PROPERTY MANAGEMENT PLAN



APPLICANT

Rancho Lake, LLC

PROJECT LOCATION

19955 Grange Road

Middletown, CA 95461

PROJECT PARCEL

Lake County APN 014-290-08

PROJECT PROPERTY

Lake County APNs 014-290-08;
014-300-02, 03 & 04

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I – Water Use Management Plan

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PROJECT DESCRIPTION

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of twenty (20) A-Type 3 "Medium Outdoor" license types, with up to 854,840 ft^2 (~19.6 acres) of outdoor canopy area. Proposed ancillary facilities include five 6,000 ft^2 Harvest Storage & Staging Areas, two 120 ft^2 Pesticides & Agricultural Chemicals Storage Areas, and a 120 ft^2 Security Center/Shed.

The Project Property is composed of four parcels totaling approximately 1,627 acres (Lake County APNs 014-290-08 and 014-300-02, 03, & 04), all of which are owned by Comstock Ranch, LLC. James Comstock (Managing Member of Comstock Ranch, LLC) has given Rancho Lake permission to establish the proposed cultivation operation and conduct the proposed cannabis cultivation activities, once the appropriate permits and licenses have been obtained. The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger on October 30th, 2020.

The Project Property is located in the eastern half of the Coyote Valley, within the Crazy Creek - Putah Creek Watershed (HUC 12), and approximately 4.5 miles east northeast of Middletown, CA. The Project Property is accessed via Grange Road (paved), and the Project Parcel is accessed via Comstock Ranch Road (gravel). Locking metal gates across Grange and Comstock Ranch Roads control access to the Project Property and the area of the proposed cultivation operation. Current and past land uses of the Project Property are/were rural residential with intensive and extensive agriculture. The Project Property has been improved with two groundwater wells, a residence/house, and five accessory ag structures/buildings (used to store hay, tools, and equipment, and to house livestock). The proposed cultivation operation would be established in an area of the Project Property that has been used to farm oats and hay, as well as for cattle grazing, since at least the early 1900s.

Putah Creek, a perennial Class I watercourse, flows from west to east through the northernmost portion of the Project Property. Crazy Creek, an intermittent Class II watercourse, flows from west to east through the northwest portion of the Project Property and into Putah Creek. Multiple unnamed intermittent Class III watercourses flow generally from south to north, through the Project Property, and into Putah Creek. A large complex wetland occupies the floor of a small valley in the southern half of the Project Property (over 1000 feet from the proposed cultivation operation). The area of the proposed cultivation operation is accessed via an Ephemeral Class II Watercourse Crossing composed of a 5'

diameter CMP culvert with native fill and an 8' wide cattle guard on concrete abutments. No cannabis cultivation activities nor agricultural chemicals storage will occur within 100 feet of any surface waterbody (including wetlands), and no ground disturbance is proposed within 50 feet of any channel.

6-foot tall wire fences will be erected around the proposed outdoor cultivation area, with privacy mesh where necessary to screen the cultivation/canopy area(s) from public view. The growing medium of the proposed outdoor canopy areas will be an amended native soil mixture at or below grade, with drip irrigation systems covered in white plastic mulch (to conserve water resources). The proposed 7-foot wide canopy areas will be spaced 7 feet apart, to allow for the use of mechanized agricultural equipment. All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 38.77697° and Longitude -122.52711°. Water from the groundwater well will be stored within twenty (20) proposed 5,000-gallon water storage tanks located directly adjacent to the proposed cultivation/canopy areas.

Only outdoor cannabis cultivation and harvesting activities will be conducted onsite. Cannabis cultivated on and harvested from the Project Parcel, will be processed (dried, cured, trimmed, and packaged) offsite within a California-licensed Processing Facility. Cannabis harvested from the Project Parcel will be temporarily stored within the proposed Harvest Storage & Staging Areas prior to being transported to a licensed Processing Facility. Prior to being transported offsite, each cannabis plant will be weighed, and its weight will be recorded in the California Cannabis Track-and-Trace system. Rancho Lake 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

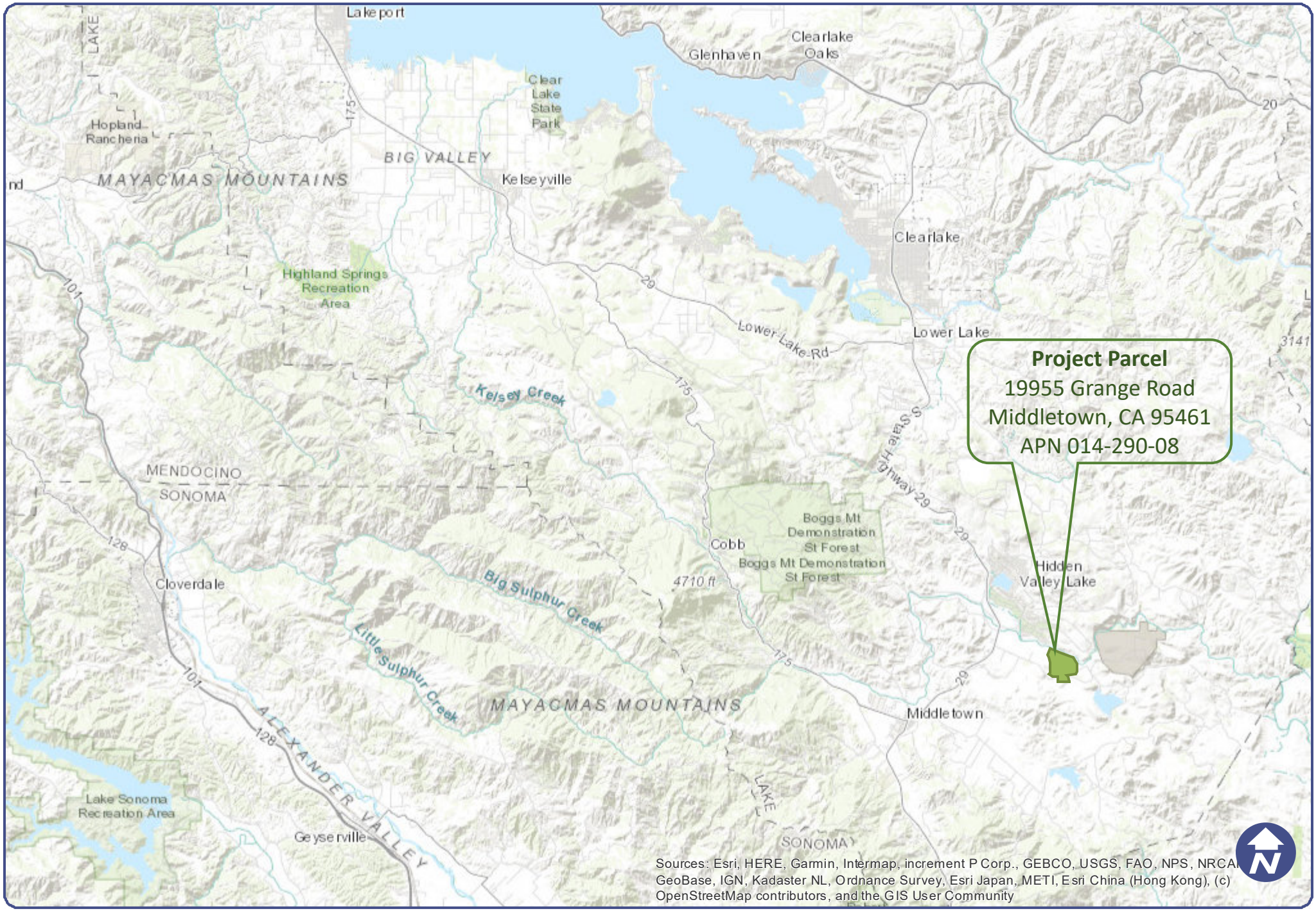
Sheet 3 – Existing Conditions Site Plan

Sheet 4 – Proposed Conditions Site (with Canopy Detail)

Sheet 5 – Security Site Plan

Sheet 6 – Security Center Layout

Sheet 7 – Erosion and Sediment Control Plan



Lake County, CA

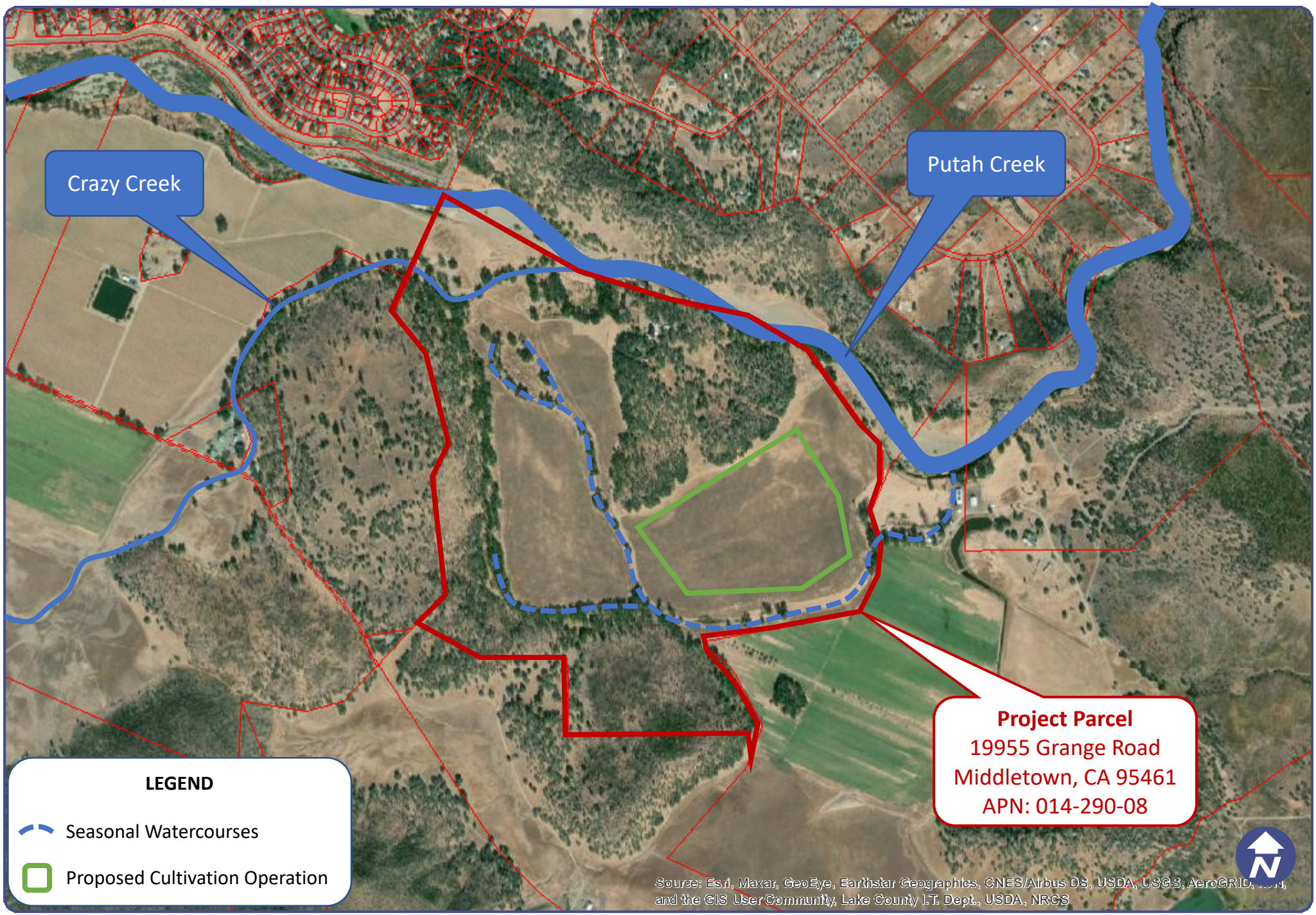
Location Map

Web AppBuilder for ArcGIS

mi
0 4.5 9

Print Date: 3/17/2021

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.



Lake County, CA

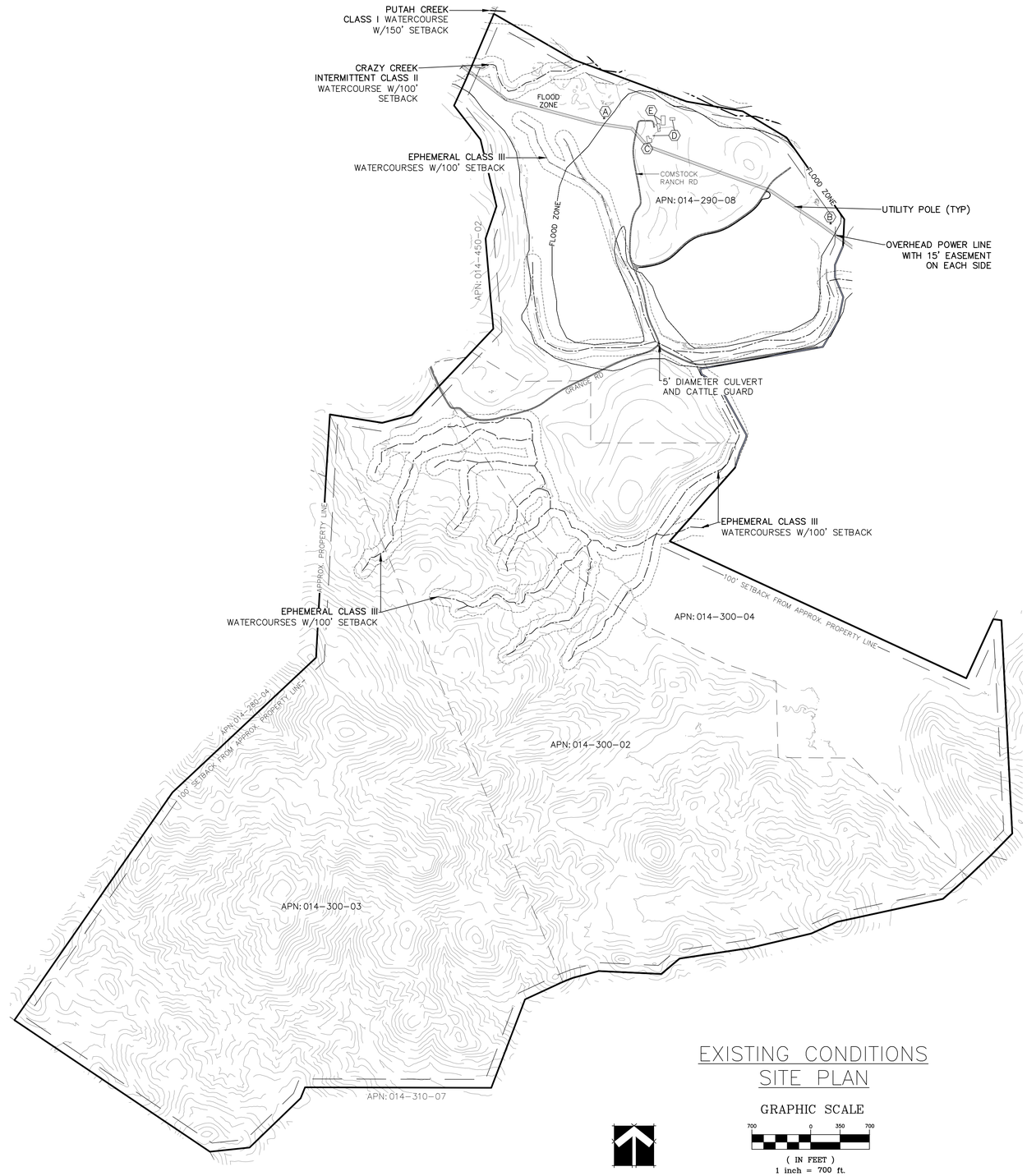
Surrounding Area Aerial

Web AppBuilder for ArcGIS

mi
0 0.25 0.5

Print Date: 3/17/2021

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.



VICINITY MAP
NO SCALE

RANCHO LAKE, LLC
19955 GRANGE ROAD
MIDDLETOWN, CA 95461
APNs:014-290-08 AND
014-300-02, 03, & 04

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

(A) (E) GROUNDWATER WELL
LAT: 38.77970°
LONG: -122.53429°
BENEFICIAL USES: DOMESTIC & FIRE PROTECTION

(B) (E) GROUNDWATER WELL
LAT: 38.77697°
LONG: -122.52711°
BENEFICIAL USES: IRRIGATION

(C) (E) RESIDENCE

(D) (E) ACCESSORY AG STRUCTURE(S)

(E) (E) BARN(S)

EXISTING CONDITIONS
SITE PLAN

GRAPHIC SCALE
700 0 350 700
(IN FEET)
1 inch = 700 ft.

Revisions:

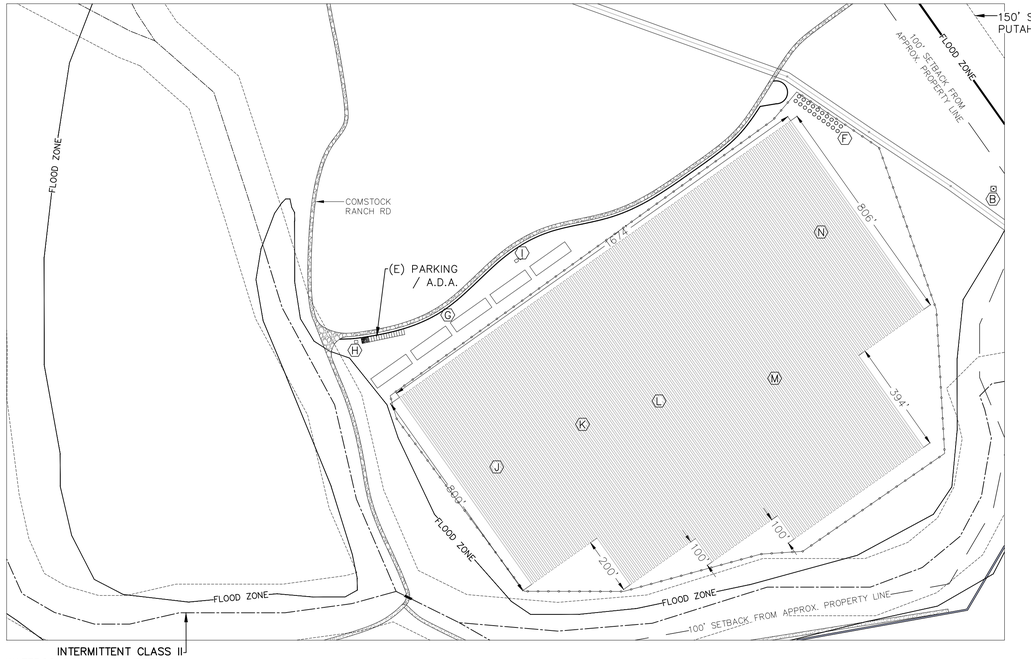
REALM ENGINEERING
CIVIL ENGINEERING, SURVEYING & PLANNING
1767 MARKET STREET SUITE c
REDDING, CA. 96001
530-526-7493

PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
exp06/30/25
CIVIL
STATE OF CALIFORNIA

EXISTING CONDITIONS SITE PLAN
RANCHO LAKE, LLC
19955 GRANGE RD.
MIDDLETOWN, CA 95461
LAKE COUNTY
APNs:014-290-08 & 12 AND 014-300-02, 03, & 04

PLOTTED BY: ---
DATE PLOTTED: 6/26/23
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

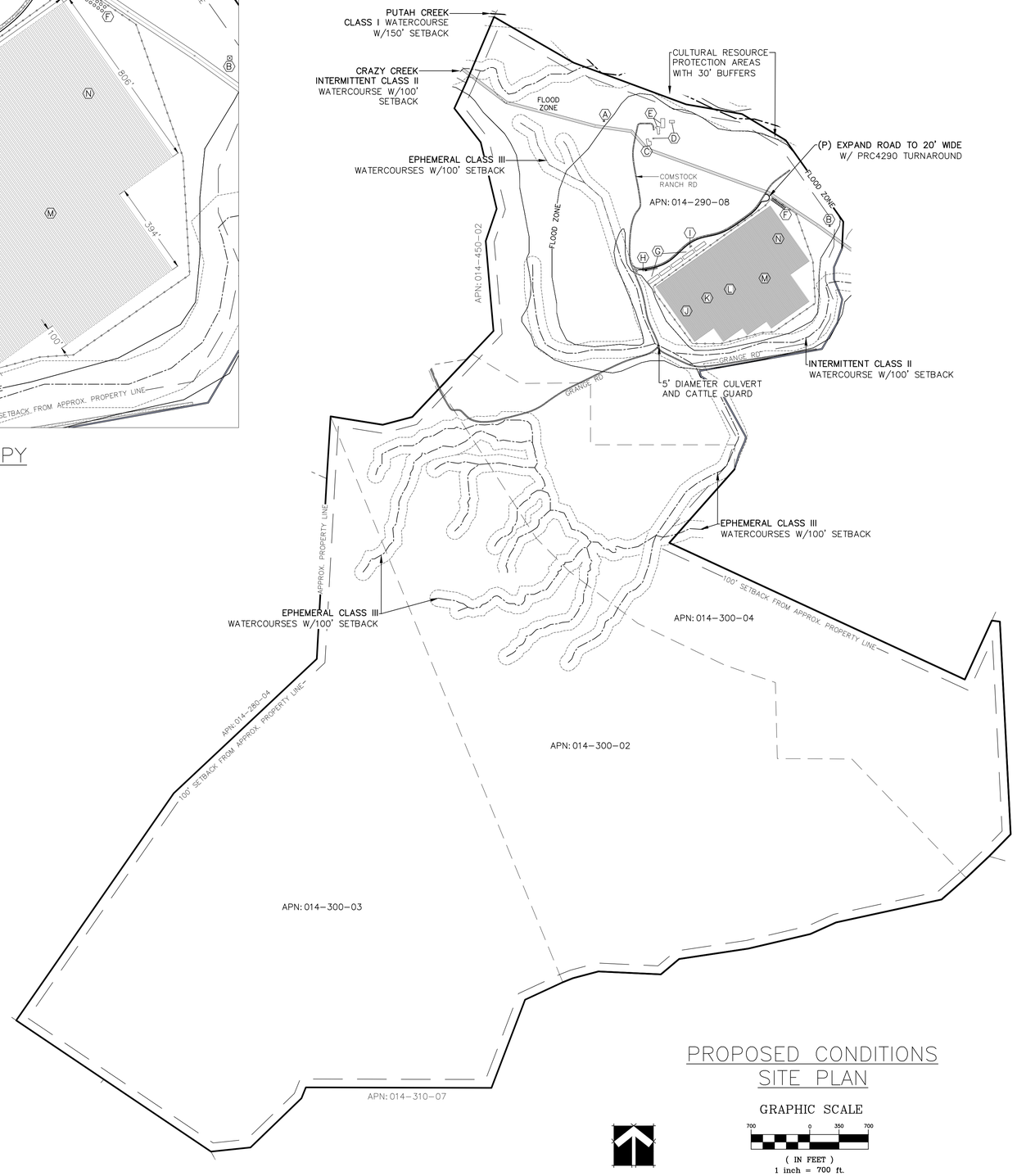


CULTIVATION SITE PLAN WITH CANOPY

GRAPHIC SCALE

250 0 125 250

(IN FEET)
1 inch = 250 ft.



