – Vulnerable
Xerces: DD	Xerces Society – Data Deficient

Ultramafic (serpentine) Affinity

	≥ 5.5	strict endemic	taxa with 95% of their occurrences on ultramafics
< 5.5	≥ 4.5	broad endemic	taxa with 85-94% of their occurrences on ultramafics
< 4.5	≥ 3.5	transition from broad endemic to strong indicator	taxa with 75-84% of their occurrences on ultramafics
< 3.5	≥ 2.5	strong indicator	taxa with 65-74% of their occurrences on ultramafics
< 2.5	≥ 1.5	weak indicator	taxa with 55-64% of their occurrences on ultramafics
< 1.5	≥ 1.0	weak indicator / indifferent	taxa with 50-54% of their occurrences on ultramafics

Appendix B: List of Species Observed

SCIENTIFIC NAME	COMMON NAME
Plants	
Aira caryophylla	silverhair grass
Acer macrophyllum	bigleaf maple
Aira caryophylla	silverhair grass
Anisocarpus madiodes	woodland madia
Arbutus menziesii	Pacific madrone
Arctostaphylos manzanita	common manzanita
Arctostaphylos viscida	whiteleaf manzanita
Avena barbata	slim oat
Baccharis pilularis	coyote brush
Bromus catharticus	rescue grass
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Centaurea melitensis	maltese star thistle
Cirsium vulgare	bull thistle
Cynosurus echinatus	bristly dogtail grass
Dipterostemon capitatus	blue dicks
Elymus elymoides	squirreltail grass
Elymus glaucus	blue wild rye
Eriogonum umbellatum	sulfur buckwheat
Festuca californica	California fescue
Festuca microstachys	small fesque
Festuca myuros	rattail sixweeks grass
Galium porrigens	climbing bedstraw
Hemizonia congesta	hayfield tarweed
Hieracium albiforum	white-flowered hawkweed
Hordeum murinum	foxtail barley
Hypericum perforatum	klamathweed
Lagophylla ramosissima	branched lagophylla
Pinus lambertiana	sugar pine
Pinus ponderosa	Ponderosa pine
Pseudognaphalium californicum	ladies' tabacco
Pteridium aquilinum	brackenfern
Quercus chrysolepis	canyon live oak
Quercus kelloggii	California black oak
Rafinesquia californica	California chicory
Rubus armeniacus	Himalayan blackberry
Rubus leucodermis	whitebark raspberry
Sonchus asper	spiny sowthistle
Torilis arvensis	field hedge parsley

Verbena lasiostachys	western vervain
Vicia americana	American vetch
Wildlife	
Amphibians	
N/A	-
Avifauna	
Aphelocoma californica	western scrub jay
Callipepla californica	California Quail
Cathartes aura	turkey vulture
Melanerpes formicivorous	acorn woodpecker
Fish	
N/A	-
Insects	
N/A	-
Mammals	
Sciurus griseus	western gray squirrel
SCIENTIFIC NAME	**COMMON NAME**
Mollusks	
N/A	-
Reptiles	
Thamnophis spp.	garter snake

Appendix C: Photographs

Photo 1: Overview of vicinity, looking south.

Date: May 20, 2021

Photo 2: Overview of Study Area, looking southeast.

Date: May 20, 2021

Photo 3: Overview of Study Area, looking east.

Date: May 20, 2021

Photo 4: Overview of Study Area, looking west.

Date: May 20, 2021

Photo 5: Overview of Study Area, looking south.

Date: May 20, 2021

Photo 6: Large clearing within the Study Area, looking west.

Date: May 20, 2021

Photo 7: Large clearing in Study area, looking north.

Date: May 20, 2021

Photo 8: Road going through the middle of the Study Area, looking east.

Date: May 20, 2021

Photo 9: Existing cultivation site within the Study Area, looking southeast

Date: May 20, 2021

Photo 10: Existing cultivation site within the Study Area, looking northeast.

Date: May 20, 2021

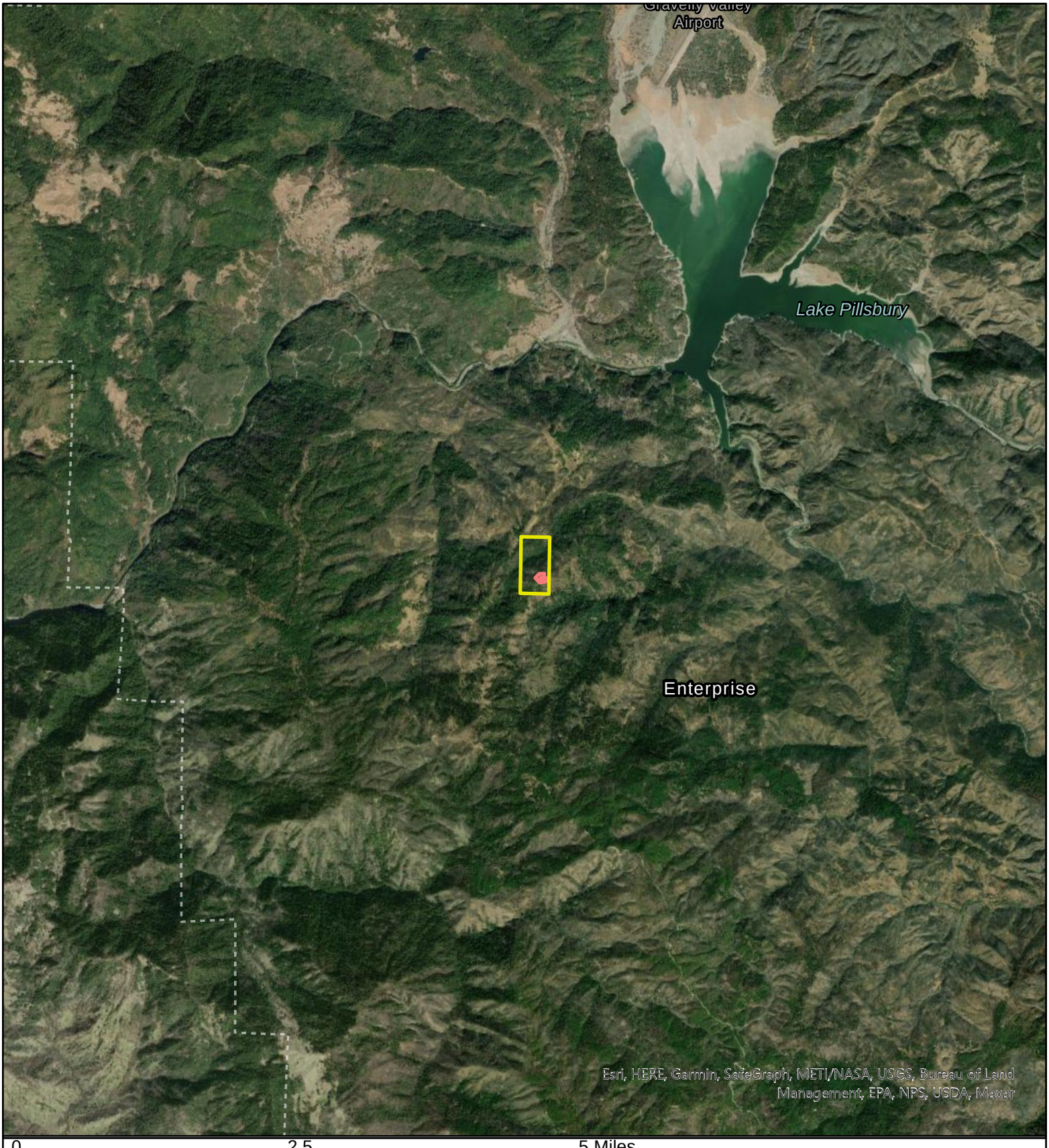
Photo 11: Existing cultivation site within the Study Area, looking

Date: April 5, 2021

Photo 12: Seasonal drainage pathway (Class III stream) outside the Study Area, looking northwest.

Date: May 20, 2021

Appendix D: Maps



Perbetsky Biological Assessment: Vicinity Map

Study Area

Parcel Boundary

Applicant: Dustin Perbetsky

Site Address: 22698 Elk Mountain Rd.
Upper Lake, CA 95469

APN(s): 011-019-230

Study Area Acreage: 3.38

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natural resource planning & management

PLSS: Section 27, T18N, R10W, MDBM

Lake Pillsbury USGS 7.5 Minute Quadrangle

Sheet: 1 of **9**

0 250 500 Feet

Study Area
Parcel Boundary
Watercourses
Class 2
Class 3
<all other values>

Perbetsky Biological Assessment:
Study Area

Applicant:	Dustin Perbetsky
Site Address:	22698 Elk Mountain Rd. Upper Lake, CA 95469
APN(s):	011-019-230
Study Area Acreage:	3.38

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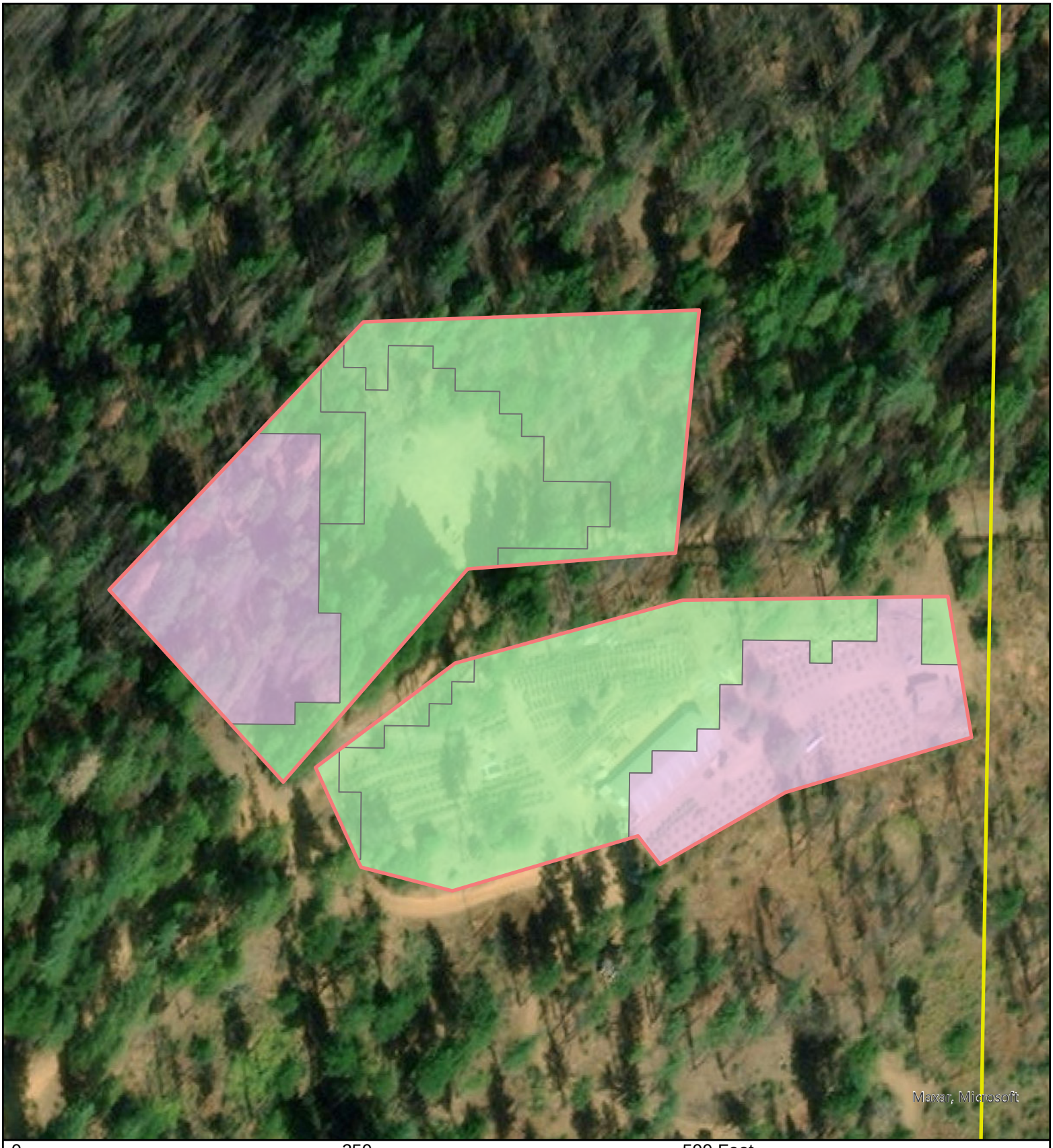
PLSS: Section 27, T18N, R10W, MDBM

Lake Pillsbury USGS 7.5 Minute Quadrangle

Sheet:
2 of 9



0 250 500 Feet

Study Area
Parcel Boundary

CALVEG Type
Mixed Conifer - Pine
Douglas-fir - Pine

Perbetsky Biological Assessment: CALVEG Map

Applicant:	Dustin Perbetsky
Site Address:	22698 Elk Mountain Rd. Upper Lake, CA 95469
APN(s):	011-019-230
Study Area Acreage:	3.38

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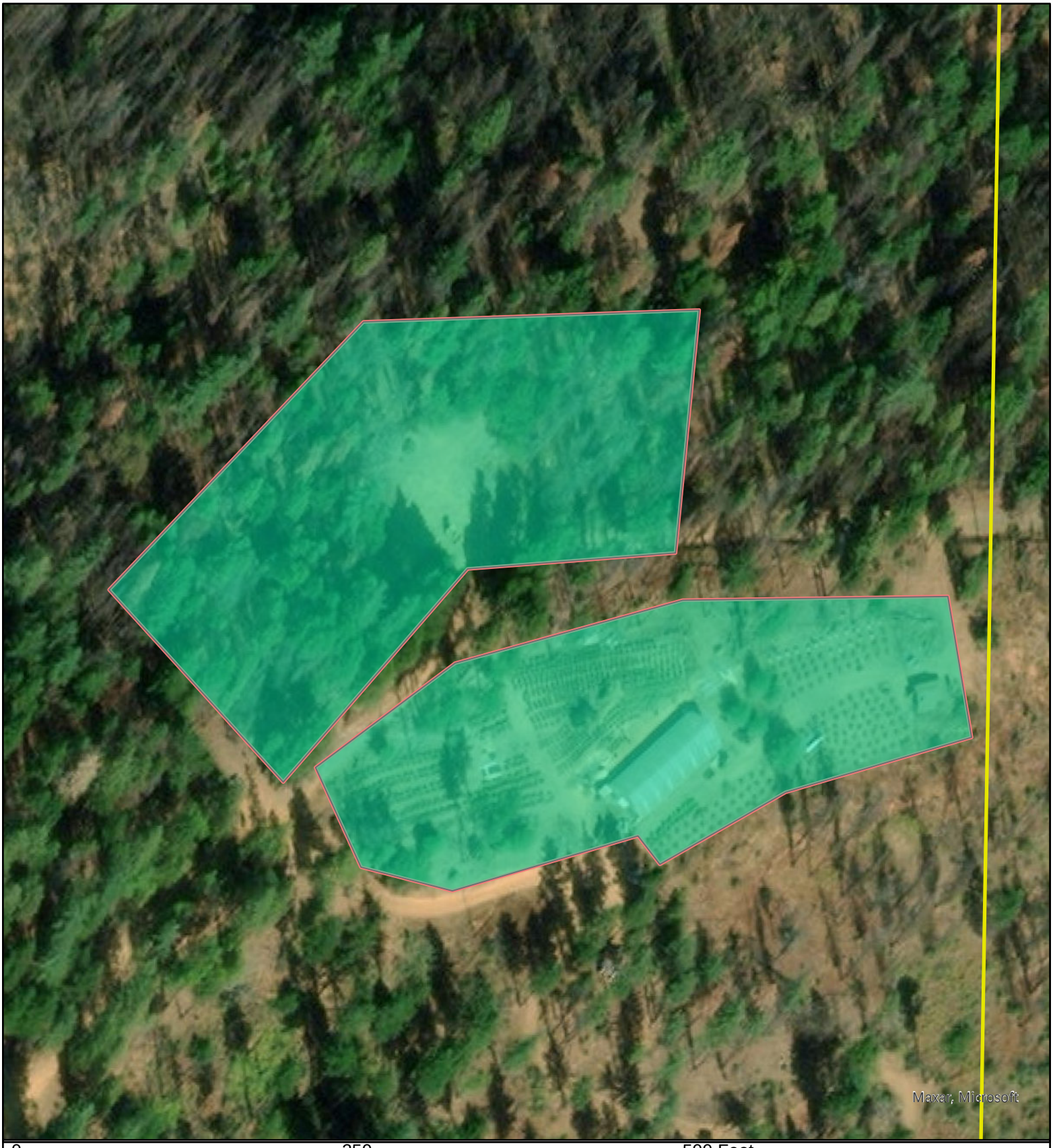
Lake Pillsbury USGS 7.5 Minute Quadrangle

Sheet: 3 of 9



0 250 500 Feet

Perbetsky Biological Assessment: MCV2 Map

Study Area

Parcel Boundary

MCV2 Community

Ponderosa pine - Douglas fir forest and woodland

Applicant:	Dustin Perbetsky
Site Address:	22698 Elk Mountain Rd. Upper Lake, CA 95469
APN(s):	011-019-230
Study Area Acreage:	3.38

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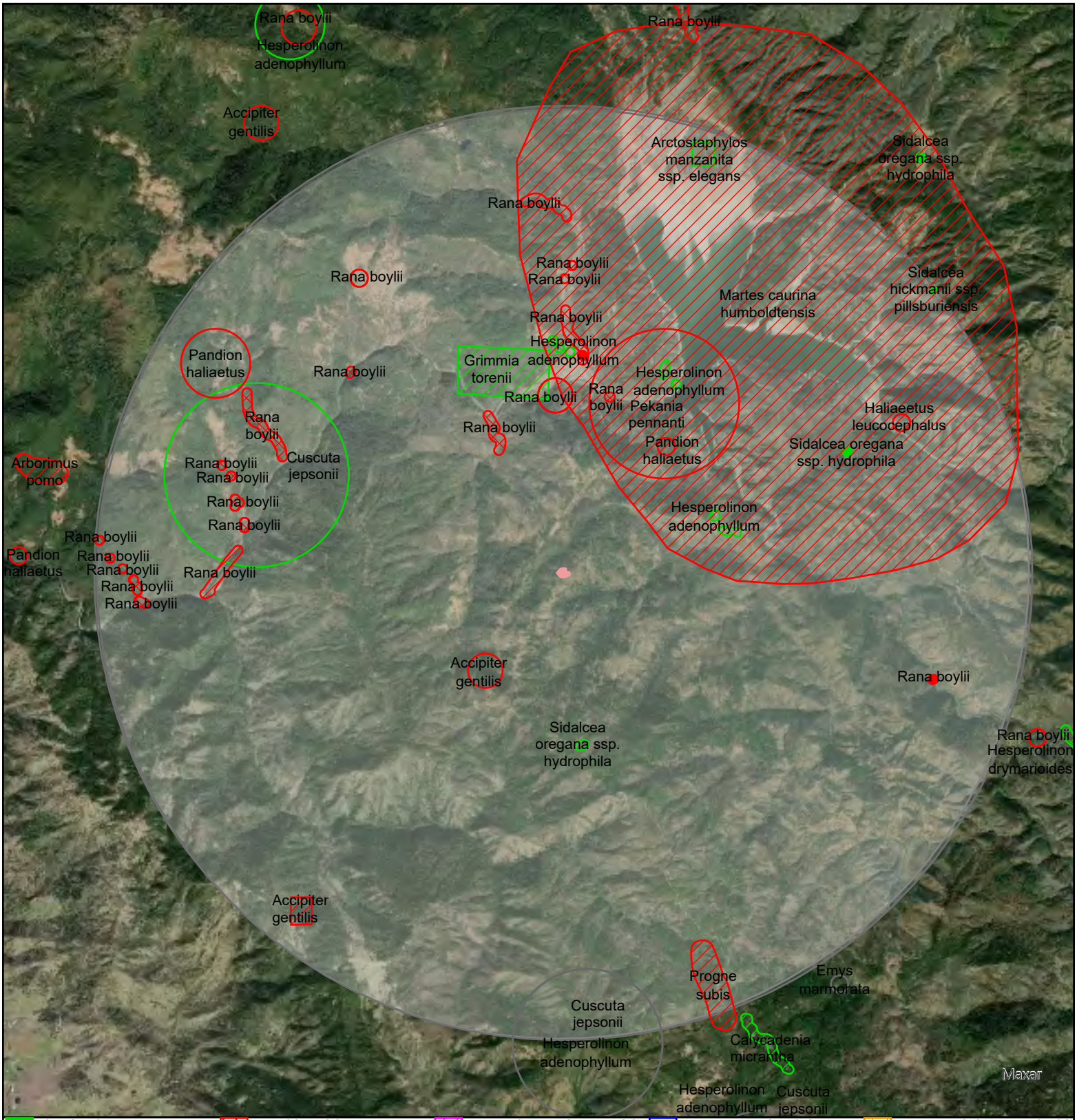
Lake Pillsbury USGS 7.5 Minute Quadrangle

Sheet: 4 of 9



Plant (80m)	Animal (specific)	Terrestrial Comm. (non-specific)	Aquatic Comm. (circular)	Sensitive EO's (Commercial only)
Plant (specific)	Animal (non-specific)	Terrestrial Comm. (circular)	Multiple (80m)	Study Area 5mi Buffer
Plant (non-specific)	Animal (circular)	Aquatic Comm. (80m)	Multiple (specific)	Study Area
Plant (circular)	Terrestrial Comm. (80m)	Aquatic Comm. (specific)	Multiple (non-specific)	
Animal (80m)	Terrestrial Comm. (specific)	Aquatic Comm. (non-specific)	Multiple (circular)	

N

0 0.75 1.5 Mi

Perbetsky Biological Assessment: CNDDB Vicinity

Applicant: Dustin Perbetsky
Site Address: 22698 Elk Mountain Rd. Upper Lake, CA 95469
APN(s): 011-019-230
Study Area Acreage: 3.38

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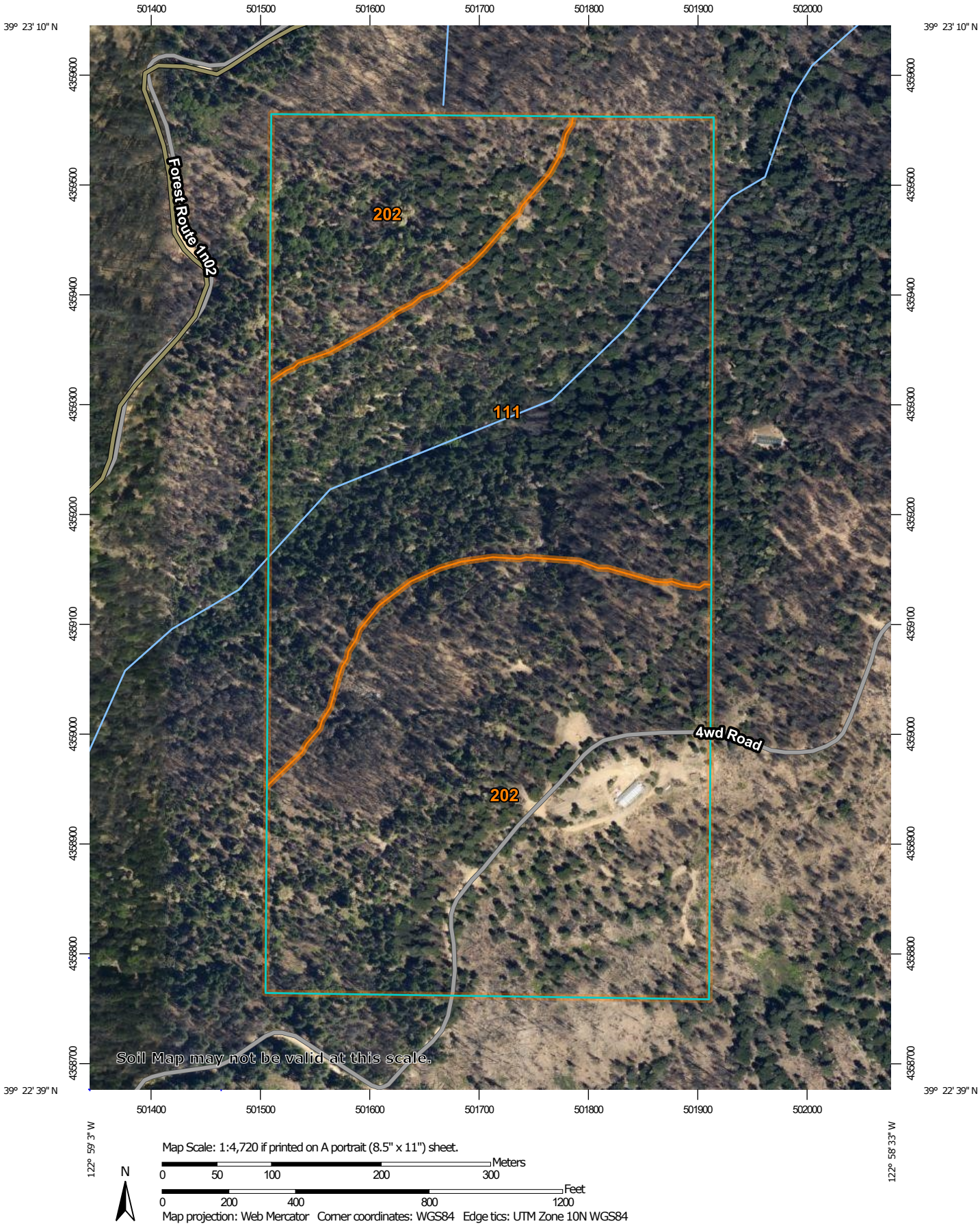
natural resource planning & management

PLSS: Section 27, T18N, R10W, MDBM

Lake Pillsbury USGS 7.5 Minute Quadrangle

Sheet: 5 of 9

Soil Map—Lake County, California
(Perbetsky 22698 parcel)



Map Scale: 1:4,720 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lake County, California
Survey Area Data: Version 17, Jun 1, 2020

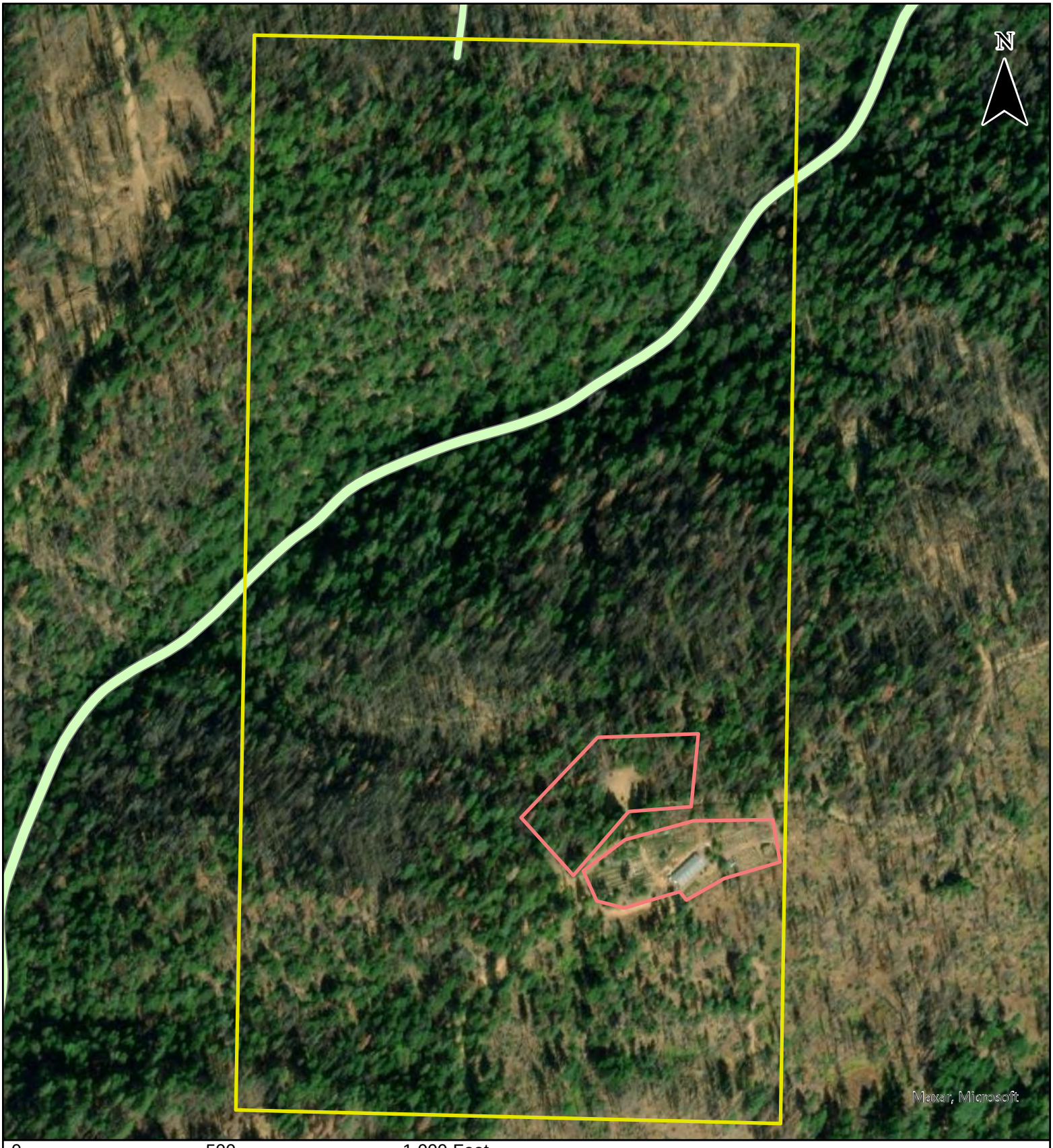
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2019—Jun 3, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
111	Bamtush-Speaker-Sanhedrin gravelly loams, 50 to 75 percent slopes	34.1	42.4%
202	Sanhedrin-Kekawaka-Speaker complex, 30 to 50 percent slopes	46.5	57.6%
Totals for Area of Interest		**80.6**	**100.0%**



Perbetsky Biological Assessment: National Wetland Inventory

- Study Area
- Parcel Boundary

Wetland Type

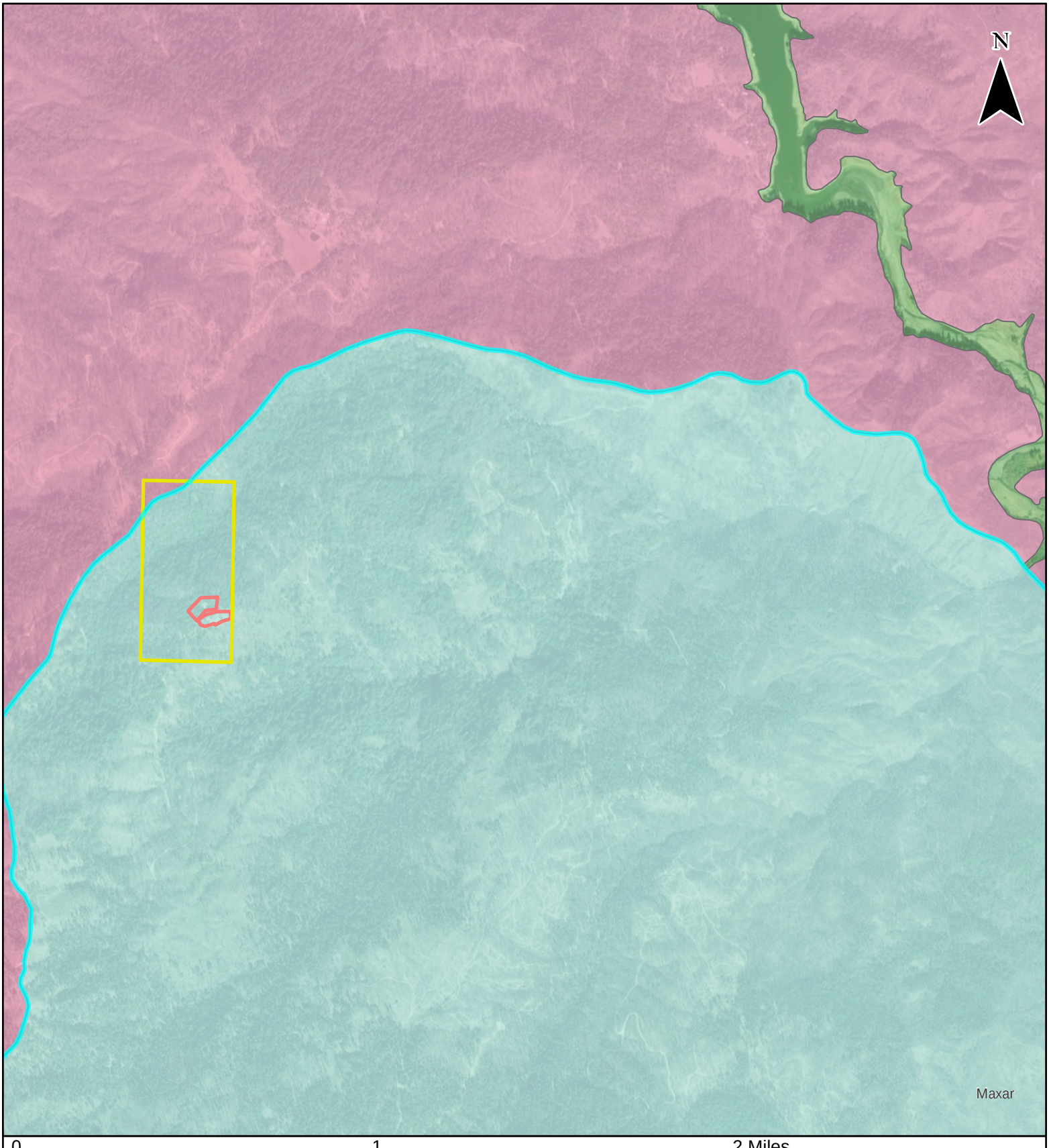
- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

Applicant: Dustin Perbetsky
Site Address: 22698 Elk Mountain Rd. Upper Lake, CA 95469
APN(s): 011-019-230
Study Area Acreage: 3.38

JACOBSZOON & ASSOCIATES, INC.
natural resource planning & management

PLSS: Section 27, T18N, R10W, MDBM

Lake Pillsbury USGS 7.5 Minute Quadrangle



Perbetsky Biological Assessment: FEMA NFHL

Study Area
Parcel Boundary

Flood Zone Type
100-Year Flood Zone
Area of Undetermined Flood Hazard
Area Not Included (Mendocino Nat. For.)