PROPOSED CONDITIONS SITE PLAN

GRAPHIC SCALE

700 0 350 700

(IN FEET)
1 inch = 700 ft.

VICINITY MAP
NO SCALE

RANCHO LAKE, LLC
19955 GRANGE ROAD
MIDDLETOWN, CA 95461
APNs:014-290-08 AND
014-300-02, 03, & 04

LEGEND:

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

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LAT: 38.77697°
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BENEFICIAL USES: IRRIGATION

Ⓒ (E) RESIDENCE

Ⓓ (E) ACCESSORY AG STRUCTURE(S)

Ⓔ (E) BARN(S)

Ⓕ (E) TWENTY 5,000 GALLON HEAVY-DUTY WATER STORAGE TANKS

Ⓖ (E) FOUR 40'x50' (6000SF) HARVEST STORAGE AND STAGING AREAS

Ⓗ (E) 10'X12' (120SF) SECURITY CENTER/SHED

Ⓘ (E) 8'X20' (160SF) PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

Ⓙ (P) TWENTY 7'X800' (5,600SF) OUTDOOR CANOPY ROWS

Ⓚ (P) TWENTY 7'X1,000' (7,000SF) OUTDOOR CANOPY ROWS

Ⓛ (P) TWENTY 7'X1,100' (7,700SF) OUTDOOR CANOPY ROWS

Ⓜ (P) FOURTY 7'X1,200' (8,400SF) OUTDOOR CANOPY ROWS

Ⓝ (P) TWENTY 7'X806' (5,462SF) OUTDOOR CANOPY ROWS

Revisions:

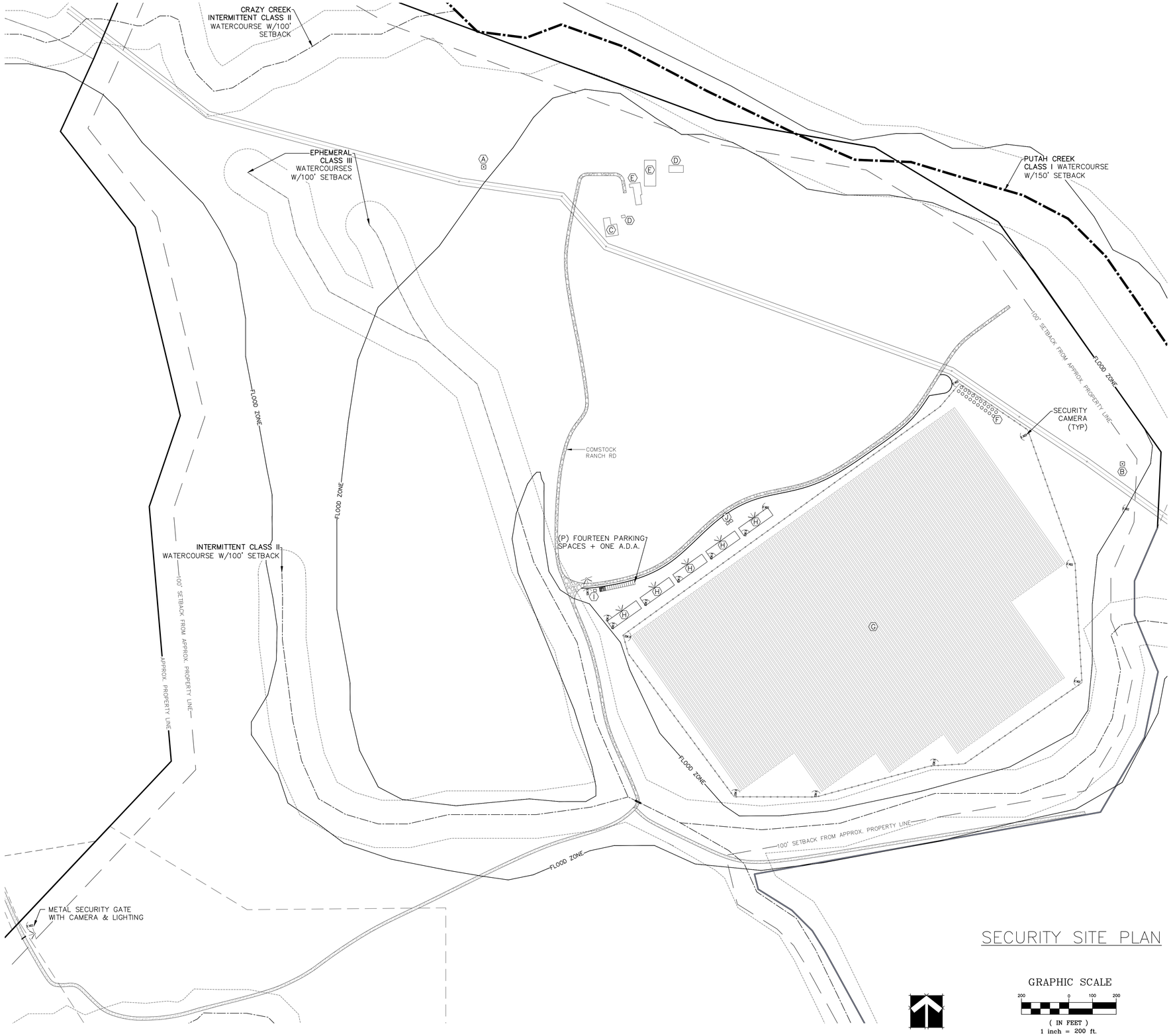
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RANCHO LAKE, LLC
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PLOTTED BY: ---
DATE PLOTTED: 6/26/23
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
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SHEET: 2



SECURITY SITE PLAN

GRAPHIC SCALE

200 0 100 200

(IN FEET)
1 inch = 200 ft.

VICINITY MAP
NO SCALE

RANCHO LAKE, LLC
19955 GRANGE ROAD
MIDDLETOWN, CA 95461
APNs:014-290-08 AND
014-300-02, 03, & 04

LEGEND:

1530	CONTOUR ELEVATION
	(P) FENCE
	(P) SECURITY LIGHTS
	(P) SECURITY CAMERAS
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATE
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

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(G) (P) OUTDOOR CULTIVATION AREA

(H) (E) FIVE 40'x50' (6000SF) HARVEST STORAGE AND STAGING AREAS

(I) (E) 10'X12' (120SF) SECURITY CENTER/SHED

(J) (E) TWO 10'X12' (120SF) PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

Revisions:

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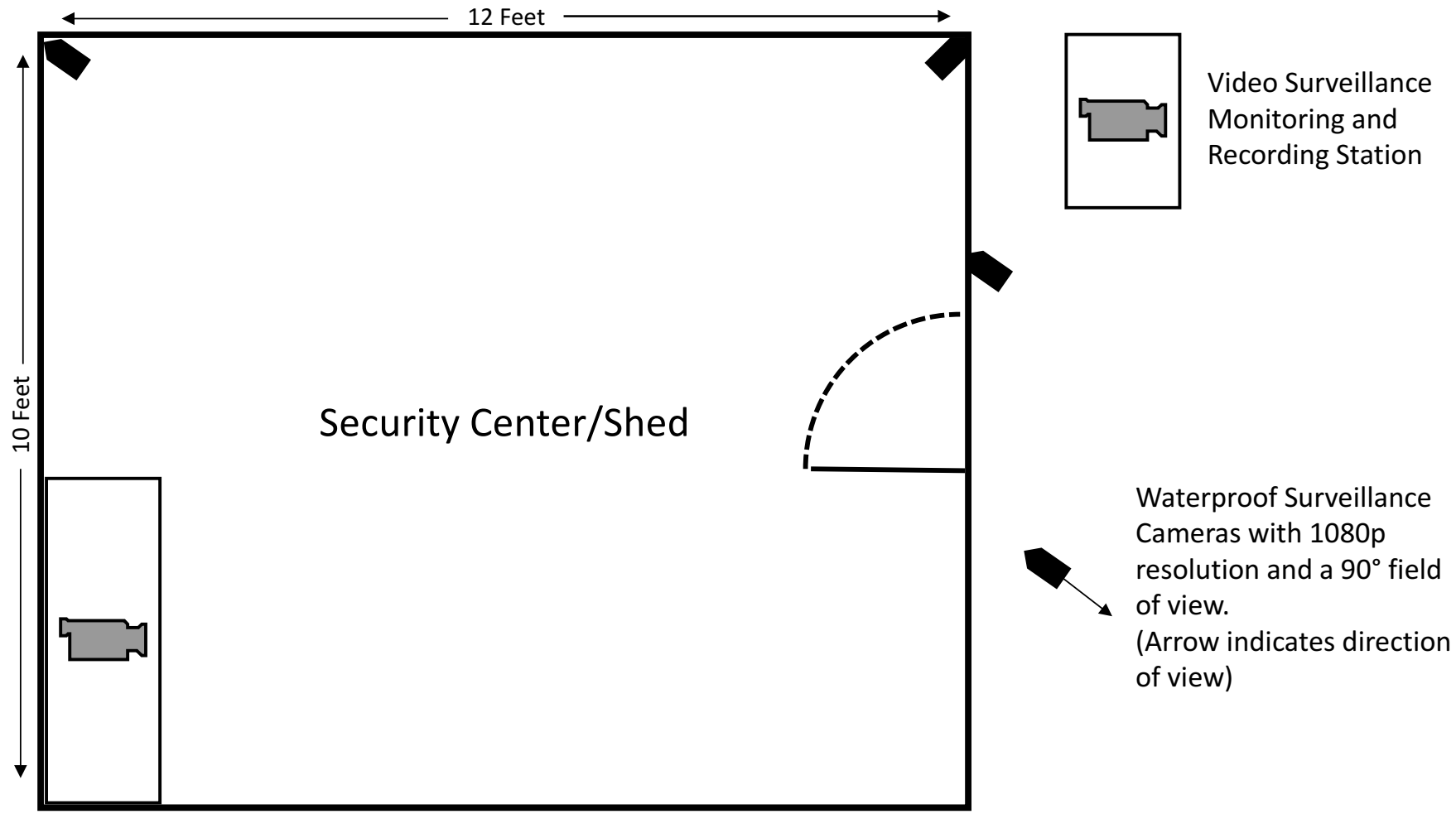
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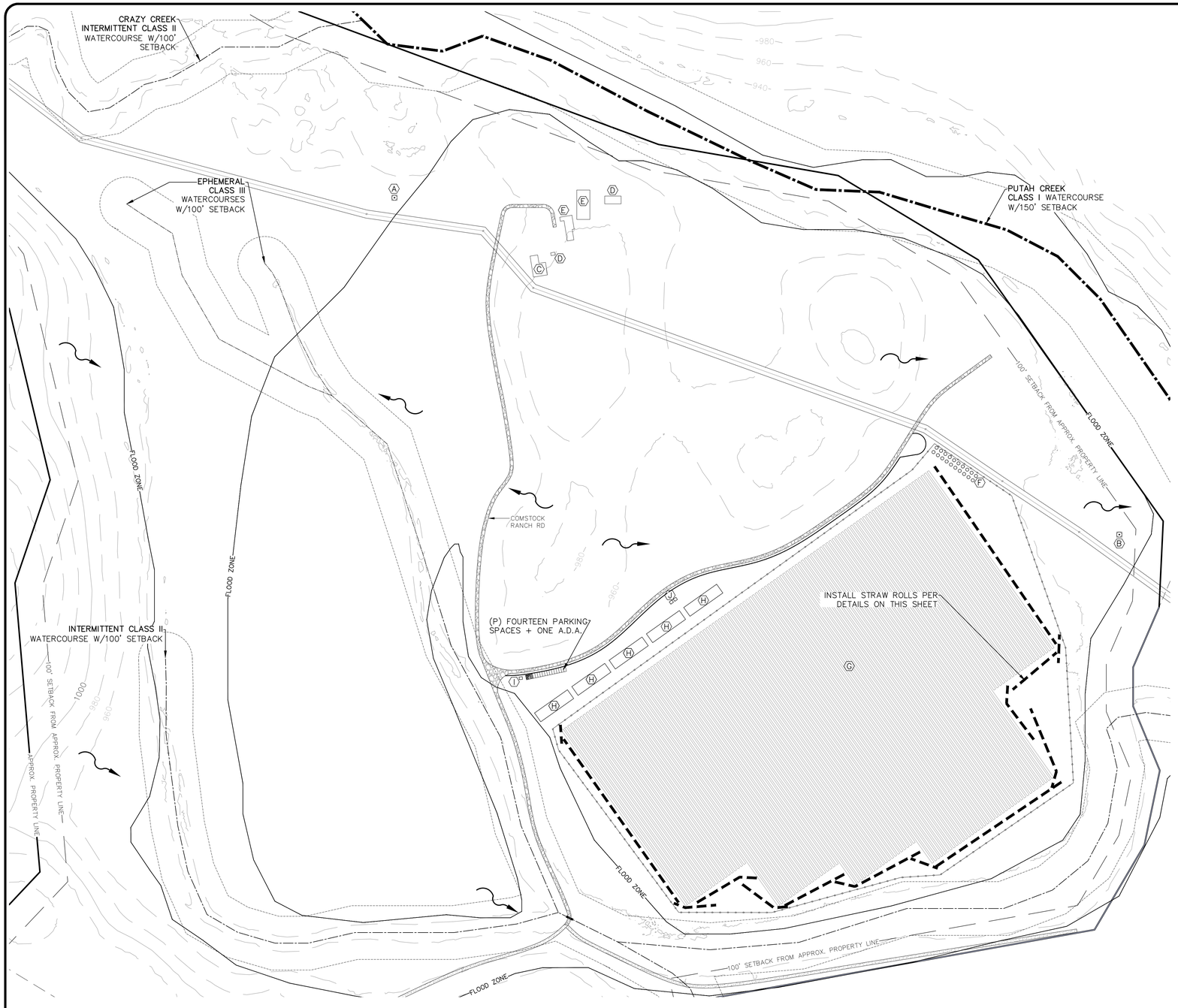
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PLOTTED BY: ---
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SCALE OF DRAWING: SEE PLAN
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CADD FILE:
SHEET: 3

Security Center/Shed
(Proposed Wooden Shed)



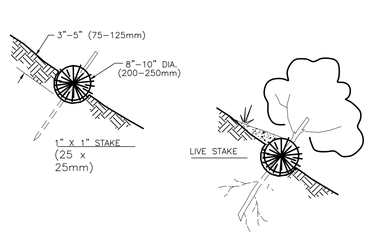


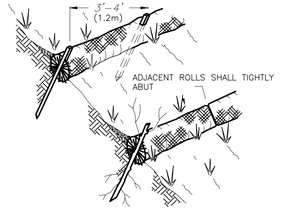
EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE

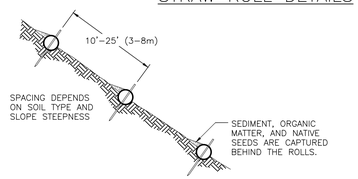
200 0 100 200

(IN FEET)
1 inch = 200 ft.





STRAW ROLL DETAILS



NOTES:

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

DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

S-1 SAMPLING LOCATION

CMS CONSTRUCTION MATERIALS STORAGE AREA

EROSION & SEDIMENT CONTROL NOTES:

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

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	ASPHALT
	GRAVEL
	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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LONG: -122.53429°
BENEFICIAL USES: DOMESTIC & FIRE PROTECTION

Ⓑ (E) GROUNDWATER WELL
LAT: 38.77697°
LONG: -122.52711°
BENEFICIAL USES: IRRIGATION

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Ⓓ (E) ACCESSORY AG STRUCTURE(S)

Ⓔ (E) BARN(S)

Ⓕ (E) TWENTY 5,000 GALLON HEAVY-DUTY WATER STORAGE TANKS

Ⓖ (P) OUTDOOR CULTIVATION AREA

Ⓗ (E) FIVE 40'x50' (6000SF) HARVEST STORAGE AND STAGING AREAS

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PLOTTED BY: ---
DATE PLOTTED: 6/26/23
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 4

SECTION – C

AIR QUALITY MANAGEMENT PLAN

Air Quality Management Plan

Purpose and Overview

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of twenty (20) A-Type 3 "Medium Outdoor" cultivation areas (with up to 854,840 ft^2 of total combined canopy area), five 6,000 ft^2 Harvest Storage & Staging Areas (engineered fabric structures), two 10' X 12' (120 ft^2) Pesticide & Agricultural Chemicals Storage Areas (proposed wooden sheds), and a 10' X 12' (120 ft^2) Security Center (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and composted organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). The proposed 7-foot wide canopy areas will be spaced 7 feet apart, to allow for the use of mechanized agricultural equipment. All water for the proposed cultivation operation will come from an existing groundwater well located at Latitude 38.77697° and Longitude -122.52711°.

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 Property. 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 the County of Lake 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 particles from the proposed cultivation operation. However, no single source or combined sources are 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…), tractors (diesel engines), and from vehicular traffic associated with staff commuting. The generation of carbon dioxide will be partially offset through the cultivation of cannabis plants, which remove carbon dioxide in the air for photosynthesis.

Fugitive Dust: The proposed cultivation operation may generate fugitive dust emissions through ground-disturbing activities, uncovered compost piles, and vehicle or truck trips on unpaved roads. Fugitive dust will be controlled by applying gravel (no white rock) to the primary access roads and parking areas of the Project Property, by delaying ground disturbing activities until site conditions are not windy, by wetting soils with a mobile water tank and hose during ground disturbing activities, and by eliminating and/or covering compost stockpiles.