Applicant: Dustin Perbetsky
Site Address: 22698 Elk Mountain Rd.
Upper Lake, CA 95469
APN(s): 011-019-230
Study Area Acreage: 3.38

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Lake Pillsbury USGS 7.5 Minute Quadrangle

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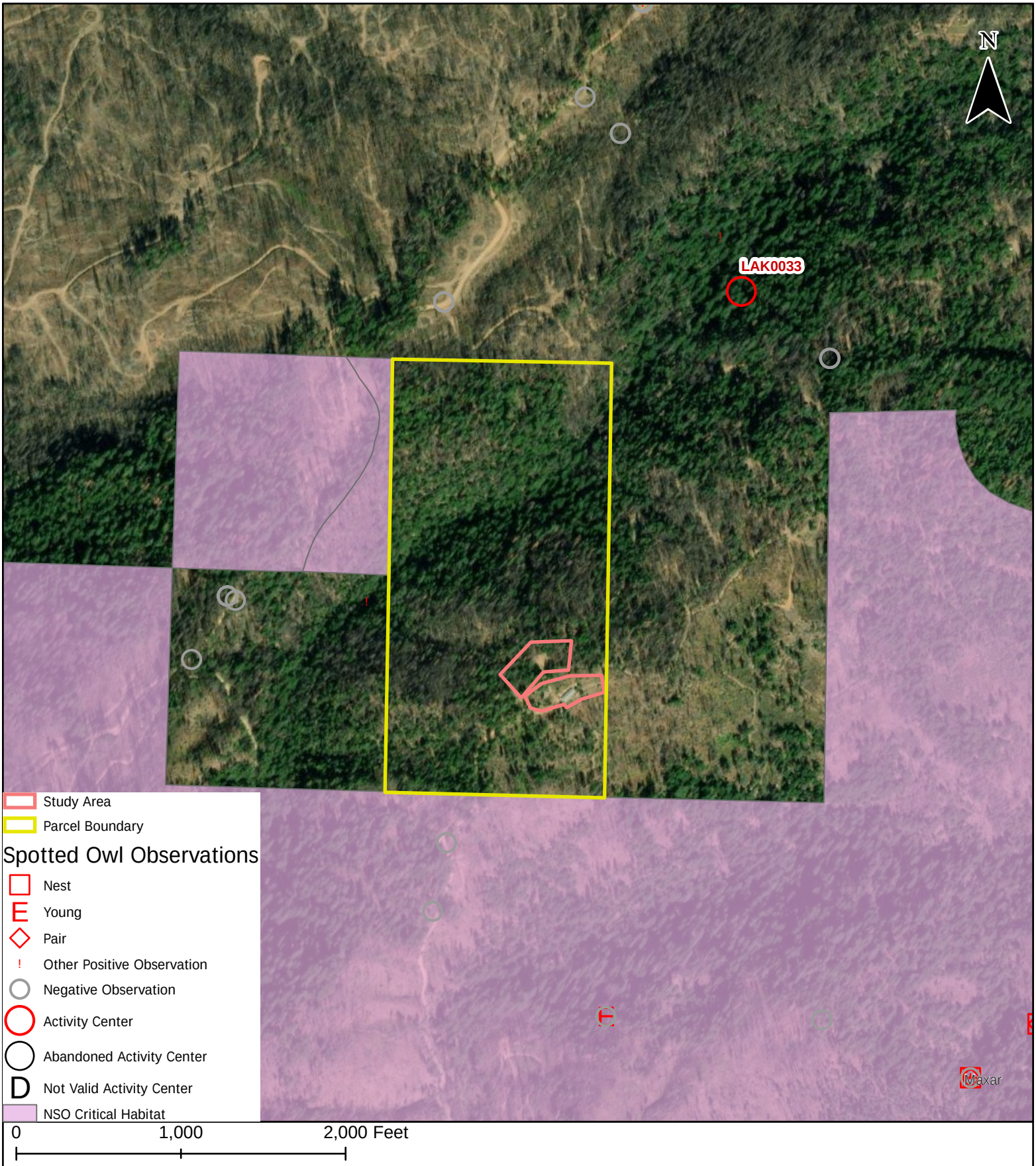

Perbetsky Biological Assessment: NSO Activity Center

Applicant:	Dustin Perbetsky
Site Address:	22698 Elk Mountain Rd Upper Lake, CA 95469
APN(s):	011-019-230
Study Area Acreage:	3.38

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Lake Pillsbury USGS 7.5 Minute Quadrangle

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Appendix E: Supporting Documents

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

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

Search Criteria

Found in Quads 3912351, 3912258, 3912257, 3912341, 3912248, 3912247, 3912331 3912238 and 3912237;

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

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Anisocarpus scabridus	scabrid alpine tarplant	Asteraceae	perennial herb	(Jun)Jul-Aug(Sep)	1B.3	S3	G3
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	(Jan)Mar-May(Jul)	1B.3	S3	G5T3
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	May-Jul(Aug)	4.2	S3	G3
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	4.2	S3	G3
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	Jun-Sep	4.3	S4	G4
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	Apr-Jul	4.3	S4	G4T4
Boechera ultraalsa	Snow Mountain rockcress	Brassicaceae	perennial herb	Jun-Jul	1B.1	S1	G1
Botrychium crenulatum	scalloped moonwort	Ophioglossaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S3	G4
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Calycadenia micrantha	small-flowered calycadenia	Asteraceae	annual herb	Jun-Sep	1B.2	S2	G2
Calystegia collina ssp. tridactylosa	three-fingered morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	1B.2	S1	G4T1
Ceanothus pinetorum	Kern ceanothus	Rhamnaceae	perennial evergreen shrub	May-Jul	4.3	S3	G3
Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	4.2	S3	G5T3
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	May-Jun	4.3	S4	G4
Collomia tracyi	Tracy's collomia	Polemoniaceae	annual herb	Jun-Jul	4.3	S4	G4
Cuscuta jepsonii	Jepson's dodder	Convolvulaceae	annual vine (parasitic)	(Jun)Jul-Sep	1B.2	S1	G1
	mountain lady's-	Orchidaceae	perennial rhizomatous	Mar-Aug	4.2	S4	G4

Cypripedium montanum	slipper		herb				
Didymodon californicus	California beard-moss	Pottiaceae	moss		4.2	S2S3	G2G3
Downingia willamettensis	Cascade downingia	Campanulaceae	annual herb	Jun-Jul(Sep)	2B.2	S2	G4
Epilobium nivium	Snow Mountain willowherb	Onagraceae	perennial herb	Jun-Oct	1B.2	S2S3	G2G3
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	Jun-Sep	1B.2	S2	G2
Eriogonum strictum var. greenei	Greene's buckwheat	Polygonaceae	perennial herb	Jul-Sep	4.3	S4	G5T4
Eucephalus glabratus	Siskiyou aster	Asteraceae	perennial herb	Jul-Sep	4.3	S3	G4
Fritillaria glauca	Siskiyou fritillaria	Liliaceae	perennial bulbiferous herb	(Apr-May)Jun-Jul	4.2	S3	G3G4
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		1B.3	S2	G2
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	Jun-Nov	4.2	S3	G3
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	May-Aug	1B.2	S2S3	G2G3
Hesperolinon drymarioides	drymaria-like western flax	Linaceae	annual herb	May-Aug	1B.2	S2	G2
Horkelia bolanderi	Bolander's horkelia	Rosaceae	perennial herb	(May)Jun-Aug	1B.2	S1	G1
Iliamna bakeri	Baker's globe mallow	Malvaceae	perennial herb	Jun-Sep	4.2	S3	G4
Lewisia stebbinsii	Stebbins' lewisia	Montiaceae	perennial herb	May-Jul	1B.2	S2	G2
Lupinus antoninus	Anthony Peak lupine	Fabaceae	perennial herb	May-Jul	1B.2	S2	G2
Ophioglossum pusillum	northern adder's-tongue	Ophioglossaceae	perennial rhizomatous herb	Jul	2B.2	S1	G5
Plagiobothrys lithocaryus	Mayacamas popcornflower	Boraginaceae	annual herb	Apr-May	1A	SH	GH
Sidalcea hickmanii ssp. pillsburiensis	Lake Pillsbury checkerbloom	Malvaceae	perennial herb	Jul-Aug	1B.2	S1	G3T1
Sidalcea hickmanii ssp. viridis	Marin checkerbloom	Malvaceae	perennial herb	May-Jun	1B.1	SH	G3TH
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	Malvaceae	perennial herb	(Jun)Jul-Aug	1B.2	S2	G5T2
Stipa lemmonii var. pubescens	pubescent needle grass	Poaceae	perennial herb	May-Jul	3.2	S1?	G5T1?Q
Tortella alpicola	alpine crisp-moss	Pottiaceae	moss		2B.3	S1	G5?
Trichodon cylindricus	cylindrical trichodon	Ditrichaceae	moss		2B.2	S2	G4

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 17 May 2021].

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The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

CNDDB 9-Quad Species List 182 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912351	SANHEDRIN MTN.	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912258	HULL MOUNTAIN	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912257	KNEECAP RIDGE	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912341	VAN ARSDALE RESERVOIR	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912248	LAKE PILLSBURY	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912247	CROCKETT PEAK	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912331	POTTER VALLEY	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912237	POTATO HILL	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912238	ELK MOUNTAIN	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Birds	Accipiter gentilis	northern goshawk	ABNKC12060	None	None	SSC	-	3912237	POTATO HILL	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter gentilis
Animals - Birds	Accipiter gentilis	northern goshawk	ABNKC12060	None	None	SSC	-	3912238	ELK MOUNTAIN	Mapped	Animals - Birds - Accipitridae - Accipiter gentilis
Animals - Birds	Accipiter gentilis	northern goshawk	ABNKC12060	None	None	SSC	-	3912331	POTTER VALLEY	Mapped	Animals - Birds - Accipitridae - Accipiter gentilis
Animals - Birds	Accipiter gentilis	northern goshawk	ABNKC12060	None	None	SSC	-	3912257	KNEECAP RIDGE	Mapped	Animals - Birds - Accipitridae - Accipiter gentilis
Animals - Birds	Accipiter gentilis	northern goshawk	ABNKC12060	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Mapped	Animals - Birds - Accipitridae - Accipiter gentilis
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3912351	SANHEDRIN MTN.	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	3912341	VAN ARSDALE RESERVOIR	Mapped and Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	3912248	LAKE PILLSBURY	Mapped and Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3912258	HULL MOUNTAIN	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3912238	ELK MOUNTAIN	Unprocessed	Animals - Birds - Ardeidae - Ardea alba

Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3912258	HULL MOUNTAIN	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Progne subis	purple martin	ABPAU01010	None	None	SSC	-	3912238	ELK MOUNTAIN	Mapped and Unprocessed	Animals - Birds - Hirundinidae - Progne subis
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3912331	POTTER VALLEY	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3912331	POTTER VALLEY	Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3912248	LAKE PILLSBURY	Mapped and Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3912341	VAN ARSDALE RESERVOIR	Mapped and Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912237	POTATO HILL	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912238	ELK MOUNTAIN	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912247	CROCKETT PEAK	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912248	LAKE PILLSBURY	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912257	KNEECAP RIDGE	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912258	HULL MOUNTAIN	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912331	POTTER VALLEY	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912341	VAN ARSDALE RESERVOIR	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina

Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912351	SANHEDRIN MTN.	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Crustaceans	Pacifastacus leniusculus klamathensis	Klamath crayfish	ICMAL31042	None	None	-	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Crustaceans - Astacidae - Pacifastacus leniusculus klamathensis
Animals - Fish	Hysterocarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Fish - Embiotocidae - Hysterocarpus traskii pomo
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	3912257	KNEECAP RIDGE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	3912238	ELK MOUNTAIN	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Insects	Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-	-	3912237	POTATO HILL	Mapped	Animals - Insects - Elmidae - Atractelmis wawona
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Mammals	Gulo gulo	California wolverine	AMAJF03010	None	Threatened	FP	-	3912258	HULL MOUNTAIN	Mapped	Animals - Mammals - Mustelidae - Gulo gulo
Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	3912258	HULL MOUNTAIN	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis

Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	3912351	SANHEDRIN MTN.	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	3912341	VAN ARSDALE RESERVOIR	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	3912248	LAKE PILLSBURY	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	3912247	CROCKETT PEAK	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	3912237	POTATO HILL	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912237	POTATO HILL	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912247	CROCKETT PEAK	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912248	LAKE PILLSBURY	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912257	KNEECAP RIDGE	Unprocessed	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912351	SANHEDRIN MTN.	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912258	HULL MOUNTAIN	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3912238	ELK MOUNTAIN	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus

Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-	-	3912247	CROCKETT PEAK	Mapped	Animals - Mammals - Vespertilionidae - Lasionycteris noctivagans
Animals - Mammals	Lasiurus blossevillii	western red bat	AMACC05060	None	None	SSC	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillii
Animals - Mammals	Lasiurus blossevillii	western red bat	AMACC05060	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillii
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Myotis thysanodes	fringed myotis	AMACC01090	None	None	-	-	3912248	LAKE PILLSBURY	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis thysanodes
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912248	LAKE PILLSBURY	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912237	POTATO HILL	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912238	ELK MOUNTAIN	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912331	POTTER VALLEY	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912257	KNEECAP RIDGE	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912258	HULL MOUNTAIN	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Plants - Bryophytes	Trichodon cylindricus	cylindrical trichodon	NBMUS7N020	None	None	-	2B.2	3912258	HULL MOUNTAIN	Mapped and Unprocessed	Plants - Bryophytes - Ditrichaceae - Trichodon cylindricus

Plants - Bryophytes	Trichodon cylindricus	cylindrical trichodon	NBMUS7N020	None	None	-	2B.2	3912351	SANHEDRIN MTN.	Mapped	Plants - Bryophytes - Ditrichaceae - Trichodon cylindricus
Plants - Bryophytes	Trichodon cylindricus	cylindrical trichodon	NBMUS7N020	None	None	-	2B.2	3912341	VAN ARSDALE RESERVOIR	Mapped	Plants - Bryophytes - Ditrichaceae - Trichodon cylindricus
Plants - Bryophytes	Grimmia torenii	Toren's grimmia	NBMUS32330	None	None	-	1B.3	3912238	ELK MOUNTAIN	Mapped	Plants - Bryophytes - Grimmiaceae - Grimmia torenii
Plants - Bryophytes	Grimmia torenii	Toren's grimmia	NBMUS32330	None	None	-	1B.3	3912248	LAKE PILLSBURY	Mapped	Plants - Bryophytes - Grimmiaceae - Grimmia torenii
Plants - Bryophytes	Didymodon californicus	California beard-moss	NBMUS2C0N0	None	None	-	4.2	3912247	CROCKETT PEAK	Unprocessed	Plants - Bryophytes - Pottiaceae - Didymodon californicus
Plants - Vascular	Asclepias solanoana	serpentine milkweed	PDASC021R0	None	None	-	4.2	3912247	CROCKETT PEAK	Unprocessed	Plants - Vascular - Apocynaceae - Asclepias solanoana
Plants - Vascular	Asclepias solanoana	serpentine milkweed	PDASC021R0	None	None	-	4.2	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Apocynaceae - Asclepias solanoana
Plants - Vascular	Asclepias solanoana	serpentine milkweed	PDASC021R0	None	None	-	4.2	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Apocynaceae - Asclepias solanoana
Plants - Vascular	Anisocarpus scabridus	scabrid alpine tarplant	PDASTDU020	None	None	-	1B.3	3912237	POTATO HILL	Mapped	Plants - Vascular - Asteraceae - Anisocarpus scabridus
Plants - Vascular	Anisocarpus scabridus	scabrid alpine tarplant	PDASTDU020	None	None	-	1B.3	3912258	HULL MOUNTAIN	Mapped	Plants - Vascular - Asteraceae - Anisocarpus scabridus
Plants - Vascular	Anisocarpus scabridus	scabrid alpine tarplant	PDASTDU020	None	None	-	1B.3	3912351	SANHEDRIN MTN.	Mapped	Plants - Vascular - Asteraceae - Anisocarpus scabridus
Plants - Vascular	Anisocarpus scabridus	scabrid alpine tarplant	PDASTDU020	None	None	-	1B.3	3912247	CROCKETT PEAK	Mapped	Plants - Vascular - Asteraceae - Anisocarpus scabridus
Plants - Vascular	Calycadenia micrantha	small-flowered calycadenia	PDAST1P0C0	None	None	-	1B.2	3912238	ELK MOUNTAIN	Mapped	Plants - Vascular - Asteraceae - Calycadenia micrantha
Plants - Vascular	Calycadenia micrantha	small-flowered calycadenia	PDAST1P0C0	None	None	-	1B.2	3912237	POTATO HILL	Mapped	Plants - Vascular - Asteraceae - Calycadenia micrantha
Plants - Vascular	Eucephalus glabratus	Siskiyou aster	PDASTEC030	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Asteraceae - Eucephalus glabratus
Plants - Vascular	Hemizonia congesta ssp. calyculata	Mendocino tarplant	PDAST4R063	None	None	-	4.3	3912238	ELK MOUNTAIN	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. calyculata
Plants - Vascular	Hackelia amethystina	amethyst stickseed	PDBOR0G010	None	None	-	4.3	3912247	CROCKETT PEAK	Unprocessed	Plants - Vascular - Boraginaceae - Hackelia amethystina

Plants - Vascular	Hackelia amethystina	amethyst stickseed	PDBOR0G010	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Boraginaceae - Hackelia amethystina
Plants - Vascular	Hackelia amethystina	amethyst stickseed	PDBOR0G010	None	None	-	4.3	3912351	SANHEDRIN MTN.	Unprocessed	Plants - Vascular - Boraginaceae - Hackelia amethystina
Plants - Vascular	Hackelia amethystina	amethyst stickseed	PDBOR0G010	None	None	-	4.3	3912257	KNEECAP RIDGE	Unprocessed	Plants - Vascular - Boraginaceae - Hackelia amethystina
Plants - Vascular	Hackelia amethystina	amethyst stickseed	PDBOR0G010	None	None	-	4.3	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Boraginaceae - Hackelia amethystina
Plants - Vascular	Plagiobothrys lithocaryus	Mayacamas popcornflower	PDBOR0V0P0	None	None	-	1A	3912331	POTTER VALLEY	Mapped	Plants - Vascular - Boraginaceae - Plagiobothrys lithocaryus
Plants - Vascular	Boechera ultraalsa	Snow Mountain rockcress	PDBRA40140	None	None	-	1B.1	3912237	POTATO HILL	Mapped	Plants - Vascular - Brassicaceae - Boechera ultraalsa
Plants - Vascular	Downingia willamettensis	Cascade downingia	PDCAM060E0	None	None	-	2B.2	3912237	POTATO HILL	Mapped	Plants - Vascular - Campanulaceae - Downingia willamettensis
Plants - Vascular	Calystegia collina ssp. tridactylosa	three-fingered morning-glory	PDCON04036	None	None	-	1B.2	3912258	HULL MOUNTAIN	Mapped	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. tridactylosa
Plants - Vascular	Cuscuta jepsonii	Jepson's dodder	PDCUS011T0	None	None	-	1B.2	3912341	VAN ARSDALE RESERVOIR	Mapped	Plants - Vascular - Convolvulaceae - Cuscuta jepsonii
Plants - Vascular	Cuscuta jepsonii	Jepson's dodder	PDCUS011T0	None	None	-	1B.2	3912238	ELK MOUNTAIN	Mapped	Plants - Vascular - Convolvulaceae - Cuscuta jepsonii
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3912247	CROCKETT PEAK	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3912248	LAKE PILLSBURY	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3912237	POTATO HILL	Mapped and Unprocessed	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Astragalus breweri	Brewer's milk-vetch	PDFAB0F1J0	None	None	-	4.2	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Fabaceae - Astragalus breweri
Plants - Vascular	Astragalus clevelandii	Cleveland's milk-vetch	PDFAB0F250	None	None	-	4.3	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Fabaceae - Astragalus clevelandii
Plants - Vascular	Astragalus rattanii var. rattanii	Rattan's milk-vetch	PDFAB0F7E2	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Fabaceae - Astragalus rattanii var. rattanii
Plants - Vascular	Lupinus antoninus	Anthony Peak lupine	PDFAB2B0C0	None	None	-	1B.2	3912258	HULL MOUNTAIN	Mapped	Plants - Vascular - Fabaceae - Lupinus antoninus

Plants - Vascular	Fritillaria agrestis	stinkbells	PMLIL0V010	None	None	-	4.2	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria agrestis
Plants - Vascular	Fritillaria glauca	Siskiyou fritillaria	PMLIL0V090	None	None	-	4.2	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria glauca
Plants - Vascular	Fritillaria glauca	Siskiyou fritillaria	PMLIL0V090	None	None	-	4.2	3912351	SANHEDRIN MTN.	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria glauca
Plants - Vascular	Fritillaria glauca	Siskiyou fritillaria	PMLIL0V090	None	None	-	4.2	3912247	CROCKETT PEAK	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria glauca
Plants - Vascular	Fritillaria glauca	Siskiyou fritillaria	PMLIL0V090	None	None	-	4.2	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria glauca
Plants - Vascular	Fritillaria purdyi	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria purdyi
Plants - Vascular	Fritillaria purdyi	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria purdyi
Plants - Vascular	Fritillaria purdyi	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3912351	SANHEDRIN MTN.	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria purdyi
Plants - Vascular	Fritillaria purdyi	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria purdyi
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912341	VAN ARSDALE RESERVOIR	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912351	SANHEDRIN MTN.	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912247	CROCKETT PEAK	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912248	LAKE PILLSBURY	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912331	POTTER VALLEY	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912238	ELK MOUNTAIN	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912237	POTATO HILL	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon drymarioides	drymaria-like western flax	PDLIN01090	None	None	-	1B.2	3912237	POTATO HILL	Mapped	Plants - Vascular - Linaceae - Hesperolinon drymarioides
Plants - Vascular	Hesperolinon drymarioides	drymaria-like western flax	PDLIN01090	None	None	-	1B.2	3912238	ELK MOUNTAIN	Mapped	Plants - Vascular - Linaceae - Hesperolinon drymarioides
Plants - Vascular	Iliamna bakeri	Baker's globe mallow	PDMAL0K010	None	None	-	4.2	3912351	SANHEDRIN MTN.	Mapped	Plants - Vascular - Malvaceae - Iliamna bakeri
Plants - Vascular	Sidalcea hickmanii ssp. pillsburiensis	Lake Pillsbury checkerbloom	PDMAL110A5	None	None	-	1B.2	3912248	LAKE PILLSBURY	Mapped	Plants - Vascular - Malvaceae - Sidalcea hickmanii ssp. pillsburiensis

Plants - Vascular	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3912248	LAKE PILLSBURY	Mapped	Plants - Vascular - Malvaceae - Sidalcea oregana ssp. hydrophila
Plants - Vascular	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3912247	CROCKETT PEAK	Mapped	Plants - Vascular - Malvaceae - Sidalcea oregana ssp. hydrophila
Plants - Vascular	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3912238	ELK MOUNTAIN	Mapped	Plants - Vascular - Malvaceae - Sidalcea oregana ssp. hydrophila
Plants - Vascular	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3912351	SANHEDRIN MTN.	Mapped	Plants - Vascular - Malvaceae - Sidalcea oregana ssp. hydrophila
Plants - Vascular	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3912258	HULL MOUNTAIN	Mapped	Plants - Vascular - Malvaceae - Sidalcea oregana ssp. hydrophila
Plants - Vascular	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3912257	KNEECAP RIDGE	Mapped	Plants - Vascular - Malvaceae - Sidalcea oregana ssp. hydrophila
Plants - Vascular	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3912237	POTATO HILL	Mapped	Plants - Vascular - Malvaceae - Sidalcea oregana ssp. hydrophila
Plants - Vascular	Claytonia obovata	Rydberg's spring beauty	PDPOR03150	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Montiaceae - Claytonia obovata
Plants - Vascular	Lewisia stebbinsii	Stebbins' lewisia	PDPOR040G0	None	None	-	1B.2	3912258	HULL MOUNTAIN	Mapped	Plants - Vascular - Montiaceae - Lewisia stebbinsii
Plants - Vascular	Clarkia gracilis ssp. tracyi	Tracy's clarkia	PDONA050J4	None	None	-	4.2	3912238	ELK MOUNTAIN	Unprocessed	Plants - Vascular - Onagraceae - Clarkia gracilis ssp. tracyi
Plants - Vascular	Clarkia gracilis ssp. tracyi	Tracy's clarkia	PDONA050J4	None	None	-	4.2	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Onagraceae - Clarkia gracilis ssp. tracyi
Plants - Vascular	Epilobium nivium	Snow Mountain willowherb	PDONA060M0	None	None	-	1B.2	3912237	POTATO HILL	Mapped	Plants - Vascular - Onagraceae - Epilobium nivium
Plants - Vascular	Epilobium nivium	Snow Mountain willowherb	PDONA060M0	None	None	-	1B.2	3912247	CROCKETT PEAK	Mapped	Plants - Vascular - Onagraceae - Epilobium nivium
Plants - Vascular	Epilobium nivium	Snow Mountain willowherb	PDONA060M0	None	None	-	1B.2	3912258	HULL MOUNTAIN	Mapped	Plants - Vascular - Onagraceae - Epilobium nivium
Plants - Vascular	Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Onagraceae - Epilobium septentrionale
Plants - Vascular	Ophioglossum pusillum	northern adder's-tongue	PPOPH020F0	None	None	-	2B.2	3912247	CROCKETT PEAK	Mapped	Plants - Vascular - Ophioglossaceae - Ophioglossum pusillum
Plants - Vascular	Cypripedium montanum	mountain lady's-slipper	PMORC0Q080	None	None	-	4.2	3912257	KNEECAP RIDGE	Unprocessed	Plants - Vascular - Orchidaceae - Cypripedium montanum
Plants - Vascular	Erythranthe nudata	bare monkeyflower	PDSCR1B200	None	None	-	4.3	3912238	ELK MOUNTAIN	Unprocessed	Plants - Vascular - Phrymaceae - Erythranthe nudata
Plants - Vascular	Erythranthe nudata	bare monkeyflower	PDSCR1B200	None	None	-	4.3	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Phrymaceae - Erythranthe nudata

Plants - Vascular	Stipa lemmonii var. pubescens	pubescent needle grass	PMPOA5X0F2	None	None	-	3.2	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Poaceae - Stipa lemmonii var. pubescens
Plants - Vascular	Collomia diversifolia	serpentine collomia	PDPLM02020	None	None	-	4.3	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Polemoniaceae - Collomia diversifolia
Plants - Vascular	Collomia diversifolia	serpentine collomia	PDPLM02020	None	None	-	4.3	3912247	CROCKETT PEAK	Unprocessed	Plants - Vascular - Polemoniaceae - Collomia diversifolia
Plants - Vascular	Collomia tracyi	Tracy's collomia	PDPLM020B0	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Polemoniaceae - Collomia tracyi
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912248	LAKE PILLSBURY	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912351	SANHEDRIN MTN.	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Leptosiphon rattanii	Rattan's leptosiphon	PDPLM09110	None	None	-	4.3	3912351	SANHEDRIN MTN.	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon rattanii
Plants - Vascular	Leptosiphon rattanii	Rattan's leptosiphon	PDPLM09110	None	None	-	4.3	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon rattanii
Plants - Vascular	Leptosiphon rattanii	Rattan's leptosiphon	PDPLM09110	None	None	-	4.3	3912257	KNEECAP RIDGE	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon rattanii
Plants - Vascular	Leptosiphon rattanii	Rattan's leptosiphon	PDPLM09110	None	None	-	4.3	3912247	CROCKETT PEAK	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon rattanii
Plants - Vascular	Leptosiphon rattanii	Rattan's leptosiphon	PDPLM09110	None	None	-	4.3	3912248	LAKE PILLSBURY	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon rattanii
Plants - Vascular	Leptosiphon rattanii	Rattan's leptosiphon	PDPLM09110	None	None	-	4.3	3912237	POTATO HILL	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon rattanii
Plants - Vascular	Eriogonum nervulosum	Snow Mountain buckwheat	PDPGN08440	None	None	-	1B.2	3912247	CROCKETT PEAK	Mapped	Plants - Vascular - Polygonaceae - Eriogonum nervulosum
Plants - Vascular	Eriogonum umbellatum var. bahiiforme	bay buckwheat	PDPGN086UB	None	None	-	4.2	3912247	CROCKETT PEAK	Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum umbellatum var. bahiiforme

Plants - Vascular	Eriogonum umbellatum var. bahiiforme	bay buckwheat	PDPGN086UB	None	None	-	4.2	3912258	HULL MOUNTAIN	Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum umbellatum var. bahiiforme
Plants - Vascular	Eriogonum umbellatum var. bahiiforme	bay buckwheat	PDPGN086UB	None	None	-	4.2	3912351	SANHEDRIN MTN.	Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum umbellatum var. bahiiforme
Plants - Vascular	Ceanothus pinetorum	Kern ceanothus	PDRHA04130	None	None	-	4.3	3912341	VAN ARSDALE RESERVOIR	Unprocessed	Plants - Vascular - Rhamnaceae - Ceanothus pinetorum
Plants - Vascular	Horkelia bolanderi	Bolander's horkelia	PDROS0W011	None	None	-	1B.2	3912237	POTATO HILL	Mapped	Plants - Vascular - Rosaceae - Horkelia bolanderi

United States Department of the Interior

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In Reply Refer To: August 31, 2021
Consultation Code: 08EACT00-2021-SLI-0462
Event Code: 08EACT00-2021-E-01112
Project Name: Perbetsky 22698 Elk Mt. Rd. Biological Assessment

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, 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 U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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:

Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

Project Summary

Consultation Code: 08EACT00-2021-SLI-0462
Event Code: 08EACT00-2021-E-01112
Project Name: Perbetsky 22698 Elk Mt. Rd. Biological Assessment
Project Type: DEVELOPMENT
Project Description: Bio/botanical assessment
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.3819273,-122.98014018664375,14z

Counties: Lake County, California

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

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

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

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

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina*	Threatened

There is **final** critical habitat for this species. Your location overlaps the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/1123

Amphibians

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

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

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina*	Final

https://ecos.fws.gov/ecp/species/1123#crithab

BIOLOGICAL ASSESSMENT

22698 ELK MOUNTAIN ROAD [APN 001-037-25]
LAKE COUNTY, CALIFORNIA

SUBMITTED TO:

California Cannabis Consultants
22698 Elk Mountain Road
Upper Lake, California 95469

PREPARED BY:

Pinecrest Environmental Consulting Inc.
5627 Telegraph Avenue, Suite 420
Oakland, California 94609
(510) 881-3039

PROJECT № CCC031

Pinecrest Environmental Consulting

APRIL 10, 2020

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this reconnaissance-level Biological Assessment (BA) is to evaluate the existence of special-status species (SSS) and/or habitats, as well as assess the potential for SSS listed in Appendix A to occur on or near the site of commercial cultivation activities, pursuant to applicable regulations from County of Lake and the State of California. This BA also analyzes the potential for jurisdictional wetlands and other waters of the U.S. to exist onsite, and classifies landforms that may potentially convey sediment to waters of the U.S. including dry creeks, washes, swales, gullys, and other erosional features. Also included is a set of Best Management Practices (BMPs) that are adapted from a variety of sources including State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ and other state and local ordinances.