Odors: Cannabis cultivation can generate objectionable odors, particularly when the plants are mature/flowering in the cultivation area(s), or when being processed (drying, curing, trimming) after harvest. No significant odor impacts are anticipated from the proposed cultivation operation, due to the generous setbacks provided from property lines, neighboring residences, and outdoor activity areas. Additionally, all processing activities (drying, curing, trimming, and packaging) will occur offsite within a California-licensed Processing Facility.

Odor Response Program

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. Rancho Lake 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. Rancho Lake 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 take action to determine the source of the odor for which the complaint was received (cultivation areas, harvest storage/staging areas, or other). 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.

Community Liaison/Emergency Contact Information

The Community Liaison/Emergency Contact for the proposed cultivation operation is Mr. John Feitshans. Mr. Feitshans' phone number is (951) 434-8261 and his email address is john@2cwproductions.com. There is one residence within 2,000 feet of the proposed cultivation operation, located at 21333 Grange Road (Lake County APN 014-400-04). This property/residence is owned by Mr. Peter Luchetti, who is aware that Rancho Lake proposes to develop and operate a commercial cannabis cultivation operation on the Project Parcel. Mr. Luchetti has received Mr. Feitshans' contact information, as well as the contact information of Mr. James Comstock (Landowner).

SECTION – D

CULTURAL RESOURCES
ASSESSMENT
(REDACTED)

SECTION – E

BIOLOGICAL RESOURCES ASSESSMENT AND BOTANICAL SURVEYS REPORT

BIOLOGICAL RESOURCES ASSESSMENT FOR THE CANNABIS CULTIVATION OPERATION AT 19955 GRANGE ROAD, MIDDLETOWN, CALIFORNIA



March 3, 2021

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1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of fifty-six (56) A-Type 3 "Medium Outdoor" cultivation areas, with a combined cultivation/canopy area of 2,700,720 square feet (62 acres). Additionally, Rancho Lake is applying for an Early Activation of Use Permit for 871,200 square feet (20 acres) of the total proposed 2,700,720 square foot cultivation/canopy area. The total cultivation area of the proposed cannabis cultivation operation (as defined in Chapter 21, Article 27 of the Lake County Code), including the combined cultivation/canopy area(s), a 120 square foot Security Center/Shed, and a 160 square foot Pesticides & Agricultural Chemicals Storage Area, is 2,440,000 square feet.

The Project Property is composed of five parcels totaling approximately 1,246 acres (Lake County APNs 014-290-08 & 12 and 014-300-02, 03, & 04), all of which are owned by the Comstock Family Trust. James Comstock (Managing Member of the Comstock Family Trust) has given Rancho Lake permission to establish the proposed cultivation operation and conduct the proposed cannabis cultivation activities, once the appropriate permits and licenses have been obtained. The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger on October 30th, 2020. The proposed cultivation operation will be established in areas of the Project Property that have been used for cattle grazing, continuously since at least the early 1900s.

6-foot tall wire fences will be erected around the proposed outdoor cultivation/canopy area(s), with privacy mesh where necessary to screen the cultivation/canopy area(s) from public view. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from two existing onsite groundwater wells located at: Latitude 38.77631°; Longitude -122.52444° and Latitude 38.77697°; Longitude -122.52711°. Water from these two groundwater wells will be stored within thirty (30) proposed 5,000-gallon water storage tanks located directly adjacent to the proposed cultivation/canopy area(s).

Only outdoor cannabis cultivation, harvesting, and preservation activities will be conducted onsite. Cannabis cultivated on and harvested from the Project Parcel, will be dried within temporary drying facilities, then transported to State of California-licensed processing and manufacturing facilities for processing and/or extraction.

For this assessment, the Project Area was defined as the cultivation area plus the ancillary facilities, and this 63-acre area was the subject of the impact analysis. The entire 1847-acre property was defined as the Study Area. The Study Area is defined to identify biological resources adjacent to the Project Area, and is the area subject to potential indirect effects from Project implementation.

1.2. SCOPE OF ASSESSMENT

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

- Compile all readily-available historical biological resource information about the Study Area;
- Spatially query state and federal databases for any occurrences of special-status species or habitats within the Study Area and vicinity;

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

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

1.3. REGULATORY SETTING

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

1.3.1. Special-status Species Regulations

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

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

California Fish and Game Code Sections 4700, 5050, and 5515 designates certain mammal, amphibian, and reptile species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The California Native Plant Protection Act of 1977 (CFG Code §1900 *et seq*.) requires CDFW to establish criteria for determining if a species or variety of native plant is

endangered or rare. Section 19131 of the code requires that landowners notify CDFW at least 10 days prior to initiating activities that will destroy a listed plant to allow the salvage of plant material.

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

California Environmental Quality Act (CEQA) (Public Resources Code §15380) defines "rare" in a broader sense than the definitions of threatened, endangered, or fully protected. Under the CEQA definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the impacts of a project upon environmental resources must be analyzed and assessed using criteria determined by the lead agency. Sensitive species that would qualify for listing but are not currently listed may be afforded protection under CEQA. The CEQA Guidelines (§15065) require that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines (§15380) provide for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Plant species on the California Native Plant Society (CNPS) Lists 1A, 1B, or 2 are typically considered rare under CEQA. California "Species of Special Concern" is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. While they do not have statutory protection, Species of Special Concern are typically considered rare under CEQA and thereby warrant specific protection measures.

1.3.2. Water Resource Protection

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

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

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

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

California Fish and Game Code (§1601 - 1607) protects fishery resources by regulating "*any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake*." CDFW requires notification prior to commencement, and issuance of a Lake or Streambed Alteration Agreement, if a proposed project will result in the alteration or degradation of ''waters of the State". The limit of CDFW jurisdiction is subject to the judgment of the Department; currently, this jurisdiction is interpreted to be the "stream zone", defined as "*that portion of the stream channel that restricts lateral movement of water*" and delineated at "*the top of the bank or the outer edge of any riparian vegetation, whichever is more landward*". CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a CWA 404 Section Permit and/or CWA Section 401 Water Quality Certification.

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

The State Water Resources Control Board's Order WQ 2019-0001-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities protects receiving water bodies from water-quality impacts associated with cannabis cultivation using a combination of Best Management Practices, buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

1.3.3. Tree Protection

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

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

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

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

2. ENVIRONMENTAL SETTING

The Study Area is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Study Area and vicinity is in Climate Zone 7 - California's Gray Pine Belt, defined by hot summers and mild but pronounced winters without severe winter cold or high humidity (Sunset, 2020).

The topography of the Study Area is mountainous, with flat valleys at the base of the slopes. The elevation ranges from approximately 930 feet to 1,710 feet above mean sea level. Drainage runs north, and eventually flows into Putah Creek. The Project Property is located in the eastern half of the Coyote Valley, within the Crazy Creek - Putah Creek Watershed. Putah Creek, a perennial Class I watercourse, flows from west to east through the northernmost portion of the Project Property. Crazy Creek, an intermittent Class II watercourse, flows from west to east through the northwest portion of the Project Property and into Putah Creek. Multiple unnamed intermittent Class III watercourses flow generally from south to north, through the Project Property, and into Putah Creek. A large complex wetland occupies floor of a valley in the southern half of the Project Property (over 1000 feet from the proposed cultivation operation). There are four culverted Class III watercourse crossings of Grange Road and Comstock Ranch Road, used to access the Project Parcel. No cannabis cultivation activities nor agricultural chemicals storage will occur within 150 feet of any surface waterbody, and no ground disturbance is proposed within 100 feet of any wetland or channel.

Current and past land uses of the Property are rural residential with intensive and extensive agriculture. The Property has been improved with three groundwater wells, a residence, and three accessory ag structures/buildings (used to store hay, tools, and equipment, and to house livestock). The proposed cultivation operation will be established in areas of the Property that have been used for cattle grazing, continuously since at least the early 1900s. The surrounding land uses are private estates, vineyards, open space, and grazing land.

3. METHODOLOGY

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

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

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

3.2. FIELD SURVEY

Consulting biologist Tim Nosal, MS. conducted a reconnaissance-level field survey on February 8 and 9, 2021. Weather conditions were warm and cloudy. A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible fauna and flora observed were recorded in a field notebook, and identified to the lowest possible taxon. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDB within the vicinity of the Study Area and those species on the USFWS species list (Appendix 1).

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

The locations of any special-status species sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Habitat types occurring in the Study Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded. The Study Area was also informally assessed for the presence of potentially-jurisdictional water features, including riparian zones, isolated wetlands and vernal pools, and other biologically-sensitive aquatic habitats

3.3. MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the Study Area were digitized to produce the final habitat maps. The boundaries of potentially jurisdictional water resources within the Study Area were identified and measured in the field, and similarly digitized to calculate acreage and to produce informal delineation maps. Geographic analyses were performed using geographical information system software (ArcGIS 10, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Informal wetland delineation methods consisted of an abbreviated, visual assessment of the three requisite wetland parameters (hydrophytic vegetation, hydric soils, hydrologic regime) defined in the US Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). Wildlife habitats were classified according to the CDFW's California Wildlife Habitat Relationships System (CDFW, 2021c). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2021), Calflora (2021); CDFW (2021a,b,c); and University of California at Berkeley (2021a,b).

4. RESULTS

4.1. INVENTORY OF FLORA AND FAUNA FROM FIELD SURVEY

All plants detected during the field survey of the Study Area are listed in Appendix 2. The following animals were detected within the Study Area during the field survey:

black-tailed jackrabbit (*Lepus californicus*); Botta's pocket gopher (*Thomomys bottae*); California ground squirrel (*Otospermophilus beecheyi*); cattle (*Bos taurus*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); coyote (*Canis latrans*); dog (*Canis lupis familiaris*); gray fox (*Urocyon cinereoargenteus*); horse (*Equus caballus*); pig (*Sus scrofa*); raccoon (*Procyon lotor*); western gray squirrel (*Sciurus griseus*); acorn woodpecker (*Melanerpes formicivorus*); American crow (*Corvus brachyrhynchos*); American kestrel (*Falco sparverious*); American robin (*Turdus migratorius*); Anna's hummingbird (*Calypte anna*); black phoebe (*Sayornis nigricans*); Brewer's blackbird (*Euphagus cyanocephalus*); bushtit (*Psaltriparius minimus*); California quail (*Callipepla californica*); California scrub jay (*Aphelocoma californica*); Canada goose (*Branta canadensis*); common raven (*Corvus corax*); dark-eyed junco (*Junco hyemalis*); downy woodpecker (*Picoides pubescens*); Eurasian collared-dove (*Streptopelia decaocto*); great blue heron (*Ardea herodias*); hooded merganser (L*ophodytes cucullatus*); house wren (*Troglodytes aedon*); killdeer (*Charadrius vociferus*); mallard (*Anas platyrhynchos*); mourning dove (*Zenaida macroura*); northern flicker (*Colaptes auratus*); Nuttall's woodpecker (*Picoides nuttallii*); oak titmouse (*Baeolophus inornatus*); pileated woodpecker (*Dryocopus pileatus*); red-tailed hawk (*Buteo jamaicensis*); sparrow (Emberizidae); spotted towhee (*Pipilo maculatus*); turkey vulture (*Cathartes aura*); western bluebird (*Sialia mexicanus*); western meadowlark (*Sturnella neglecta*); white crowned sparrow (*Zonotrichia leucophrys*); white-breasted nuthatch (*Sitta carolinensis*); yellow-rumped warbler (*Setophaga coronata*); and other common songbirds.

4.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

4.2.1. Terrestrial Vegetation Communities

The Study Area contains the following terrestrial vegetation communities: Disturbed/Developed, Annual Grassland, Chaparral, Oak Woodland, Riparian, and Freshwater Marsh. These vegetation communities are discussed here and are delineated in the Exhibits.

Ruderal/Developed. These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species lacking a consistent community structure. This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Annual Grassland: The annual grassland habitat is comprised largely of non-native annual grasses and native herbs with some native perennial grasses also important. Plants common in this habitat type include Medusa-head (*Elymus caput-medusae*), yellow star thistle (*Centaurea solstitialis*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), fillaree (*Erodium* spp.), chicory (*Cichorium intybus*), vetch (*Vicia* spp.), dove weed (*Croton setiger*) and various other species. This vegetation can be classified as the Holland Type "Non-native Grassland" or as "42.020.03 *Elymus caput-medusae*" (CDFW 2021e).

Chaparral: The slopes and ridges of the southern portion of the Study Area are underlain by serpentine soil and are vegetated with a dense cover of shrubs. The rocky slopes are dominated by leather oak (*Quercus durata*) with occasional gray pine (*Pinus sabiniana*) and chaparral silktassel

(*Garrya congdonii*). This vegetation can be classified as the Holland Type "Leather Oak Chaparral" or as "37.405.00 Leather Oak Chaparral" (CDFW 2021e).

Mixed Oak Woodland: Tree dominated habitats throughout the Study Area are dominated by various species of oak. The composition of the oak forest varies depending upon the aspect, soil type and site history. Dominant canopy species include blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*) and California black oak (*Quercus kelloggii*) with occasional gray pine. The shrub and herb layers are highly variable and include deer brush (*Ceanothus integerrimus*), common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), coyote brush (*Baccharis pilularis*), yerba santa (*Eriodictyon californicum*) and poison oak (*Toxicodendron diversilobum*) as well as grasses and herbs. This vegetation can be classified as the Holland Type "Oak Forest" or as "*Quercus* (*agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni*) Mixed Oak Forest" (CDFW 2021e).

Riparian: Riparian habitat can be found along the channel of Putah Creek, in the northern portion of the Study Area. The riparian vegetation consists of a discontinuous band of vegetation along the banks and floodplain of the creek. The species composition is highly variable, and consists of a canopy of red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), sandbar willow (*Salix exigua*), mule fat (*Baccharis salicifolia),* Himalayan blackberry (*Rubus armeniacus*) and elmleaf blackberry (*Rubus ulmifolius*) with an understory of grasses and other herbs. The riparian forest can be classified as the Holland Type "Great Valley Mixed Riparian Forest" or as "61.216.00 Red Willow Riparian Woodland" (CDFW 2021e).

Freshwater Marsh: The flat portions of the Study Area are poorly drained and show signs of extensive seasonal wetlands. Some of the poorly drained areas, such as depressions, swales, and ditches, are vegetated with coyote thistle (*Eryngium aristulatum*), death camas (*Toxicoscordion sp.*), navarretia (*Navarretia* sp.), Douglas' mesamint (*Pogogyne douglasii*) and other herbs and grasses. This vegetation can be classified as the Holland Type "Coastal and Valley Freshwater Marsh".

4.2.2. Wildlife Habitat Types

Wildlife habitat types were classified using CDFW's Wildlife Habitat Relationship System. The Study Area contains the following wildlife habitat types: Urban; Barren; Annual Grassland; Mixed Chaparral; Montane Chaparral; Valley Oak Woodland; Blue Oak Woodland; Blue Oak – Foothill Pine; Valley Foothill Riparian; Fresh Emergent Wetland; and Riverine.

4.2.3. Critical Habitat and Special-status Habitat

No critical habitat for any federally-listed species occurs within the Project Area or the surrounding Study Area. The CNDDB reported no special-status habitats within the Project Area or surrounding Study Area. The CNDDB reported the following special-status habitats in a 10-mile radius outside of the Study Area: Central Valley Drainage Rainbow Trout/Cyprinid Stream; Clear Lake Drainage Resident Trout Stream; Serpentine Bunchgrass; Wildflower Field; Northern Vernal Pool; Northern Basalt Flow Vernal Pool and Northern Interior Cypress Forest. No special-status habitats were detected within the Project Area. However, the surrounding Study Area contains the following special-status habitats: watercourses, riverine wetlands, freshwater marsh, freshwater pond, and riparian habitat.

4.2.4. Habitat Plans and Wildlife Corridors

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

The nearest fishery resources are in Putah Creek, which borders the northern portion of the Study Area. The CDFW has identified a designated wildlife corridor within the Study Area: Natural Landscape Blocks– as identified in the California Essential Habitat Connectivity Project (CDFW 2021d). In addition, the open space within the Study Area allows for unrestricted animal movement. The Study Area is not located within any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

4.3. LISTED SPECIES AND OTHER SPECIAL-STATUS SPECIES

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

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

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

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

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

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

The CNDDB reported the following special-status species occurrences within the Study Area:

- Foothill yellow-legged frog *(Rana boylii)*
- Western pond turtle *(Emys marmorata)*
- Prairie falcon *(Falco mexicanus)*
- American peregrine falcon *(Falco peregrinus anatum)*
- Mt. Saint Helena morning glory *(Calystegia collina ssp. oxyphylla)*

Occurrences for foothill yellow-legged frog and western pond turtle are documented for segments of Putah Creek within the Study Area. Occurrences of prairie falcon and American peregrine falcon are artifacts of the mapping process at CNDDB. The location of the nesting sites is deliberately obscured by the CNDDB in order to protect the occurrences. Suitable nesting habitat for these species is not found within the Study Area. The precise location of the Mt. Saint Helena morning glory is not known, however suitable serpentine soils are found in the southern portion of the Study Area. Within a 10-mile buffer of the Study Area boundary, the CNDDB reported several special-status species occurrences, summarized in the following table.

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

- Northern Spotted Owl (*Strix occidentalis caurina*) Threatened
- Green Sea Turtle (*Chelonia mydas*) Threatened
- California Red-legged Frog (*Rana draytonii*) Threatened
- Delta Smelt (*Hypomesus transpacificus*) Threatened
- California Freshwater Shrimp (*Syncaris pacifica*) Endangered
- Conservancy Fairy Shrimp (*Branchinecta conservation*) Endangered
- Burke's Goldfields (*Lasthenia burkei*) Endangered
- Lake County Stonecrop (*Parvisedum leiocarpum*) Endangered
- Many-flowered Navarretia (*Navarretia leucocephala ssp. plieantha)* Endangered
- Slender Orcutt Grass (*Orcuttia tenuis*) Threatened

Migratory birds should also be considered in the impact assessment.

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

Common Name Scientific Name	Status*	General Habitat**	Microhabitat**
Red-bellied newt *Taricha rivularis*	CSSC	Broadleaved upland forest; North coast coniferous forest; Redwood; Riparian forest; Riparian woodland	Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.
California giant salamander *Dicamptodon ensatus*	CSSC	Aquatic; Meadow & seep; North coast coniferous forest; Riparian forest	Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.
California red-legged frog *Rana draytonii*	FT/CSSC	Aquatic; Artificial flowing waters; Artificial standing waters; Freshwater marsh; Marsh & swamp; Riparian forest; Riparian scrub; Riparian woodland; South coast flowing waters; South coast standing waters; Sacramento/San Joaquin flowing waters; Sacrament	Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.
Foothill yellow-legged frog *Rana boylii*	CE/CSSC	Aquatic; Chaparral; Cismontane woodland; Coastal scrub; Klamath/North coast flowing waters; Lower montane coniferous forest; Meadow & seep; Riparian forest; Riparian woodland; Sacramento/San Joaquin flowing waters	Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.
Bald eagle *Haliaeetus leucocephalus*	FD/CE/CFP	Lower montane coniferous forest; Oldgrowth	Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.
Golden eagle *Aquila chrysaetos*	CFP; CWL	Broadleaved upland forest; Cismontane woodland; Coastal prairie; Great Basin grassland; Great Basin scrub; Lower montane coniferous forest; Pinon & juniper woodlands; Upper montane coniferous forest; Valley & foothill grassland	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
American peregrine falcon *Falco peregrinus anatum*	FD/CD/CFP		Nest consists of a scrape or a depression or ledge in an open site.
Prairie falcon *Falco mexicanus*	CWL	Great Basin grassland; Great Basin scrub; Mojavean desert scrub; Sonoran desert scrub; Valley & foothill grassland	Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.
Purple martin *Progne subis*	CSSC	Broadleaved upland forest; Lower montane coniferous forest	Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.
Tricolored blackbird *Agelaius tricolor*	CT/CSSC	Freshwater marsh; Marsh & swamp; Swamp; Wetland	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.
Long-eared myotis *Myotis evotis*	CSSC		Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.
Fringed myotis *Myotis thysanodes*	CSSC		Uses caves, mines, buildings or crevices for maternity colonies and roosts.
Silver-haired bat	CSSC	Lower montane coniferous forest; Oldgrowth; Riparian forest	Roosts in hollow trees, beneath exfoliating bark, abandoned

Lasionycteris noctivagans			woodpecker holes, and rarely under rocks. Needs drinking water.
Hoary bat *Lasiurus cinereus*	CSSC	Broadleaved upland forest; Cismontane woodland; Lower montane coniferous forest; North coast coniferous forest	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
Western red bat *Lasiurus blossevillii*	CSSC	Cismontane woodland; Lower montane coniferous forest; Riparian forest; Riparian woodland	Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.
Townsend's big-eared bat *Corynorhinus townsendii*	CSSC	Broadleaved upland forest; Chaparral; Chenopod scrub; Great Basin grassland; Great Basin scrub; Joshua tree woodland; Lower montane coniferous forest; Mojavean desert scrub; Meadow & seep; Riparian forest; Riparian woodland; Sonoran desert scrub; Sonoran	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.
Pallid bat *Antrozous pallidus*	CSSC	Chaparral; Coastal scrub; Desert wash; Great Basin grassland; Great Basin scrub; Mojavean desert scrub; Riparian woodland; Sonoran desert scrub; Upper montane coniferous forest; Valley & foothill grassland	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
Fisher *Pekania pennanti*	CSSC	North coast coniferous forest; Oldgrowth; Riparian forest	Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.
Western pond turtle *Emys marmorata*	CSSC	Aquatic; Artificial flowing waters; Klamath/North coast flowing waters; Klamath/North coast standing waters; Marsh & swamp; South coast flowing waters; South coast standing waters; Sacramento/San Joaquin flowing waters; Sacramento/San Joaquin standing wa	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	CSSC	Aquatic; Sacramento/San Joaquin flowing waters; Sacramento/San Joaquin standing waters	
Serpentine cypress wood-boring beetle *Trachykele hartmani*	CSSC		
Serpentine cypress long-horned beetle *Vandykea tuberculata*	CSSC		
Wilbur Springs shorebug *Saldula usingeri*	CSSC	Aquatic; Sacramento/San Joaquin flowing waters; Sacramento/San Joaquin standing waters	Found only on wet substrate of spring outflows.
Western bumble bee *Bombus occidentalis*	CCE		
Obscure bumble bee *Bombus caliginosus*	CSSC		Food plant genera include baccharis, cirsium, lupinus, lotus, grindelia and phacelia.
Clear Lake pyrg *Pyrgulopsis ventricosa*	CSSC		
Toren's grimmia *Grimmia torenii*	1B.3	Chaparral; Cismontane woodland; Lower montane coniferous forest; Limestone	Openings, rocky, boulder and rock walls, serpentine, volcanic. 325-1160 m.
Elongate copper moss *Mielichhoferia elongata*	4.3	Cismontane woodland	Moss growing on very acidic, metamorphic rock or substrate; usually in higher portions in fens. Often on substrates naturally enriched with heavy metals (e.g. copper) such as mine tailings. 5-1085 m.
Loch Lomond button-celery *Eryngium constancei*	FE/CE/1B.1	Vernal pool; Wetland	Volcanic ash flow vernal pools. 460-855 m.

Jepson's coyote-thistle *Eryngium jepsonii*	1B.2	Valley & foothill grassland; Vernal pool	Clay. 3-305 m.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Sometimes on serpentine. 35-1465 m.
Greene's narrow-leaved daisy *Erigeron greenei*	1B.2	Chaparral; Ultramafic	Serpentine and volcanic substrates, generally in shrubby vegetation. 90-835 m.
Congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	1B.2	Valley & foothill grassland	Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 5-520 m.
Pappose tarplant *Centromadia parryi ssp. parryi*	1B.2	Chaparral; Coastal prairie; Meadow & seep; Marsh & swamp; Valley & foothill grassland	Vernally mesic, often alkaline sites. 1-500 m.
Burke's goldfields *Lasthenia burkei*	FE/CE/1B.1	Meadow & seep; Vernal pool; Wetland	Most often in vernal pools and swales. 15-580 m.
Colusa layia *Layia septentrionalis*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 15-1100 m.
Hall's harmonia *Harmonia hallii*	1B.2	Chaparral; Ultramafic	Serpentine hills and ridges. Open, rocky areas within chaparral. 335-945 m.
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Coastal bluff scrub; Cismontane woodland; Valley & foothill grassland	3-795 m.
Serpentine cryptantha *Cryptantha dissita*	1B.2	Chaparral; Ultramafic	Serpentine outcrops. 135-735 m.
Calistoga popcornflower *Plagiobothrys strictus*	FE/CT/1B.1	Meadow & seep; Valley & foothill grassland; Vernal pool; Wetland	Alkaline sites near thermal springs and on margins of vernal pools in heavy, dark, adobe-like clay. 90-125 m.
Freed's jewelflower *Streptanthus brachiatus ssp. hoffmanii*	1B.2	Chaparral; Cismontane woodland; Ultramafic	Serpentine rock outcrops, primarily in geothermal development areas. 485-1040 m.
Socrates Mine jewelflower *Streptanthus brachiatus ssp. brachiatus*	1B.2	Closed-cone coniferous forest; Chaparral; Ultramafic	Serpentine areas and serpentine chaparral. 605-1950 m.
Three Peaks jewelflower *Streptanthus morrisonii ssp. elatus*	1B.2	Chaparral; Ultramafic	Serpentine barrens, outcrops, and talus; 240-735 m.
Kruckeberg's jewelflower *Streptanthus morrisonii ssp. kruckebergii*	1B.2	Cismontane woodland; Ultramafic	Scattered serpentine outcrops near the lake/napa county line. 240-665 m.
Early jewelflower *Streptanthus vernalis*	1B.2	Closed-cone coniferous forest; Chaparral; Ultramafic	On serpentine.
Green jewelflower *Streptanthus hesperidis*	1B.2	Chaparral; Cismontane woodland; Ultramafic	Openings in chaparral or woodland; serpentine, rocky sites. 240-765 m.
Cascade downingia *Downingia willamettensis*	2B.2	Cismontane woodland; Valley & foothill grassland; Vernal pool	Lake margins. 15-1110 m.
Legenere *Legenere limosa*	1B.1	Vernal pool; Wetland	In beds of vernal pools. 1-1005 m.
Mt. Saint Helena morning-glory	4.2	Chaparral; Lower montane coniferous forest; Ultramafic; Valley & foothill grassland	On serpentine barrens, slopes, and hillsides. 280-1010 m.

Calystegia collina ssp. oxyphylla			
Lake County stonecrop *Sedella leiocarpa*	FE/CE/1B.1	Cismontane woodland; Valley & foothill grassland; Vernal pool; Wetland	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 515-640 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral; Cismontane woodland; Lower montane coniferous forest	Volcanic soils. 225-1830 m.
Napa false indigo *Amorpha californica var. napensis*	1B.2	Broadleaved upland forest; Chaparral; Cismontane woodland	Openings in forest or woodland or in chaparral. 30-735 m
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	1B.2	Cismontane woodland; Ultramafic; Valley & foothill grassland	Commonly on serpentine in grassland or openings in chaparral. 175-1005 m.
Cobb Mountain lupine *Lupinus sericatus*	1B.2	Broadleaved upland forest; Chaparral; Cismontane woodland; Lower montane coniferous forest; Ultramafic	In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine. 120-1390 m.
Saline clover *Trifolium hydrophilum*	1B.2	Marsh & swamp; Valley & foothill grassland; Vernal pool; Wetland	Mesic, alkaline sites. 1-335 m.
Napa bluecurls *Trichostema ruygtii*	1B.2	Chaparral; Cismontane woodland; Lower montane coniferous forest; Valley & foothill grassland; Vernal pool; Wetland	Often in open, sunny areas. Also has been found in vernal pools. 30-680 m.
Woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	4.2	Chaparral; Cismontane woodland; Valley & foothill grassland; Vernal pool; Wetland	Vernally wet areas, ditches, and ponds. 60-1335 m.
Two-carpellate western flax *Hesperolinon bicarpellatum*	1B.2	Chaparral; Ultramafic	Serpentine barrens at edge of chaparral. 175-825 m.
Lake County western flax *Hesperolinon didymocarpum*	CE/1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Serpentine soil in open grassland and near chaparral. 325-400 m.
Drymaria-like western flax *Hesperolinon drymarioides*	1B.2	Closed-cone coniferous forest; Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Serpentine soils, mostly within chaparral. 400-1100 m.
Sharsmith's western flax *Hesperolinon sharsmithiae*	1B.2	Chaparral; Ultramafic	Serpentine substrates. 180-670 m.
Keck's checkerbloom *Sidalcea keckii*	FE/1B.1	Cismontane woodland; Ultramafic; Valley & foothill grassland	Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. 85-505 m.
Snow Mountain buckwheat *Eriogonum nervulosum*	1B.2	Chaparral; Ultramafic	Dry serpentine outcrops, balds, and barrens. 445-2105 m.
Jepson's leptosiphon *Leptosiphon jepsonii*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 55-855 m.
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	1B.1	Cismontane woodland; Lower montane coniferous forest; Meadow & seep; Valley & foothill grassland; Vernal pool; Wetland	Vernal pools and swales; adobe or alkaline soils. 3-1680 m.
Few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	Vernal pool; Wetland	Volcanic ash flow, and volcanic substrate vernal pools. 425-855 m.
Many-flowered navarretia	FE/CE/1B.2	Vernal pool; Wetland	Volcanic ash flow vernal pools. 30-915 m.

Navarretia leucocephala ssp. plieantha			
Small pincushion navarretia *Navarretia myersii ssp. deminuta*	1B.1	Vernal pool; Wetland	Known from only one site in lake county in vernal pool habitat on clay-loam soil; also in roadside depressions. 355 m.
Marin County navarretia *Navarretia rosulata*	1B.2	Closed-cone coniferous forest; Chaparral; Ultramafic	Dry, open rocky places; can occur on serpentine. 185-640 m.
Porter's navarretia *Navarretia paradoxinota*	1B.3	Meadow & seep; Ultramafic	Serpentinite, openings, vernally mesic, often drainages. 175-875 m.
Holly-leaved ceanothus *Ceanothus purpureus*	1B.2	Chaparral; Cismontane woodland	Rocky, volcanic slopes. 140-720 m.
Rincon Ridge ceanothus *Ceanothus confusus*	1B.1	Closed-cone coniferous forest; Chaparral; Cismontane woodland; Ultramafic	Known from volcanic or serpentine soils, dry shrubby slopes. 150-1280 m.
Calistoga ceanothus *Ceanothus divergens*	1B.2	Chaparral; Cismontane woodland; Ultramafic	Rocky, serpentine or volcanic sites. 100-950 m.
Sonoma ceanothus *Ceanothus sonomensis*	1B.2	Chaparral; Ultramafic	Sandy, serpentine or volcanic soils. 140-795 m.
Bolander's horkelia *Horkelia bolanderi*	1B.2	Cismontane woodland; Lower montane coniferous forest; Meadow & seep; Valley & foothill grassland	Grassy margins of vernal pools and meadows. 455-855 m.
Pink creamsacs *Castilleja rubicundula var. rubicundula*	1B.2	Chaparral; Cismontane woodland; Meadow & seep; Ultramafic; Valley & foothill grassland	Openings in chaparral or grasslands. On serpentine. 20-915 m.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE/1B.2	Freshwater marsh; Marsh & swamp; Vernal pool; Wetland	Clay soils; usually in vernal pools, sometimes on lake margins. 4-2410 m.
Sonoma beardtongue *Penstemon newberryi var. sonomensis*	1B.3	Chaparral	Crevices in rock outcrops and talus slopes. 425-1405 m.
Dimorphic snapdragon *Antirrhinum subcordatum*	4.3	Chaparral; Lower montane coniferous forest; Ultramafic	Generally on serpentine or shale in foothill woodland or chaparral on s- and w-facing slopes. 185-800 m.
Northern meadow sedge *Carex praticola*	2B.2	Meadow & seep; Wetland	Moist to wet meadows. 15-3200 m.
Santa Lucia dwarf rush *Juncus luciensis*	1B.2	Chaparral; Great Basin scrub; Lower montane coniferous forest; Meadow & seep; Vernal pool; Wetland	Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. 280-2035 m.
Narrow-anthered brodiaea *Brodiaea leptandra*	1B.2	Broadleaved upland forest; Chaparral; Cismontane woodland; Lower montane coniferous forest; Valley & foothill grassland	Volcanic substrates. 30-590 m.
Dwarf soaproot *Chlorogalum pomeridianum var. minus*	1B.2	Chaparral; Ultramafic	Serpentine. 120-1220 m.
Adobe-lily *Fritillaria pluriflora*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Usually on clay soils; sometimes serpentine. 45-945 m.
Geysers panicum *Panicum acuminatum var. thermale*	CE/1B.2	Closed-cone coniferous forest; Riparian forest; Valley & foothill grassland; Wetland	Usually around moist, warm soil in the vicinity of hot springs. 455-2470 m.
California satintail *Imperata brevifolia*	2B.1	Chaparral; Coastal scrub; Mojavean desert scrub; Meadow & seep; Riparian scrub; Wetland	Mesic sites, alkali seeps, riparian areas. 3-1495 m.
Slender Orcutt grass *Orcuttia tenuis*	FT/CE/1B.1	Vernal pool; Wetland	Often in gravelly substrate. 25-1755 m.

California alkali grass *Puccinellia simplex*	1B.2	Chenopod scrub; Meadow & seep; Valley & foothill grassland; Vernal pool	Alkaline, vernally mesic. Sinks, flats, and lake margins. 1-915 m.
Slender-leaved pondweed *Stuckenia filiformis ssp. alpina*	2B.2	Marsh & swamp; Wetland	Shallow, clear water of lakes and drainage channels. 5-2325 m.

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

**Copied verbatim from CNDDB, unless otherwise noted.

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

During the field survey, no special-status species were detected within the Project Area or the surrounding Study Area.

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

No special status plants or animals were observed within the Study Area. The CNDDB has reported an occurrence of Mt. Saint Helena morning glory *(Calystegia collina ssp. oxyphylla)*, a serpentine endemic, within the Study Area. Volcanic and serpentine soils are present within the oak woodland and chaparral habitats of the Study Area. Special status plants reported by CNDDB to occur in the region, including Mt. Saint Helena morning glory, are known to occur on these substrates and therefore have a moderate to high potential for occurrence within the Study Area. Wetlands are also present within the Study Area. Special status plants may occur in wetlands. No wetlands, volcanic soils or serpentine soils are found within the Project Area. The Project Area is located within annual grasslands found on upland alluvial soils. Due to the dominance of aggressive non-native grasses and forbs, the Project Area has a low probability for special status plant occurrence.

Special-status animals have a low potential to occur in the grassland, chaparral and oak woodland habitats. However, special-status animals have a moderate to high potential to occur in Putah Creek (Class I watercourse). The CNDDB has mapped an occurrence of western pond turtle (*Emys marmorata*) and foothill yellow-legged frog (*Rana boylii*) in sections of Putah Creek along the northern edge of the Study Area. Streams, riparian corridors, and riverine wetlands within the Study Area can sustain aquatic special-status species and diverse wildlife species.

4.4. POTENTIALLY-JURISDICTIONAL WATER RESOURCES

The USFWS National Wetland Inventory reported no water features within the Project Area, but the Inventory did report the following water features within the Study Area (see Exhibits): 9 Riverine Features, 1 Freshwater Forested/Shrub Wetland and 1 Freshwater Pond.

An informal assessment for the presence of potentially-jurisdictional water resources within the Study Area was also conducted during the field survey. For purposes of this biological site assessment, non-wetland waters (i.e., channels) were classified using the California Forest Practice Rules. The California Forest Practice Rules define a Class I watercourse as 1) a watercourse providing habitat for fish always or seasonally, and/or 2) providing a domestic water source; a Class II watercourse is 1) a watercourse capable of supporting non-fish aquatic species, or 2) a watercourse within 1,000 feet of a watercourse that seasonally or always has fish present; a Class III watercourse is a watercourse with no aquatic life present and that shows evidence of being capable of transporting sediment to Class I and Class II waters during high water flow conditions.

The field survey determined that the Project Area does not contain any channels or wetlands. The following water features were detected within the larger Study Area during the field survey (see Exhibits):

- 1 perennial stream (Class I watercourse; Putah Creek)
- 32 ephemeral channels (Class III watercourses)
- 2 freshwater wetlands
- 1 freshwater pond
- 2 springs
- 1 riparian feature

There are 2 swales, 1 of which was mapped as a riverine feature in the NWI. These appeared to be man-made linear depressions that do not carry flow or have wetland vegetation. There are no vernal pools or other isolated wetlands in the Study Area.

5. IMPACT ANALYSES AND MITIGATION MEASURES

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

5.1. IMPACT SIGNIFICANCE CRITERIA

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

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

5.2. IMPACT ANALYSIS

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

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

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

No special-status species were detected within the Study Area. Special status plants also have a moderate to high potential to occur within the wetlands of the Study Area. However, the cannabis cultivation / operation areas are at least 150 feet away from Putah Creek (Class I watercourse) and 100 feet away from other watercourses and wetlands. Special status plants have a moderate to high potential to occur on the serpentine and volcanic soils of the chaparral and oak woodland habitats of the Study Area. The Project Areas are located in annual grassland habitat, which will be impacted by project implementation. The annual grasslands have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. No serpentine or volcanic soils are found within the Project Area. No impacts to special-status plant species were identified from project implementation. If land clearing is performed in the future, a pre-construction special-status species survey is recommended.

No special-status animal species have a moderate or high potential to occur in Project Areas. No special-status animals were observed within the Project Area. However, the CNDDB has mapped an occurrence of western pond turtle and foothill yellow-legged frog in sections of Putah Creek along the northern edge of the Study Area. The cannabis cultivation / operation areas are at least 300 feet away from Putah Creek. No direct impacts to special-status animals are expected from implementation of the proposed project. However, special-status species could migrate into Project Areas between the time that the field survey was completed and the start of construction. This is a potentially significant impact before mitigation.

The Study Area contains suitable nesting habitat for various bird species because of the presence of trees and poles. However, no nests or nesting activity was observed in the Project Area during the field survey. Trees must be inspected for the presence of active bird nests before tree felling or ground clearing. If active nests are present in the Project Area during construction of the project, CDFW should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

Recommended Mitigation Measures

Because special-status animal species that occur in the vicinity could migrate onto the Study Area between the time that the field survey was completed and the start of construction, a pre-construction survey for special-status species should be performed by a qualified biologist to ensure that special-status species are not present. If any listed species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed. Additionally, animal exclusion fencing should be erected at the cultivation compound boundaries to ensure that animals do not migrate into operational areas. With the implementation of these mitigation measures, adverse impacts upon special-status species would be reduced to a less-than-significant level.

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

With the implementation of this mitigation measure, adverse impacts upon special-status bird species and nesting birds would be reduced to a less-than-significant level.

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

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

The Project Area and surrounding Study Area are not within any designated listed species' critical habitat. The Project Area does not contain special-status habitats. The Study Area contains 1 Class I watercourse, 32 Class III watercourses, two wetlands, 1 freshwater pond, two springs and riparian habitat

along Putah Creek which are special-status habitats due to their potential to attract wildlife or harbor rare plants and because these resources are protected by multiple laws. Sufficient setbacks from these habitats have been designed into the project design such that project implementation will impact any special-status habitats.

Recommended Mitigation Measures

No mitigation is necessary.

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

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

There are no water resources within the Project Area. There are several water resources within the surrounding Study Area: 1 Class I watercourse, 32 Class III watercourses, two wetlands, 1 freshwater pond, two springs and riparian habitat along Putah Creek. Potential direct impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation or the filling of wetlands or channels. However, the cultivation areas have been designed with a minimum 300-foot setback from the Class I watercourse and 100-foot setbacks from Class III watercourses and wetlands. Furthermore, the project is situated on flat grasslands. Because of these avoidance measures, no direct impacts to water resources are expected.

Potential indirect impacts to water resources could occur during construction by increased erosion and sedimentation in receiving water bodies due to soil disturbance. The Study Area does not have a significant erosion potential, because slopes are not steep, areas of ground disturbance are small, and vegetated buffers are present. If the total area of ground disturbance from installation of the cultivation operation is 1 acre or more, the Cultivator must enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). Implementation of a stormwater pollution prevention plan, and erosion control plan, along with regular inspections, will ensure that construction activities do not pollute receiving waterbodies.

Potential adverse impacts to water resources could occur during operation of cultivation activities resources by discharge of sediment or other pollutants (fertilizers, pesticides, human waste, etc.) into receiving waterbodies. However, the project proponent must file a Notice of Intent and enroll in Cannabis Cultivation Order WQ 2019-0001-DWQ. Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

Cultivators who enroll in the State Water Board's Waste Discharge Requirements for Cannabis Cultivation Order WQ 2019-0001-DWQ must comply with the Minimum Riparian Setbacks, as summarized in the following table. The Project would be considered to have a significant adverse impact on jurisdictional water resources if it would be non-compliant with these requirements. The minimum riparian setbacks apply to all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, diesel powered pump locations, water storage areas, and chemical toilet placement). The proposed project is compliant with the setback requirements of Cannabis Cultivation Order WQ 2019-0001-DWQ.