1.2 LOCATION

1.2.1 Site Overview

The project site is located at 22698 Elk Mountain Rd. in unincorporated Lake County, near the community of Rice Fork (Figure 1). The parcel is located in Section 27, Township 18 North, Range 10 West, on the USGS Lake Pillsbury 7.5 minute quad (Figure 2). The approximate latitude and longitude of the centroid of the parcel is 39.3810 (N), -122.9800 (W). The parcel is designated Assessor's Parcel Number 001-037-25, is deeded 80.57 acres, is zoned "TPZ", and is under the jurisdiction of the Central Valley (Region 1) Regional Water Quality Control Board (RWQCB), and the Northern Region (District 1) of the California Department of Fish & Wildlife (CDFW). The parcel is not located in a medium or high priority groundwater basin as designated by the California Department of Water Resources (DWR). The parcel is accessed via graded dirt road (Figure 5) that is shown on some maps as Forest Route 18N14, approximately 1.25 miles west of Little Squaw Valley (Figure 2). The road is open seasonally by the Forest Service, and continues through easement for 0.6 miles before the junction with FR 18N25A that extends to the northeast for 0.1 miles before encountering a locking manual entry metal gate at the limit of the property (Figure 6).

1.2.2 Critical Habitat

Federal Critical Habitat (FCH) is designated by the U.S. Fish & Wildlife Service (USFWS) and provides special protections for habitats considered important for long-term population persistence of endangered or threatened species. There is no FCH onsite for any animal or plant species (Appendix D). The nearest FCH is located immediately offsite to the west and south for Northern Spotted Owl (*Strix occidentalis*; NSO). This FCH is the edge of a larger continuous network of FCH for NSO in

northern Lake County (Appendix D). The next nearest species with designated FCH is Chinook salmon (*Oncorhynchus tshawytscha*) located 1.5 miles north of the project parcel in the Eel River, ending at Scott Dam. There is no FCH for any other species within 10 miles of the project parcel.

1.2.3 Special-Status Species Occurrences

Special-status species (SSS) are those species that receive special protections under either local, State, or Federal law and include both State and Federally Endangered and Threatened species of animals and plants, as well as candidate listing species and other species or populations of special concern for which additional information is required. The California Natural Diversity Database (CNDDB) provides information on most known SSS occurrences in the State of California. A description of the habitat requirements and likelihood of occurrence of potential SSS on the project parcel is provided in Appendix A based the CNDDB database, published scientific literature, and the expertise of PEC staff, with all SSS known from a 5 mile radius around the project parcel highlighted. Additionally, map-based representation of all of the SSS within a 2 mile radius around the project site is provided in Appendix C.

1.2.3.1 *Animals*

There are a total of 9 special-status animal species within 5 miles of the project parcel (Appendix A). There are no known special-status animal species known from the project parcel (Appendix C). The nearest known occurrence of special-status animal species is Northern spotted owl (*Strix occidentalis*; NSO) located immediately offsite to the west (Appendix E). The next nearest known occurrence of special-status animal species is Northern goshawk (*Accipiter gentilis*) located approximately 0.3 miles southwest of the project parcel along Log Ridge. The next nearest known occurrence of special-status animal species is Western pond turtle (*Emys marmorata*) located approximately 0.9 miles northwest of the project parcel near Soda Creek. The next nearest known occurrences of special-status animal species are Fisher (*Pekania pennanti*), Humboldt marten (*Martes caurina humboldtensis*), and Osprey (*Pandion haliaetus*) located approximately 1.1 miles northeast of the project parcel near Lake Pilsbury. The next nearest known occurrence of special-status animal species is Foothill yellow-legged frog (*Rana boylii*; FYLF) located approximately 1.4 miles north of the project parcel near Scott Dam Road. The next nearest known occurrence of special-status animal species is Bald eagle (*Haliaeetus leucocephalus*) located approximately 3.2 miles east of the project parcel near Bear Mountain. The next nearest known occurrence of special-status animal species is Purple martin (*Progne subis*) located approximately 3.2 miles south of the project parcel near Parramore Creek. There are no other known occurrences of special-status animal species within 5 miles of the parcel.

1.2.3.2 *Plants*

There are a total of 5 special-status of vascular plant and one bryophyte known within 5 miles of the project parcel (Appendices A & C). There are no known special-status plant species known from the project parcel. The nearest known occurrences of special-status plant species is Glandular Western flax (*Hesperolinon adenophyllum*) located approximately 0.7 miles east of the project parcel near Packsaddle Creek. The next nearest known occurrence of special-status plant species is Toren's

grimmia (*Grimmia torenii*) located approximately 1.1 miles north of the project parcel near South Ridge. The next nearest known occurrence of special-status plant species is Jepson's dodder (*Cuscuta jepsonii*)located approximately 2.2 miles west of the project parcel near Alder Creek. The next nearest known occurrence of special-status plant species is Marsh checkerbloom (*Sidalcea oregana* ssp. *hydrophila*) located approximately 2.4 miles east of the project parcel near McLeod Ridge. The next nearest known occurrence of special-status plant species is Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*) located approximately 3.7 miles north of the project parcel near Gravelly Valley. The next nearest known occurrence of special-status plant species is Lake Pilsbury checkerbloom (*Sidalcea hickmanii* var. *pillsburiensis*) located approximately 4 miles north of the project parcel near Salt Spring Creek. There are no other known occurrences of special-status plant species within 5 miles of the project parcel.

1.2.4 Landforms & Hydrology

The parcels encompass approximately 80 acres of ridge top and a steeply sloped valley, that is almost entirely covered with coniferous forest (Figure 3). The maximum elevation of the parcel is 3,161 feet above sea level at the southwest corner of the parcel, and the minimum elevation is 2,836 feet above sea level at the northeast corner of the property where Packsaddle Creek exits the parcel (Figure 2). Most of the parcel is steeply sloped with slopes between 30% and 60%, as measured by Suunto PM5 handheld clinometer. The site is drained by the aforementioned Class II reach of Packsaddle Creek, as well as several unnamed Class III ephemeral watercourses that drain to Packsaddle Creek. Packsaddle Creek then flows east and drains towards Rice Fork of the Eel River and Lake Pillsbury. From the outlet at Scott Dam, The Eel River flows west and north for miles before emptying into the Pacific Ocean near Fortuna. Jurisdictional watercourses and wetlands are discussed further in §2.4, below.

1.2.5 Existing Structures

Access to the parcel is via packed earth and gravel driveway (Figure 5) that is controlled via locking manual entry metal gate (Figure 6). The road continues northeast via before entering the cultivation area. The cultivation area contains one greenhouse (Figure 7), an outdoor cultivation pad (Figure 8), a well and several HDPE water storage tanks (Figure 9), and several storage sheds (Figure 10). There were no other built structures onsite at the time of the site visit.

1.2.6 Regional Land Uses

Land uses in the vicinity of the project parcel are primarily private property and Mendocino National Forest (MNF) land. Immediately to the north is the Eel River, and to the east is Lake Pillsbury including the Rice Fork Summer Homes. The remainder of the land to the south and west of the property of Mendocino National Forest. Farther to the north and east is primarily undeveloped brushland, wildlands managed for mixed uses including timber harvest, private grazing land, scattered rural residential parcels and *Cannabis* farms. The nearest year-round communities are Upper Lake to the south, and Potter Valley to the west. The project parcel itself burned severely in the Mendocino Complex Fire in 2018.

1.3 METHODS

1.3.1 Records Search & Literature Review

Based on a review of the literature and all relevant databases, we compiled a list of special-status plant and animal species that are known to occur within 5 miles of the project site, or that occupy habitats that are known to be present on or near the project site (Appendix A). Sources of information referenced include the California Natural Diversity Database (CNDDB 2020), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2020), the California Native Plants Society Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020), and the knowledge of PEC staff familiar with the species and habitats of Lake County. Additional information on sensitive habitats including wetlands was obtained from the USFWS National Wetlands Inventory (NWI 2020), and County of Lake Geographic Information System Portal (Lake Co. 2020). Plant species included here are State or Federally Endangered or Threatened, and/or considered Rare by CDFW, and/or are recognized as special-status species by the CNPS or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or California Species of Special Concern, and/or Fully Protected species by the CDFW. In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the Migratory Bird Treaty Act (MBTA) and California Fish and Wildlife Code.

1.3.2 Field Surveys

A wildlife and botanical survey was conducted at the site on March 16, 2020. The weather was cold and clear and approximately 2" of rain and snow had fallen in the previous two days. Relative humidity was approximately 45% as measured by Kestrel handheld weather station. Starting with the southwest corner of the parcel nearest the gated entrance, the entire project site was surveyed on foot by Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Plant voucher specimens were taken of any species that were not identifiable in the field, and that were not likely to be special-status. The vast majority of species were identifiable at the time of the survey, although some had to be identified based on dry flowering parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters. The field survey was conducted by dividing the outdoor portions of the parcel into zones and cataloging all of the species found in each zone. Each zone was surveyed by walking in parallel lines until the whole zone was covered. Notes were also taken in each zone documenting the general site characteristics and current land uses, as well as any surface erosional features that may require remediation. Botanical specimens were taken back to the laboratory for identification if identification was not possible in the field. If species were not flowering at the time of the survey and morphological characteristics indicated that the species may be special-status, notes were made for a follow-up visit. Birds and nests were identified by call and with binoculars. Vocalizations, scat, tracks, feathers, burrows, nests, and molts were used for identification of animals present onsite. Any onsite aquatic habitats were observed for a minimum of ten minutes without movement in order to observe animals that may hide when approached.

2.0 RESULTS

2.1 NATURAL COMMUNITIES IN THE EVALUATION AREA

Using field surveys, a review of published literature, and the knowledge of PEC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is burned mixed oak and conifer forest with frequent outcrops of chaparral. Grasslands are largely absent from the region although there is floodplain habitat associated with Middle Creek. Towards the north, east, and west the terrain becomes increasingly mountainous while to the south the Middle Creek valley opens up into the Upper Lake agricultural zone (Figure 4).

2.2 NATURAL COMMUNITIES WITHIN THE PROJECT SITE

The entirety of the parcel consists of patches of severely burned mixed conifer forest, with a cultivation area at the top of a hill (Figure 3). Most of the southeast side of the parcel was burned severely during the Mendocino Complex fire in 2018 and the species composition is much simplified compared to a similar site pre-fire. A named Class II watercourse, the headwaters of Packsaddle Creek, passes through the parcel flowing northast. This watercourse does exhibit some differentiated vegetation but is largely the same as the surrounding forest, thus is treated in the same section below. The specific community descriptions below are organized based on the zones that were surveyed, and the floristic results presented in Appendix B. Overall, the north parcel consists of approximately 95% mixed conifer forest and 5% cleared or developed space.

2.2.1 Mixed Coniferous Forest

The entirety of the site is coniferous forest, that was severely burned in the southeastern portion and less so as you move towards the northwest (Figure 4). Canopy tree species onsite include Douglas fir (*Pseudotsuga menziesii*) to 20" diameter-at-breast-height (DBH), Ponderosa pine (*Pinus ponderosa*) to 20" DBH, Canyon live oak (*Quercus chrysolepis*) to 18" DBH, Madroño (*Arbutus menziesii*) to 14" DBH, Sugar pine (*Pinus lambertiana*) to 14" DBH, White fir (*Abies concolor*) to 14" DBH, Black oak (*Quercus kelloggii*) to 12" DBH, Incense cedar (*Calocedrus decurrens*) to 10" DBH, and Bigleaf maple (*Acer macrophyllum*) to 12" DBH. Shrubby species include American mistletoe (*Phoradendron leucarpum*) epiphytes, leather oak (*Quercus durata*), common manzanita (*Arctostaphylos manzanita*), whiteleaf manzanita (*Arctostaphylos viscida*), wax leaf raspberry (*Rubus glaucifolius*), snow bush (*Ceanothus cordulatus*), toyon (*Heteromeles arbutifolia*), Yerba Santa (*Eriodictyon californicum*), silver bush lupine (*Lupinus albifrons*), and mountain mint (*Monardella odoratissima*).

Native herbaceous species include Western bracken fern (*Pteridium aquilinum*), Chinook brome (*Bromus laevipes*), blue wildrye (*Elymus glaucus*), squirreltail grass (*Elymus elymoides*), common yarrow (*Achillea millefolium*), giant mountain dandelion (*Agoseris grandiflora*), woodland madia (*Anisocarpus madioides*), common bedstraw (*Galium aparine*), small tarweed (*Madia exigua*), soap plant (*Chlorogalum pomeridianum*), lowland cudweed (*Gnaphalium palustre*), Pacific sanicle (*Sanicula crassicaulis*), and narrow-leaved mule ears (*Wyethia angustifolia*).

Non-native herbaceous species include soft chess (*Bromus hordeaceous*), ripgut brome (*Bromus diandrus*), wild oats (*Avena barbata*), Zorro fescue (*Festuca myuros*), hairgrass (*Aira caryophyllea*), foxtail barley (*Hordeum murinum*), dogstail grass (*Cynosurus echinatus*), yellow star thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), Italian thistle (*Carduus pycnocephalus*), prickly lettuce (*Lactuca serriola*), smooth cat's ear (*Hypochaeris glabra*), turkey mullein (*Croton setiger*), sweet pea (*Lathyrus latifolius*), English plantain (*Plantago lanceolata*), Klamathweed (*Hypericum perforatum*), flax-leaved horseweed (*Erigeron bonariensis*), big heron bill (*Erodium botrys*), spring vetch (*Vicia sativa*), field parsley (*Torilis arvensis*), sheep sorrel (*Rumex acetocella*), wild geranium (*Geranium molle*), rose clover (*Trifolium hirtum*), and sweet clover (*Melilotus albus*).

Vegetation in the vicinity of the Class III and II watercourses contained some hydrophytic species, as well as many of the ruderal species mentioned above. Species in these areas include Oregon ash (*Fraxinus latifolia*), Himalayan blackberry (*Rubus armeniacus*), curly dock (*Rumex crispus*), miner's lettuce (*Claytonia perfoliata*), and California rose (*Rosa californica*).

2.3 WILDLIFE

Wildlife activity was low due to the time of year and the weather. Wildlife species observed both directly and indirectly include acorn woodpecker (*Melanerpes formicivorus*), crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), Stellar's jay (*Cyanocitta stelleri*), red-tailed hawk (*Buteo jamaicensis*), Western grey squirrel (*Sciurus griseus*), scat of black-tailed jackrabbit (*Lepus californicus*), tracks of Mule deer (*Odocoileus hemionus*), and tracks of feral pig (*Sus scrofa*).

2.4 WATERCOURSES

Jurisdictional watercourses onsite were classified according to the three-tier method used by the California Department of Forestry & Fire Protection (CALFIRE 2017) and included as a reference in Appendix E. All onsite jurisdictional streamcourses are mapped in Figure 3. According to these criteria, there is one seasonal Class II watercourse, the headwaters of Packsaddle Creek, that flows northeast through the parcel and is fed by several other unnamed ephemeral Class III tributaries that all initiate onsite near the top of the ridge. Due to the location of the site near the top of a ridge and at the headwaters of the watershed, there are no other watercourses onsite, and Packsaddle Creek is small with a poorly differentiated riparian corridor (Figure 3).

2.5 POTENTIAL WETLANDS

Potential wetlands onsite were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the Army Corps of Engineers *Wetland Delineation Manual* (ACOE 1987). According to these criteria, there are no areas that appear to qualify as jurisdictional wetlands in the vicinity of the project site including greenhouse and other cultivation areas and support structures, although a protocol-level wetland delineation was not performed. The lack of wetlands is due to the location of the parcel at the top of a ridge, and the steep topography that does not create opportunities for wetlands to form. There are also no seeps that were identified at the time of the survey. It is possible that there may be some wetland habitat along banks of Packsaddle Creek, however anything within 100 feet of the Class II watercourse is protected from disturbance as per by State Water Board *Cannabis* General Order (SWRCB 2019).

2.6 SOILS & GEOMORPHOLOGY

Soil formations on the entirety of the project site are mapped as well-drained Sanhedrin-Kekawaka-Speaker complex (#202), slopes of 30% to 50%, with lesser proportions of Bamtush (3%), Marpa (3%), Maymen (3%), and other unnamed deposits (3%). The soil is classified as no prime farmland and typically exhibits 0% of hydric soils, no flooding frequency, and very low water storage capacity. The parent material is primarily alluvium and not serpentine derived. There is a small portion of Bamtush-Speaker-Sanhedrin gravelly loam (#111), 50 to 70% slopes, along the bottom of the canyon formed by Packsaddle Creek. This complex exhibits lesser proportions of Unnamed (9%) and Deadwood (4%) soils, and is classified as not prime farmland. There are no alkalai or vernal pool soil types onsite. There are also no ultramafic or other serpentine outcrops onsite.

3.0 SUMMARY & CONCLUSIONS

No special-status plant species were observed during the surveys performed at the site in December 2019. No impacts are predicted for any of the State or Federal special-status plant species in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation areas. Activities are proposed to be limited to an existing cleared and fenced pad in the center of the working orchard and will observe all required setbacks from jurisdictional watercourses. There are no vernal pools or serpentine outcrops that possess a high likelihood of containing special-status plant species onsite. The nearest special-status plant species to the project site is Glandular Western flax, and this species requires natural chaparral habitats to exist and reproduce, habitats that do not exist onsite. Other species in the vicinity are primarily vernal pool species, and there are no vernal pools on the project parcel. Any remnant oak trees should not be removed if possible, however, due to their value for wildlife habitat and soil stabilization.

No special-status animal species were observed during the surveys performed at the site in December 2019, however there is potential estivation and/or breeding habitat in the unnamed Class III watercourse. Despite this, the habitat is poor quality and it is not anticipated that FYLF uses any of these drainage ditches. Despite this, there are known occurrences of FYLF within known migration distance, thus avoidance measures for FYLF as described in Appendix H should be followed at all times. None of the other species considered in Appendix C were observed onsite or have high likelihood to exist in the grassland portions of the site where cultivation would be located.

No impacts are predicted for sediment discharge to watercourses or wetlands due to the location of proposed cultivation areas outside of required setbacks from watercourses and wetlands. The culverts over the Class III and IV watercourses may need to be registered with CDFW, and consultation with a hydrologist is recommended to determine whether these features are properly sized for a 100-year flood. The driveway is in fair condition considering the recent fires, however graveling or other erosion prevention measures should be taken to prevent erosion and improve traction during the rainy season. Native woody species should be planted around the perimeter of graded pads and roadways and drainage ditches using species from local genotypes approved by a botanist with local knowledge of the flora of Lake County. Materials should be sourced from a reputable local nursery. Sterile wheat is an acceptable substitute for emergency work.

4.0 REGULATORY FRAMEWORK

4.1 FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the federal Endangered Species Act (FESA). The USFWS also maintains a list of 'proposed' species and candidate species that are not legally protected under the FESA, but are often included in their review of a project as they may become listed in the near future. The FESA protects listed animal species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands. Pursuant to the requirements of the FESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally-listed species will require formal consultation with the USFWS.

4.2 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (California Fish and Wildlife Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Wildlife Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts, if it finds that the species meets the criteria of a threatened or endangered species.

4.4 CLEAN WATER ACT

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction. In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with "minimal" impacts on wetlands or other waters of the U.S. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent "practicable" and provides an opportunity for public review of the project.

4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. The RWQCB sometimes asserts jurisdiction over wetlands that the Corps does not (e.g. certain isolated wetlands) and may impose mitigation requirements even if the Corps does not. The CDFW also exerts jurisdiction over the bed and banks of watercourses and water bodies according to provisions of Section 1601 to 1603 of the Fish and Wildlife Code. The Fish and Wildlife Code requires a Stream Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body.

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FIGURE 1: REGIONAL LOCATION

SOURCES: CDFW

APN 001-037-25
22698 Elk Mountain Road, Upper Lake, CA 95469

FIGURE 2: 40 FOOT CONTOURS

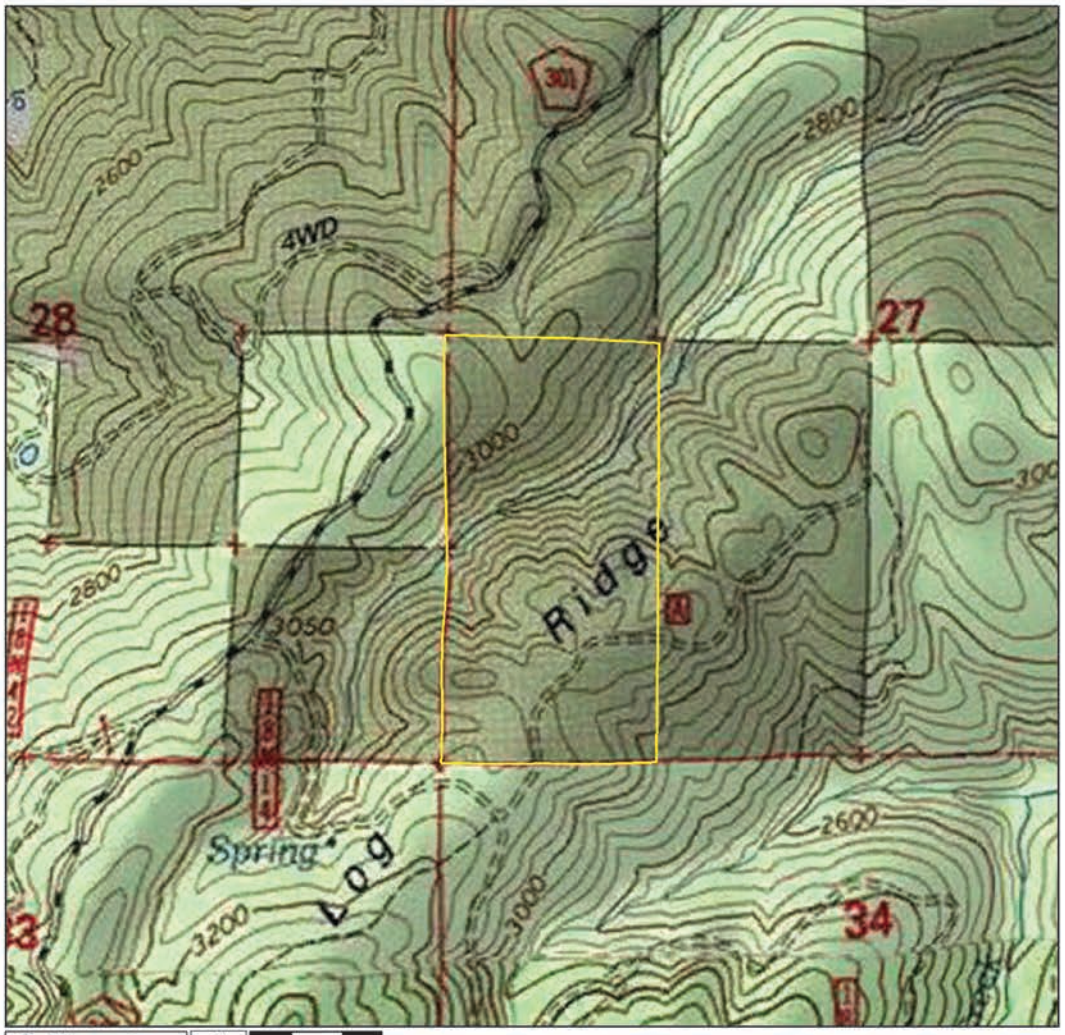

FIGURE 3: WATERCOURSES

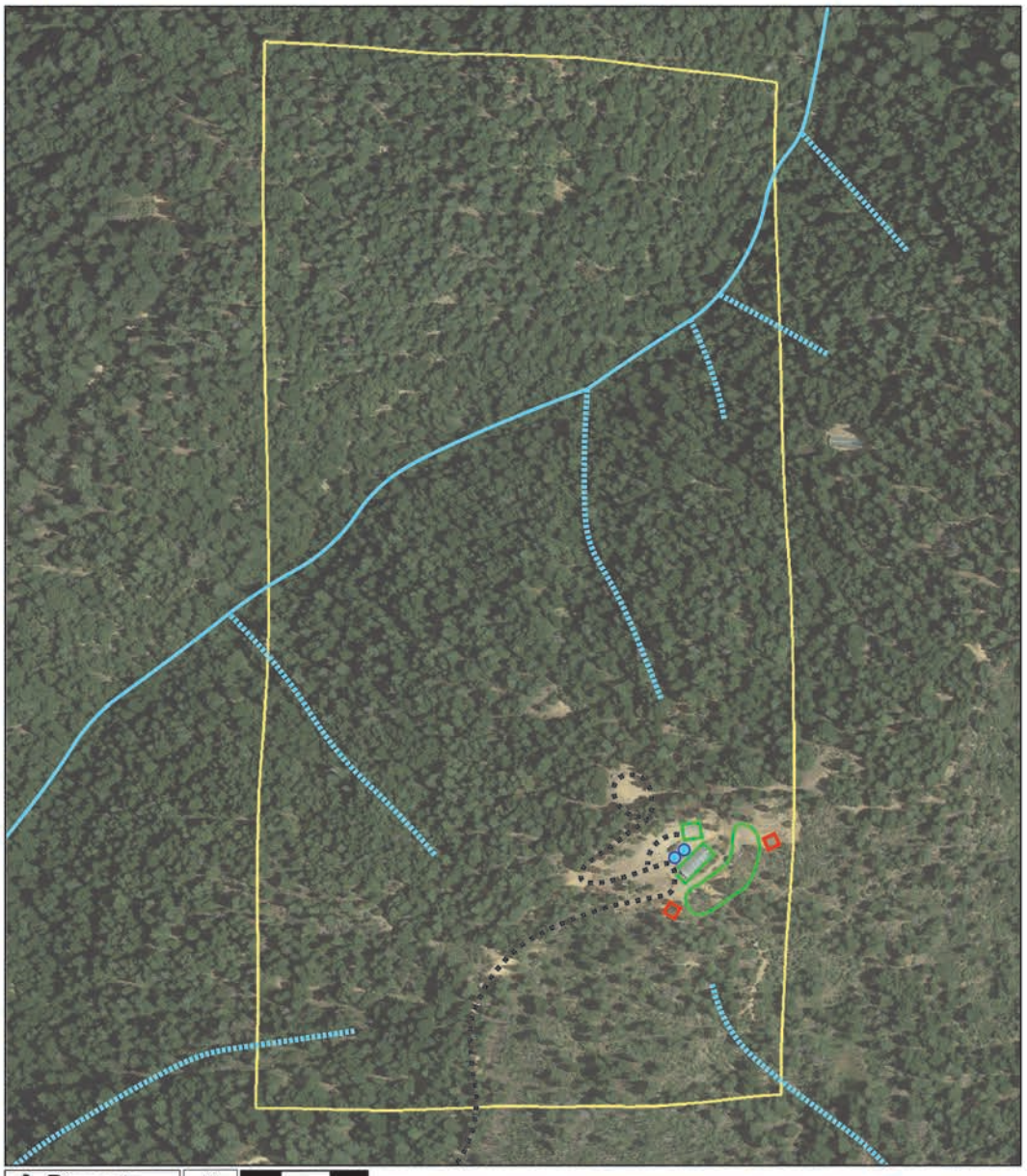

FIGURE 4: PHOTOGRAPH OF BURNED CONIFEROUS FOREST

Pinecrest Environmental Consulting

(510) 881-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 420 | Oakland, CA 94609
105 Morris St. Suite 184 | Sebastopol, CA 95472

SOURCES: PEC Inc.

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22698 Elk Mountain Road, Upper Lake, CA 95469

FIGURE 5: PHOTOGRAPH OF ACCESS ROAD

Pinecrest Environmental Consulting

(510) 881-3039 info@pinecrestenvironmental.org
5627 Telegraph Ave. Ste. 420 | 105 Morris St. Suite 184
Oakland, CA 94609 | Sebastopol, CA 95472

SOURCES: PEC Inc.

APN 001-037-25
22698 Elk Mountain Road, Upper Lake, CA 95469

FIGURE 6: PHOTOGRAPH OF ACCESS GATE

Pinecrest Environmental Consulting

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Oakland, CA 94609 | Sebastopol, CA 95472

SOURCES: PEC Inc.

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22698 Elk Mountain Road, Upper Lake, CA 95469

FIGURE 7: PHOTOGRAPH OF GREENHOUSE

Pinecrest Environmental Consulting

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105 Morris St. Suite 184 | Sebastopol, CA 95472

SOURCES: PEC Inc.

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FIGURE 8: PHOTOGRAPH OF OUTDOOR CULTIVATION

Pinecrest Environmental Consulting

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SOURCES: PEC Inc.

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FIGURE 9: PHOTOGRAPH OF WATER STORAGE

Pinecrest Environmental Consulting

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105 Morris St. Suite 184 | Sebastopol, CA 95472

SOURCES: PEC Inc.

APN 001-037-25
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FIGURE 10: PHOTOGRAPH OF STORAGE SHED

Pinecrest Environmental Consulting

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SOURCES: PEC Inc.