Minimum Riparian Setbacks

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

Recommended Mitigation Measures

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

It is recommended that a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed within 50 feet of any wetland or channel.

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

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

The CDFW has mapped the following wildlife corridor within the Study Area: Natural Landscape Blocks, which is identified in the California Essential Habitat Connectivity Project (CDFW 2021d).

The open space and the stream corridors in the Study Area facilitate animal movement and migrations. While the Study Area may be used by wildlife for movement or migration, the Project would not have a significant impact on this movement because it would not block movement and the majority of the open space in the Study Area would still be available.

Implementation of the proposed project would necessitate erection of security fences around the cultivation compounds. These fences do not allow animal movement and may act as a local barrier to wildlife movement. However, the fenced cultivation areas are surrounded by open space, allowing wildlife to move around these fenced areas. Thus, implementation of the proposed project is a less than significant impact upon wildlife movement. Implementation of the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Recommended Mitigation Measures

No mitigation is necessary.

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

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

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

Recommended Mitigation Measures

No mitigation is necessary.

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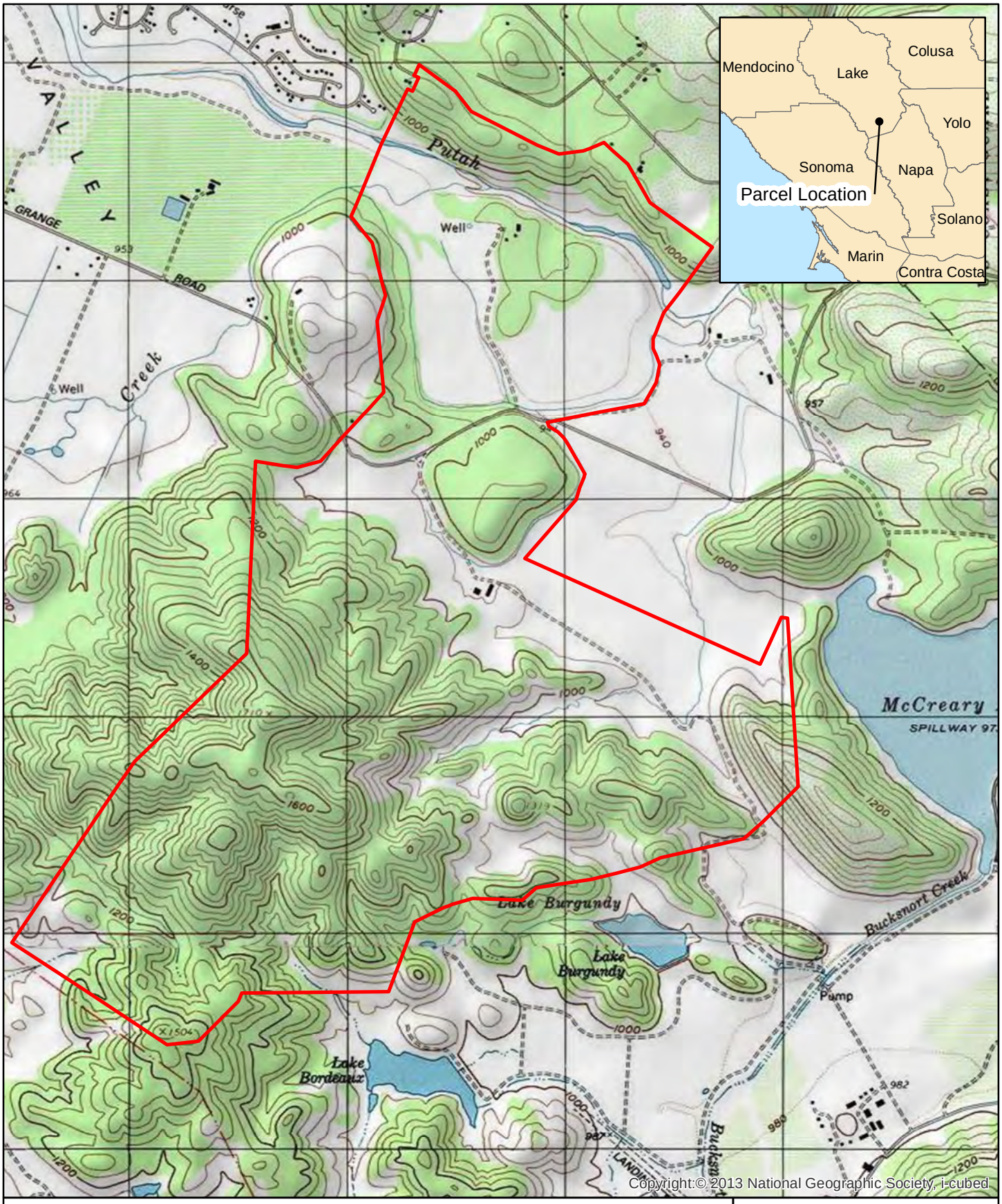
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EXHIBITS



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

1:24,000

19955 Grange Road Parcel Location Map

Natural Investigations Company

Map Date 2/3/2021

Middletown 1998 Quadrangle:Township 11N and 10N, Range 6W, Unsectioned Guenoc
Detert Reservoir 1997 Quadrangle:Township 10N, Range 6W, Unsectioned Guenoc



VICINITY MAP
NO SCALE

--
19955 GRANGE ROAD
MIDDLETOWN, CA 95461
APNs:014-290-08 & 12 AND
014-300-02, 03, & 04

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

Ⓐ (E) GROUNDWATER WELL
LAT: 38.77631°
LONG: -122.52444°
BENEFICIAL USES: IRRIGATION

Ⓑ (E) GROUNDWATER WELL
LAT: 38.77697°
LONG: -122.52711°
BENEFICIAL USES: IRRIGATION

Ⓒ (E) 18 ACRE OUTDOOR CULTIVATION / CANOPY AREA

Ⓓ (P) 38 ACRE OUTDOOR CULTIVATION / CANOPY AREA

PROPOSED CONDITIONS
SITE PLAN – PHASE II

GRAPHIC SCALE
700 0 350 700
(IN FEET)
1 inch = 700 ft.

Revisions:

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

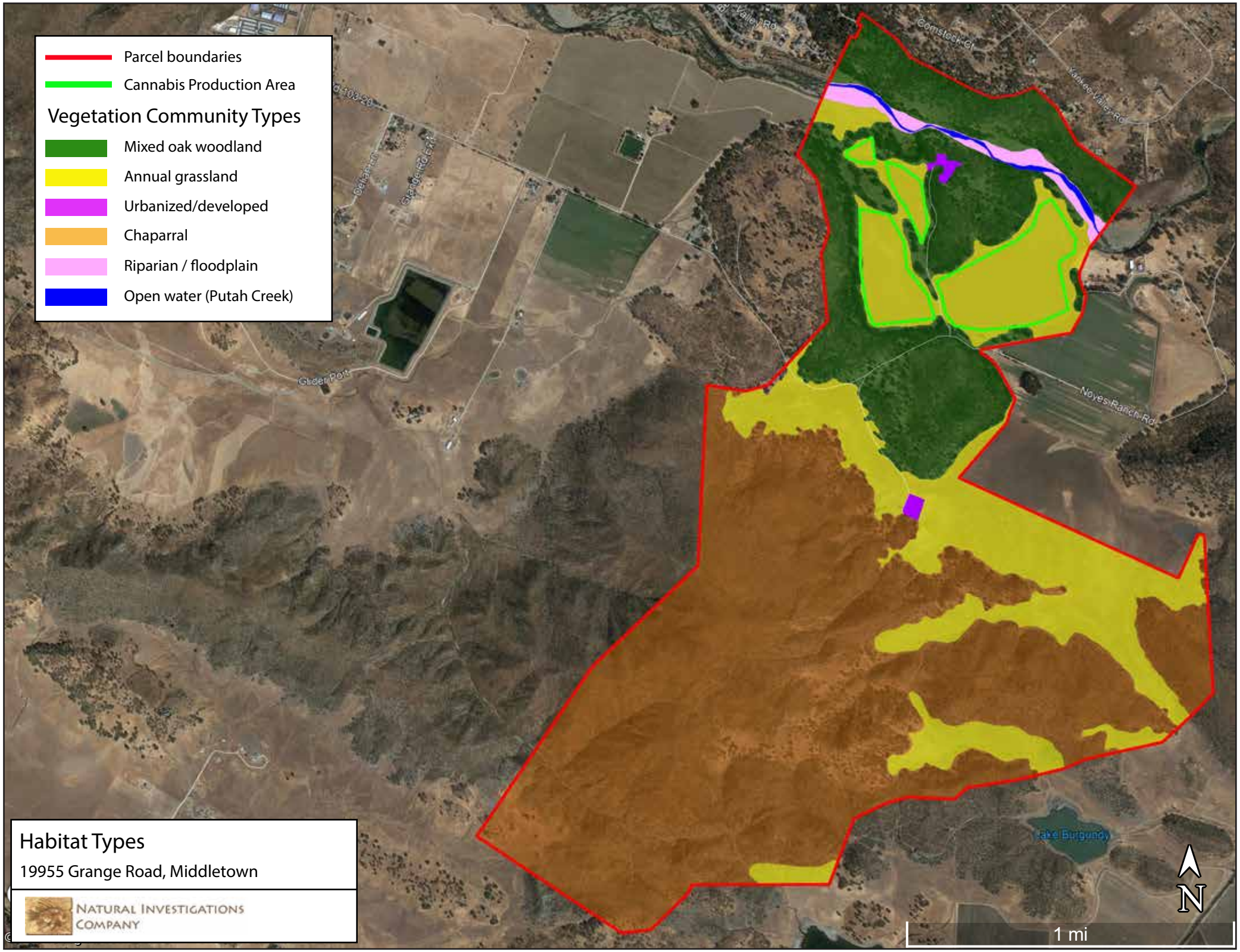
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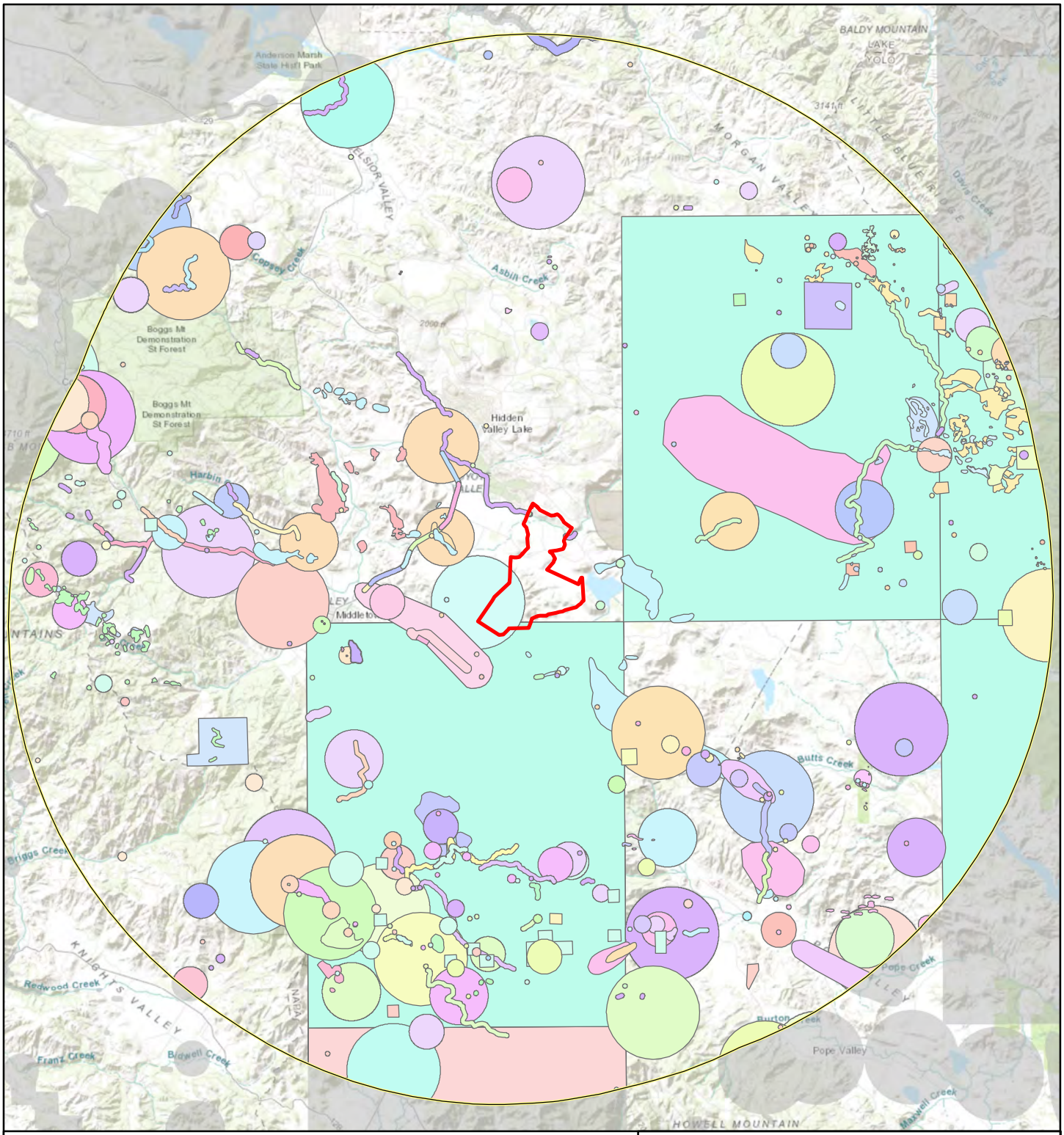
REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
EXP. 06/30/21
CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN - PHASE II

19955 GRANGE RD.
MIDDLETOWN, CA 95461
LAKE COUNTY
APNs:014-290-08 & 12 AND 014-300-02, 03, & 04

PLOTTED BY: ---
DATE PLOTTED: 2/28/21
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1


Parcel boundaries
Cannabis Production Area
Vegetation Community Types
Mixed oak woodland
Annual grassland
Urbanized/developed
Chaparral
Riparian / floodplain
Open water (Putah Creek)
Habitat Types
19955 Grange Road, Middletown
Natural Investigations Company
Comstock Ct
Glider Port
Noyes Ranch Rd
Lake Burgundy
N
1 mi



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

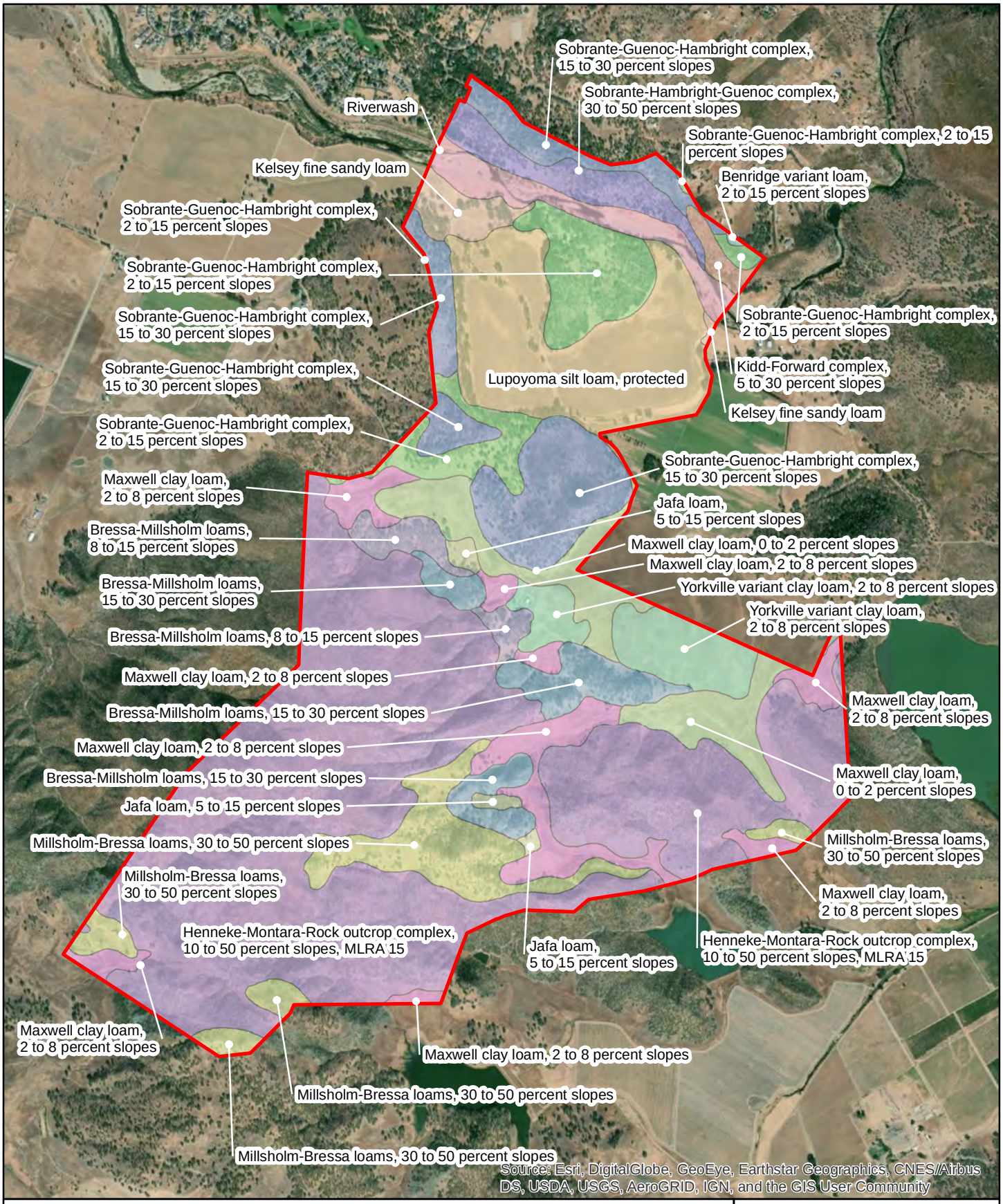
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.Data Sources: California Department of Fish and Wildlife. 2021. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California. (updated monthly by subscription service)

Special-Status Species Occurrences Map

19955 Grange Road

Middletown 1998 Quadrangle:Township 11N and 10N, Range 6W, Unsectioned Guenoc
Detert Reservoir 1997 Quadrangle:Township 10N, Range 6W, Unsectioned Guenoc