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22698 Elk Mountain Road, Upper Lake, CA 95469

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Lake County by PEC staff, from various State and Federal databases, and from the California Natural Diversity Database (CNDDB). CNDDB occurrences within 5 miles of the project site are shown in bold.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
PLANTS			
Adobe lily (*Fritillaria pluriflora*)	—/—/1B.2	Valley grasslands, foothill woodland	None: No grassland habitat exists onsite.
Anthony peak lupine (*Lupinus antoninus*)	—/—/1B.2	Montane forest	Low: Some suitable montane habitat exists onsite.
Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*)	—/—/1B.1	Serpentine chaparral	None: No serpentine habitat exists onsite.
Baker's meadowfoam (*Limnanthes bakeri*)	—/ST/1B.1	Vernal pools, freshwater wetland	None: No suitable wetland habitat exists onsite.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	—/—/1B.1	Vernal pools	None: No vernal pool habitat exists onsite.
Beaked tracyina (*Tracyina rostrata*)	—/—/1B.2	Valley grassland, foothill woodland	None: No grassland habitat exists onsite.
Bent flowered fiddleneck (*Amsinckia lunaris*)	—/—/1B.2	Valley grassland, foothill woodland	None: No suitable grassland habitat exists onsite.
Big scale balsamroot (*Balsamorhiza macrolepis*)	—/—/1B.2	Valley grassland, foothill woodland	None: No suitable grassland habitat exists onsite.
Bogg's Lake hedge-hyssop (*Gratiola heterosepala*)	—/—/1B.2	Vernal pools, lake margins	None: No suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bolander's horkelia (*Horkelia bolanderi*)	—/—/1B.2	Yellow pine forest, grassland	Low: Some suitable forest habitat exists onsite.
Brandegee's eriastrum (*Eriastrum brandegeeae*)	—/—/1B.1	Clearings in chaparral	Very Low: No suitable chaparral habitat exists onsite.
Bristly sedge (*Carex comosa*)	—/—/2B.1	Freshwater marsh, riparian	None: No suitable wetland habitat exists onsite.
Brownish beaked-rush (*Rhynchospora capitellata*)	—/—/2B.2	Freshwater marsh, riparian	None: No suitable wetland habitat exists onsite.
Burke's goldfields (*Lasthenia burkei*)	FE/SE/1B.1	Vernal pools	None: No suitable vernal pool habitat exists onsite.
California alkalai grass (*Puccinellia simplex*)	—/—/1B.2	Alkalai sink	None: No alkalai wetland habitat exists onsite.
California beaked-rush (*Rhynchospora californica*)	—/—/1B.1	Freshwater wetlands	None: No suitable wetland habitat exists onsite.
California satintail (*Imperata brevifolia*)	—/—/2B.1	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Calistoga ceanothus (*Ceanothus divergens*)	—/—/1B.2	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Cascade downingia (*Downingia willamettensis*)	—/—/2B.2	Vernal pool	None: No vernal pool habitat exists onsite.
Clara Hunt's milk vetch (*Astragalus claranus*)	—/—/1B.1	Chaparral, grassland	Very Low: No chaparral habitat exists onsite.
Cobb Mountain lupine (*Lupinus sericatus*)	—/—/1B.2	Chaparral, pine forest	Very Low: No chaparral habitat exists onsite.
Colusa layia (*Layia septentrionalis*)	—/—/1B.2	Chaparral, valley grassland	None: No suitable grassland habitat exists onsite.
Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	—/—/1B.2	Grassland, coastal scrub	None: No suitable grassland habitat exists onsite.
Deep scarred cryptantha (*Cryptantha excavata*)	—/—/1B.1	Foothill woodland	None: No suitable grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Dimorphic snapdragon (*Antirrhinum subcordatum*)	—/—/4.3	Serpentine chaparral	None: No serpentine habitat exists onsite.
Drymaria-like western flax (*Hesperolinon drymarioides*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.
Dwarf downingia (*Downingia pusilla*)	—/—/2B.2	Vernal pools, freshwater wetland	None: No vernal pool habitat exists onsite.
Dwarf soaproot (*Chlorogalum pomeridianum* var. *minus*)	—/—/1B.2	Serpentine chaparral	None: No serpentine chaparral habitat exists onsite.
Early jewelflower (*Streptanthus vernalis*)	—/—/1B.2	Serpentine outcrops	None: No suitable serpentine outcrop habitat exists onsite.
Eel-grass pondweed (*Potamogeton zosteriformis*)	—/—/2B.2	Freshwater lakes, ponds	None: No suitable pond habitat exists onsite.
Few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*)	FE/ST/1B.1	Vernal pools	None: No suitable vernal pool habitat exists onsite.
Franciscan onion (*Allium peninsulare* var. *franciscanum*)	—/—/1B.2	Grassland	None: No suitable grassland habitat exists onsite.
Freed's jewelflower (*Streptanthus brachiatus* ssp. *hoffmanii*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.
Geysers panicum (*Panicum acuminatum* var. *thermale*)	—/—/1B.2	Chaparral, wetlands	None: No suitable chaparral seep habitat exists onsite.
Glandular western flax (*Hesperolinon adenophyllum*)	**—/—/1B.2**	**Chaparral**	**Medium: Some suitable habitat exists onsite. Nearest known occurrence is 0.7 miles E of the parcel near Packsaddle Creek.**
Grassleaf water plantain (*Alisma gramineum*)	—/—/2B.2	Wetland, riparian	Very Low: No suitable riparian habitat exists onsite.
Green jewelflower (*Streptanthus hesperidis*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.
Greene's narrow-leaved daisy (*Erigeron greenei*)	—/—/1B.2	Serpentine grassland	None: No serpentine habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Hall's harmonia (*Harmonia hallii*)	—/—/1B.2	Chaparral, grassland	None: No suitable grassland habitat exists onsite.
Hoffman's bristly jewelflower (*Streptanthus glandulosus* spp. *hoffmanii*)	—/—/1B.3	Chaparral, foothill woodland	Very Low: No suitable chaparral habitat exists onsite.
Holly-leaved ceanothus (*Ceanothus purpureus*)	—/—/1B.2	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)	—/—/1B.2	Foothill woodland	Low: Some woodland habitat exists onsite.
Indian Valley brodiaea (*Brodiaea rosea*)	—/SE/3.1	Serpentine chaparral	Very Low: No serpentine habitat exists onsite.
Jepson's coyote thistle (*Eryngium jepsonii*)	—/—/4.2	Wetlands and vernal pools	None: No vernal pool habitat exists onsite.
Jepson's dodder (*Cuscuta jepsonii*)	**—/—/1B.2**	**Chaparral, grassland**	**Low: No chaparral habitat exists onsite. Nearest known occurrence is 2.2 miles W of the parcel near Alder Creek.**
Jepson's leptosiphon (*Leptosiphon jepsonii*)	—/—/1B.2	Chaparral, serpentine grassland	None: No serpentine chaparral habitat exists onsite.
Jepson's milk-vetch (*Astragalus rattanii* var. *jepsonianus*)	—/—/1B.2	Chaparral, serpentine grassland	Low: No suitable chaparral habitat exists onsite.
Keck's checkerbloom (*Sidalcea keckii*)	FE/—/1B.1	Valley grassland, serpentine	None: No suitable wetland habitat exists onsite.
Kenwood marsh checkerbloom (*Sidalcea oregana* ssp. *valida*)	FE/SE/1B.1	Freshwater wetlands	None: No suitable wetland habitat exists onsite.
Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*)	**—/—/1B.3**	**Chaparral, foothill woodland**	**Low: No suitable chaparral habitat exists onsite. Nearest known occurrence is 3.7 miles N of the parcel near Gravelly Valley.**
Kruckeberg's jewelflower (*Streptanthus morrisonii* ssp. *kruckebergii*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Lake County stonecrop (*Sedella leiocarpa*)	—/—/1B.1	Rock outcrops	Very Low: No rock outcrop habitat exists onsite.
Lake County western flax (*Hesperolinon didymocarpum*)	—/SE/1B.2	Serpentine grasslands	None: No suitable serpentine habitat exists onsite.
Lake Pilsbury checkerbloom (*Sidalcea hickmanii* spp. *pillsburiensis*)	**—/—/1B.2**	**Chaparral**	**None: No suitable chaparral habitat exists onsite. Nearest known occurrence is 4.0 miles N of the parcel near Salt Spring Creek.**
Legenere (*Legenere limosa*)	—/—/1B.1	Vernal pool, freshwater wetland	None: No suitable vernal pool habitat exists onsite.
Loch Lomond button-celery (*Eryngium constancei*)	FE/SE/1B.1	Vernal pool, freshwater wetland	None: No suitable vernal pool habitat exists onsite.
Many-flowered navarretia (*Navarretia leucocephala* spp. *plieantha*)	FE/SE/1B.2	Vernal pools	Very Low: No vernal pool habitat exists onsite.
Marsh checkerbloom (*Sidalcea oregana* ssp. *hydrophila*)	**—/—/1B.2**	**Freshwater wetland, riparian**	**Low: No suitable riparian habitat exists onsite. Nearest known occurrence is 2.4 miles E of the parcel near McLeod Ridge.**
Mayacamas popcornflower (*Plagiobothrys lithocaryus*)	—/—/A1	Foothill woodland, valley grassland	Very Low: Presumed extinct. Last observed in 1884 near present-day Lakeport.
Milo Baker's lupine (*Lupinus milo-bakeri*)	—/—/1B.1	Foothill woodland	Low: Some suitable woodland habitat exists onsite.
Morrison's jewelflower (*Streptanthus morrisonii* ssp. *morrisonii*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.
Mt. St. Helena morning-glory (*Calystegia collina* ssp. *oxyphylla*)	—/—/4.2	Serpentine chaparral	None: No serpentine habitat exists onsite.
Napa bluecurls (*Trichostema ruygtii*)	—/—/1B.2	Chaparral, grassland	None: No suitable grassland habitat exists onsite.
Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*)	—/—/1B.1	Chaparral	Low: Some woodland habitat exists onsite.
Napa false indigo (*Amorpha californica* var. *napensis*)	—/—/1B.2	Forest, woodland	Very Low: Some woodland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Narrow-anthered brodiaea (*Brodiaea leptandra*)	—/—/1B.2	Foothill woodland, grassland	None: No suitable grassland habitat exists onsite.
North Coast semaphore grass (*Pleuropogon hooverianus*)	—/—/1B.1	Freshwater wetland, vernal pools	None: No suitable vernal pool habitat exists onsite.
Northern California black walnut (*Juglans hindsii*)	—/—/1B.1	Riparian	Low: No suitable riparian habitat exists onsite.
Northern meadow sedge (*Carex praticola*)	—/—/2B.2	Freshwater wetlands	None: No suitable wetland habitat exists onsite.
Nuttall's ribbon-leaved pondweed (*Potamogeton epihydrus*)	—/—/2B.2	Ponds and lakes	None: No suitable pond habitat exists onsite.
Oregon polemonium (*Polemonium carneum*)	—/—/2B.2	Coastal scrub, yellow pine forest	None: No suitable habitat exists onsite.
Oval-leaved viburnum (*Viburnum ellipticum*)	—/—/2B.3	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	—/—/1B.2	Grassland, wetland	None: No suitable grassland habitat exists onsite.
Pennell's bird's beak (*Cordylanthus tenuis* ssp. *capillaris*)	FE/SR/1B.2	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	—/—/1B.2	Grassland, chaparral	Very Low: Parasitic plant, typical host plants not known from the property.
Pink creamsacs (*Castilleja rubicundula* var. *rubicundula*)	—/—/1B.2	Grasslands	None: No suitable grassland habitat exists onsite.
Porter's navarretia (*Navarretia paradoxinota*)	—/—/1B.3	Grasslands, wetlands	None: No suitable grassland habitat exists onsite.
Raiche's manzanita (*Arctostaphylos stanfordiana* ssp. *raichei*)	—/—/1B.1	Serpentine chaparral	None: No serpentine chaparral habitat exists onsite.
Rincon Ridge ceanothus (*Ceanothus confusus*)	—/—/1B.1	Chaparral, foothill grassland	Very Low: No suitable chaparral habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Rincon Ridge manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*)	—/—/1B.1	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Round-leaved filaree (*California macrophylla*)	—/—/1B.2	Foothill grassland	None: No suitable grassland habitat exists onsite.
Saline clover (*Trifolium hydrophilum*)	—/—/1B.2	Wetland, riparian	None: No suitable wetland habitat exists onsite.
San Joaquin spearscale (*Extriplex joaquinana*)	—/—/1B.2	Shadscale scrub, valley grassland	None: No alkalai scrub habitat exists.
Santa Rosa horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Chaparral	Low: No suitable chaparral habitat exists onsite.
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/SE/1B.1	Freshwater wetland, vernal pools	None: No suitable vernal pool habitat exists onsite.
Serpentine cryptantha (*Cryptantha dissita*)	—/—/1B.2	Serpentine chaparral	Very Low: No serpentine habitat exists onsite.
Serpentine daisy (*Erigeron serpentinus*)	—/—/1B.3	Serpentine chaparral	None: No serpentine chaparral habitat exists onsite.
Sharsmith's western flax (*Hesperolinon sharsmithiae*)	—/—/1B.2	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Shining navarretia (*Navarretia nigelliformis* ssp. *radians*)	—/—/1B.2	Vernal pools	Very Low: No suitable vernal pool habitat exists onsite.
Slender Orcutt grass (*Orcuttia tenuis*)	FT/SE/1B.1	Grassland, freshwater wetlands	Very Low: No suitable wet meadow habitat exists onsite.
Small-flowered calycadenia (*Calycadenia micrantha*)	—/—/1B.2	Foothill grassland	None: No suitable grassland habitat onsite.
Small groundcone (*Kopsiopsis hookeri*)	—/—/2B.3	Redwood forest	Medium: Some suitable forest habitat exists onsite.
Small pincushion navarretia (*Navarretia meyersii* ssp. *deminuta*)	—/—/1B.1	Wetlands	Very Low: No suitable wetland habitat exists onsite.
Snow Mountain buckwheat (*Eriogonum nervulosum*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Socrates Mine jewelflower (*Streptanthus brachiatus* ssp. *brachiatus*)	—/—/1B.2	Serpentine outcrops	None: No serpentine habitat exists onsite.
Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*)	—/—/1B.3	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Sonoma ceanothus (*Ceanothus sonomensis*)	—/—/1B.2	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Thin-lobed horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Three-fingered morning glory (*Calystegia collina* ssp. *tridactylosa*)	—/—/1B.2	Serpentine grassland	Very Low: No serpentine habitat exists onsite.
Three peaks jewelflower (*Streptanthus morrisonii* spp. *elatus*)	—/—/1B.2	Serpentine outcrops	None: No serpentine outcrop habitat exists onsite.
Tracy's eriastrum (*Eriastrum tracyi*)	—/SR/3.2	Chaparral	Low: No suitable chaparral habitat exists onsite.
Two-carpellate Western flax (*Hesperolinon bicarpellatum*)	—/—/1B.2	Chaparral	Low: No suitable chaparral habitat exists onsite.
Vine Hill ceanothus (*Ceanothus foliosus* var. *vineatus*)	—/—/1B.1	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Vine Hill manzanita (*Arctostaphylos densiflora*)	—/SE/1B.1	Chaparral	Very Low: No suitable chaparral habitat exists onsite.
Watershield (*Brasenia schreberi*)	—/—/2B.3	Pond, wetland	Very Low: No suitable pond habitat exists in the project area.
White beaked-rush (*Rhynchospora alba*)	—/—/2B.2	Wetlands, freshwater marsh	None: No suitable wetland habitat exists onsite.
White flowered rein orchid (*Piperia candida*)	—/—/1B.2	Yellow pine forest	Medium: Some suitable forest habitat exists onsite.
Wolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*)	—/—/4.2	Vernal pools	None: No vernal pool habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
MOSSES, LICHENS & LIVERWORTS			
Angel's hair lichen (*Ramalina thrausta*)	—/—/2B.1	Old growth conifer and hardwood forests	Very Low: Some suitable forest habitat exists onsite.
Coastal triquetrella (*Triquetrella californica*)	—/—/1B.2	Forest, woodland	Very Low: Some woodland habitat exists onsite.
Elongate copper moss (*Mielichhoferia elongata*)	—/—/4.3	Forest, woodland	Very Low: Some woodland habitat exists onsite.
Methuselah's beard lichen (*Dolichousnea longissima*)	—/—/4.2	Old growth conifer and hardwood forests	Very Low: Some suitable forest habitat exists onsite.
Slender silver moss (*Anomobryum julaceum*)	—/—/4.2	Rocky substrates in forests, riparian	Very Low: No suitable riparian habitat exists onsite.
Torren's grimmia (*Grimmia torenii*)	**—/—/1B.3**	**Forest, woodland**	**Low: Some woodland habitat exists onsite. Nearest known occurrence is 1.1 miles N of the parcel near South Ridge.**
FISH			
Chinook Salmon Coastal California DPS (*Oncorhynchus kisutch*)	FT/SE/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
Clear Lake Drainage Resident Rainbow trout (*Oncorhynchus mykiss*)	FE/SE/—	Freshwater streams, open ocean and estuaries	None: No suitable habitat exists in the project area.
Clear Lake hitch (*Lavinia exilicauda chi*)	FE/SE/—	Freshwater lakes and streams	None: No suitable habitat exists in the project area.
Clear Lake tule perch (*Hysterocarpus traskii lagunae*)	—/SSC/—	Freshwater lakes and streams	None: No suitable habitat exists in the project area.
Coho Salmon Central California Coast ESU (*Oncorhynchus kisutch*)	FE/SE/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
Sacramento perch (*Archoplites interruptus*)	—/SSC/—	Low gradient sloughs and lakes	None: No suitable habitat exists in the project area.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sacramento splittail (*Pogonichthys macrolepidotus*)	—/SSC/—	Low gradient freshwater streams	None: No suitable streams exist onsite.
Steelhead Central California Coast DPS (*Oncorhynchus mykiss irideus*)	FT/—/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
Steelhead Northern California DPS (*Oncorhynchus mykiss irideus*)	FT/—/—	Freshwater streams, open ocean and estuaries	None: No suitable streams exist onsite.
AMPHIBIANS & REPTILES			
California giant salamander (*Dicamptodon ensatus*)	—/SSC/—	Wetlands and riparian areas	None: No suitable wetland habitat exists onsite. Species is not known from the region.
Foothill yellow-legged frog (*Rana boylii*)	**—/SSC/—**	**Wetlands, riparian, streams and ponds**	**Very Low: No suitable breeding habitat onsite. Some poor quality estivation habitat onsite. Nearest known occurrence is 1.4 miles N of the parcel near Scott Dam Road.**
Red bellied newt (*Taricha rivularis*)	—/SSC/—	Woodland streams, riparian corridors	Very Low: No suitable stream habitat exists onsite.
Western pond turtle (*Emys marmorata*)	**—/SSC/—**	**Slow-moving creeks, streams, ponds, rivers, ditches.**	**None: No suitable pond habitat exists onsite. Nearest known occurrence is 0.9 miles NW of the parcel near Soda Creek.**
INVERTEBRATES			
Behren's silverspot butterfly (*Speyeria zerene behrensii*)	FE/SSC/—	Coastal prairie	None: Requires blue violet to reproduce; none onsite.
Blennosperma vernal pool andrenid bee (*Andrena blennospermatis*)	—/SSC/—	Upland areas near vernal pools	None: No suitable vernal pool habitat exists onsite although there is some grassland habitat.
Borax Lake cuckoo wasp (*Hedychridium milleri*)	—/SSC/—	Lakes and streams	None: No suitable lake or stream habitat exists onsite.
Brownish dubiraphian riffle beetle (*Dubiraphia brunnescens*)	—/SSC/—	Freshwater lakes and streams	None: No suitable stream habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
California brackishwater snail (*Tryonia imitator*)	—/SSC/—	Brackish wetlands	None: No suitable wetland habitat exists onsite.
California floater (*Anodonta californiensis*)	—/SSC/—	Freshwater ponds, streams	None: No suitable stream habitat exists onsite.
California freshwater shrimp (*Syncaris pacifica*)	FE/SE/—	Freshwater ponds	None: No suitable pond habitat exists onsite.
California linderiella (*Linderiella occidentalis*)	—/SSC/—	Vernal pools	None: No vernal pool habitat exists onsite.
Clear Lake pyrg (*Pyrgulopsis ventricosa*)	—/SSC/—	Freshwater streams	None: No suitable stream habitat exists onsite.
Crotch bumble bee (*Bombus crotchii*)	—/SSC/—	Grassland, chaparral	None: No suitable grassland habitat exists onsite.
Leech's skyline diving beetle (*Hydroporus leechi*)	—/SSC/—	Freshwater ponds	None: No suitable pond habitat exists onsite.
Myrtle silverspot butterfly (*Speyeria zerene myrtleae*)	FE/SSC/—	Coastal prairie, chaparral	None: Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 (*Danaus plexippus*)	—/SSC/—	Large trees required for roosting.	Low: Some suitable trees for roosting onsite.
Obscure bumble bee (*Bombus caliginosus*)	—/SSC/—	Grassland, foothill woodland, chaparral	None: No suitable grassland habitat exists onsite.
Opler's longhorn moth (*Adela oplerella*)	—/SSC/—	Usually associated with *Platystemon* (creamcups)	None: No suitable host plants onsite.
Oregon floater (*Anodonta oregonensis*)	—/SSC/—	Large freshwater streams	None: No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*)	—/SSC/—	Freshwater lakes and ponds	None: No suitable pond habitat exists onsite.
Serpentine cypress wood-boring beetle (*Trachykele hartmani*)	—/SSC/—	Requires cypress trees in serpentine outcrops	None: No suitable host plants known from the project site.
Sonoma zerene fritillary (*Speyeria zerene sonomensis*)	—/SSC/—	Grasslands and meadows with *Viola* plants	None: Requires *Viola* for reproduction; none onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Unnamed isopod (*Calasellus californicus*)	—/SSC/—	Freshwater wetlands	None: No suitable wetland habitat exists onsite.
Western bumblebee (*Bombus occidentalis*)	—/SSC/—	Grassland	None: No suitable grassland habitat exists onsite.
Wilbur Springs minute moss beetle (*Ochthebius recticulus*)	—/SSC/—	Shorelines of hot springs	None: No suitable hot spring habitat exists onsite.
Wilbur Springs shorebug (*Saldula usingeri*)	—/SSC/—	Ponds	None: No suitable pond habitat exists onsite.
Wilbur Springs shore fly (*Paracoenia calida*)	—/SSC/—	Hot sulphur springs	None: No suitable hot spring habitat exists onsite.
BIRDS			
American perigrine falcon (*Falco peregrinus anatum*)	—/SSC/—	Forages in open grasslands, nests in trees	Low: Some suitable nesting and foraging habitat exists.
Bank swallow (*Riparia riparia*)	FE/SE/—	Typically found near lakes and streams	None: No suitable stream habitat exists onsite.
Bald eagle (*Haliaeetus leucocephalus*)	**—/SSC/—**	**Forages over open lakes and streams**	**Very Low: No suitable foraging or nesting habitat exists onsite. Nearest known occurrence is 3.2 miles E of the parcel near Bear Mountain.**
Bell's sage sparrow (*Artemisiospiza belli belli*)	—/SSC/—	Cliff faces near water	Low: Some suitable woodland habitat exists onsite.
Black swift (*Cypseloides niger*)	—/SSC/—	Cliff faces near water	None: No suitable stream habitat exists onsite.
Burrowing owl (*Athene cunicularia*)	—/SSC/—	Grasslands with ground squirrel burrows	Very Low: No suitable grassland habitat exists onsite due to lack of ground squirrel or other burrows.
California black rail (*Laterallus jamaicensis coturniculus*)	FE/SE/—	Coastal salt marshes and mudflats	None: No suitable salt marsh habitat exists onsite.
California horned lark (*Eremophila alpestris actia*)	—/SSC/—	Herbaceous vegetation, chaparral	Low: Some suitable foraging and nesting habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Cooper's hawk (*Accipiter cooperii*)	—/WL/—	Forages over open grassland.	Low: Some suitable foraging and nesting habitat exists onsite.
Ferruginous hawk (*Buteo regalis*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Low: Some suitable foraging and nesting habitat exists onsite.
Golden eagle (*Aquila chrysaetos*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Medium: Some suitable foraging habitat. Some suitable nesting habitat.
Grasshopper sparrow (*Ammodramus savannarum*)	—/SSC/—	Forages over open grassland.	Low: Some suitable foraging and nesting habitat exists onsite.
Great blue heron (*Ardea herodias*)	—/SSC/—	Nests in trees, forages in wetlands and grasslands	None: No suitable foraging or nesting habitat exists onsite.
Great egret (*Ardea alba*)	—/SSC/—	Nests in trees, forages in wetlands and grasslands	None: No suitable foraging or nesting habitat exists onsite.
Marbled murrelet (*Brachyramphus marmoratus*)	FT/SE/—	Old growth coniferous forest	None: No suitable forest habitat exists onsite.
Northern goshawk (*Accipiter gentilis*)	**—/SSC/—**	**Coniferous forest**	**High: No suitable forest habitat exists onsite. Nearest known occurrence is 0.3 miles SW of the parcel near Log Ridge.**
Northern spotted owl (*Strix occidentalis*)	**FT/ST/—**	**Nests primarily in old growth forests**	**High: No suitable nesting habitat onsite. Some marginal foraging habitat onsite. Nearest occurrence is immediately offsite to the W.**
Osprey (*Pandion haliaetus*)	**—/WL/—**	**Areas with fish**	**Medium: No suitable foraging habitat onsite. Some poor quality nesting habitat onsite. Nearest known occurrence is 1.2 miles NE of the parcel near Lake Pilsbury.**
Prairie falcon (*Falco mexicanus*)	—/SSC/—	Forages over grasslands	Medium: Some suitable nesting and foraging habitat exists onsite.
Purple martin (*Progne subis*)	**FE/SE/—**	**Insectivorous, nests in cavities**	**Low: Some suitable nesting habitat onsite. Some suitable foraging habitat onsite. Nearest known occurrence is 3.2 miles SE of the parcel near Parramore Creek.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Ridgway's rail (*Rallus obsoletus obsoletus*)	FE/SE/—	Mudflats and tidal sloughs	None: No suitable tidal habitat exists onsite.
Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)	—/SSC/—	Forages in grasslands and nests in dense freshwater marshes	Very Low: No suitable nesting or foraging habitat exists onsite.
Sharp-shinned hawk (*Accipiter striatus*)	—/SSC/—	Forest and woodland	Very Low: Some suitable nesting and foraging habitat exists onsite.
Tricolored blackbird (*Agelaius tricolor*)	—/SSC/—	Forages in grasslands and nests in freshwater marshes	Low: No suitable nesting habitat exists onsite. Some suitable foraging habitat.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	—/SE/—	Woodland, riparian	Low: Some suitable nesting and foraging habitat exists onsite.
White-tailed kite (*Elanus leucurus*)	—/CFP/—	Prefers to nest in marshes next to deciduous forests.	Low: Some suitable nesting and foraging habitat exists onsite.
Yellow breasted chat (*Icteria virens*)	—/SSC/—	Dense shrubby growth, grasslands	None: No suitable grassland habitat exists onsite.
Yellow rail (*Coturnicops noveboracensis*)	—/SSC/—	Breeds in marshes, forages in wet meadows	None: No suitable marsh habitat exists onsite.
Yellow warbler (*Coturnicops noveboracensis*)	—/SSC/—	Riparian, shrubland, farmland	Low: Some suitable scrub habitat exists onsite.
MAMMALS			
American badger (*Taxidea taxus*)	—/SSC/—	Open grassland habitats with plenty of prey	Low: Some suitable den habitat exists onsite.
Big free-tailed bat (*Nyctinomops macrotis*)	—/SSC/—	Forages over open areas, roots in trees or caves	Low: Some suitable foraging habitat. Few suitable roosts in project area.
Fisher (*Pekania pennanti*)	**—/SSC/—**	**Forages and breeds primarily in forests**	**Very Low: No suitable forest habitat exists onsite. Nearest known occurrence is 1.1 miles NE of the parcel near Lake Pilsbury.**
Fringed myotis (*Myotis thysanodes*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some suitable foraging habitat. Few suitable roosts in project area.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Hoary bat (*Lasiurus cinereus*)	—/SSC/—	Forages over open areas, roots in trees or caves at high altitude	Very Low: Few suitable roosts in the project area. Primarily forages at high altitude.
Humboldt marten (*Martes caurina humboldtensis*)	**—/SSC/—**	**Forages and breeds in forests, typically near streams**	**Low: Some suitable den and foraging habitat exists onsite. Nearest known occurrence is 1.1 miles NE of the parcel near Lake Pilsbury.**
Long-eared myotis (*Myotis evotis*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some suitable foraging habitat. Few suitable roosts in project area.
Long-legged myotis (*Myotis volans*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some foraging habitat. Few suitable roosts in project area.
North American porcupine (*Erethizon dorsatum*)	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging	Very Low: Some suitable foraging and den habitat exists onsite.
Pallid bat (*Antrozous pallidus*)	—/SSC/—	Common in open dry habitats with rocky areas for roosting	Low: Some foraging habitat exists. Few suitable roosts in the project area.
Silver haired bat (*Lasionycteris noctivagans*)	—/SSC/—	Nocturnal, migratory, solitary, roosts in tree cavities	Low: Some suitable trees exist for roosting. Some foraging habitat exists.
Sonoma tree vole (*Arborimus pomo*)	—/SSC/—	Old growth Douglas fir canopies	None: No suitable forest habitat exists onsite.
Townsend's big-eared bat (*Corynorhinus townsendii*)	—/SSC/—	Hibernate in mines or caves, roost in man made structures and caves	Medium: Few man-made structures exist suitable for roosting. Some habitat for foraging.
Western red bat (*Lasiurus blossevillii*)	—/SSC/—	Forages over open areas, roots in trees or caves	Very Low: Little suitable roosting habitat. Some suitable foraging habitat.
HABITATS			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	None: No marsh habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Northern Basalt Flow Vernal Pool (NBFVP)	—	—	None: No basalt flow vernal pool habitat exists onsite.
Northern Hardpan Vernal Pool (NHVP)	—	—	None: No hardpan vernal pool habitat exists onsite.
Northern Vernal Pool (NVP)	—	—	None: No vernal pool habitat exists onsite.
Sycamore Alluvial Woodland (SAW)	—	—	None: No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	Low: Some grassland habitat exists onsite.
Valley Oak Woodland (VOW)	—	—	None: No valley oaks exist onsite.
Valley Sink Scrub (VSS)	—	—	None: No sink habitat exists onsite.

[1] Status:

Federal
FE = Federally Endangered Species
FT = Federally Threatened Species

State
SE = State Endangered Species
ST = State Threatened Species
SR = State Rare (applies to plants only)
SSC = California Species of Special Concern
CFP = California Fully Protected Species

CNPS (applies to plants only)
List 1B = plants considered rare, threatened, or endangered in California and elsewhere
List 2B = plants rare, threatened or endangered in California, but more common elsewhere
List 4 = plants of limited distribution

[2] USFWS

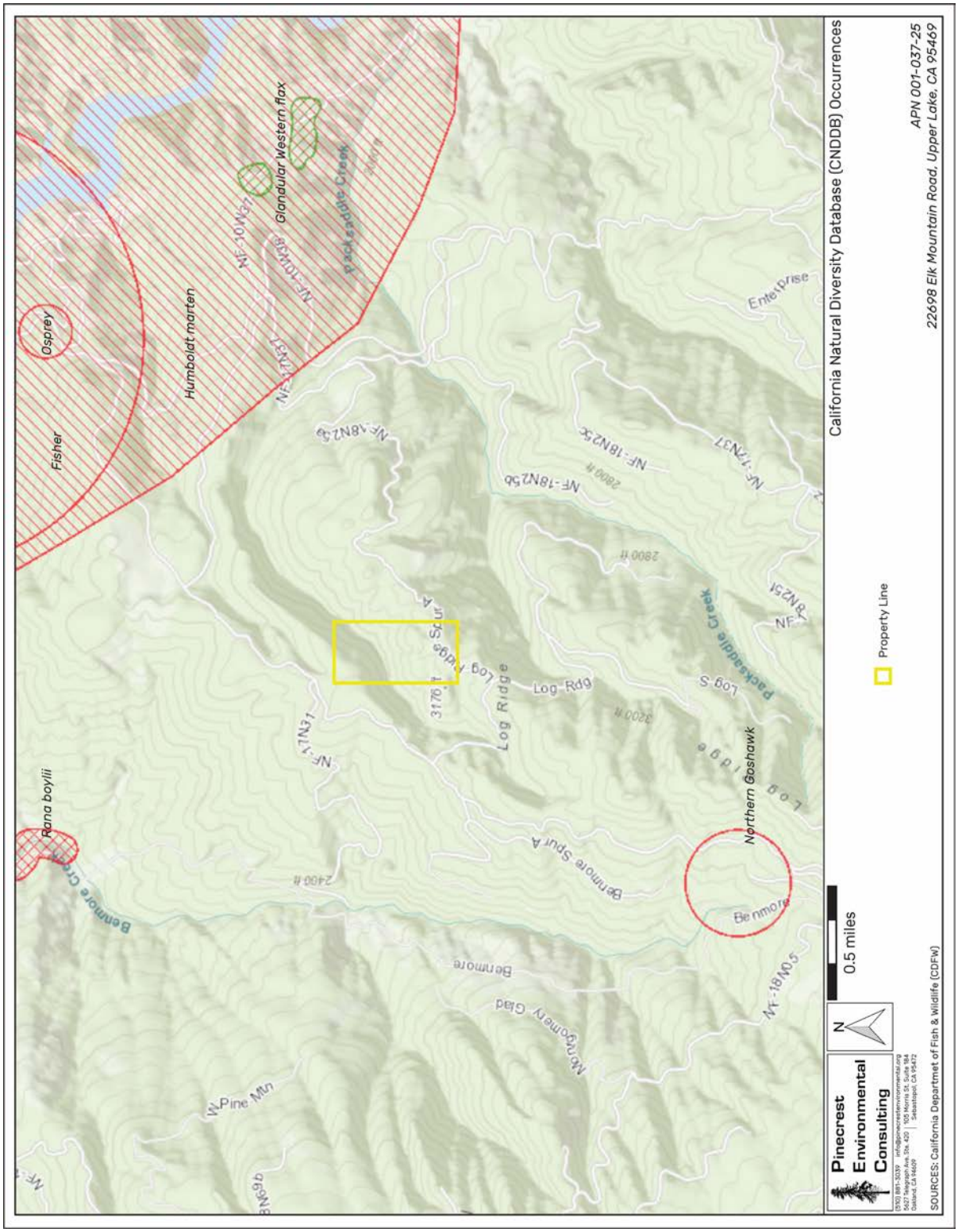
APPENDIX B: SPECIES ENCOUNTERED

PLANTS
Abies concolor
Acer macrophyllum
Achillea millefolium
Agoseris grandiflora
Aira caryophyllea
Anisocarpus madioides
Arbutus menziesii
Arctostaphylos manzanita
Arctostaphylos viscida
Avena barbata
Bromus diandrus
Bromus hordeaceous
Bromus laevipes
Calocedrus decurrens
Carduus pycnocephalus
Ceanothus cordulatus
Centaurea solstitialis
Chlorogalum pomeridianum
Cirsium vulgare
Claytonia perfoliata
Croton setiger
Cynosurus echinatus
Elymus elymoides
Elymus glaucus
Erigeron bonariensis
Eriodictyon californicum
Erodium botrys
Festuca myuros
Fraxinus latifolia
Galium aparine
Geranium molle
Gnaphalium palustre
Heteromeles arbutifolia
Hordeum murinum
Hypericum perforatum
Hypochaeris glabra
Lactuca serriola
Lathyrus latifolius
Lupinus albifrons

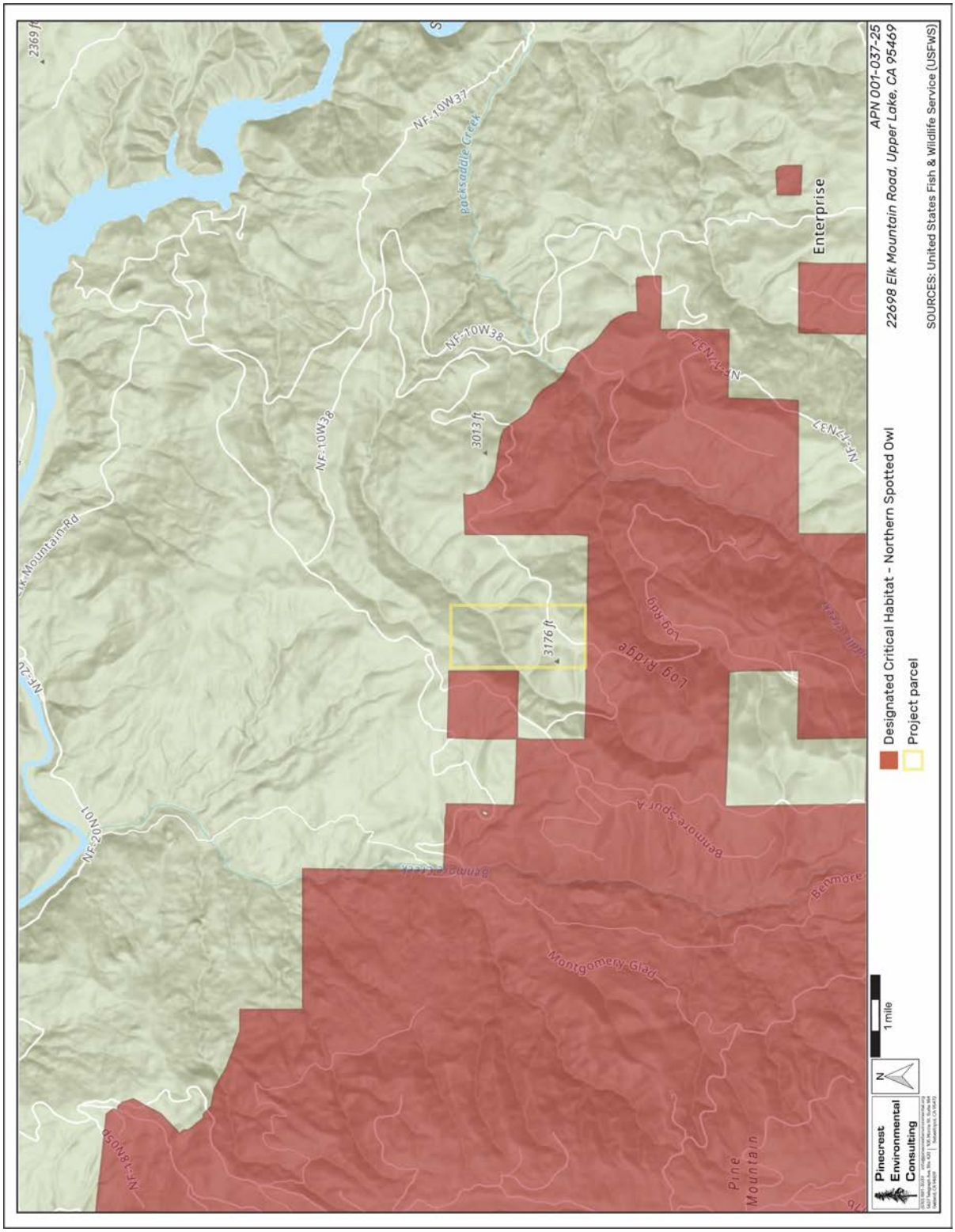
Madia exigua
Melilotus albus
Monardella odoratissima
Phoradendron leucarpum
Pinus lambertiana
Pinus ponderosa
Plantago lanceolata
Pseudotsuga menziesii
Pteridium aquilinum
Quercus chrysolepis
Quercus durata
Quercus kelloggii
Rosa californica
Rubus armeniacus
Rubus glaucifolius
Rumex acetocella
Rumex crispus
Sanicula crassicaulis
Torilis arvensis
Trifolium hirtum
Vicia sativa
Wyethia angustifolia

ANIMALS
Sus scrofa
Corvus brachyrhynchos
Cathartes aura
Cyanocitta stelleri
Buteo jamaicensis
Sciurus griseus
Lepus californicus
Odocoileus hemionus
Melanerpes formicivorus

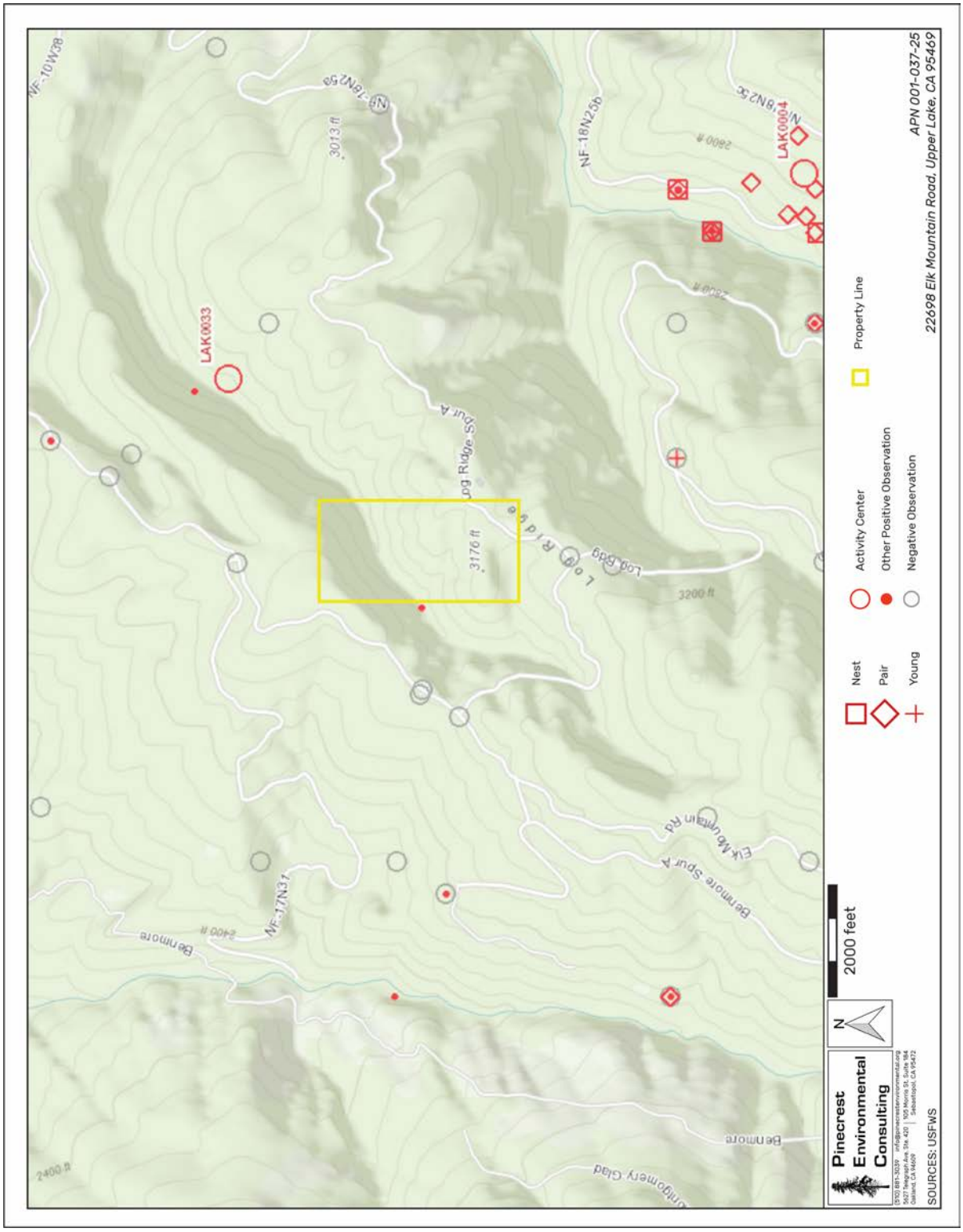
APPENDIX C: CNDDB OCCURRENCES MAP



APPENDIX D: FEDERAL CRITICAL HABITAT MAP



APPENDIX E: REGIONAL NSO OCCURRENCES MAP



APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are designed to prevent, minimize, and control the discharge of waste and pollutants associated with site operations and maintenance for the aforementioned project. Many of these BMPs are considered enforceable conditions under State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ.

F.1 CANNABIS CULTIVATION

- Pesticide and fertilizer storage facilities shall be located outside of the Riparian Corridor setbacks for structures.
- Pesticide and fertilizer storage facilities shall not be located within 100 feet of a wellhead, or within 50 feet of identified wetlands.
- Pesticide and fertilizer storage facilities shall be adequate to protect pesticide and fertilizer containers from the weather.
- Store all bags and boxes of pesticides and fertilizers off the ground on pallets or shelves.
- If the structure does not have an impermeable floor, store all liquid pesticides and fertilizers on shelves capable of containing spills or provide appropriate secondary containment.
- Routinely check for leaks and spills.
- Have spill cleanup kit onsite to be able to respond to any leaks or spills.
- Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease and notify the supplier of the planting stock of the infestation.
- Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation and Sonoma County Agricultural Commissioner.
- For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method, and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
- For all other pesticides, use must comply with all label requirements including site and crop restrictions.
- Prior to the use of any registered pesticide on cannabis, Operator Identification Number should be obtained from the County Agricultural Commissioner if required.
- Submit monthly pesticide use reports to the County Agricultural Commissioner if required.

- Prior to applying fertilizers, evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over fertilization.
- Apply fertilizers at label rates and no higher.
- Do not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water or escape via airborne drift or fugitive dust.
- Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as "no touch" areas. The removal of vegetation is prohibited within these setback areas.
- No equipment, vehicles, or other materials shall be stored in the riparian setback areas.
- Composting areas shall not be located in the riparian setback areas.
- Irrigation must be conducted in a manner that does not result in runoff from the cultivated area.
- Any water tanks or storage facilities must obtain all necessary permits from the Sonoma County Permit and Resource Management Department (PRMD).
- The use of membrane based water bladders is prohibited.
- If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the season.
- Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.
- Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
- Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
- Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
- Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
- Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Avoid soil disturbance between November 1 and April 15 and during times of active precipitation.

- All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas composed of native species.
- Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil.
- In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
- Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County PRMD.

F.2 EROSION & SEDIMENT CONTROL

- Erosion control and sediment detention devices and materials shall be incorporated into the cleanup/restoration work design and installed prior to the end of project work and before the beginning of the rainy season or any predicted rain events.
- Any continuing, approved project work conducted after October 15 shall have erosion control measures completed and up-to-date.
- All erosion control measures shall be inspected daily during severe rain events.
- Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
- Approved project work within the 5-year flood plain shall not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are installed downslope of cleanup/restoration activities.
- Native species appropriate to the local habitat shall be used for all revegetation purposes. Non-invasive, non-persistent grass species (e.g., barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
- The disturbed area will be minimized at all times to only that which is essential for the completion of the project.
- Provide temporary cover over disturbed areas that are not currently being worked on.
- Heavy equipment shall not be used in flowing water.
- Use of heavy equipment shall be avoided or minimized in a channel bottom with rocky or cobbled substrate.
- Heavy equipment shall not introduce chemicals or foreign sediment to the channel (e.g., remove mud from tracks or cover channel work area with plastic sheeting prior to heavy equipment entry).
- When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed shall be replaced to a pre-project density with native species appropriate to the

site.

- When possible, existing ingress or egress points shall be used or work shall be performed remotely from the top of the creek banks.
- Divert runoff away from unprotected slopes or loose soils using a combination of mats, geotextiles, silt fencing, wattling, check dams, sediment basins, vegetated buffers, or rock armor.
- Deploy appropriate erosion control measures such as silt fencing or straw wattles around all temporary exposed piles or soil or surface disturbances.
- All temporary exposed piles or soil or surface disturbances shall have tarping and sand bags or other stabilization materials deployed in order to prevent discharge of sediments in the event of a rain or wind event.
- Geotechnical fabric shall be deployed on all exposed dirt surfaces with a slope of greater than 15% and staked in place during ground disturbing activities, and silt fencing deployed on slopes of greater than 15% where appropriate.
- Sand bags, straw bales, or other devices shall be placed at appropriate locations near and alongside the roadsides and swales in anticipation of large storm events.
- Bioswales and cultivation areas including parking areas shall be maintained free of trash including empty soil and pesticide or fertilizer containers.
- Locations of sediment sources shall be identified during rain events and mitigated where appropriate.
- Protect ditch inlets and outlets from erosion using rock armor.
- Silt fencing shall be installed downstream of rock piles, stockpiles, and temporary soils storage areas.
- Desilting or retention basins shall be installed if the capacity of the natural percolation exceeds the inputs during routine storm events.
- Sediment traps shall be used on all exposed driveway surfaces where natural vegetation is not able to be established.
- Exposed unvegetated surfaces will be graveled where appropriate.
- Rock placed for slope protection shall be the minimum necessary to avoid erosion, and shall be part of a design that provides for native plant revegetation and minimizes bank armoring.
- Soil exposed as a result of project work, soil above rock riprap, and interstitial spaces between rocks shall be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to the rainy season of the year work is completed.
- Avoidance of earthwork on steep slopes and minimization of cut/fill volumes, combined with proper compaction, shall occur to ensure the area is resilient to issues associated with seismic events and mass wasting. If cracks are observed, or new construction is anticipated, consultation with a qualified professional is recommended.
- Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.

- If it is necessary to conduct work in or near a live stream, the work space shall be isolated to avoid project activities in flowing water.
- Any spoils associated with site maintenance shall be placed in a stable location where it cannot enter a watercourse.
- Sidecasting shall be minimized and shall be avoided on unstable areas or where it has the potential to enter a watercourse.
- Entrance to the project site shall be maintained in a condition that will prevent tracking or flowing of sediment into the public right-of-way.
- All sediment spilled, dropped, washed, or tracked onto the public right-of-ways shall be removed immediately.
- When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-ways.
- When wheel washing is required, it shall be done in an area stabilized with crushed stone that drains into a sediment trap fitted with appropriate erosion control measures.
- To control surface water runoff in and around cultivation areas use fiber rolls or wattling and stake appropriately and perpendicular to the flow path.
- Cover crops should be utilized on all exposed slopes that are not able to be protected by other means.
- Cover crops should be native species as described in the associated biological resources report.
- Rip compacted soils prior to placing spoils to prevent the potential for ponding under the spoils that could result in spoil site failure and subsequent sedimentation.
- Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure.
- Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.
- Inspect all roads and culverts regularly for blockages.

F.3 WATER USE & POLLUTION

- Ensure that all appropriate water rights permits are filed with the State Water Resources Control Board.
- Notify the California Department of Fish and Wildlife by submitting a Lake and Streambed Alteration (LSA) notification package if the proposed activities involve substantial diversion from or alteration of the bed or bank of a stream or other waterbody.
- Ensure that all water storage features are permitted from the Department of Water Rights if necessary.

- All refueling and pesticide and chemical storage and transfer shall occur greater than 100 feet away from any swales, creeks, or natural areas.
- All refueling and pesticide and chemical storage and transfer shall occur on top of an impermeable metal or other fabric mat that is no less than 2 inches high on all sides and capable of completely containing any spillage.
- Concrete truck and other vehicles shall not be washed out in natural areas or directly onto soil and shall be washed out into a metal or other impermeable basin and disposed of properly such that no water is discharged to the soil.
- All waste shall be kept in plastic drums with tight fitting lids so that water is not able to make contact with the contents and potentially leach to the environment.
- All pesticide sprays shall occur on windless nights for outdoor facilities.
- Chemical or fertilizer wastes shall never be disposed of into swales or creeks and shall be contained inside closed-roof facilities and designated with appropriate labeling until it is possible to dispose of properly.
- Septic leach fields and graywater mulch fields shall be maintained free of large vegetation and not used for aboveground storage that may impact their proper functioning.
- Chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- Schedule excavation and grading activities for dry weather periods.
- Designate a contained area for equipment storage, short-term maintenance, and refueling. Ensure it is located at least 50 feet from waterbodies.
- Inspect vehicles for leaks and repair immediately.
- Clean up leaks, drips and other spills immediately to avoid soil or groundwater contamination.
- Conduct major vehicle maintenance and washing offsite.
- Ensure that all spent fluids including motor oil, radiator coolant, or other fluids and used vehicle batteries are collected, stored, and recycled as hazardous waste offsite.
- Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or offsite, beyond the 100-year floodplain.
- Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. If necessary for dust control, use only a minimal amount of water.
- Sweep up spilled dry materials immediately.
- Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
- Spoils shall not be placed or stored in locations where soils are wet or unstable, or where slope stability could be adversely affected.

- Do not locate spoil piles in or immediately adjacent to wetlands and watercourses.
- Store spoil piles in a manner (e.g. cover pile with plastic tarps and surround base of pile with straw wattle) or location that would not result in any runoff from the spoil pile ending up in wetlands and watercourses.
- Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
- Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.
- Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling where possible.
- Hauled water utilized for irrigation shall be documented via receipt or similar, and show the date, name, and license plate of the water hauler, and the quantity of water purchased.
- If using a water storage tank, do not locate the tank in a flood plain or next to equipment that generates heat. Locate the tank so it is easy to install, access, and maintain.
- Vertical tanks should be installed according to manufacturer's specifications and placed on firm, compacted soil that is free of rocks/sharp objects and capable of bearing the weight of the tank and its maximum contents.
- Install float valves on tanks to prevent them from overflowing.
- Place proper lining or sealing in ponds to prevent water loss.

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION

- Always limit work to the appropriate work date windows considering wet weather, migratory bird and other biological and environmental constrains that may be placed on the project.
- Proper design and location of roads and other features is critical to ensuring that a road or other feature be adequately drained and is best accomplished through consultation with a qualified professional.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- If inspection identifies surface rills or ruts, then surfacing and drainage likely needs maintenance. Consultation should be made with a licensed professional to design appropriate erosion control strategies.
- Design of roads should allow for sheet flow of water and use water bars and rolling dips to break up slope length.
- Vehicle speed shall be kept to a maximum of 10 mph while onsite to minimize dust generation.
- All unvegetated and unpaved roadways and vehicle turnarounds shall be graveled to a depth of not less than 1" in order to prevent dust and sediment entrainment.

- Applicant will use geotechnical fabric or similar materials on exposed slopes, and distribute weed-free straw mulch wherever possible on exposed surfaces on the perimeter of all graded roads and graveled areas.
- Roads and the berms alongside all roads shall be maintained free of headcuts, gullies, stutter bumps, and other erosion features capable of discharging sediment to adjacent grassland areas.
- Roads will be graveled with clean rock whenever required to prevent dust and sediment erosion during the wet season.
- Whenever possible, road maintenance activities shall be performed from May 1 to October 15.
- Work performed outside of this window should take extra precautions for winter weather erosion control prevention beyond that which is described in this Plan.
- A 48 hour advance forecast for rain shall trigger a temporary cessation of work, and all soils piles will need to be covered and secured with sandbags or other materials.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- Whenever feasible, finished grades shall not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods shall be applied as appropriate for the project location.
- Spoils and excavated material not used during project activities shall be removed and placed outside of 100-year floodplains.
- Upon completion of grading, slope protection of all disturbed sites shall be provided prior to the rainy season through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock, or equivalent.
- Position vehicles and other apparatus so as to not block emergency vehicle access.
- After construction is complete, all storm drain systems and culverts shall be inspected and cleared of accumulated sediment and debris.
- Sediment barriers including wattles and silt fencing should be checked for sediment accumulation following each significant rainfall and sediment removed or the feature replaced as needed.
- Road drainage shall be discharged to a stable location away from a watercourse.
- Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream.
- Within areas with potential to discharge to a watercourse (i.e. within riparian areas of at least 200 feet of a stream) road surface drainage shall be filtered through vegetation, slash, or other appropriate material or settled into a depression with an outlet with adequate drainage.

F.5 SWALE & VEGETATION MANAGEMENT

- The work area shall be restored to pre-project work condition or better.
- Any stream bank area left barren of vegetation as a result of cleanup/restoration activities shall be stabilized by seeding, replanting, or other means with native trees, shrubs, and/or grasses appropriate to the site prior to the rainy season in the year work was conducted.
- Ensure that vegetated swales are properly formed, allow moderate velocity water passage without causing sediment entrainment, and are otherwise functioning properly.
- Create and expand vegetated bioswales where necessary, should additional construction or road maintenance be required, in order to maintain flow without scour.
- All bioswales and other drainage features requiring revegetation will be seeded with native vegetation and lawns and hedgerows maintained in good health and watered in dry years.
- Vegetation including grasses shall be mowed as necessary to create fire breaks and to prevent the accumulation of fuels that would be able to sustain a ground fire.
- All vegetation shall be surveyed on foot once a year by staff and new outbreaks of any invasive weeds identified by the California Invasive Plant Council as noxious or invasive to be removed by the owner or qualified landscaping professionals.
- Channels and swales that show evidence of overland flow and scour (e.g. bare of vegetation) shall be seeded with native grasses such as *Stipa pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus*, and kept vegetated at all times.
- If shrubs and non-woody riparian vegetation are disturbed, they shall be replaced with similar native species appropriate to the site.
- Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel shall be avoided or minimized.
- If riparian trees over six inches dbh (diameter at breast height) are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio.
- Where physical constraints in the project area prevent replanting at a 3:1 ratio and canopy cover is sufficient for habitat needs, replanting may occur at a lesser replacement ratio.
- Vegetation planting for slope protection purposes shall be timed to require as little irrigation as possible for ensuring establishment by the commencement of the rainy season.
- The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during cleanup/restoration activities, restoring disturbed areas with appropriate native species, and post-project monitoring and control of exotic species.
- Removal of invasive exotic species after construction activities is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics shall be done in preparation for establishment of native plantings.
- Where permanent soil stabilization is required a locally-appropriate mix of native grass species shall be used such as a mix containing *Nassella pulchra*, *Hordeum*

brachyantherum, *Elymus glaucus*, and *Bromus carinatus* or as described in the site's Biological Resources Assessment.

- Entire cultivation site shall be seeded and maintained as a permanent non-tilled cover crop during non-usage times. Straw mulch shall be used where native seeding is not practicable.
- Use mulches (e.g. wood chips or bark) in cultivation areas that do not have ground cover to prevent erosion and minimize evaporative loss.
- Mulch shall be applied at a rate of 4000 lbs / acre and seeding shall be applied to achieve 70% cover in the first year or approximately 200 lbs / acre.
- Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil shall be conducted for three years following project work.
- Dischargers and/or their consultant(s) or third party representative(s) shall note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
- Dischargers and/or their consultant(s) or third party representative(s) shall provide the location of each work site, pre- and post-project work photos, diagram of all areas revegetated and the planting methods and plants used, and an assessment of the success of the revegetation program in the annual monitoring report as required under relevant state and local water board regulations.

F.6 IRRIGATION & CULTIVATION MANAGEMENT

- Cultivation-related waste shall be stored in a place where it will not enter a stream.
- Soil bags and other garbage shall be collected, contained, and disposed of at an appropriate facility, including for recycling where available.
- Pots shall be collected and stored where they will not enter a waterway or create a nuisance.
- Plant waste and other compostable materials be stored (or composted, as applicable) at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters.
- Imported soil for cultivation purposes shall be minimized. In the event that containers (e.g. grow bags or grow pots) are used for cultivation, reuse of soil shall be maximized to the extent feasible.
- Spent growth medium (i.e. soil and other organic medium) shall be handled to minimize discharge of soil and residual nutrients and chemicals to watercourses. Proper handling of spent soil could include incorporating into garden beds, spreading on a stable surface and revegetation, storage in watertight dumpsters, covering with tarps or plastic sheeting prior to proper disposal.
- Trash containers of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project.

- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Use lined bins or dumpsters to reduce leaking of liquid waste. Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash. Consider using refuse containers that are bear-proof and/or secure from wildlife.
- Refuse shall be removed from the site on a frequency that does not result in nuisance conditions, transported in a manner that they remain contained during transport, and the contents shall be disposed of properly at a proper disposal facility.
- Ensure that human waste disposal systems do not pose a threat to surface or ground water quality or create a nuisance. Onsite treatment systems should follow applicable County ordinances for human waste disposal requirements, consistent with the applicable tier under the State Water Resources Control Board Onsite Waste Treatment System Policy.
- Install buffer strips, bioswales, or vegetation downslope of cultivation areas to filter runoff of chemicals from irrigation.
- Irrigate at rates to avoid or minimize runoff.
- Regularly inspect and repair leaks in mains and laterals, in irrigation connections, or at the ends of drip tape and feeder lines.
- Design irrigation system to include redundancy (i.e., safety valves) in the event that leaks occur, so that waste of water is prevented and minimized.
- Recapture and reuse irrigation runoff (tailwater) where possible, through passive (gravity-fed) or active (pumped) means.
- Construct retention basins for tailwater infiltration; percolation medium may be used to reduce pollutant concentration in infiltrated water. Constructed treatment wetlands may also be effective at reducing nutrient loads in water.
- Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.
- Regularly replace worn, outdated or inefficient irrigation system components and equipment.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.
- All chemicals shall be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the State.
- Products shall be labeled properly and applied according to the label.

- Use integrated pest management strategies that apply pesticides only to the area of need, only when there is an economic benefit to the grower, and at times when runoff losses are least likely.
- Periodically calibrate pesticide application equipment.
- Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.
- Petroleum products shall be stored with a secondary containment system such as a pan or a tub
- Throughout the rainy season, any temporary containment facility shall have a permanent cover and side-wind protection, or be covered during non-working days and prior to and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Have proper chemical and fertilizer storage instructions posted at all times in an open and conspicuous location.
- Prepare and keep a spill prevention and cleanup plan onsite when dealing with any hazardous materials.
- Keep ample supply of appropriate spill clean-up material near storage areas.
- Plant cover crops to boost soil fertility, improve soil texture, and protect from storm caused sediment runoff.

F.7 SPECIAL-STATUS SPECIES AVOIDANCE MEASURES

- All employees and contractors including one-time contractors and day-laborers should be distributed cards with visual identifications of all of the aforementioned special-status species, including both male and female, and juvenile and adult forms, and be briefed on all of the following AMMs contained herein. Species cards may be obtained from PEC on request.
- Observation of any of the aforementioned SSS onsite shall result in immediate stoppage of all work and notification of PEC and/or CDFW.
- All animals observed onsite shall shall be allowed to leave the premises voluntarily without being harrased.

- Vehicle speeds should be limited to 5 mph all year, with 3 mph limit during amphibian breeding and migration season from October 1 to June 1, and for breeding bird season from February 1 to September 1.

- No loud noises including unmuffled or non-street legal vehicles, heavy machinery, hammering, discharge of firearms, or unmuffled generators are allowed during the breeding and nesting window to avoid impacts to NSO and which is generally February 1 to September 1.

- Avoid ground disturbance including trenching, grading, or road scraping to a depth of greater than 10" without first clearing the site from a qualified biologist to avoid disturbing estivating amphibians.

- Access within 100 feet of nesting migratory bird should not be allowed, and a sign should be placed stating there is a sensitive habitat ahead and no entry is permitted.

- All roadways and culverts should be inspected once before major rain events and once after to ensure that all erosion control materials are effective and not discharging sediment to any jurisdictional watercourses.

- All containers and other vessels left outside unattended should be checked before use to ensure that no animals are inside.

- Vessels including buckets should be turned over on their sides to allow animals to escape.

- No holes greater than 6" deep should be left exposed and uncovered to avoid making "pitfall traps" into which animals can enter but cannot escape. If holes such as post holes must be left for more than 24 hours they should be checked daily to ensure no animals are inside.

- Clear areas within 100 feet of any watercourse by a biological monitor prior to disturbing the ground more than 6".

- Only native woody species should be planted wherever revegetation is required such as along the sides of roadcuts and bridge abutments.

- Preconstruction breeding bird surveys for NSO and other migratory birds should be performed if tree removal is to take place.

- No tree or vegetation removal should be conducted during breeding bird season from February 1 to September 1.

- No aerial wires or lines should be permitted that may impede the flight path of nesting birds.

- No upward pointed lights should be permitted during anytime during the year, and ambient outdoor night time lights should be prohibited during the breeding bird period from February 1 to September 1.