NATURAL INVESTIGATIONS CO.
www.NaturalInvestigations.com



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

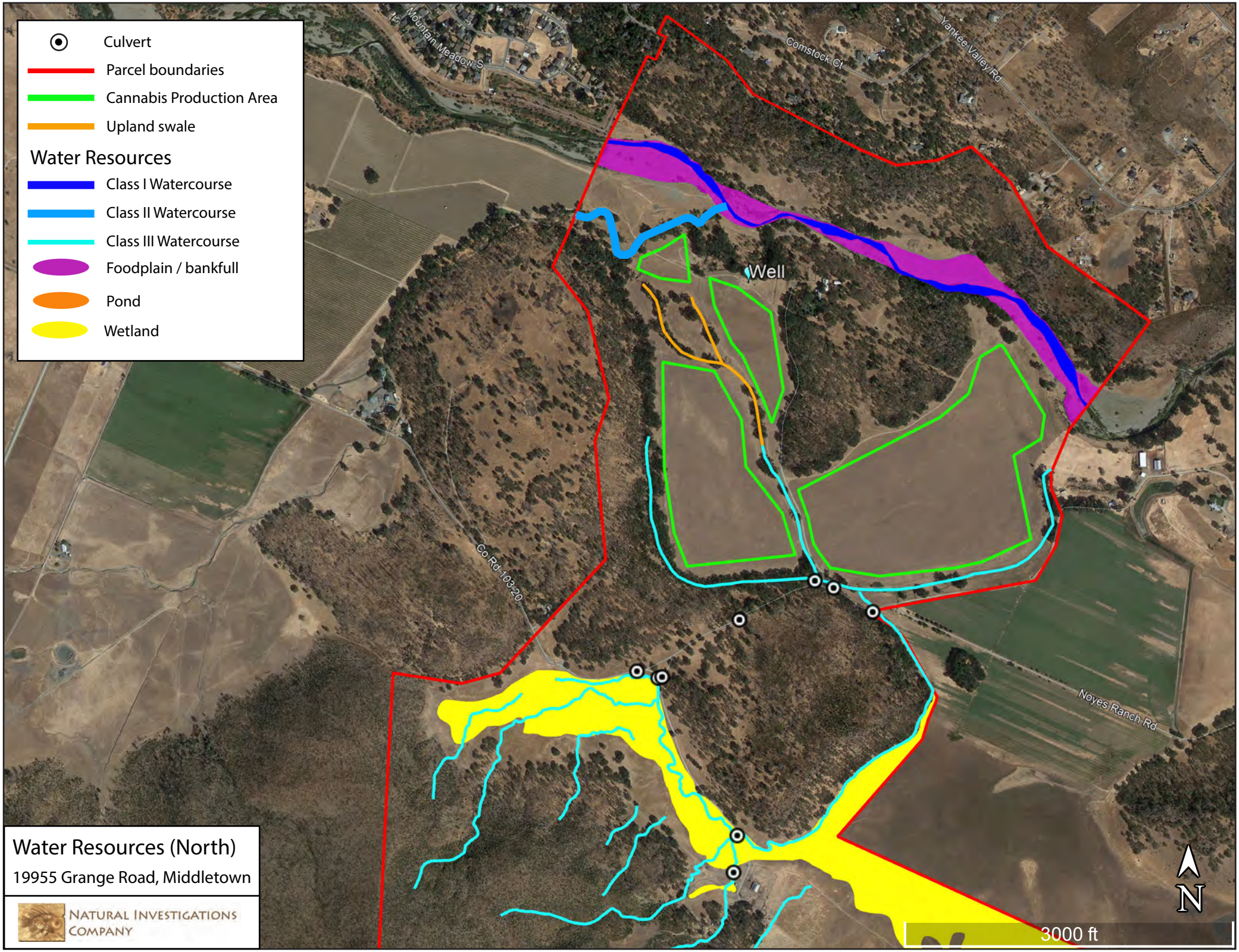
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19955 Grange Road
USDA Soils Map

Natural Investigations Company

Map Date 2/3/2021

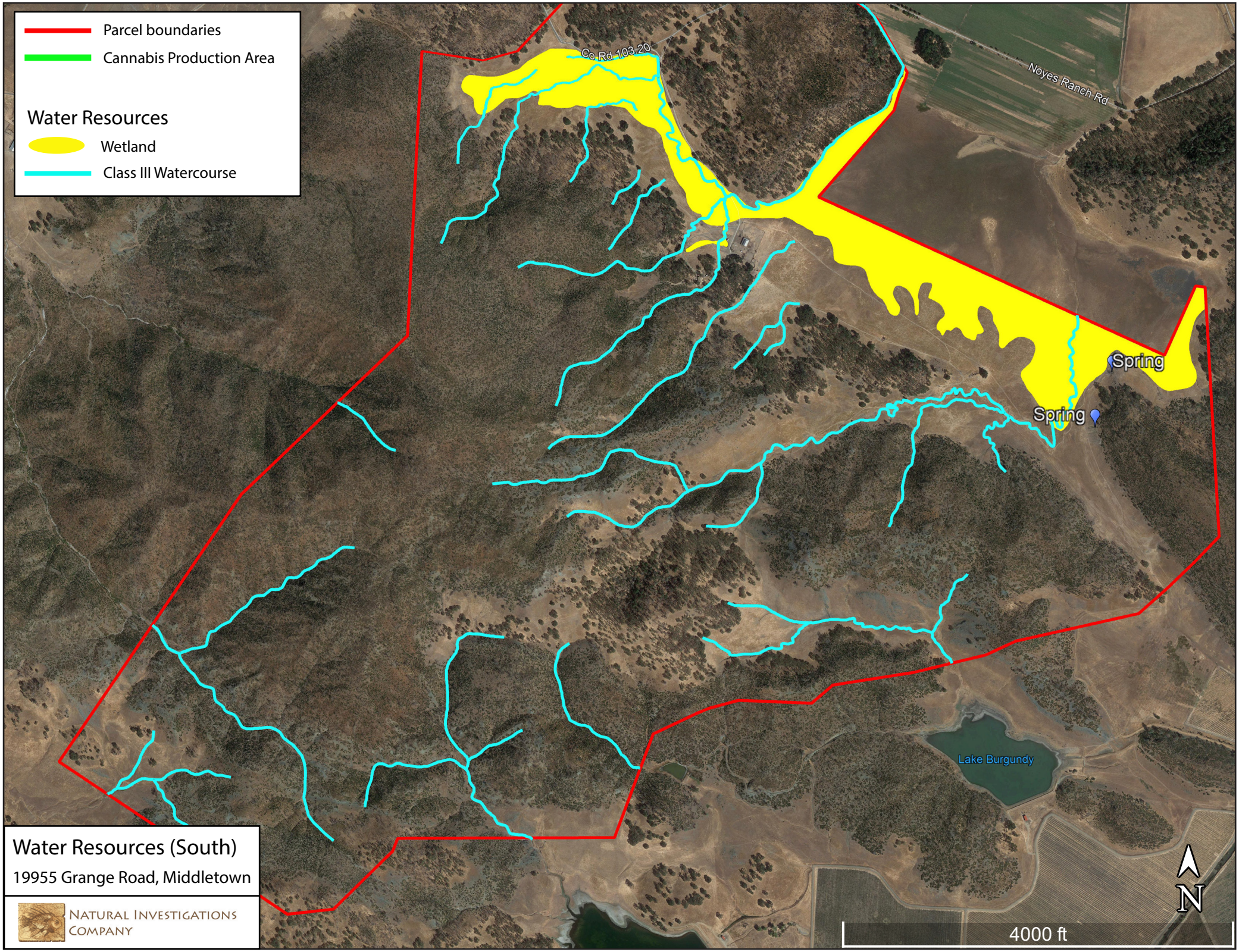
Middletown 1998 Quadrangle:Township 11N and 10N, Range 6W, Unsectioned Guenoc
Detert Reservoir 1997 Quadrangle:Township 10N, Range 6W, Unsectioned Guenoc



Water Resources (North)

19955 Grange Road, Middletown

Natural Investigations Company



Water Resources (South)

19955 Grange Road, Middletown

Natural Investigations Company


Riverine
Riverine
Riverine
Riverine
Riverine
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Riverine
Riverine
Riverine
Riverine

APPENDIX 1: USFWS SPECIES LIST

United States Department of the Interior

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

In Reply Refer To: February 03, 2021
Consultation Code: 08ESMF00-2021-SLI-0918
Event Code: 08ESMF00-2021-E-02592
Project Name: 19955 Grange Road

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

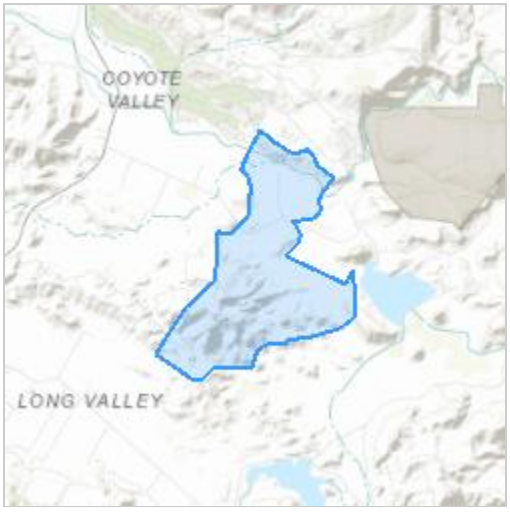
This project's location is within the jurisdiction of offices which do not participate in IPaC's automated species list delivery. Please contact the following offices directly for more information:

Red Bluff Fish And Wildlife Office
10950 Tyler Road
Red Bluff, CA 96080-7762
(530) 527-3043

Project Summary

Consultation Code: 08ESMF00-2021-SLI-0918
Event Code: 08ESMF00-2021-E-02592
Project Name: 19955 Grange Road
Project Type: ** OTHER **
Project Description: Bio Assessment
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.7661955,-122.53836948138223,14z



Counties: Lake County, California

Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list.

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

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

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

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

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina*	Threatened

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

Reptiles

NAME	STATUS
Green Sea Turtle *Chelonia mydas*	Threatened

Population: East Pacific DPS
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6199

Amphibians

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

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

Fishes

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

Crustaceans

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

Flowering Plants

NAME	STATUS
Burke's Goldfields *Lasthenia burkei* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Lake County Stonecrop *Parvisedum leiocarpum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2263	Endangered
Many-flowered Navarretia *Navarretia leucocephala ssp. plieantha* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2491	Endangered
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

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

APPENDIX 2: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Appendix 2:
Plants Observed at 19955 Grange Road, Middletown on February 8-9, 2021

Common Name	**Scientific Name**
Deerweed	*Acmispon glaber*
Chamise	*Adenostoma fasciculatum*
White alder	*Alnus rhombifolia*
Red root pigweed	*Amaranthus retroflexus*
Common fiddleneck	*Amsinckia menziesii*
Common manzanita	*Arctostaphylos manzanita ssp. manzanita*
California mugwort	*Artemisia douglasiana*
Narrowleaf milkweed	*Asclepias fascicularis*
Milkweed	*Asclepias sp.*
California lace fern	*Aspidotis californica*
Slender wild oat	*Avena barbata*
Wild oat	*Avena fatua*
Coyote brush	*Baccharis pilularis*
Mule fat	*Baccharis salicifolia*
Brodiaea	*Brodiaea sp.*
California brome	*Bromus carinatus*
Ripgut brome	*Bromus diandrus*
Soft chess	*Bromus hordeaceus*
Western morning glory	*Calystegia occidentalis*
Western bittercress	*Cardamine oligosperma*
Italian thistle	*Carduus pycnocephalus*
Santa Barbara sedge	*Carex barbarae*
Torrent sedge	*Carex nudata*
Wedge leaf ceanothus	*Ceanothus cuneatus*
Deerbrush	*Ceanothus integerrimus var. macrothyrsus*
Yellow star thistle	*Centaurea solstitialis*
Birchleaf mountain mahogany	*Cercocarpus betuloides*
Wavy leaf soap plant	*Chlorogalum pomeridianum*
Chicory	*Cichorium intybus*
Bull thistle	*Cirsium vulgare*
Clarkia	*Clarkia sp.*
Miner’s lettuce	*Claytonia perfoliata*
Pipestems	*Clematis lasiantha*
Dove weed	*Croton setiger*
Swamp grass	*Crypsis schoenoides*
Bermuda grass	*Cynodon dactylon*
Dogtail grass	*Cynosurus echinoides*
Tall flatsedge	*Cyperus eragrostis*
Wild hyacinth	*Dichelostemma sp.*
Bush monkeyflower	*Diplacus aurantiacus*
Pale spikerush	*Eleocharis macrostachya*

Common Name	Scientific Name
Spikerush	*Eleocharis sp.*
Medusa-head grass	*Elymus caput-medusae*
Blue wildrye	*Elymus glaucus*
Ryegrass	*Elymus sp.*
Creeping ryegrass	*Elymus triticoides*
Tall willowherb	*Epilobium brachycarpum*
Torrey's willowherb	*Epilobium torreyi*
Canada horseweed	*Erigeron canadensis*
Yerba santa	*Eriodictyon californicum*
Buckwheat	*Eriogonum sp.*
Wooly sunflower	*Eriophyllum lanatum*
Filaree	*Erodium botrys*
Red-stemmed filaree	*Erodium cicutarium*
Jepson's button celery	*Eryngium aristulatum var. aristulatum*
California poppy	*Eschscholzia californica*
Poppy	*Eschscholzia sp.*
Thyme-leaved spurge	*Euphorbia serpyllifolia*
Pacific fescue	*Festuca microstachys*
Italian ryegrass	*Festuca perennis*
California coffeeberry	*Frangula californica*
Bedstraw	*Galium aparine*
Bedstraw	*Galium sp.*
Chaparral silktassel	*Garrya congdonii*
Hairy gumplant	*Grindelia hirsutula*
Toyon	*Heteromeles arbutifolia*
Oregon false goldenaster	*Heterotheca oregona*
Shortpod mustard	*Hirschfeldia incana*
Wand tarplant	*Holocarpha virgata*
Meadow barley	*Hordeum brachyantherum*
Mediterranean barley	*Hordeum marinum ssp. gussoneanum*
Wall barley	*Hordeum murinum*
Iris	*Iris sp.*
Northern California black walnut	*Juglans hindsii*
Mexican rush	*Juncus mexicanus*
Rush	*Juncus sp.*
Bush beardtongue	*Keckiella breviflora*
Sharp-leaved fluellin	*Kickxia elatine*
Prickly lettuce	*Lactuca serriola*
Lomatium	*Lomatium spp.*
Pink honeysuckle	*Lonicera hispidula*
Chaparral honeysuckle	*Lonicera interrupta*
Bird's-foot trefoil	*Lotus corniculatus*
Miniature lupine	*Lupinus bicolor*
Lupine	*Lupinus sp.*

Common Name	Scientific Name
California loosestrife	*Lythrum californicum*
Tarplant	*Madia sp.*
California man-root	*Marah fabacea*
Horehound	*Marrubium vulgare*
Sweetclover	*Melilotus sp.*
Giant blazingstar	*Mentzelia laevicaulis*
Coyote mint	*Monardella villosa*
Navarretia	*Navarretia sp.*
Bird's-foot cliff brake	*Pellaea mucronata*
Goldback fern	*Pentagramma triangularis*
Phacelia	*Phacelia sp.*
Gray pine	*Pinus sabiniana*
Popcornflower	*Plagiobothrys sp.*
English plantain	*Plantago lanceolata*
Douglas' mesamint	*Pogogyne douglasii*
Rabbit's-foot grass	*Polypogon monspeliensis*
California scrub oak	*Quercus berberidifolia*
Blue oak	*Quercus douglasii*
Leather oak	*Quercus durata*
California black oak	*Quercus kelloggii*
Valley oak	*Quercus lobata*
Interior live oak	*Quercus wislizeni var. wislizeni*
Prickleseed buttercup	*Ranunculus muricatus*
Western buttercup	*Ranunculus occidentalis*
Buttercup	*Ranunculus sp.*
Himalayan blackberry	*Rubus armeniacus*
Elmleaf blackberry	*Rubus ulmifolius*
Curly dock	*Rumex crispus*
Fiddleleaf dock	*Rumex pulcher*
Sandbar willow	*Salix exigua*
Red willow	*Salix laevigata*
Arroyo willow	*Salix lasiolepis*
Blue elderberry	*Sambucus nigra ssp. caerulea*
Purple sanicle	*Sanicula bipinnatifida*
Pacific sanicle	*Sanicula crassicaulis*
Milk thistle	*Silybum marinum*
Blue-eyed grass	*Sisyrinchium bellum*
Sow thistle	*Sonchus oleraceus*
Red sandspurry	*Spergularia rubra*
Hedge nettle	*Stachys sp.*
Chickweed	*Stellaria media*
Common snowberry	*Symphoricarpos albus*
Tall sock-destroyer	*Torilis arvensis*
Poison-oak	*Toxicodendron diversilobum*

Common Name	Scientific Name
Death camas	*Toxicoscordion sp.*
Clover	*Trifolium sp.*
Triplet lily	*Triteleia sp.*
California bay	*Umbellularia californica*
Moth mullein	*Verbascum blattaria*
Common mullein	*Verbascum thapsus*
Spring vetch	*Vicia sativa*
Winter vetch	*Vicia villosa*
California grape	*Vitis californicus*
Smooth mule ears	*Wyethia glabra*
Cocklebur	*Xanthium strumarium*
Nemophila	*Nemophila sp.*

	Fiddleleaf dock	*Rumex pulcher*

APPENDIX 3: SITE PHOTOS









































BOTANICAL SURVEY REPORT
FOR THE
CANNABIS CULTIVATION OPERATION AT
19955 GRANGE ROAD, MIDDLETOWN, CALIFORNIA

June 7, 2021

Prepared by:

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1. PROJECT LOCATION AND DESCRIPTION

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of fifty-six (56) A-Type 3 "Medium Outdoor" cultivation areas, with a combined cultivation/canopy area of 2,700,720 square feet (62 acres). Additionally, Rancho Lake is applying for an Early Activation of Use Permit for 871,200 square feet (20 acres) of the total proposed 2,700,720 square foot cultivation/canopy area. The total cultivation area of the proposed cannabis cultivation operation (as defined in Chapter 21, Article 27 of the Lake County Code), including the combined cultivation/canopy area(s), a 120 square foot Security Center/Shed, and a 160 square foot Pesticides & Agricultural Chemicals Storage Area, is 2,440,000 square feet.

The Project Property is composed of five parcels totaling approximately 1,246 acres (Lake County APNs 014-290-08 & 12 and 014-300-02, 03, & 04), all of which are owned by the Comstock Family Trust. James Comstock (Managing Member of the Comstock Family Trust) has given Rancho Lake permission to establish the proposed cultivation operation and conduct the proposed cannabis cultivation activities once the appropriate permits and licenses have been obtained. The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger on October 30th, 2020. The proposed cultivation operation will be established in areas of the Project Property that have been used for cattle grazing, continuously since at least the early 1900s.

6-foot tall wire fences will be erected around the proposed outdoor cultivation/canopy area(s), with privacy mesh where necessary to screen the cultivation/canopy area(s) from public view. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from two existing onsite groundwater wells located at: Latitude 38.77631°; Longitude -122.52444° and Latitude 38.77697°; Longitude -122.52711°. Water from these two groundwater wells will be stored within thirty (30) proposed 5,000-gallon water storage tanks located directly adjacent to the proposed cultivation/canopy area(s).

Only outdoor cannabis cultivation, harvesting, and preservation activities will be conducted onsite. Cannabis cultivated on and harvested from the Project Parcel, will be dried within temporary drying facilities, then transported to State of California-licensed processing and manufacturing facilities for processing and/or extraction.

For this assessment, the Project Area was defined as the cultivation area plus the ancillary facilities, and this 63-acre area was the subject of the impact analysis.

2. BIOLOGICAL SETTING

The Property is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Property and vicinity is in Climate Zone 7 - California's Gray Pine Belt, defined by hot summers and mild but pronounced winters without severe winter cold or high humidity (Sunset, 2020).

The topography of the Property is mountainous, with flat valleys at the base of the slopes. The elevation ranges from approximately 930 feet to 1,710 feet above mean sea level. Drainage runs north, and eventually flows into Putah Creek. The Project Property is located in the eastern half of the Coyote Valley, within the Crazy Creek - Putah Creek Watershed. Putah Creek, a perennial Class I watercourse, flows from west to east through the northernmost portion of the Project Property. Crazy Creek, an

intermittent Class II watercourse, flows from west to east through the northwest portion of the Project Property and into Putah Creek. Multiple unnamed intermittent Class III watercourses flow generally from south to north, through the Project Property, and into Putah Creek. A large complex wetland occupies floor of a valley in the southern half of the Project Property (over 1000 feet from the proposed cultivation operation). There are four culverted Class III watercourse crossings of Grange Road and Comstock Ranch Road, used to access the Project Parcel. No cannabis cultivation activities nor agricultural chemicals storage will occur within 150 feet of any surface waterbody, and no ground disturbance is proposed within 100 feet of any wetland or channel.

Current and past land uses of the Property are rural residential with intensive and extensive agriculture. The Property has been improved with three groundwater wells, a residence, and three accessory ag structures/buildings (used to store hay, tools, and equipment, and to house livestock). The proposed cultivation operation will be established in areas of the Property that have been used for cattle grazing, continuously since at least the early 1900s. The surrounding land uses are private estates, vineyards, open space, and grazing land.

3. SURVEY METHODOLOGY

Survey methodology followed the following protocols:

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

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

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

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

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

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

The following reference sites were visited: Deemed not necessary.

3.2. FIELD SURVEYS

Dates of botanical field surveys (indicating the botanical field surveyor(s) that surveyed each area on each survey date), and total person-hours spent: Tim Nosal, MS., February 8 and 9, 2021, full days; Kevin Downing; April 21, 2021, half day, and June 3, 2021, half day.

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

Description of Survey Area: The survey area was the Project Area plus a buffer of several hundred feet.

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

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

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

3.3. MAPPING AND OTHER ANALYSES

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

3.4. Previous Studies

The following previous studies have been performed:

- Natural Investigations Co. 2021. Biological Resources Assessment for the Cannabis Cultivation Operation at 19955 Grange Road, Middletown, California.