- Use of rodenticides should not be used under any circumstances due to the hazard of secondary ingestion by raptors.

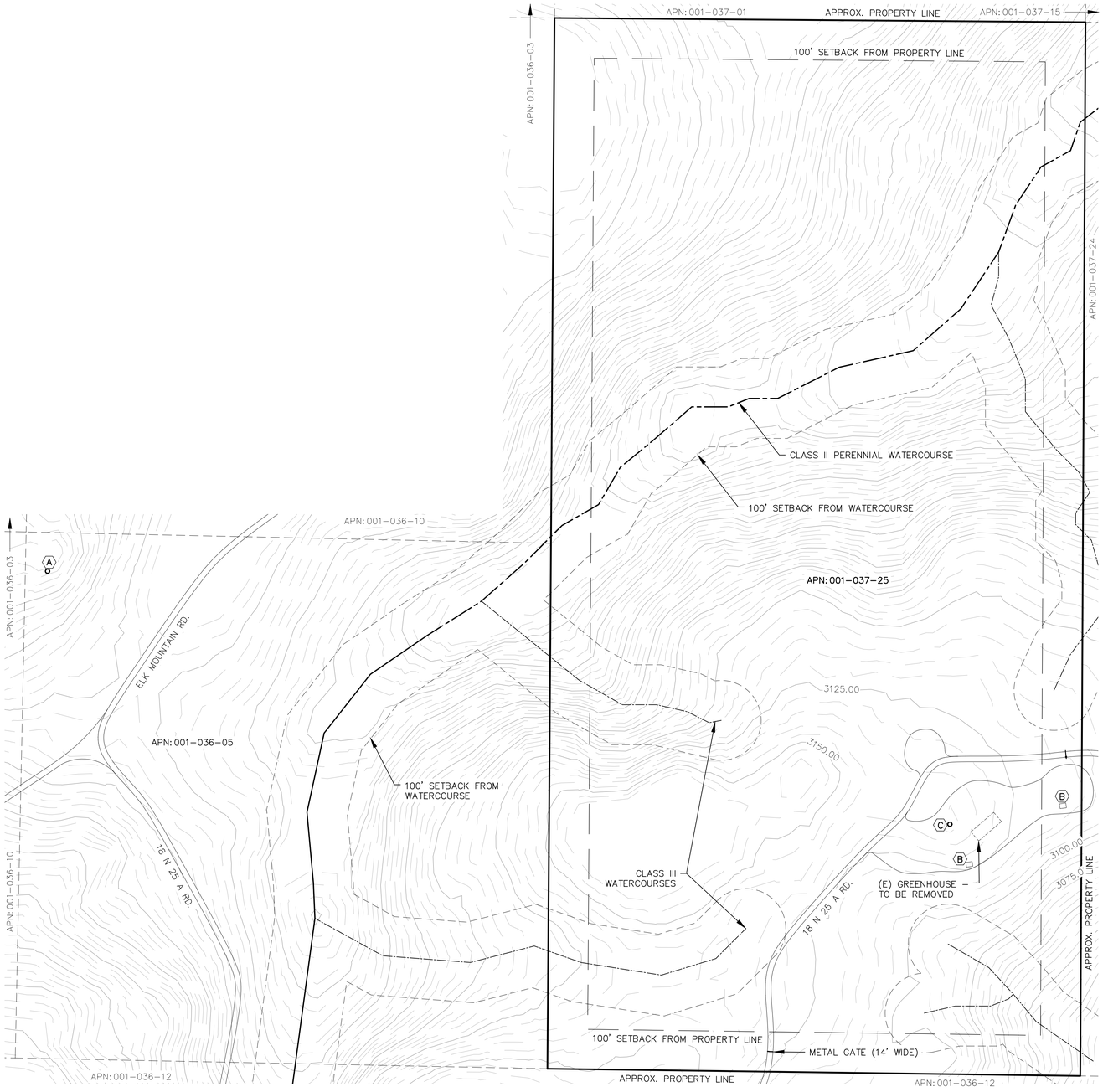
APPENDIX G: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied form the California Department of Forestry & Fire Protection *Forest Practice Rules* (CALFIRE 2017) and is widely used by many state and local agencies. Most state and local jurisdictions require setbacks of 50, 100, and 150 feet from Class III, II, and I streams, respectively (as shown in Figure 4) although greater setbacks may be required in some jurisdictions.

Watercourse – a natural or artificial channel through which water flows.

- Perennial watercourse (Class I*):
  1. In the absence of diversions, water is flowing for more than nine months during a typical year,
  2. Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or
  3. Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.
- Intermittent watercourse (Class II*):
  1. In the absence of diversions, water is flowing for three to nine months during a typical year,
  2. Provides aquatic habitat for non-fish aquatic species,
  3. Fish always or seasonally present within 1,000 feet downstream, and/or
  4. Water is flowing less than three months during a typical year and the stream supports riparian vegetation.
- Ephemeral watercourse (Class III*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.
- Other watercourses (Class IV*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.

*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).



EXISTING CONDITIONS SITE PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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) GROUNDWATER WELL
LAT: 39.38139°
LONG: -122.986825°

(B) (E) 12'x16' WOODEN SHED

(C) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: -122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

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

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY - APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 8/31/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
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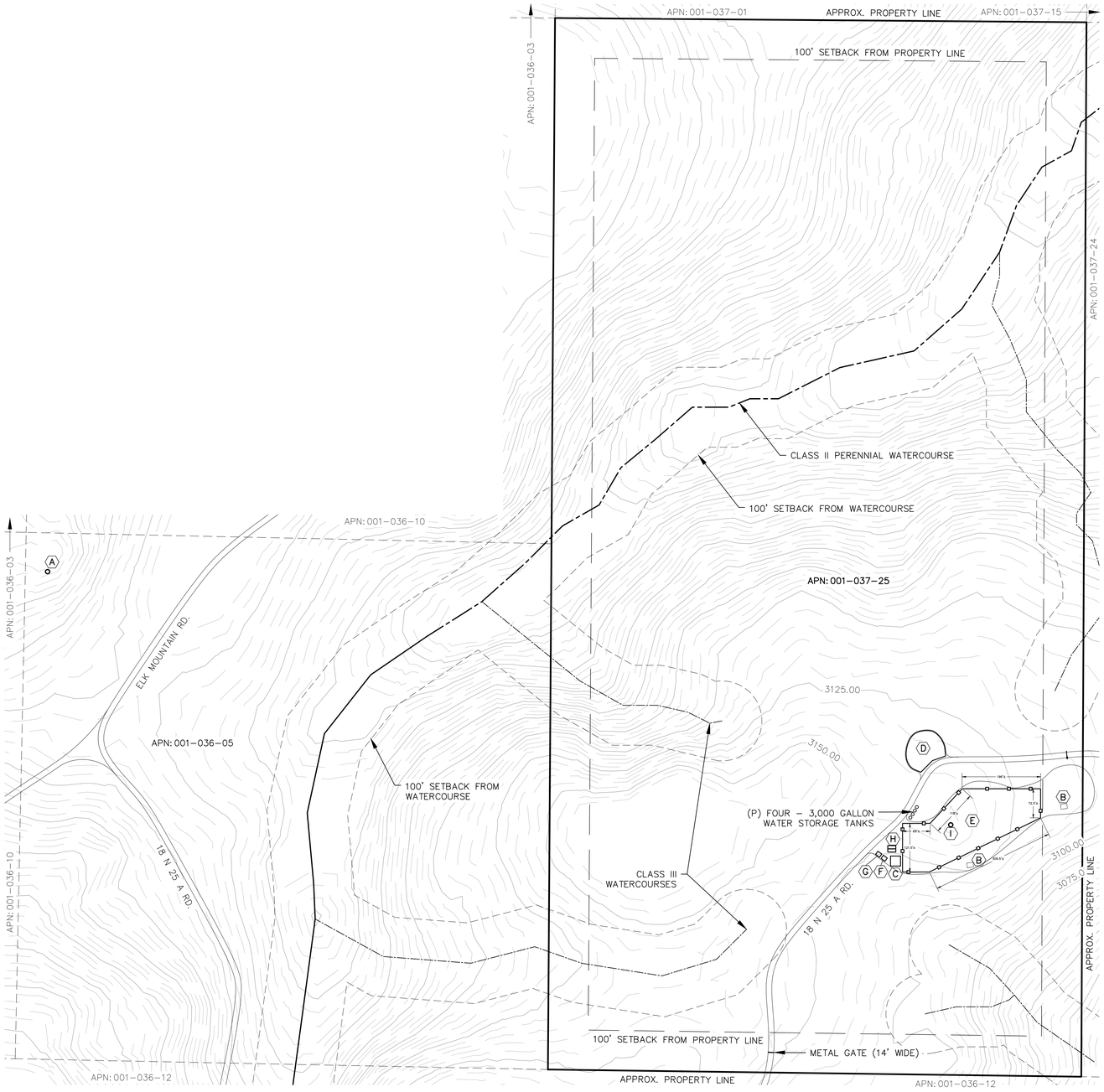

PROPOSED CONDITIONS SITE PLAN
PHASE I

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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) GROUNDWATER WELL
LAT: 39.38139°
LONG: -122.986825°

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

(C) (P) 25'x25' COMPOSTING AREA

(D) (P) 7,160 SF OUTDOOR CULTIVATION AREA

(E) (P) 1 ACRE OUTDOOR CULTIVATION AREA

(F) (P) 10'X12' PESTICIDE AND AGRICULTURAL CHEMICALS STORAGE SHED

(G) (P) DESIGNATED REFUSE AREA

(H) (P) TWO - 8'x20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(I) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: -122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

Revisions:

REALM ENGINEERING
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PROPOSED CONDITIONS SITE PLAN - PHASE I

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY - APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
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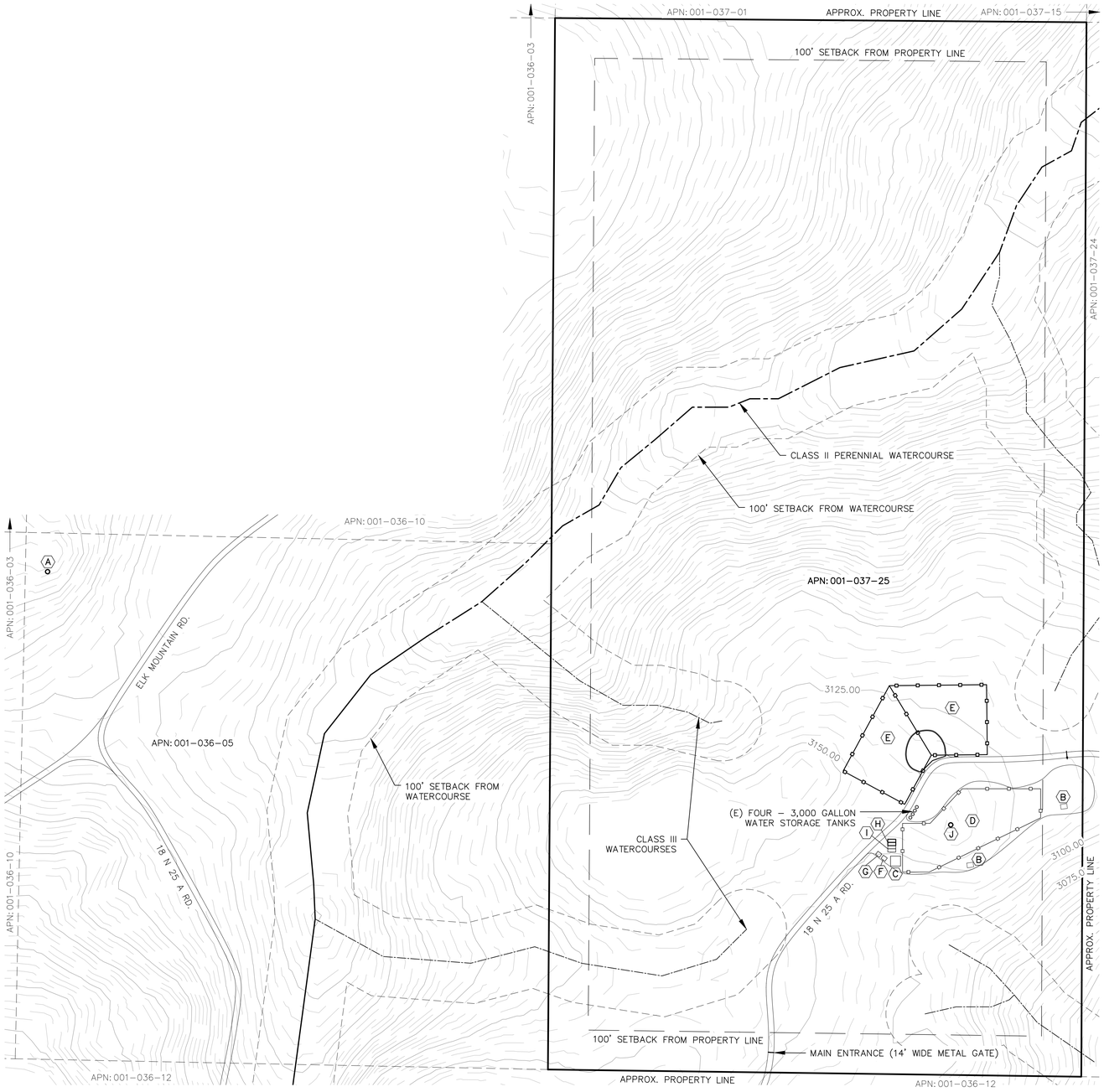

PROPOSED CONDITIONS SITE PLAN
PHASE II

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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) GROUNDWATER WELL
LAT: 39.38139°
LONG: -122.986825°

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

(C) (P) 25'X25' COMPOSTING AREA

(D) (P) 1 ACRE OUTDOOR CULTIVATION/CANOPY AREA

(E) (P) 33,000 SF CULTIVATION/CANOPY AREAS

(F) (P) 10'x12' PESTICIDE AND AGRICULTURAL CHEMICALS STORAGE SHED

(G) (P) DESIGNATED REFUSE AREA

(H) (E) TWO - 8'X20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(I) (P) TWO - 8'X20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(J) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: -122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

Revisions:

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

PROPOSED CONDITIONS SITE PLAN - PHASE II

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY - APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
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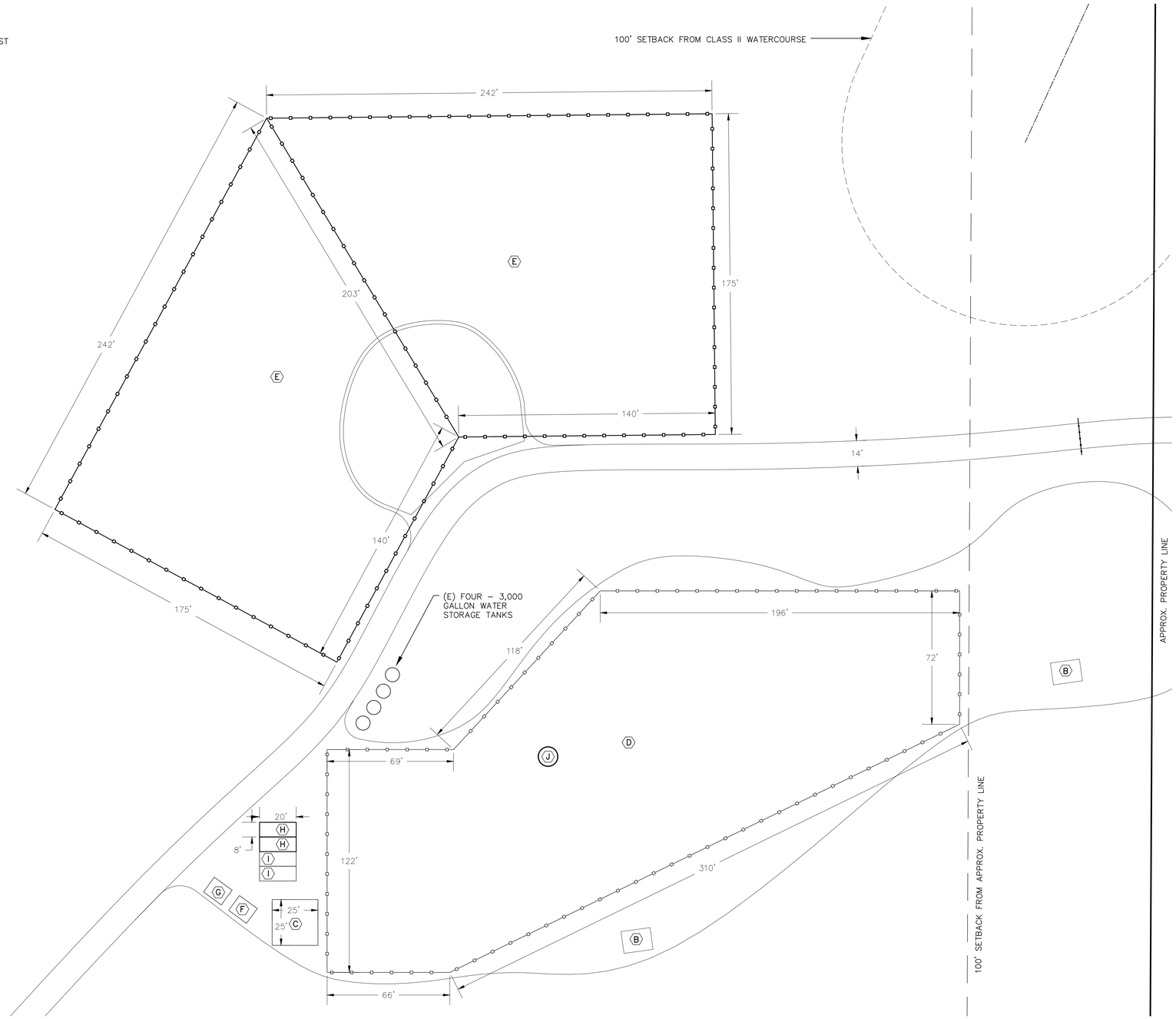


CULTIVATION SITE PLAN WITH CANOPY

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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) GROUNDWATER WELL
LAT: 39.381139°
LONG: –122.986825°

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

(C) (P) 25'X25' COMPOSTING AREA

(D) (P) 1 ACRE OUTDOOR CULTIVATION/CANOPY AREA

(E) (P) 33,000 SF CULTIVATION/CANOPY AREAS

(F) (P) 10'x12' PESTICIDE AND AGRICULTURAL CHEMICALS STORAGE SHED

(G) (P) DESIGNATED REFUSE AREA

(H) (E) TWO – 8'X20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(I) (P) TWO – 8'X20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(J) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

Revisions:

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

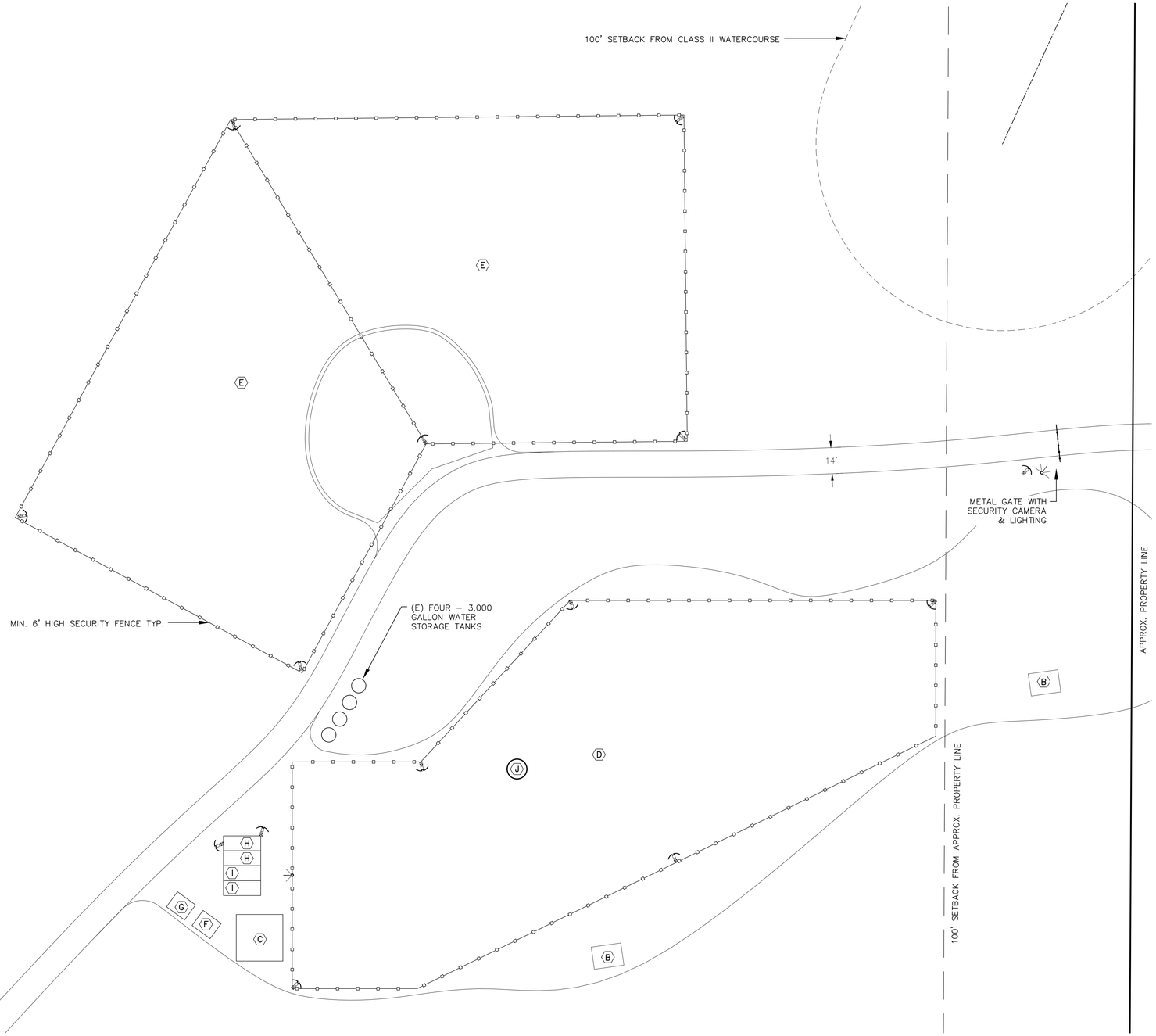
PLANS PREPARED UNDER THE SUPERVISION OF:

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

CULTIVATION SITE PLAN WITH CANOPY

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1



LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	ASPHALT
	GRAVEL
	EARTH
	WATERCOURSE / SWALE
	EXISTING POWER POLE
	(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

(A) (E) GROUNDWATER WELL
LAT: 39.38139°
LONG: –122.986825°

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

(C) (P) 25'X25' COMPOSTING AREA

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(J) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

CULTIVATION SITE PLAN WITH CANOPY

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

Revisions:

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CULTIVATION SITE PLAN WITH CANOPY

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POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001-037-25

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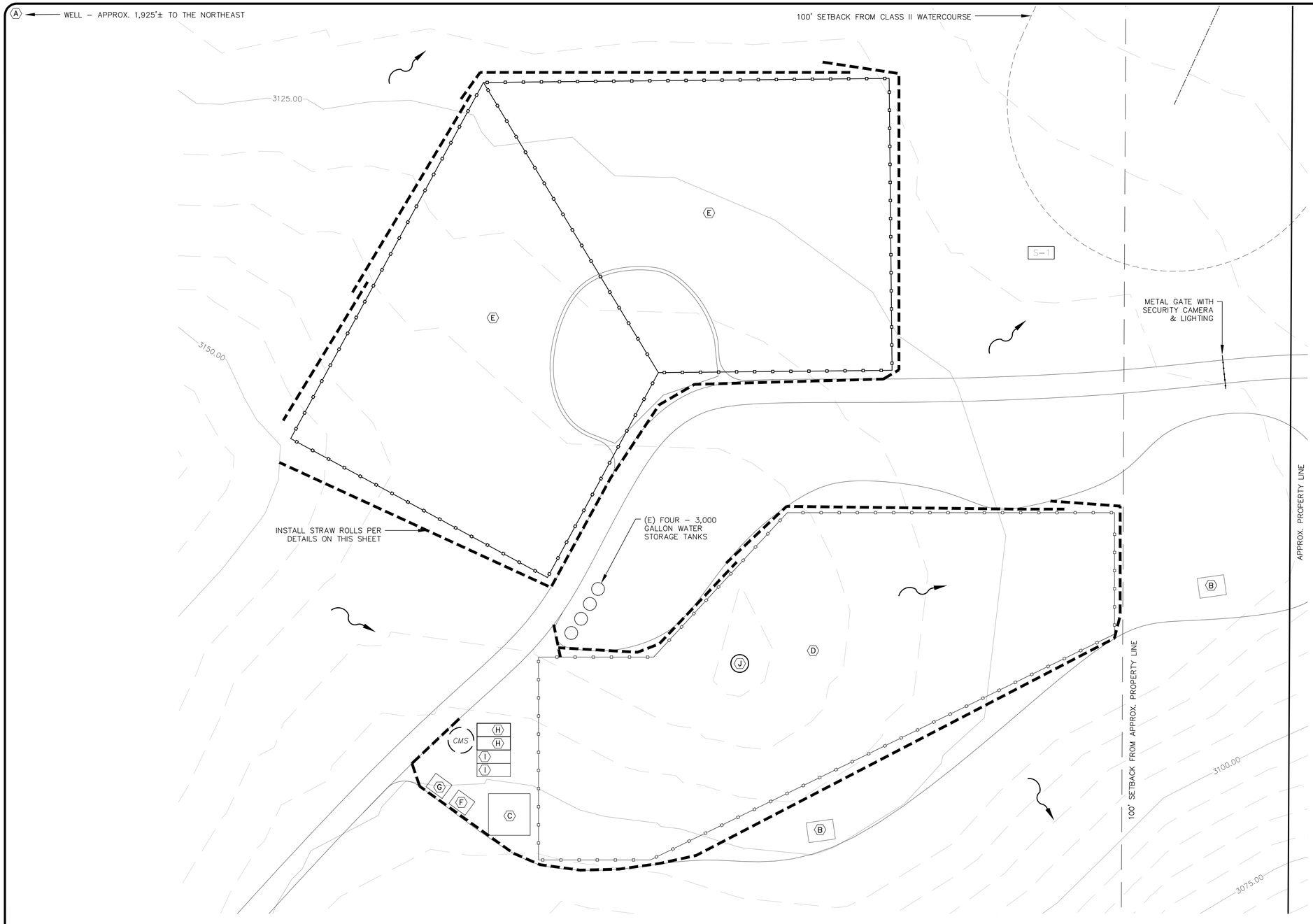

Ⓐ (E) GROUNDWATER WELL
LAT: 39.38139°
LONG: –122.986825°

Ⓑ (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

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Ⓙ (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

EXISTING TREES

DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

S-1 SAMPLING LOCATION

CMS CONSTRUCTION MATERIALS STORAGE AREA

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.

EROSION & SEDIMENT CONTROL PLAN

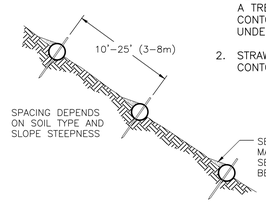
GRAPHIC SCALE

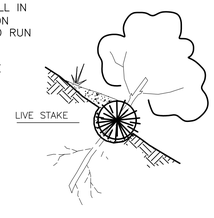
150 0 75 150

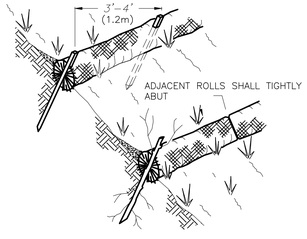
(IN FEET)
1 inch = 150 ft.

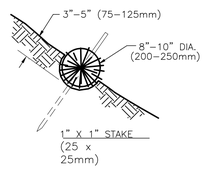
STRAW ROLL DETAILS

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









Revisions:

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REDDING, CA. 96001
530-526-7493

PLANS PREPARED UNDER THE SUPERVISION OF:

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

CULTIVATION SITE PLAN WITH CANOPY

22898 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

SECTION – F

GROUNDS MANAGEMENT PLAN

Grounds Management Plan

Purpose and Overview

Dustin Perbetsky is seeking a Major Use Permit from the County of Lake for a commercial cannabis cultivation operation with Self-Distribution at 22698 Elk Mountain Road near Lake Pillsbury, CA on Lake County APN 001-037-25 (Project Parcel). The proposed cultivation operation would composed of a 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy area, a 7,160 ft^2 A-Type 2 "Small Outdoor" cultivation/canopy area, a 192 ft^2 Security Room/Building, and a 192 ft^2 Pesticides & Agricultural Chemicals Storage Shed. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soil mixture in aboveground fabric pots and wood-framed garden beds, with drip irrigation systems to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be composted on-site. All chemicals and tools will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Area. All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°.

This Grounds Management Plan is intended to ensure that the Project Parcel is well maintained in order to protect the public health, safety and welfare, as well as the natural environment of Lake County. This Grounds Management Plan outlines how Mr. Perbetsky and his staff will properly store agricultural chemicals and equipment, manage solid waste, maintain roads and defensible space, and prevent the attraction, harborage, and proliferation of pests and diseases due to unsanitary conditions.

Chemicals Storage and Effluent

Chemicals that will be stored and used at the proposed cultivation operation include fertilizers/nutrients, pesticides, and petroleum products (Agricultural Chemicals). All fertilizers/nutrients and pesticides, when not in use, will be stored in their manufacturer's original containers/packaging, within secondary containment structures to prevent possible exposure to the environment, and undercover inside the Pesticides and Agricultural Chemicals Storage Area (existing wooden shed). Petroleum products will be stored under cover and in State of California-approved containers with secondary containment, and separate from fertilizers/nutrients and pesticides within the Pesticides and Agricultural Chemicals Storage Area. Spill containment and cleanup equipment will be maintained within the Pesticides and Agricultural Chemicals Storage Area. No effluent is expected to be produced by the proposed cultivation operation.

Materials Safety Data Sheets (MSDS/SDS) for all fertilizers, pesticides, and sanitation products will be stored within the Pesticides and Agricultural Chemicals Storage Area, and available for personnel to reference at any time. Mr. Perbetsky plans to only use CDFA Organic Input Material Registered fertilizers and soil amendments. All fertilizers/nutrients will be mixed/prepared on an impermeable surface that is at least 100 feet from surface water bodies. Personnel will be trained

how to appropriately prepare and apply fertilizers/nutrients before being allowed to use them. When using/preparing fertilizers and other chemicals, personnel will be required to use personal protective equipment (PPE) consistent with the MSDS/SDS recommendations for the product they're using/preparing. PPE to be used by staff include safety glasses, gloves, dust masks, boots, pants, and long-sleeved shirts.

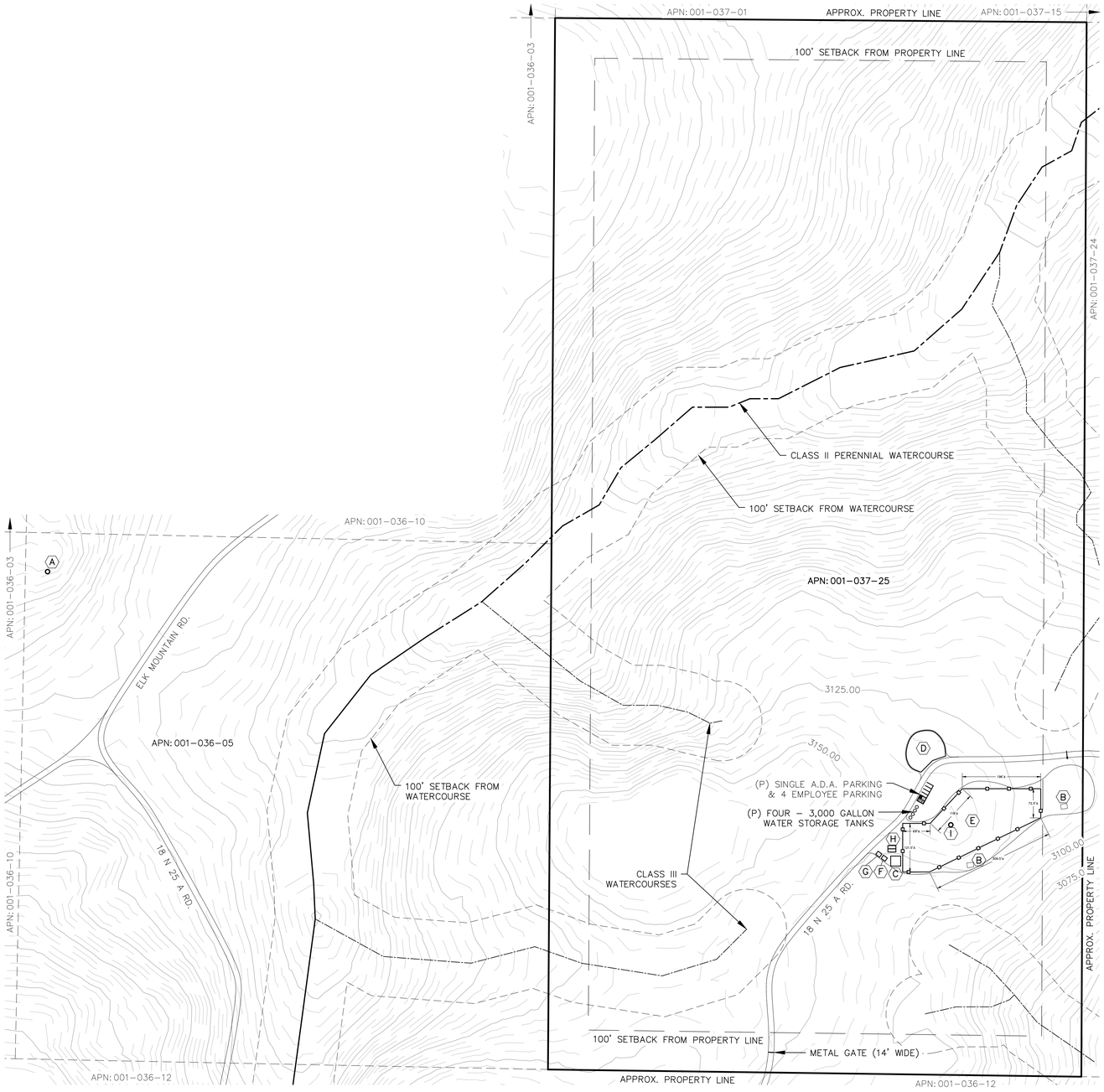
Solid Waste Overview

The types of solid waste that will be generated from the proposed commercial cannabis cultivation operation include gardening materials and wastes (such as used plastic seedling pots and spent plastic fertilizer/pesticide bags and bottles) and general litter from staff/personnel. All solid waste will be stored in bins with secure fitting lids, located directly adjacent to the proposed cultivation area(s). At no time should the bins be filled to a point that their lids cannot fit securely. Solid waste from the bins will be deposited into a trailer ("dump trailer"), then hauled away to a Lake County Integrated Waste Management facility, at least every seven (7) days/weekly during the cultivation season. The closest Lake County Integrated Waste Management facility to the proposed cultivation operation is the Lake County Waste Solutions Transfer Station and Recycling Center. Most, if not all, of the solid waste and recyclables generated by proposed commercial cannabis cultivation operation can and will be deposited there.

Site Maintenance

When not in use, all equipment will be stored in their proper designated area upon completion of the task for which the equipment was needed. Mr. Perbetsky will conduct daily scans of the site to ensure that all materials used during the work day have been returned to their designated storage area in an organized fashion. Any refuse created during the work day will be placed in the proper waste disposal receptacle at the end of each shift, or at a minimum upon completion of the task assigned. Any refuse which poses a risk for contamination or personal injury shall be disposed of immediately.

Access roads and parking areas will be graveled to prevent the generation of fugitive dust, and vegetative ground cover will be preserved and/or re-established as soon as possible throughout the entire site to filter and infiltrate stormwater runoff from the access roads, parking areas, and the proposed cultivation operation. Portable toilets and handwashing stations will be established adjacent to the proposed outdoor cultivation areas. The portable toilets and handwashing stations will be serviced regularly, and staff will have access to those facilities whenever they are onsite.



PROPOSED CONDITIONS SITE PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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) GROUNDWATER WELL
LAT: 39.38139°
LONG: -122.986825°

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

(C) (P) 25'x25' COMPOSTING AREA

(D) (P) 7,160 SF OUTDOOR CULTIVATION AREA

(E) (P) 1 ACRE OUTDOOR CULTIVATION AREA

(F) (P) 10'X12' PESTICIDE AND AGRICULTURAL CHEMICALS STORAGE SHED

(G) (P) DESIGNATED REFUSE AREA

(H) (P) TWO - 8'x20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(I) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: -122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

Revisions:

REALM ENGINEERING
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CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN - PHASE I

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY - APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
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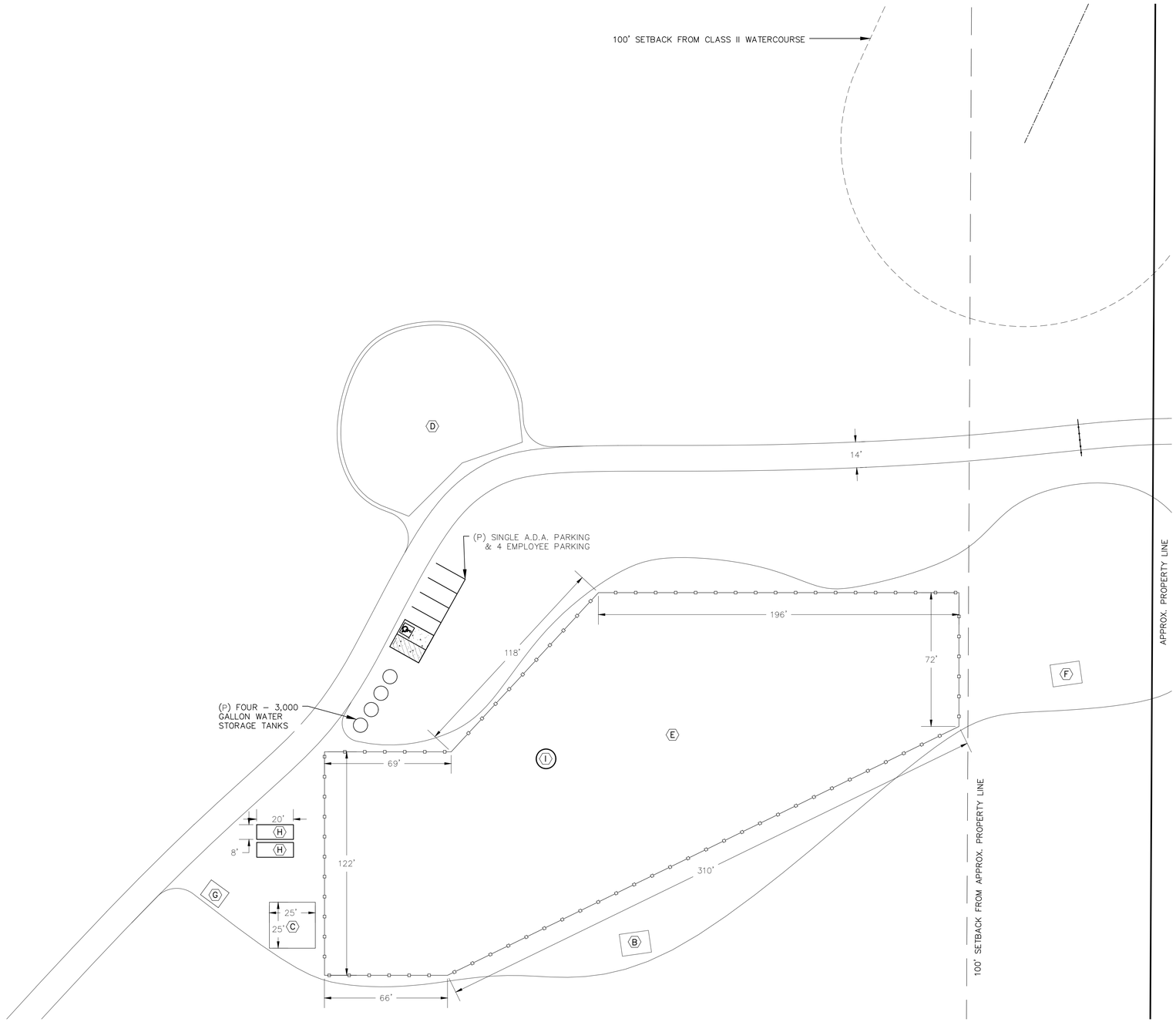

MAIN ENTRANCE (14' WIDE METAL GATE)

CULTIVATION SITE PLAN WITH CANOPY

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	LIMITS OF DISTURBED AREA
	ASPHALT
	GRAVEL
	EARTH
	FLOOD ZONE
	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'

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

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(I) (E) GROUNDWATER WELL
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BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

Revisions:

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CULTIVATION SITE PLAN WITH CANOPY

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POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
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SECTION – G

SECURITY MANAGEMENT PLAN

Security Management Plan

Purpose and Overview

Dustin Perbetsky is seeking a Major Use Permit from the County of Lake for a commercial cannabis cultivation operation with Self-Distribution at 22698 Elk Mountain Road near Lake Pillsbury, CA on Lake County APN 001-037-25 (Project Parcel). The proposed cultivation operation would composed of a 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy area, a 7,160 ft^2 A-Type 2 "Small Outdoor" cultivation/canopy area, a 192 ft^2 Security Room/Building, and a 192 ft^2 Pesticides & Agricultural Chemicals Storage Shed. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soil mixture in aboveground fabric pots and wood-framed garden beds, with drip irrigation systems to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be composted on-site. All chemicals and tools will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Area. All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°.

The purpose of this Security Management Plan (SMP) is to minimize criminal activity, provide for safe and secure working environments, protect private property and prevent damage to the environment. This SMP includes a description of the security measures that will be implemented at the proposed cultivation operation to prevent unauthorized access and theft or diversion of cannabis, a description of the proposed video surveillance system, and protocols that Mr. Perbetsky's staff are to follow to ensure overall site security. This SMP is also designed to be compliant with the Emergency Regulations for Cannabis Cultivation, authored by CDFA's CalCannabis Licensing programs, as well as the regulations established by the California Department of Public Health for state-licensed cannabis businesses.

Secured Entry and Access

The Project Parcel is accessed via Log Ridge Road off of Elk Mountain Road. Log Ridge Spur A travels through the Project Parcel and the proposed cannabis cultivation operation. Secured entry and access to the Project Parcel (where the proposed cultivation operation will be located) is controlled via a locking metal gate across Log Ridge Spur A. There will be no signage indicating that there is a cannabis business on the Project Parcel, and the Project Parcel will be closed to the public.

The proposed outdoor cultivation areas will be enclosed with 6-foot tall galvanized woven wire fences. Metal posts will be set into the ground at 10-foot intervals, and terminal posts will be set into concrete footings. Secured entry and access to the proposed cultivation areas will be controlled via locking gates. These gates will be secured with commercial grade padlocks whenever Mr. Perbetsky or his staff are not present.

100 feet of defensible space (vegetation management) will be established and maintained around the proposed cultivation operation for fire protection and to provide for visibility and security monitoring. Motion-sensing alarms will be installed at the main entrance to the Project Parcel (on Log Ridge Road Spur A) and on each gate of the proposed cultivation areas, to alert personnel when someone/something has entered onto the premises. Motion-sensing security lights will be installed at the main entrance to the Project Parcel, and in front of each entrance to the proposed cultivation areas. All lighting will be fully shielded, downward casting and will not spill over onto other properties or the night sky.

The doors of the proposed Security Room/Building (existing wooden shed) will be secured with commercial grade locks whenever Mr. Perbetsky is not present. The proposed Security Room/Building will be equipped with an alarm system that covers all possible entry points and alerts Mr. Perbetsky in the event of a breach. All entry/access points to the Security Room/Building will be equipped with security lights and cameras capable of recording the face of each person that enters and exits the building.

Video Surveillance

A closed-circuit television (CCTV) system with a minimum camera resolution of 1080p at a minimum of 30 frames per second will be used to record activity in all sensitive areas. All cameras will be color capable. All exterior cameras will be waterproof and all interior cameras will be moisture proof. Cameras monitoring the perimeter of the cultivation/canopy areas will be equipped with thermal technology. The CCTV system will feed into a monitoring and recording station in the proposed Security Room/Building, where video from the CCTV system will be digitally recorded. Video management software of the monitoring and recording station will be capable of integrating cameras of the CCTV system with door alarms, and will be equipped with a failure notification system that immediately notifies Mr. Perbetsky of any interruptions or failures. All cameras of the CCTV system will operate continuously 24 hours a day, 7 days a week during the cultivation season. All recordings will be kept a minimum of 90 days, and 7 years for any corresponding reported incidents caught on tape.

Proposed camera placements can be found on the accompanying Security Site Plan. Areas that will be covered by the CCTV system include:

- Entryways to the cultivation areas and proposed Security Room/Building;
- The perimeter of the cultivation/canopy areas; and
- The monitoring and recording station (within the proposed Security Room/Building).

Staff Security Protocols

All staff will be instructed to lock any secured area when exiting, if there are no other staff still working in that area. Staff will be instructed to investigate suspicious activity for potential threats, issues, or concerns if/when suspicious activity is detected. Staff will be instructed to contact the Lake County Sheriff's Office immediately if/when a threat is detected.

When a visitor arrives at the proposed commercial cannabis cultivation operation via the main entrance during core operating/business hours, they will be immediately greeted by Mr. Perbetsky or a member of his staff. The visitor's identification and appropriate documentation/credentials will be verified before being allowed to enter onto to premises of the proposed cultivation operation. They will then be assigned an escort to show the visitor to the appropriate area(s), in accordance to their approved itinerary. No visitors will ever be left unattended.

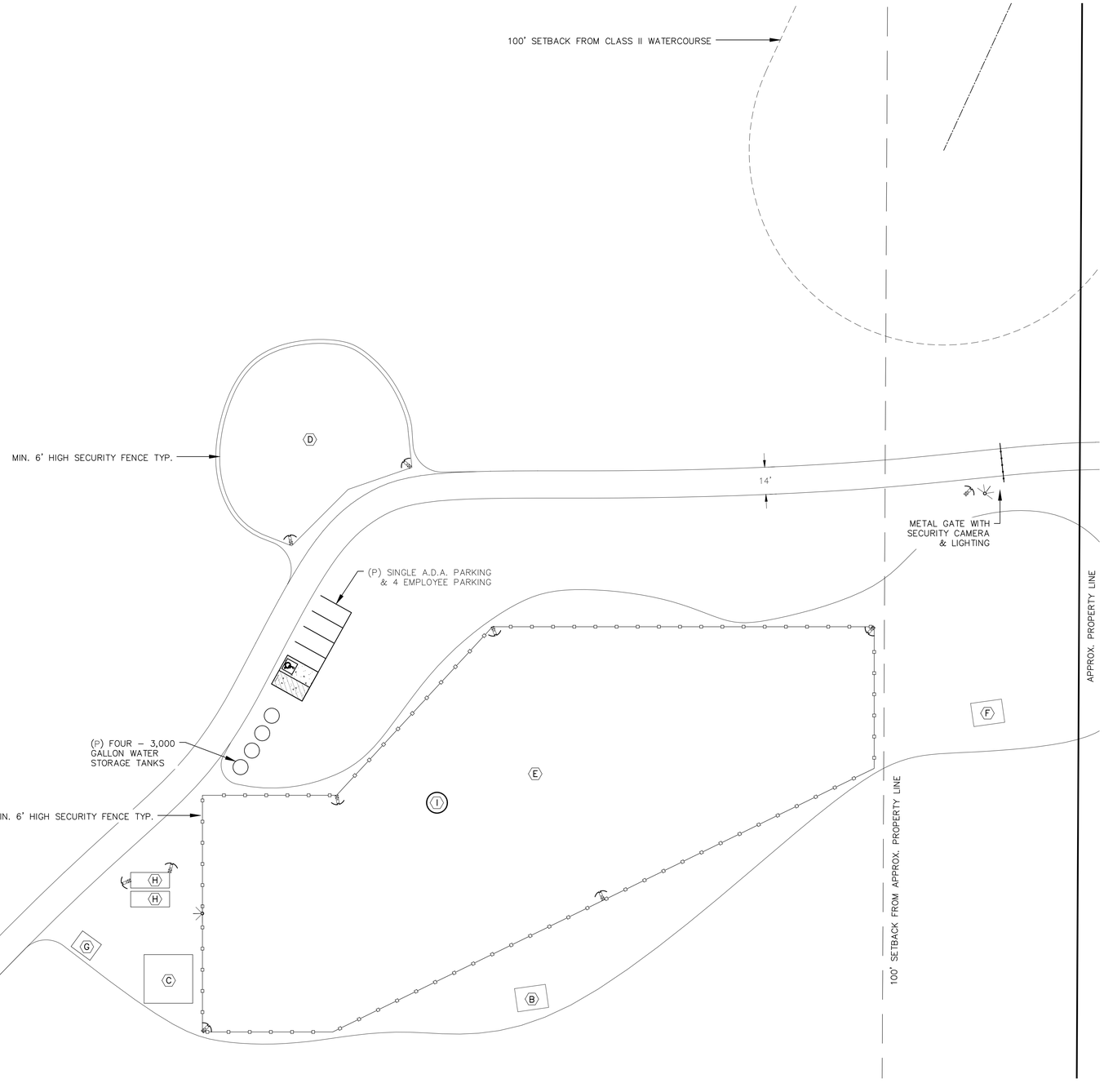
Diversion/Theft Prevention

All of Mr. Perbetsky's personnel will be required to undergo a criminal background check performed by the Lake County Sheriff's Department/Office. Visitors and personnel will be required to sign-in and sign-out each day, and record the areas in which they worked and the tasks they were assigned. Personnel will be required to store personal items in their vehicles throughout their shift.

Mr. Perbetsky will be a designated track-and-trace system administrator for his proposed cultivation operation. Mr. Perbetsky will supervise all tasks with high potential for diversion/theft, and will document which personnel took part in the task(s). In the event of any diversion/theft, law enforcement and the appropriate licensing authority will be notified within 24 hours of discovery.

Community Liaison and Emergency Contact

A Community Liaison/Emergency Contact will be made available to Lake County Officials/Staff and the Lake County Sheriff's Office at all times to address any needs or issues that may arise. Mr. Perbetsky will provide the name, cell phone number, and email address of the Community Liaison/Emergency Contact to all interested County Departments, Law Enforcement Officials, and neighboring property owners and residents. Mr. Perbetsky will encourage neighboring residents to contact the Community Liaison/Emergency Contact to resolve any problems before contacting County Officials. When a complaint is received, the Community Liaison/Emergency Contact will document the complainant and the reason for the complaint, then take action to resolve the issue (see the Odor Response Program in the Air Quality section of this Property Management Plan for odor related complaints/issues). A tally and summary of complaints/issues will be provided in the proposed cultivation operations' annual Performance Review Report.



LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	ASPHALT
	GRAVEL
	EARTH
	WATERCOURSE / SWALE
	EXISTING POWER POLE
	(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

(B) (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

(C) (P) 25'x25' COMPOSTING AREA

(D) (P) 7,160 SF OUTDOOR CULTIVATION AREA

(E) (P) 1 ACRE OUTDOOR CULTIVATION AREA

(F) (E) 12'x16' WOODEN SHED / (P) 10'X12' PESTICIDE AND AGRICULTURAL CHEMICALS STORAGE SHED

(G) (P) DESIGNATED REFUSE AREA

(H) (P) TWO – 8'x20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

(I) (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

SECURITY 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:

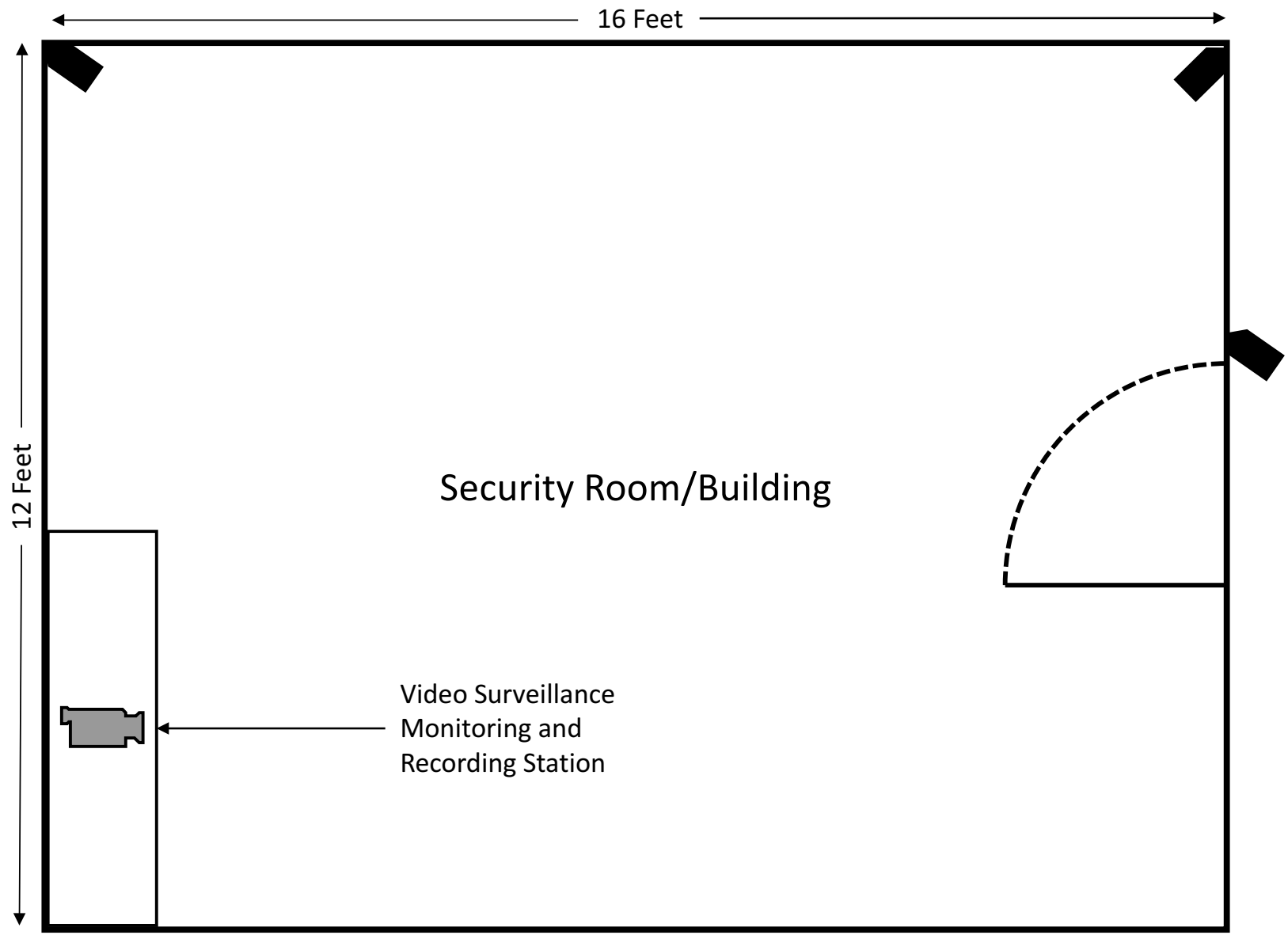
REGISTERED PROFESSIONAL ENGINEER
JASON B. VINES
No. 67800
exp.06/30/21
CIVIL
STATE OF CALIFORNIA

SECURITY SITE PLAN

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001-037-25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

Security Room/Building
(Existing Wooden Shed)



SECTION – H

STORM WATER MANAGEMENT PLAN

Stormwater Management Plan

Purpose and Overview

Dustin Perbetsky is seeking a Major Use Permit from the County of Lake for a commercial cannabis cultivation operation with Self-Distribution at 22698 Elk Mountain Road near Lake Pillsbury, CA on Lake County APN 001-037-25 (Project Parcel). The proposed cultivation operation would composed of a 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy area, a 7,160 ft^2 A-Type 2 "Small Outdoor" cultivation/canopy area, a 192 ft^2 Security Room/Building, and a 192 ft^2 Pesticides & Agricultural Chemicals Storage Shed. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soil mixture in aboveground fabric pots and wood-framed garden beds, with drip irrigation systems to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be composted on-site. All chemicals and tools will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Area. All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°.

The purpose of this Stormwater Management Plan is to protect the water resources and stormwater management systems managed by the County of Lake. This Stormwater Management Plan, combined with the attached Erosion Control Plan, provide written and graphic representation of how storm water runoff will be managed to protect downstream receiving water bodies from water quality degradation for the proposed cultivation operation, ensuring compliance with Lake County's Stormwater Management Ordinance and the State Water Resource Control Board's Cannabis General Order.

Stormwater Management Overview

The 80.5-acre TPZ-zoned Project Parcel is a private inholding within the Mendocino National Forest and the Rice Creek-Rice Fork Watershed (HUC 12). Soils of the Project Parcel are classified as the well-drained Sanhedrin-Kekawaka-Speaker complex by the USDA-NRCS Soil Survey, composed of gravelly clay loams derived from weathered sedimentary rock (residuum), with elevations on the Project Parcel ranging from 2,840 to 3,160 feet above mean sea level. The proposed cultivation operation will increase the impervious surface area of the Project Parcel by approximately 500 ft^2 (less than 0.1% of the Project Parcel), through the installation of two 160 ft^2 metal shipping/storage containers and four 3,000-gallon heavy-duty plastic water storage tanks.

An unnamed perennial Class II watercourse and tributary to Packsaddle Creek, flows from southwest to northeast through the Project Parcel. The area of the proposed commercial cannabis cultivation operation sits on a northeast/southwest-trending ridge in the southern half of the Project Parcel. Several ephemeral Class III watercourses begin on the northwestern and southeastern slopes of that ridge, and flow into the unnamed perennial Class II watercourse (referenced above) and Packsaddle Creek. All cultivation areas and associated facilities of the proposed cultivation

operation will be located more than 100 feet from all surface water bodies. There are no watercourse crossings on the Project Parcel.

Stormwater Management Measures

The proposed cultivation operation will be located more than 100 feet from surface water bodies, and well-vegetated buffers will be maintained/re-established around the proposed cultivation operation to filter pollutants and promote stormwater retention and infiltration. Gravel will be applied to the surfaces of access roads and pathways of the proposed cultivation operation, to allow for infiltration while mitigating the generation of sediment laden stormwater runoff. A native grass seed mixture and certified weed-free straw mulch will be applied to all areas of exposed soil prior to November 15th of each year, until permanent stabilization has been achieved. Straw rolls/wattles will be installed before November 15th of each year throughout the proposed cultivation operation (please see Erosion and Sediment Control Site Plan), to filter pollutants and promote stormwater retention and infiltration. The well drained gravelly clay loam soils of the Project Parcel, combined with the erosion and sediment control measures outlined above, should allow for all stormwater runoff from the proposed cultivation operation to infiltrate before reaching surface water bodies or neighboring properties.

Erosion and Sediment Control Measures

Established and re-established vegetation within and around the proposed cultivation operation will be maintained/protected as a permanent erosion and sediment control measure. A native grass seed mixture and certified weed-free straw mulch will be applied to all areas of exposed soil prior to November 15th of each year, until permanent stabilization has been achieved. Gravel will be applied to the surfaces of access roads, pathways, and the aisles between the garden beds/pots of the proposed cultivation areas, to allow for infiltration while mitigating the generation of sediment laden stormwater runoff. Straw rolls/wattles will be installed before November 15th of each year throughout the proposed cultivation operation (please see Erosion and Sediment Control Site Plan), to filter pollutants and promote stormwater retention and infiltration. If areas of concentrated stormwater runoff begin to develop, additional erosion and sediment control measures will be implemented to protect those areas and their outfalls. This project's Site Manager will conduct monthly monitoring inspections to confirm that this operation is in compliance California Water Code.

Regulatory Compliance (Stormwater)

The Project Parcel has been enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger since March 5th, 2020 (WDID: 1_17CC423448). The stormwater management measures outlined above meet and/or exceed the requirements of the Lake County Storm Water Management Ordinance (Chapter 29 of the Lake County Ordinance Code). Stormwater runoff from the proposed cultivation operation will not discharge into any Lake County maintained drainage or conveyance system. Stormwater runoff from the area of the proposed cultivation operation, discharges to ephemeral Class III watercourses

that flow into the unnamed perennial Class II watercourse (referenced above) and Packsaddle Creek. The unnamed perennial Class II watercourse flows into Packsaddle Creek approximately one mile east of the Project Parcel, and Packsaddle Creek flows into Lake Pillsbury approximately two miles east of the Project Parcel. Development of the proposed cultivation operation, with the implementation of the erosion and sediment control measures outlined above, will not increase the volume of stormwater discharges from the Project Parcel onto adjacent properties or flood elevations downstream.

Monitoring and Reporting Program

The following are the Monitoring and Reporting Requirements for the proposed cannabis cultivation operation from the Cannabis General Order:

- Winterization Measures Implementation
- Tier Status Confirmation
- Third Party Identification (if applicable)
- Nitrogen Application (Monthly and Total Annual)

An Annual Report shall be submitted to the Central Valley Regional Water Quality Control Board by March 1st of each year. The Annual Report shall include the following:

1. Facility Status, Site Maintenance Status, and Storm Water Runoff Monitoring.
2. The name and contact information of the person responsible for operation, maintenance, and monitoring.

A letter transmitting the annual report shall accompany each report. The letter shall summarize the numbers and severity of violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Mr. Perbetsky will adhere to these monitoring requirements to maintain compliance with the Cannabis General Order, and will be happy to provide a copy of the Annual Monitoring Reports to Lake County Officials if requested.

Cannabis Vegetative Material Waste Management

Cannabis Waste Overview

"Cannabis waste" is an organic waste, as defined in Section 42649.8(c) of the Public Resources Code. Anticipated cannabis waste generated from the proposed cannabis cultivation operation is limited to cannabis leaves and stems. It is anticipated that all other parts of cannabis plants cultivated at this site will be transferred to a State of California-licensed Distributor for distribution to State of California-licensed Processors, Manufacturers, and Retailers. The proposed cannabis cultivation operation is anticipated to generate less than 300 pounds of cannabis waste each year.

Cannabis Waste Composting

All cannabis waste generated from the proposed cultivation operation will be composted on-site and in compliance with Title 14 of the California Code of Regulations at Division 7, Chapter 3.1. Cannabis waste will be stored/composted in the designated composting area of the proposed commercial cannabis cultivation operation, until it is incorporated into the soils of the cultivation areas as an organic soil amendment.

Cannabis Waste Records/Documentation

Cannabis waste generated from the proposed cannabis cultivation operation will be identified, weighed, and tracked while onsite. All required information pertaining to cannabis waste will be entered into the State of California Cannabis Track-and-Trace (CCTT) system. Mr. Perbetsky will maintain accurate and comprehensive records regarding cannabis waste generation that will account for, reconcile, and evidence all activity related to the generation or disposition of cannabis waste. All records will be kept on-site for seven (7) years and will be made available during inspections.