Natural Investigations Company conducted a botanical survey during the biological resources assessment. No special-status plant species were detected within the Project Area or the surrounding Property.

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

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

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

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

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

- 71.000.00 Oak Woodlands and Forests
- 41.xxx.xx Native Grassland

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

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

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

The databases were queried and any reported occurrences of special-status species were plotted in relation to the Project Area boundary using GIS software (see exhibits). The CNDDB reported the following special-status species occurrences within the Property: Mt. Saint Helena morning glory (*Calystegia collina* ssp. *oxyphylla*). The precise location of the Mt. Saint Helena morning glory is not known; however, suitable serpentine soils are found in the southern portion of the Study Area.

Within a 10-mile buffer of the Property boundary, the CNDDB reported several special-status species occurrences, summarized in the Appendix.

No special status plants or animals were observed within the Study Area. The CNDDB has reported an occurrence of Mt. Saint Helena morning glory *(Calystegia collina ssp. oxyphylla)*, a serpentine endemic, within the Study Area. Volcanic and serpentine soils are present within the oak woodland and chaparral habitats of the Study Area. Special status plants reported by CNDDB to occur in the region, including Mt. Saint Helena morning glory, are known to occur on these substrates and therefore have a moderate to high potential for occurrence within the Study Area. Wetlands are also present within the Study Area. Special status plants may occur in wetlands. No wetlands, volcanic soils or serpentine soils are found within the Project Area. The Project Area is located within annual grasslands found on upland alluvial soils. Due to the dominance of aggressive non-native grasses and forbs, the Project Area has a low probability for special status plant occurrence.

4. RESULTS

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

All plant taxa detected during the botanical field survey are listed in the Appendix.

During the botanical field survey, no special-status plant taxa were detected within the Project Area.

Deposition locations of voucher specimens: n/a

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

General vegetation communities occurring in the Project Area and surrounding Property boundary were mapped (see Exhibits). More specifically, the following terrestrial natural communities occur in the Project Area (as categorized by CDFW 2019):

- 42.040.000 California Annual Grassland
    - 42.026.09 California Annual Grassland *Bromus hordeaceus-Erodium botrys*
    - 42.026.19 California Annual Grassland *Bromus hordeaceus-Vicia villosa-Trifolium hirtum*
- 11300 Disturbed Habitat
- 12000 Urban/Developed

During the botanical field survey, no sensitive vegetation communities were detected within the Project Area.

4.3. Adequacy of Botanical Field Survey(s)

Potential for a false negative botanical field survey: A false negative is highly unlikely since early, mid, and late-season botanical field surveys were performed.

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

Did the timing of botanical field surveys affect the comprehensiveness of botanical field surveys?

The botanical survey effort was very comprehensive; early, mid, and late-season botanical field surveys were performed.

5. POTENTIAL PROJECT IMPACTS

5.1. Special-status Plant Populations

No special-status species were detected within the survey area. Special-status species are more likely to occur in sensitive and rare habitats, which are lacking in the Project Area. Special status plants also have a moderate to high potential to occur within the wetlands of the Property. However, the cannabis cultivation / operation areas are at least 150 feet away from Putah Creek (Class I watercourse) and 100 feet away from other watercourses and wetlands. Special status plants have a moderate to high potential to occur on the serpentine and volcanic soils of the chaparral and oak woodland habitats of the Property. The Project Areas are located in non-native annual grassland habitat, which will be impacted by project

implementation. The annual grasslands have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. No serpentine or volcanic soils are found within the Project Area. No impacts to special-status plant species were identified from project implementation. Nevertheless, another botanical field survey is planned later in the blooming season to ensure that no special-status plant populations are present. Thus, implementation of the proposed project will not directly impact any known special status plant population.

Indirect impacts could occur from the loss of suitable habitat for regionally-occurring special-status species. The Project Area contains the following general habitat types: non-native annual grassland; and urbanized. Agricultural activities have degraded the habitat quality in the Project Area. The Project Area contains no sensitive habitats or aquatic habitats such as wetlands or channels. The majority of regionally-occurring special-status species occur in these sensitive habitat types, which were avoided in project design of cultivation compound locations.

Some regionally-occurring special-status species can utilize the habitat types in the Project Area. However, project implementation will have a less-than significant impact upon habitat loss for regionally-occurring special-status species for numerous reasons. The ground disturbance will occur on only 10 to 5 percent of the Property. This leaves the vast majority of the natural habitats undisturbed on the Property. Cattle grazing and other agricultural activities have degraded the habitat quality in the Project Area, making it less suitable for special-status species. Finally, the majority of regionally-occurring special-status species require habitat types that will not be disturbed, such as riparian, wetland, chaparral, and serpentine soil. For these reasons, project implementation will have a less than significant indirect or cumulative impact upon special-status species.

5.2. Sensitive Natural Communities

The Project Area does not contain any sensitive natural community type. Project implementation will have a less-than significant impact upon sensitive natural communities for numerous reasons. The majority of sensitive natural communities of the Property (riparian, open water, chaparral, serpentine soils, channels and wetlands) were avoided in project design of cultivation compound locations, including aquatic buffers of at least 100 feet. Although project implementation will disturb some annual grassland communities, the majority of grassland communities on the Property will not be disturbed or involved in the project. For these reasons, project implementation will have a less than significant impact (direct, indirect, and cumulative) upon sensitive natural communities.

6. MITIGATION MEASURES / RECOMMENDATIONS

The project proponents and cultivators implemented mitigation by design. Mitigation has been employed in the design phase by inventorying sensitive habitats and water resources on the Property and then avoiding all sensitive habitats in selection of cultivation compound locations and sizes. The cultivation compounds were designed with minimum of 100-foot setbacks from all aquatic habitats (ponds, channels and wetlands). The project design also includes vegetative buffers between cultivation compounds and sensitive habitats, and an erosion control plan and pollution prevention plan will be implemented. For these reasons, no additional mitigation measures are deemed necessary.

No additional botanical surveys are deemed necessary.

7. QUALIFICATIONS OF BOTANICAL FIELD SURVEYORS AND REPORT AUTHORS

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

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

MARGRIET WETHERWAX DOWNING, M.S. (Plant ID Only)
Ms. Wetherwax Downing holds a Master's Degree in Advanced Plant Systematics and a Bachelor of Science in Botany. From 1995 to the present, Ms. Wetherwax has been employed at the Jepson Herbarium (University of California at Berkeley) as a plant taxonomist and museum scientist. Ms. Wetherwax Downing is managing editor and illustration editor of the *Jepson Flora Project* and *The Jepson Desert Manual*, as well as a contributing author to *The Jepson Manual: Higher Plants of California and the Flora of North America North of Mexico Project*.

KEVIN DOWNING, B.A.
Mr. Downing earned his Bachelors at Whitman College, Walla Walla, Washington, and has been botanizing since 1993. He has participated in the revision and update of the Jepson Manual since 1994. Mr. Downing was employed by the U.C. Berkeley Jepson Herbarium from 2001-2002 where he helped prepare and execute taxonomic workshops as well as assisted in plant inventory and data processing. He continues to volunteer for the UC Berkeley Jepson Herbarium on various taxonomic projects. Employed by Jones and Stokes from 2004 to 2007 as a botanist, he worked on large-scale projects such as Fort Tejon Ranch, the Williams pipeline in Oregon, and the California High Speed Rail, and on numerous short-term projects in a consulting capacity. Mr. Downing was employed by the California Department of Food and Agriculture from 2007-2009, where he worked at the CDFA Herbarium doing database processing and plant curation. Mr. Downing continues to work in a consulting capacity as botanist on various projects.

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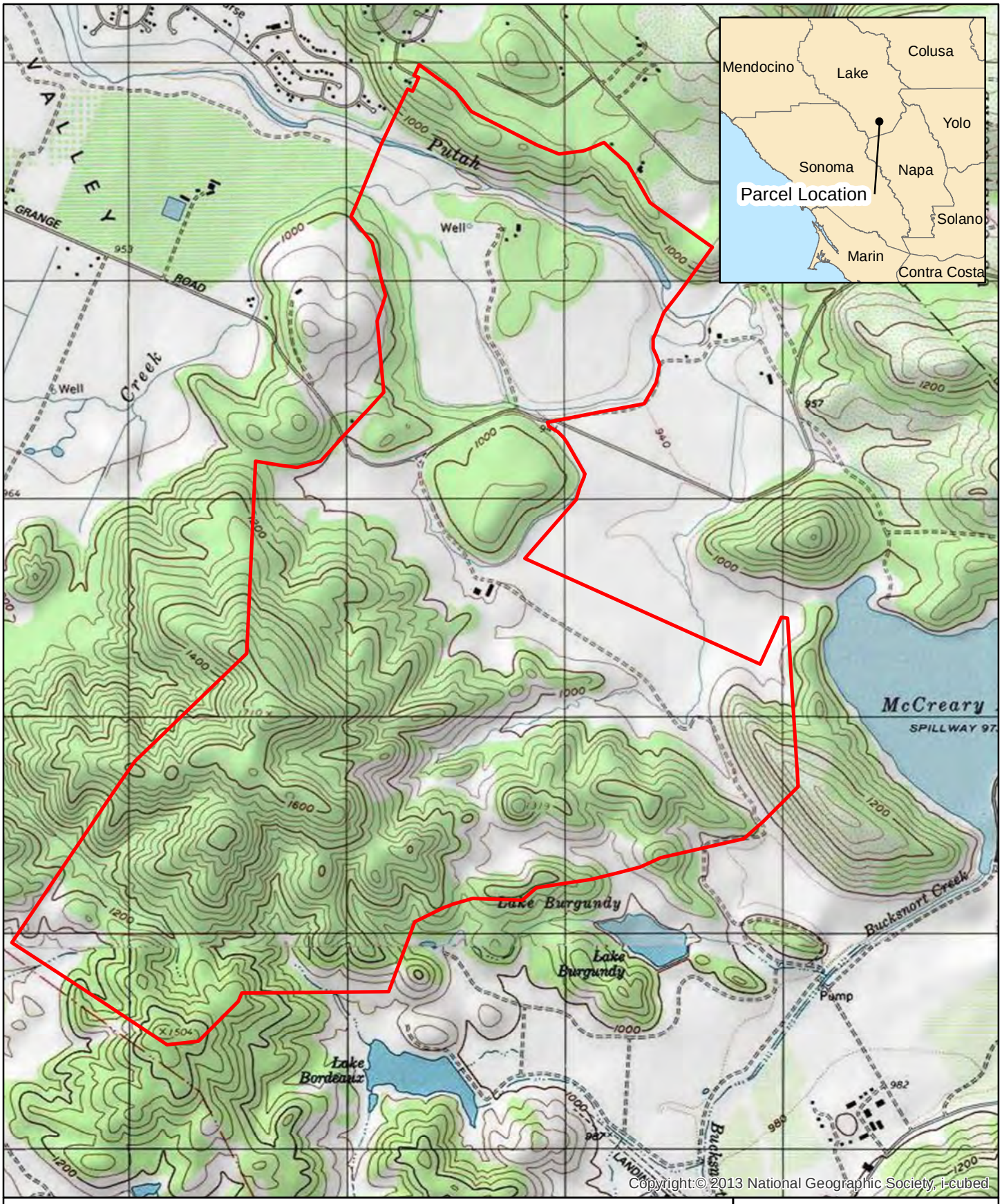
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EXHIBITS



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

1:24,000

19955 Grange Road Parcel Location Map

Natural Investigations Company

Map Date 2/3/2021

Middletown 1998 Quadrangle:Township 11N and 10N, Range 6W, Unsectioned Guenoc
Detert Reservoir 1997 Quadrangle:Township 10N, Range 6W, Unsectioned Guenoc



VICINITY MAP
NO SCALE

--
19955 GRANGE ROAD
MIDDLETOWN, CA 95461
APNs:014-290-08 & 12 AND
014-300-02, 03, & 04

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

Ⓐ (E) GROUNDWATER WELL
LAT: 38.77631°
LONG: -122.52444°
BENEFICIAL USES: IRRIGATION

Ⓑ (E) GROUNDWATER WELL
LAT: 38.77697°
LONG: -122.52711°
BENEFICIAL USES: IRRIGATION

Ⓒ (E) 18 ACRE OUTDOOR CULTIVATION / CANOPY AREA

Ⓓ (P) 38 ACRE OUTDOOR CULTIVATION / CANOPY AREA

PROPOSED CONDITIONS
SITE PLAN – PHASE II

GRAPHIC SCALE
700 0 350 700
(IN FEET)
1 inch = 700 ft.

Revisions:

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

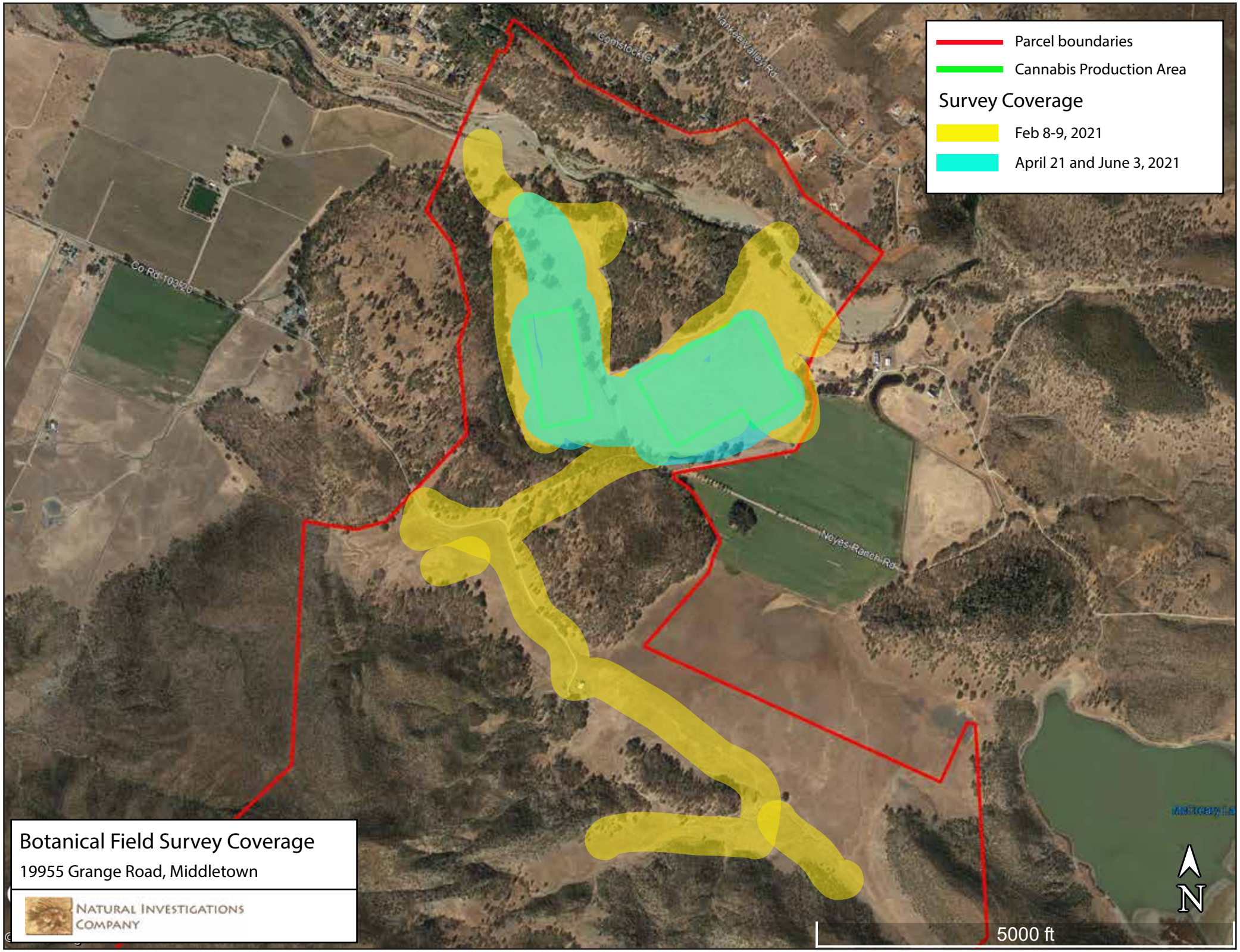
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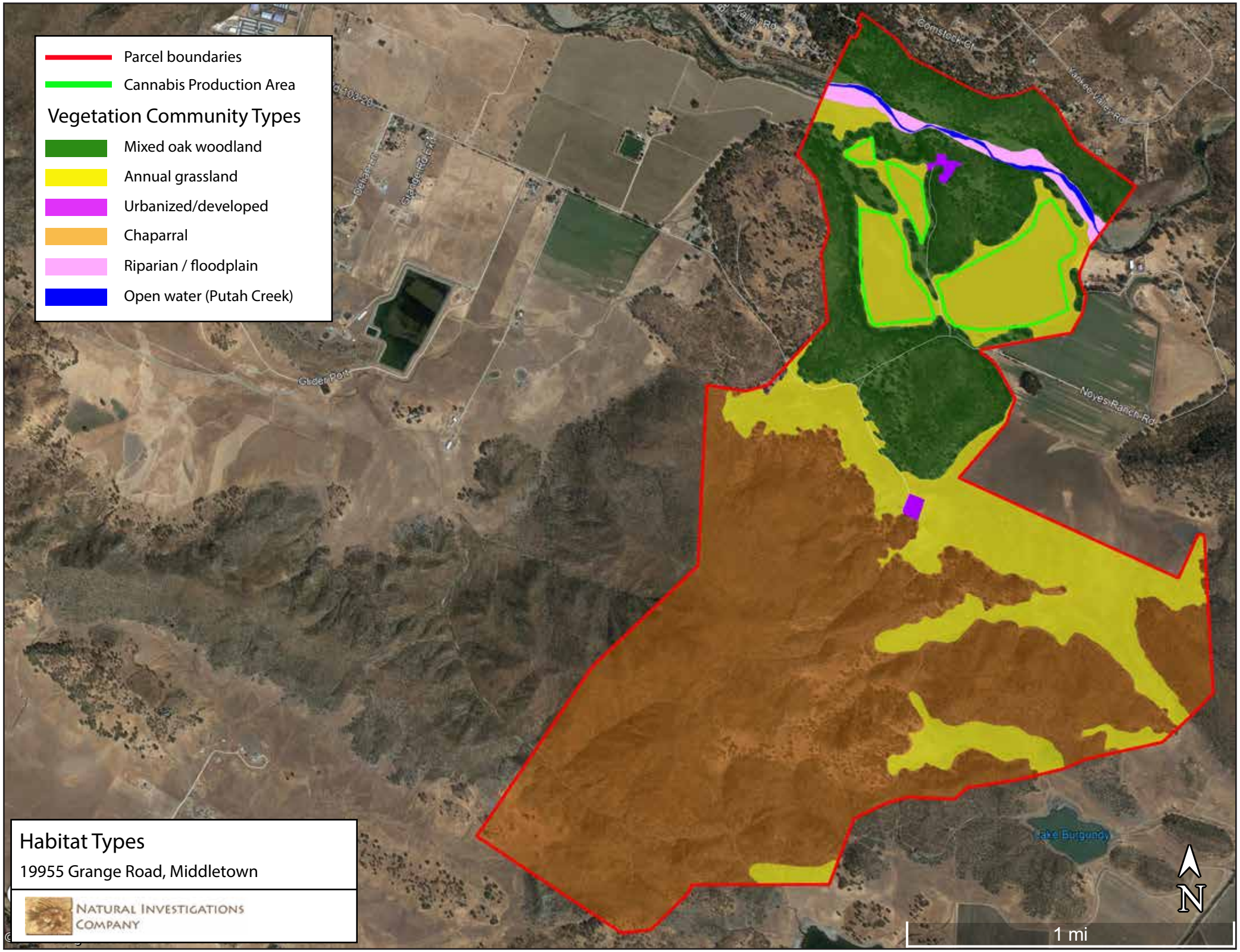
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JASON B. VINE
No. 67800
EXP. 06/30/21
CIVIL
STATE OF CALIFORNIA