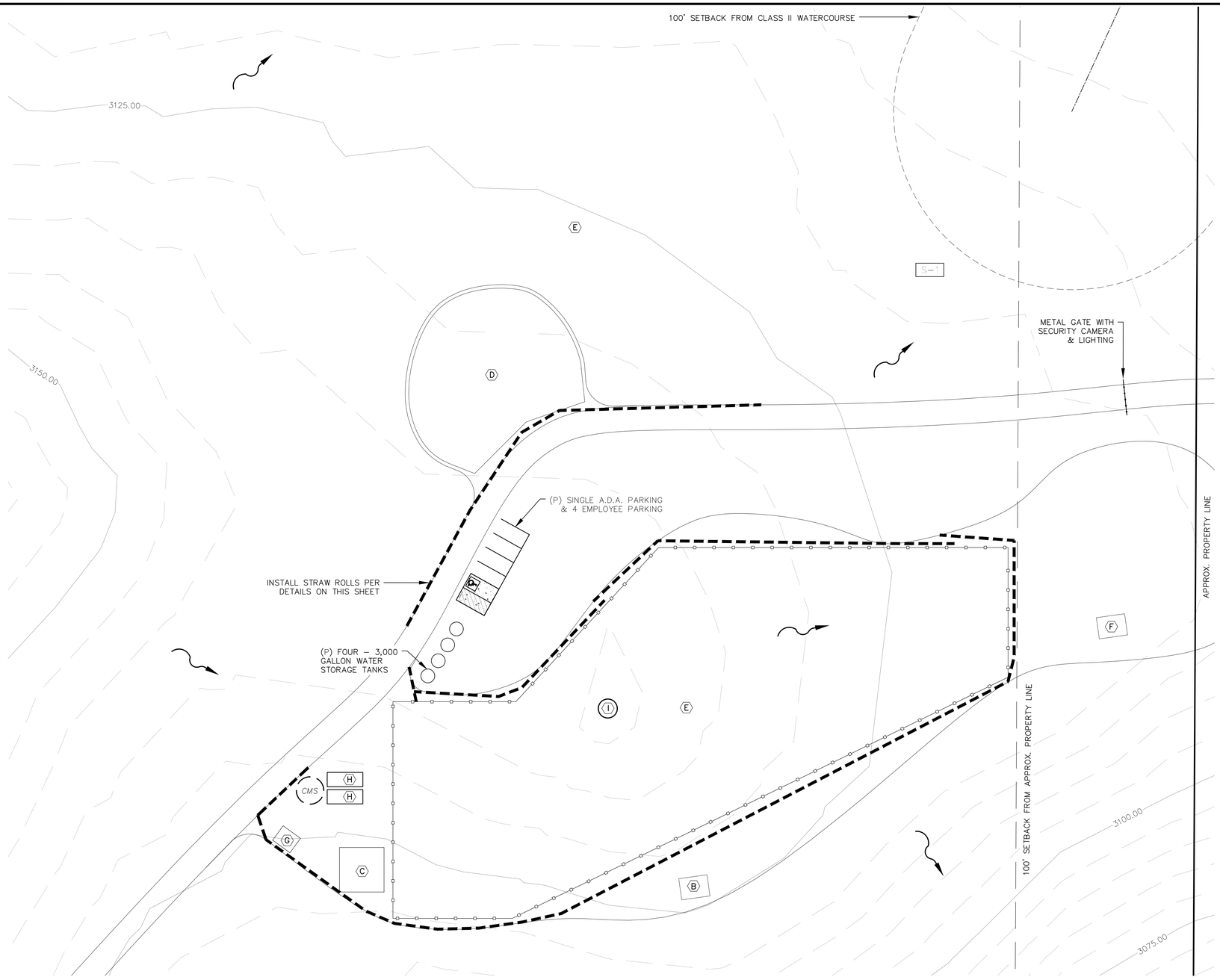
Growing Medium Management

Growing Medium Overview

The growing medium of the proposed cannabis cultivation areas will be an organic soil mixture in aboveground wooden garden beds and fabric pots. Each year the organic soil mixture of the proposed cultivation area(s) will be amended with composted cannabis waste/plant material and reused. Only low salt fertilizers will be used by the proposed cultivation operation, so that salts do not accumulate within the organic soil mixture of the proposed cultivation area(s), rendering the organic soil mixture unusable.

Growing Medium Waste

Ideally, the organic soil mixture of the cultivation area will be amended and reused each year/cultivation season. In the event of a root and/or soil born pest infestation, the infested soil will be removed from the cultivation area, quarantined and treated with a pesticide that targets the infestation and that is approved for use in cannabis cultivation by the California Department of Food and Agriculture and/or California Department of Pesticide Regulation, then incorporated with compost in the designated composting area. After composting, the treated soil will be reintroduced into the garden beds of the proposed cultivation areas or used as a growing medium for the fragrant flowering and herb plants that are to be planted around the cultivation operation.



Ⓑ (E) 12'x16' WOODEN SHED / (P) SECURITY ROOM BUILDING

Ⓒ (P) 25'x25' COMPOSTING AREA

Ⓓ (P) 7,160 SF OUTDOOR CULTIVATION AREA

Ⓔ (P) 1 ACRE OUTDOOR CULTIVATION AREA

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Ⓖ (P) DESIGNATED REFUSE AREA

Ⓗ (P) TWO – 8'x20' HARVEST STORAGE AREAS (METAL SHIPPING CONTAINERS)

Ⓘ (E) GROUNDWATER WELL
LAT: 39.38005
LONG: –122.97895
BENEFICIAL USES: IRRIGATION & FIRE PROTECTION

EXISTING TREES

DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

S-1 SAMPLING LOCATION

CMS CONSTRUCTION MATERIALS STORAGE AREA

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.

EROSION & SEDIMENT CONTROL PLAN

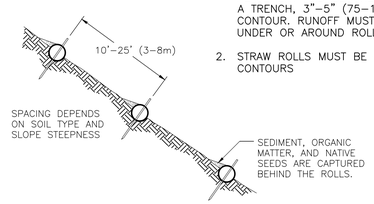
GRAPHIC SCALE

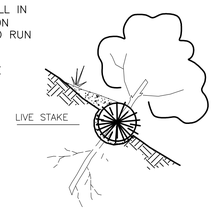
150 0 75 150

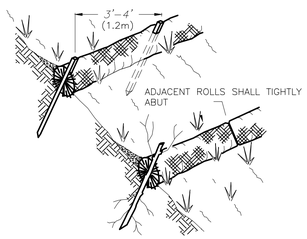
(IN FEET)
1 inch = 150 ft.

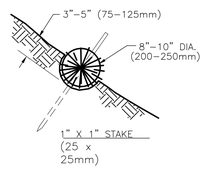
STRAW ROLL DETAILS

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









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

22698 ELK MOUNTAIN RD.
POTTER VALLEY, CA 95469
LAKE COUNTY – APN: 001–037–25

PLOTTED BY: ---
DATE PLOTTED: 7/22/20
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

March 5, 2020 WDID:1_17CC423448

DUSTIN PERBETSKY
PO BOX 698
REDWOOD VALLEY, CA 95470

Subject: Notice of Applicability - Waste Discharge Requirements Water Quality Order WQ 2019-0001-DWQ

The attached Notice of Applicability provides notice that the requirements of the State Water Board *Cannabis Cultivation Policy- Principles and Guidelines for Cannabis Cultivation* (Policy), and the *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities,* Order WQ 2019-0001-DWQ (General Order – previously WQ 2017-0023-DWQ, with updates and revisions effective April 16, 2019) are applicable to the site as described below. Based on the information provided, the Discharger self-certifies the cannabis cultivation activities are consistent with the requirements of the State Water Board Policy and General Order.

Please direct all submittals, discharge notifications, and questions regarding compliance and enforcement to the North Coast Regional Water Quality Control Board Cannabis Program at (707) 576-2676 or northcoast.cannabis@waterboards.ca.gov.

Sincerely,

Matthias St. John
Executive Officer
North Coast Regional Water Quality Control Board

200305_2L_1_17CC423448_Dustins_Farm_22698_NOA_TW

NOTICE OF APPLICABILITY – WASTE DISCHARGE REQUIREMENTS, WATER QUALITY ORDER WQ 2019-0001-DWQ, DUSTIN PERBETSKY, LAKE COUNTY APN(s) 001-037-25

Dustin Perbetsky (hereafter "Discharger") submitted information through the State Water Resources Control Board's (State Water Board's) online portal on January 15, 2020, for discharges of waste associated with cannabis cultivation related activities. Based on the information provided, the Discharger self-certifies the cannabis cultivation activities are consistent with the requirements of the Policy and General Order. This letter provides notice that the Policy and General Order are applicable to the site as described below. You are hereby assigned waste discharge identification (WDID) number **1_17CC423448**.

The Discharger is responsible for all the applicable requirements in the Policy, General Order, and this Notice of Applicability (NOA). This includes making any necessary changes to the enrollment, and the Discharger is the sole person or entity with legal authority to make those changes. The Discharger will be held liable for any noncompliance with the Policy, General Order, and the NOA.

1. FACILITY AND DISCHARGE DESCRIPTION

The information submitted by the Discharger states the disturbed area is equal to or greater than 1 acre (43,560 square feet) no portion of the disturbed area is within the setback requirements, no portion of the disturbed area is located on a slope greater than 30 percent, and the cannabis cultivation area is greater than 1 acre.

Based on the information submitted by the Discharger, the cannabis cultivation activities are classified as Tier 2 Low Risk.

2. SITE-SPECIFIC REQUIREMENTS

The Policy and General Order are available on the Internet at: https://www.waterboards.ca.gov/water_issues/programs/cannabis/cannabis_water_quality.html

The Discharger shall ensure that all site operating personnel know, understand, and comply with the requirements contained in the Policy, General Order, this NOA, and the Monitoring and Reporting Program (MRP, Attachment B of the General Order). Note that the General Order contains standard provisions, general requirements, and prohibitions that apply to all cannabis cultivation activities.

The application requires the Discharger to self-certify that all applicable Best Practicable Treatment or Control (BPTC) measures are being implemented, or will be implemented by the onset of the winter period (November 15 - April 1), following the enrollment date. Landowners of the cultivation site in the North Coast Region are required to submit and implement Site Management Plans that describes how BPTC measures are

implemented property-wide, including BPTC measures implemented to address discharges from legacy activities (e.g. former timber harvest, road building, mining, etc.) at the site per Provision C.1.a. of the General Order. Dischargers that cannot implement all applicable BPTC measures by the onset of the winter period, following their enrollment date, shall submit to the appropriate Regional Water Board a *Site Management Plan* that includes a time schedule and scope of work for use by the Regional Water Board in developing a compliance schedule as described in Attachment A of the General Order.

The Policy and General Order require that, prior to conducting any work in streams or wetlands, the Discharger obtain water quality certification from the Water Boards and other required permits from other agencies (e.g. a Clean Water Act section 404 permit from the United States Army Corps of Engineers, a Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife, and other local permits). Enrollment in the General Order requires that the Discharger obtain water quality certification for any such work, but this NOA does not provide the necessary certification. If the Discharger proposes or requires work in streams or wetlands, they must apply for water quality certification separately by filling out and submitting a separate application for that work. The application is available for download at the following Regional Water Board website:
https://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/

Currently, the direct link to that application is as follows:
https://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/pdf/200204/RB1_Cannabis_WQC_401_App.pdf

Note: Water Quality Certifications require separate application and monitoring fees. A fee calculator and additional information are available at:
https://www.waterboards.ca.gov/northcoast/water_issues/programs/water_quality_certification/#401_calc

During reasonable hours, the Discharger shall allow the State Water Board or Regional Water Board (collectively Water Boards), California Department of Fish and Wildlife, CAL FIRE, and any other authorized representatives of the Water Boards upon presentation of a badge, employee identification card, or similar credentials, to:

i. enter premises and facilities where cannabis is cultivated; where water is diverted, stored, or used; where wastes are treated, stored, or disposed; or in which any records are kept;
i. access and copy, any records required to be kept under the terms and conditions of the Policy and General Order;
ii. inspect, photograph, and record audio and video, any cannabis cultivation sites, and associated premises, facilities, monitoring equipment or device, practices, or operations regulated or required by the Policy and General Order; and
iii. sample, monitor, photograph, and record audio and video of site conditions, any discharge, waste material substances, or water quality parameters at any

location for the purpose of assuring compliance with the Policy and General Order.

3. TECHNICAL REPORT REQUIREMENTS

The following technical report(s) shall be submitted by the Discharger as described below:

A Site Management Plan, by April 13, 2020, consistent with the requirements of General Order Provision C.1.a., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the Site Management Plan.

A Nitrogen Management Plan must be submitted by April 13, 2020, consistent with the requirements of General Order Provision C.1.d., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the Nitrogen Management Plan.

A Site Closure Report must be submitted 90 days prior to permanently ending cannabis cultivation activities and seeking to rescind coverage under the General Order. The *Site Closure Report* must be consistent with the requirements of General Order Provision C.1.e., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the *Site Closure Report.*

4. MONITORING AND REPORTING PROGRAM

The Discharger shall comply with all provisions of the Monitoring and Reporting Program (MRP), which appears as Attachment B to the General Order. The Discharger shall also comply with all provisions of the *North Coast Regional Supplement to Annual Monitoring and Reporting Requirements for Statewide Cannabis General Order WQ 2017-0023-DWQ* (Regional Supplement), which independently appears as Investigative Order No. R1-2019-0023, issued by the Regional Water Board Executive Officer on March 22, 2019. Annual reports for both sets of requirements shall be submitted to the Regional Water Board in a combined report by March 1 following the year being monitored through the online portal (https://public2.waterboards.ca.gov/cgo). The Discharger shall not implement any changes to the MRP or to the Regional Supplement unless and until a revised MRP or Regional Supplement is issued by the Regional Water Board Executive Officer or the State Water Board Division of Water Quality Deputy Director, or the State Water Board Chief Deputy Director.

A copy of Attachment B to the General Order can be obtained online at the following location, or by contacting staff at the phone number and email address listed below. https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2019/wqo2019_0001_dwq.pdf#page=32.

A copy of the Regional Supplement can be obtained online at the following location, or by contacting staff at the phone number and email address listed below. https://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2019/19_0023_Regional%20Supplement%2013267%20Order.pdf.

5. ANNUAL FEE

According to the information submitted, the discharge is classified as Tier 2 Low Risk. The 2018-2019 annual fee for that tier and risk level was set at $1,000, but please note that the Fee Schedule is updated annually and future fees may be invoiced at different rates. Invoices are sent by the State Water Board at the beginning of each calendar year (generally in February). Do not submit payments without receiving an invoice. If you have questions or concerns about your fees please contact the Fee Branch at FeeBranch@waterboards.ca.gov or (916) 341-5247. The fee is due and payable on an annual basis until coverage under this General Order is formally rescinded. To rescind coverage, the Discharger must submit a Request for Termination in writing through the online portal (available at: https://public2.waterboards.ca.gov/cgo), including a Site Closure Report at least 90 days prior to termination of activities and include a final MRP report.

6. TERMINATION OF COVERAGE UNDER THE GENERAL ORDER & REGIONAL WATER BOARD CONTACT INFORMATION

Enrollees that propose to terminate coverage under the General Order must submit a Request for Termination in writing through the online portal (https://public2.waterboards.ca.gov/cgo). The Request for Termination consists of a formal statement regarding the reason for requesting termination (i.e. cultivation is no longer occurring, the property is being sold, etc.), documentation that the site is in compliance with the General Order, including dated photographs and a written discussion. If the site is not meeting the requirements of the General Order, then the enrollment cannot be terminated. Regional Water Board staff will review the Request for Termination for completeness before determining if a property inspection, enrollment termination, or a request for additional information is appropriate.

If the Discharger cannot comply with the General Order, or will be unable to implement an applicable BPTC measure contained in Attachment A by the onset of the winter period each year, the Discharger shall notify the North Coast Regional Cannabis Unit staff at (707) 576-2676 or northcoast.cannabis@waterboards.ca.gov so that a site-specific compliance schedule can be developed.

Cc: Kevin Porzio, State Water Resources Control Board, dwq.cannabis@waterboards.ca.gov
Kursten Sheridan, California Department of Fish and Wildlife, kursten.sheridan@wildlife.ca.gov
James Womack, 13646 Lupin Court Penn Valley, CA 95946

SECTION – I

WATER USE MANAGEMENT PLAN

Water Use Management Plan

Purpose and Overview

Dustin Perbetsky is seeking a Major Use Permit from the County of Lake for a commercial cannabis cultivation operation with Self-Distribution at 22698 Elk Mountain Road near Lake Pillsbury, CA on Lake County APN 001-037-25 (Project Parcel). The proposed cultivation operation would composed of a 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy area, a 7,160 ft^2 A-Type 2 "Small Outdoor" cultivation/canopy area, a 192 ft^2 Security Room/Building, and a 192 ft^2 Pesticides & Agricultural Chemicals Storage Shed. The growing medium of the proposed outdoor cultivation/canopy areas will be an imported organic soil mixture in aboveground fabric pots and wood-framed garden beds, with drip irrigation systems to conserve water resources. All cannabis waste generated from the proposed cultivation operation will be composted on-site. All chemicals and tools will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Area. All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°.

This Water Use Management Plan (WUMP) is designed to conserve Lake County's water resources and to ensure that the proposed cultivation operation's water use practices are in compliance with applicable County, State, and Federal regulations at all times. This WUMP focuses on designing a water efficient delivery system and irrigation practices, and the appropriate and accurate monitoring and reporting of water use practices.

Water Resources Protection

Mr. Perbetsky will maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharges. Access roads and parking areas are/will be graveled to prevent the generation of fugitive dust, and vegetative ground cover will be preserved and/or re-established as soon as possible throughout the entire site to filter and infiltrate stormwater runoff from the access roads, parking areas, and the proposed cultivation operation.

Throughout the cultivation season, portable toilets and handwashing stations will be established adjacent to the proposed cultivation areas and at least 100 feet from any surface water body. The portable toilets and handwashing facilities will be serviced regularly, and personnel will have access to them whenever they are onsite. The Project Parcel has been enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger since March 5th, 2020 (WDID: 1_17CC423448), and Mr. Perbetsky will continue to comply with all requirements of the Cannabis General Order to protect water resources.

Water Source

All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°. This well was drilled to a depth of 220 feet and has an estimated yield of 50 gallons per minute. Mr. Perbetsky will establish four proposed 3,000-gallon water storage tanks to store water from the groundwater well for fire suppression activities and the proposed cultivation operation.

Irrigation

From the CalCannabis Cultivation Licensing Program's Final Programmatic Environmental Impact Report (PEIR):
"According to Hammon et al. (2015), water use requirements for outdoor cannabis production (25-35 inches per year) are generally in line with water use for other agricultural crops, such as corn (20-25 inches per year), alfalfa (30-40 inches per year), tomatoes (15-25 inches per year), peaches (30-40 inches per year), and hops (20-30 inches per year). In a study of cannabis cultivation in Humboldt County, approximate water use for an outdoor cultivation site was 27,470 gallons (0.08 acre-feet) per year on average and ranged from approximately 1,220 to 462,000 gallons per year (0.004 to 1.4 acre-feet), with the size of the operation being a major factor in this range. Annual water uses for a greenhouse operation averaged approximately 52,300 gallons (0.16 acre-feet) and ranged from approximately 610 to 586,000 gallons (0.002 to 1.8 acre-feet) annually (Butsic and Brenner 2016). During a field visit conducted by technical staff to an outdoor cultivation site, one cultivator reported using approximately 75,000 gallons (0.23 acre-feet) for 1 year's entire cannabis crop (approximately 66 plants), or approximately 1,140 gallons per plant per year."

Mr. Perbetsky's proposed cultivation practices are most similar to commercial hops or tomato production with an estimated water use requirement of 25 inches per year. The total proposed cannabis cultivation/canopy area is 50,720 ft^2 with an expected total annual water use requirement of approximately 2.4 acre-feet or 790,000 gallons. The following table presents the expected water use of the proposed cultivation operation by month during the cultivation season in gallons.

June	July	August	September	October	November
98,000	165,000	196,000	165,000	132,000	34,000

Mr. Perbetsky will install four 3000-gallon heavy-duty plastic water storage tanks on the Project Parcel to provide additional stored water for irrigation purposes/uses. One of the 3000-gallon heavy-duty plastic water storage tank equipped with 2 ½" brass male fire connects and a pressure gauge for emergency fire use. Mr. Perbetsky may develop additional water storage on the Project Parcel should it be needed to support the irrigation and fire suppression needs of the proposed cultivation operation. The water storage tanks will be equipped with float valves to shut off the flow water from the well and prevent the overflow and runoff of irrigation water when full. HDPE water supply lines will feed irrigation water from the water storage tanks to the irrigation systems of the proposed cultivation areas. The water supply lines will be equipped with safety valves, capable of shutting off the flow of water so that waste of water and runoff is prevented/minimized when leaks occur and the system needs repair, and inline water meters compliant with California

Code of Regulations, Title 23, Division 3, Chapter 2.7. Mr. Perbetsky's staff will maintain daily water meter readings records for a minimum of five years, and will make those records available to Water Boards, CDFW, and Lake County staff upon request. The irrigation systems of the proposed cultivation areas will be composed of PVC piping, black poly tubing, and drip tapes/lines.

Water Availability Analysis

All water for the proposed cultivation operation will come from a recently drilled groundwater well located at Latitude 39.38005° and Longitude -122.97895°. This well was drilled in May of 2020, through gravel and sandstone with ribbons of shale, to a depth of 220 feet below ground surface. On September 22nd, 2020, a 4-hour pump test with recovery monitoring was performed of this groundwater well by Steve Hansen of Willits Pump Service (CCL# 538999). Results of this test indicate that the existing onsite groundwater well can produce at least 15 gallons per minute.

The peak anticipated daily demand for water for the proposed cultivation operation is approximately 6,534 gallons per day, which equates to a need for the onsite groundwater well to produce at least 9.1 gallons per minute over a 12-hour period. At 15 gallons per minute, the existing onsite groundwater well could produce at least 10,800 gallons over a 12-hour period. There is little doubt that the existing onsite groundwater well can produce a sufficient amount of water for the proposed cultivation operation. Additionally, Mr. Perbetsky will install four 3000-gallon heavy-duty plastic water storage tanks on the Project Parcel to provide additional stored water for irrigation purposes/uses.

Water Conservation

Per the Water Conservation and Use requirements outlined in the SWRCB's Cannabis General Order, Mr. Perbetsky will implement the following Best Management Practices (BMPs) / Best Practical Treatment and Control (BPTC) measures to conserve water resources:

- Regularly inspect the entire water delivery system for leaks and immediately repair any leaky faucets, pipes, connectors, or other leaks
- Install float valves on all water storage tanks to keep them from overflowing onto the ground
- Use water conserving irrigation systems/methods, such as drip/trickle and micro-spray irrigation and hand watering, and never overwater the plants
- Document and maintain daily records of all water used by the proposed cannabis cultivation operation

Monitoring and Reporting

The existing groundwater supply well has been fitted with a pneumatic water level monitor/gauge. An inline water meter compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7 will be installed on the main water supply line running between the groundwater well and the proposed water storage tanks. Mr. Perbetsky will maintain weekly water level readings and water meter readings records for a minimum of five years, and will make those records available to Water Boards, CDFW, and Lake County staff upon request.

State of California

Well Completion Report

Form DWR 188 Submitted 5/20/2020

WCR2020-006521

Owner's Well Number | Date Work Began: 05/06/2020 | Date Work Ended: 05/08/2020

Local Permit Agency: Lake County Health Services Department - Environmental Health Division

Secondary Permit Agency | Permit Number: WE-5315 | Permit Date: 02/26/2020

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: James Womack

Mailing Address: P.O. Box 698

City: Redwood Valley | State: Ca | Zip: 95470

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Irrigation - Agriculture

Well Location

Address: 22698 Elk Mountain RD

City: Potter Valley | Zip: 95469 | County: Lake

Latitude: 39 Deg. 22 Min. 48.18 Sec. N | Longitude: -122 Deg. 58 Min. 44.22 Sec. W

Dec. Lat.: 39.38005 | Dec. Long.: -122.97895

Vertical Datum | Horizontal Datum: WGS84

Location Accuracy: 20 Ft | Location Determination Method

APN: 001-037-25

Township: 18 N

Range: 10 W

Section: 27

Baseline Meridian: Mount Diablo

Ground Surface Elevation

Elevation Accuracy

Elevation Determination Method

Borehole Information

Orientation: Vertical | Specify

Drilling Method: Direct Rotary | Drilling Fluid: Air

Total Depth of Boring: 220 Feet

Total Depth of Completed Well: 199 Feet

Water Level and Yield of Completed Well

Depth to first water: 70 (Feet below surface)

Depth to Static Water Level: 70 (Feet) | Date Measured: 05/08/2020

Estimated Yield*: 50 (GPM) | Test Type: Air Lift

Test Length: 2 (Hours) | Total Drawdown: 119 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	70	Soil and gravel
70	220	Sandstone with ribbons of shale

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	59	Blank	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563			
1	59	199	Screen	PVC	OD: 5.563 in. | SDR: 21 | Thickness: 0.265 in.	0.265	5.563	Milled Slots	0.032	

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	Non Hydrated Bentonite		Surface Seal
20	220	Filter Pack	Other Gravel Pack	3/8	Pea Gravel

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	20	11
20	220	7.875

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: WEEKS DRILLING AND PUMP CO (Person, Firm or Corporation)

PO BOX 176 (Address) | SEBASTOPOL (City) | CA (State) | 94573- (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 05/20/2020 (Date Signed) | 177681 (C-57 License Number)

Attachments

001-037-25.pdf - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

WILLITS PUMP SERVICE
willitspumpservice@gmail.com
707-489-2369M CCL# 538999

RE.well test on north well on 22698 elk mountain rd potter valley ca. 9-22-2020

Dustin Provetski I pumped the well for 4 hours continuously at 12.6 gpm measuring depth , then after 4 hrs wait and measure recovery. The pump installed in the well is a 11sqf2 grundfos set 180ft well 200 ft.

Start 10:14 am	31'.9"	begin static	12.6gpm
10:20	37'8"		=
10:30	41'.8"		=
11:45	49'.6"		=
12:00	77'.1"		=
12:15	81'.6"		=
12:30	86'.4"		=
12:45	90'.5"		=
1:00pm	95'.6"		=
1:15	99'.11"		=
1:30	106'.6"		=
1:45	113'.7"		=
2:00	120'.7"		=
2:15stop	127'.8"		12.6gpm (for 4hrs)

Well pumped continuously for 4 hrs x 12.6 gpm = 3024 gallons

Filling

2:22	115'
2:30	101'
2:45	84'
3:00	74'.4"
3:15	68'.3"
3:30	63'.6"
3:45	58'.8"
4:02	52'.8"
4:15	47'.11"
4:30	43'.2"
4:45	40'.0"

Thank you
Steve Hansen

Dustin the south well i tested with the 16sqf10 Grundfos pump set 180 ft , the well is 200ft deep i pumped for 4 hrs,then i also measured the recovery

Start	11:30 am	114’2”	15gpm
	11:40	114’8”	=
	11:50	114’10”	=
	12:02pm	115’1”	=
	12:15	115’2”	=
	12:30	115’6”	=
	12:49	115’10”	=
	1:02	115’10.5”	=
	1:17	115’11.5”	=
	1:30	116’0.”	=
	1:45	116’.05”	=
	2:00	116’1.5”	=
	3:35 stop	116’8”	15gpm

Well pumped continuously for 4 hrs x 15 gpm = 3600 gallons

Filling

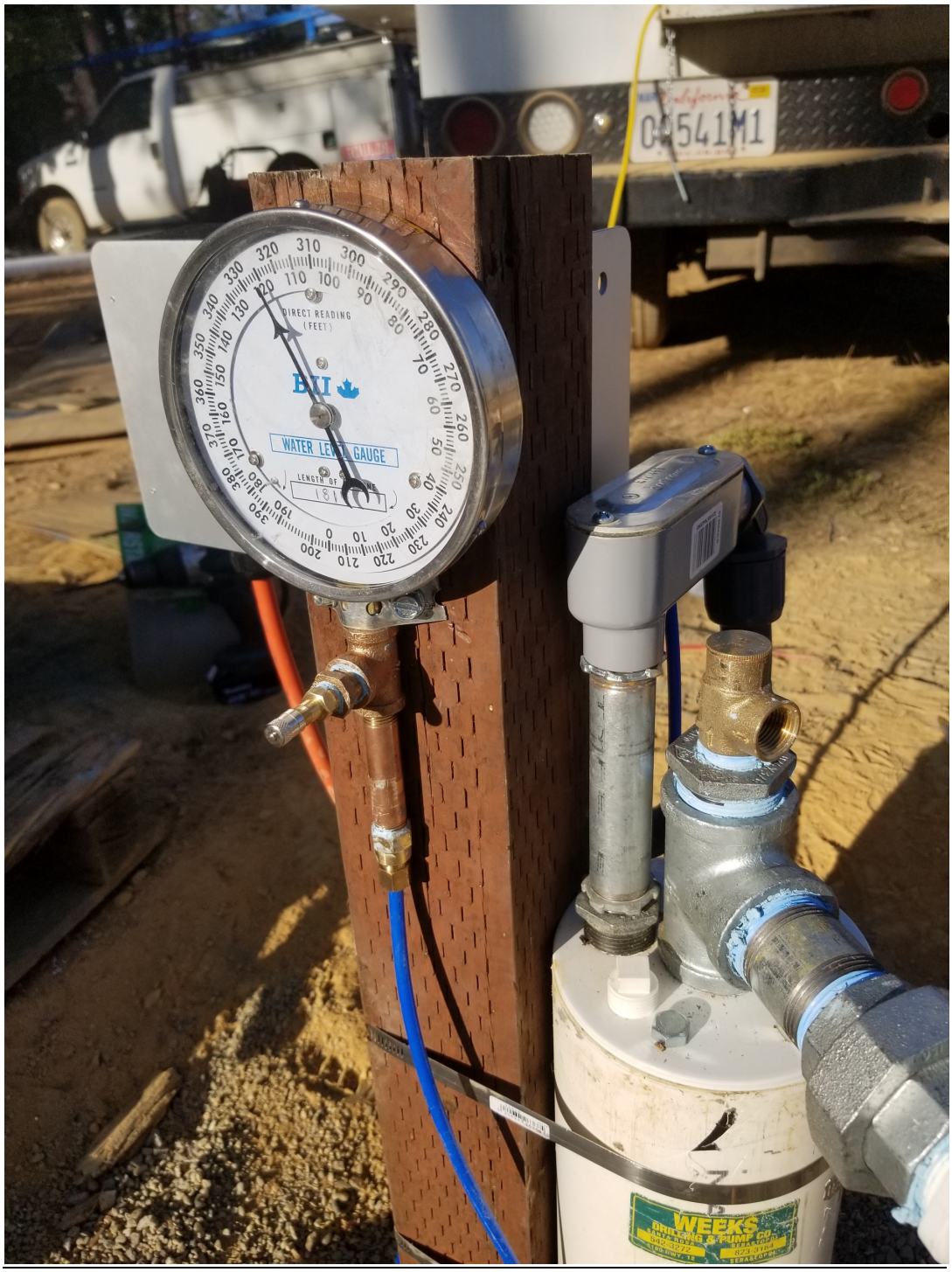
3:40	116’0”
3:45	115’11”
3:50	115’9”
4:00	115’8”
4:10	115’7”
5:47	115’0”
7:00	114’9”
8:00pm	114’7.5”

Well produces 15 gpm after4 hrs pumping continuously level only dropped 2.5’

Thank you,
Steve Hansen

SECTION – J

SITE PHOTOS



Existing Groundwater Well with Pneumatic Water Level Monitor/Gauge

Access Road and Metal Gate at Entrance to Project Parcel (north view)

Proposed 43,560 ft^2 Outdoor Cultivation/Canopy Area (south view)

Proposed 7,160 ft^2 Outdoor Cultivation/Canopy Area (west view)

Existing Wooden Shed/Proposed Security Room/Building (east view)