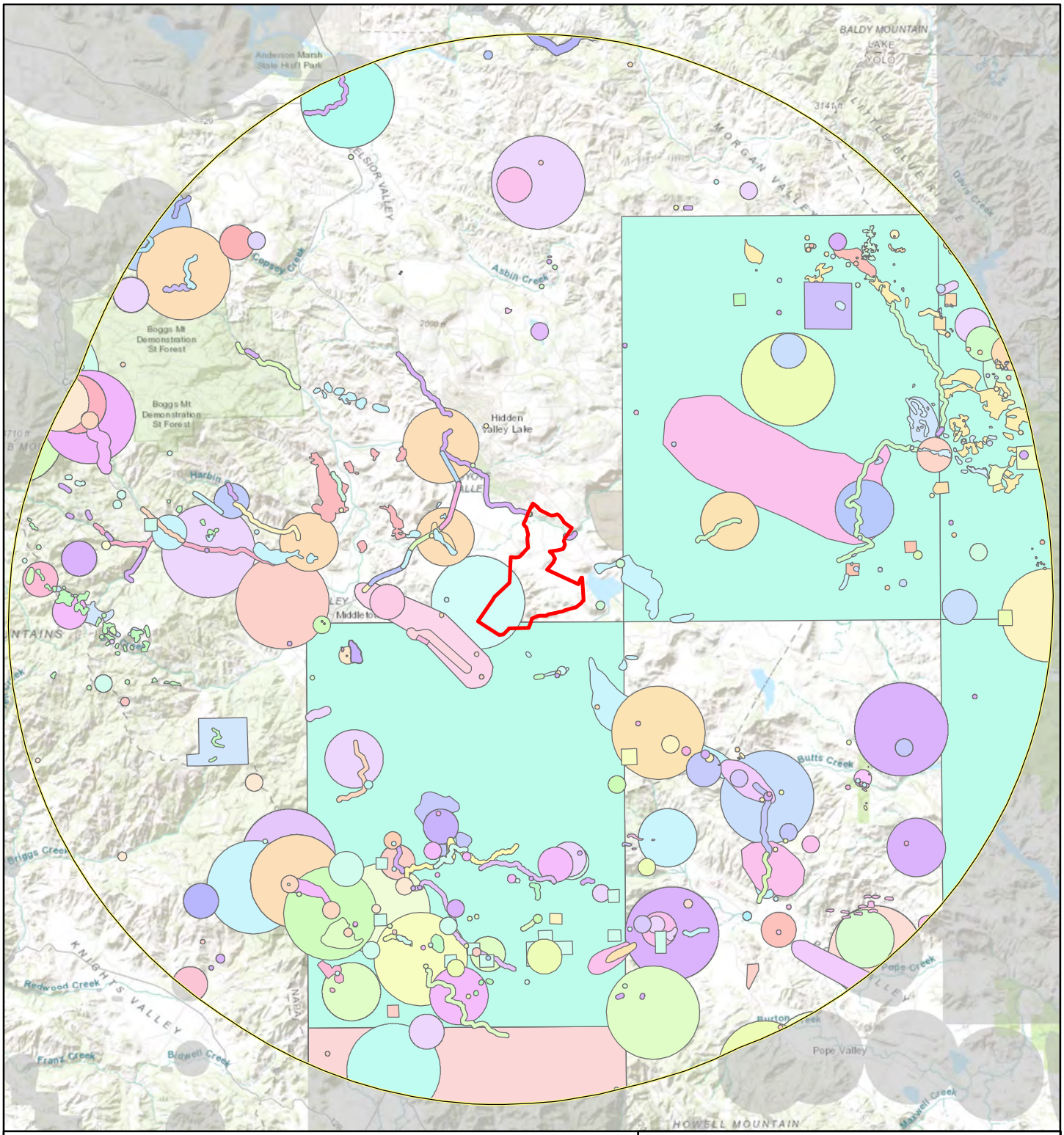
PROPOSED CONDITIONS SITE PLAN - PHASE II

19955 GRANGE RD.
MIDDLETOWN, CA 95461
LAKE COUNTY
APNs:014-290-08 & 12 AND 014-300-02, 03, & 04

PLOTTED BY: ---
DATE PLOTTED: 2/28/21
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1


Parcel boundaries
Cannabis Production Area
Survey Coverage
Feb 8-9, 2021
April 21 and June 3, 2021
Comstock Rd
Yankee Valley Rd
Co Rd 103/20
Noyes Ranch Rd
Botanical Field Survey Coverage
19955 Grange Road, Middletown
Natural Investigations Company
N
5000 ft


Parcel boundaries
Cannabis Production Area
Vegetation Community Types
Mixed oak woodland
Annual grassland
Urbanized/developed
Chaparral
Riparian / floodplain
Open water (Putah Creek)
Habitat Types
19955 Grange Road, Middletown
Natural Investigations Company
Comstock Ct
Glider Port
Noyes Ranch Rd
Lake Burgundy
N
1 mi



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

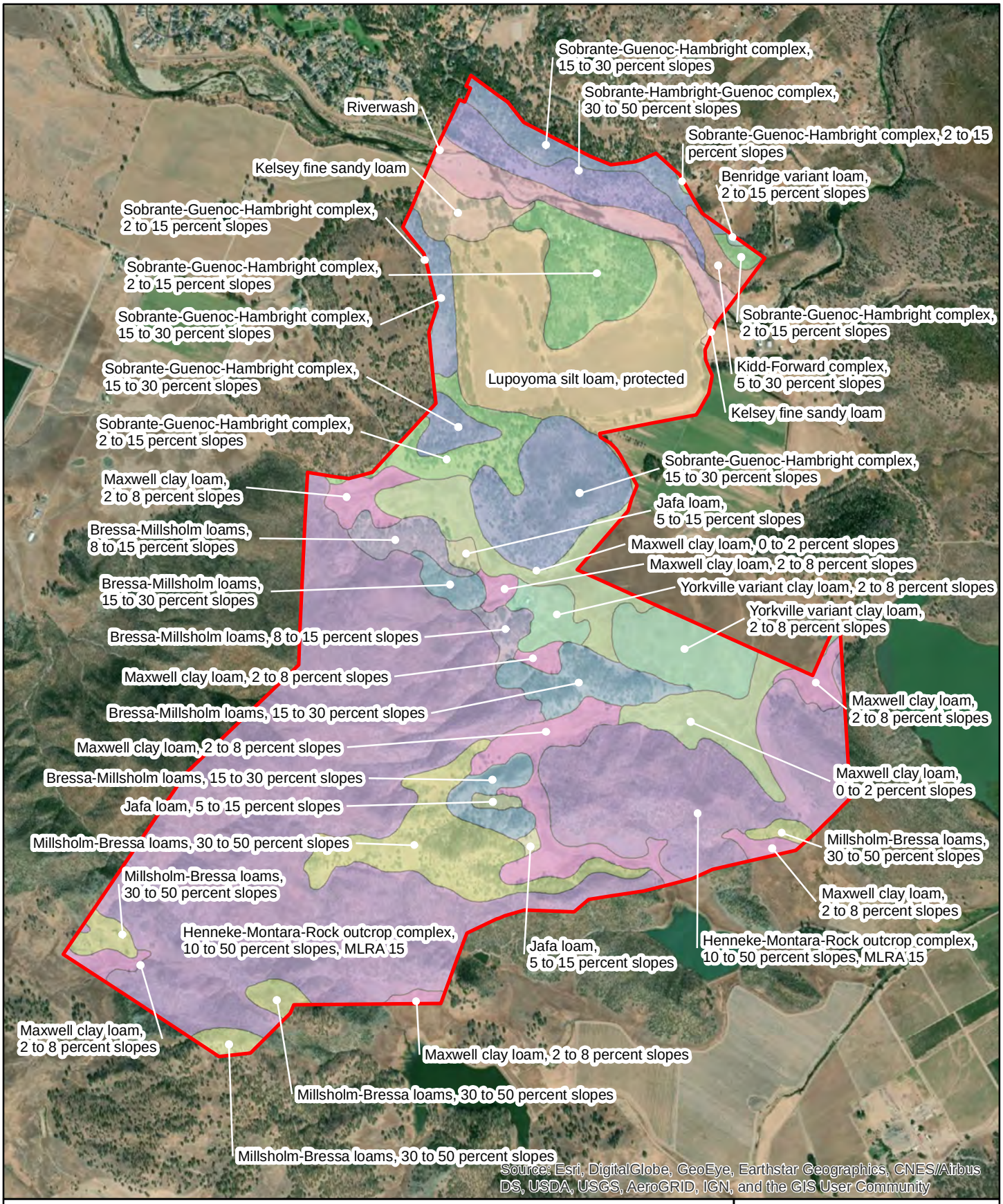
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.Data Sources: California Department of Fish and Wildlife. 2021. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California. (updated monthly by subscription service)

Special-Status Species Occurrences Map

19955 Grange Road

Middletown 1998 Quadrangle:Township 11N and 10N, Range 6W, Unsectioned Guenoc
Detert Reservoir 1997 Quadrangle:Township 10N, Range 6W, Unsectioned Guenoc

NATURAL INVESTIGATIONS CO.
www.NaturalInvestigations.com



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

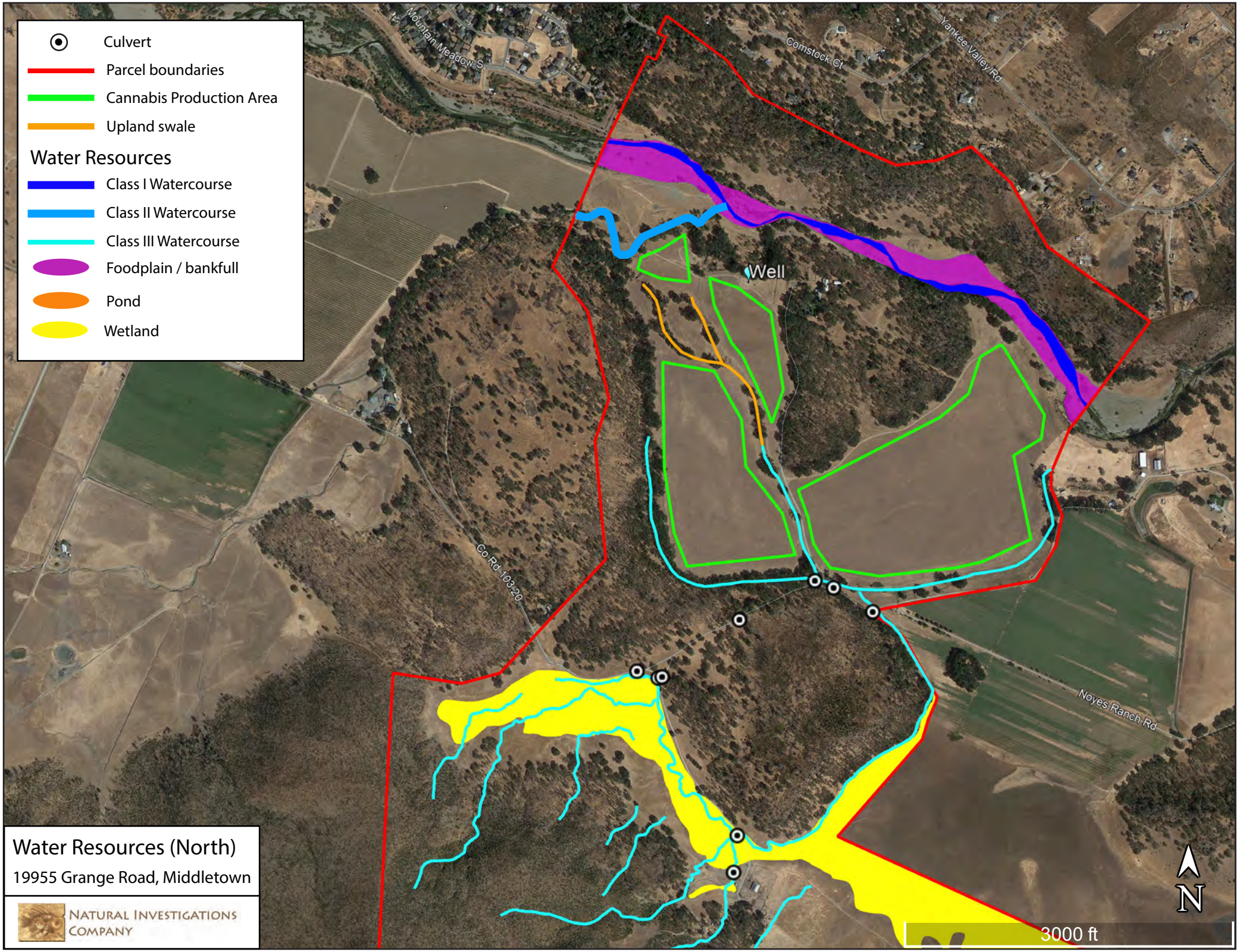
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19955 Grange Road
USDA Soils Map

Natural Investigations Company

Map Date 2/3/2021

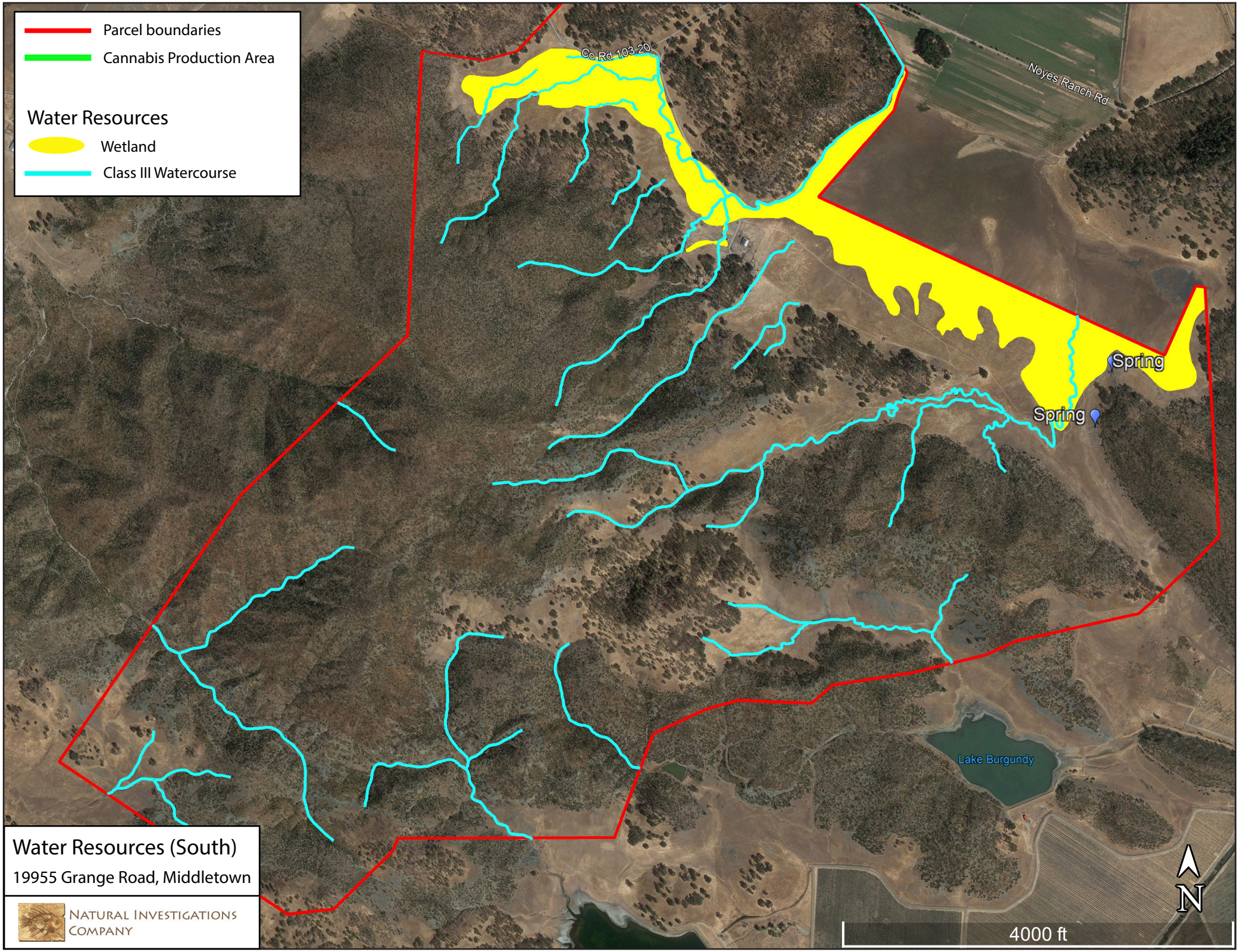
Middletown 1998 Quadrangle:Township 11N and 10N, Range 6W, Unsectioned Guenoc
Detert Reservoir 1997 Quadrangle:Township 10N, Range 6W, Unsectioned Guenoc



Water Resources (North)

19955 Grange Road, Middletown

Natural Investigations Company



Water Resources (South)

19955 Grange Road, Middletown

Natural Investigations Company

APPENDIX: CNDDB AND CNPS SPECIES LISTS

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

Common Name Scientific Name	Status*	General Habitat**	Microhabitat**
Toren's grimmia *Grimmia torenii*	1B.3	Chaparral; Cismontane woodland; Lower montane coniferous forest; Limestone	Openings, rocky, boulder and rock walls, serpentine, volcanic. 325-1160 m.
Elongate copper moss *Mielichhoferia elongata*	4.3	Cismontane woodland	Moss growing on very acidic, metamorphic rock or substrate; usually in higher portions in fens. Often on substrates naturally enriched with heavy metals (e.g. copper) such as mine tailings. 5-1085 m.
Loch Lomond button-celery *Eryngium constancei*	FE/CE/1B.1	Vernal pool; Wetland	Volcanic ash flow vernal pools. 460-855 m.
Jepson's coyote-thistle *Eryngium jepsonii*	1B.2	Valley & foothill grassland; Vernal pool	Clay. 3-305 m.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Sometimes on serpentine. 35-1465 m.
Greene's narrow-leaved daisy *Erigeron greenei*	1B.2	Chaparral; Ultramafic	Serpentine and volcanic substrates, generally in shrubby vegetation. 90-835 m.
Congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	1B.2	Valley & foothill grassland	Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 5-520 m.
Pappose tarplant *Centromadia parryi ssp. parryi*	1B.2	Chaparral; Coastal prairie; Meadow & seep; Marsh & swamp; Valley & foothill grassland	Vernally mesic, often alkaline sites. 1-500 m.
Burke's goldfields *Lasthenia burkei*	FE/CE/1B.1	Meadow & seep; Vernal pool; Wetland	Most often in vernal pools and swales. 15-580 m.
Colusa layia *Layia septentrionalis*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 15-1100 m.
Hall's harmonia *Harmonia hallii*	1B.2	Chaparral; Ultramafic	Serpentine hills and ridges. Open, rocky areas within chaparral. 335-945 m.
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Coastal bluff scrub; Cismontane woodland; Valley & foothill grassland	3-795 m.
Serpentine cryptantha *Cryptantha dissita*	1B.2	Chaparral; Ultramafic	Serpentine outcrops. 135-735 m.
Calistoga popcornflower *Plagiobothrys strictus*	FE/CT/1B.1	Meadow & seep; Valley & foothill grassland; Vernal pool; Wetland	Alkaline sites near thermal springs and on margins of vernal pools in heavy, dark, adobe-like clay. 90-125 m.
Freed's jewelflower *Streptanthus brachiatus ssp. hoffmanii*	1B.2	Chaparral; Cismontane woodland; Ultramafic	Serpentine rock outcrops, primarily in geothermal development areas. 485-1040 m.
Socrates Mine jewelflower *Streptanthus brachiatus ssp. brachiatus*	1B.2	Closed-cone coniferous forest; Chaparral; Ultramafic	Serpentine areas and serpentine chaparral. 605-1950 m.
Three Peaks jewelflower	1B.2	Chaparral; Ultramafic	Serpentine barrens, outcrops, and talus; 240-735 m.

Streptanthus morrisonii ssp. elatus			
Kruckeberg's jewelflower *Streptanthus morrisonii ssp. kruckebergii*	1B.2	Cismontane woodland; Ultramafic	Scattered serpentine outcrops near the lake/napa county line. 240-665 m.
Early jewelflower *Streptanthus vernalis*	1B.2	Closed-cone coniferous forest; Chaparral; Ultramafic	On serpentine.
Green jewelflower *Streptanthus hesperidis*	1B.2	Chaparral; Cismontane woodland; Ultramafic	Openings in chaparral or woodland; serpentine, rocky sites. 240-765 m.
Cascade downingia *Downingia willamettensis*	2B.2	Cismontane woodland; Valley & foothill grassland; Vernal pool	Lake margins. 15-1110 m.
Legenere *Legenere limosa*	1B.1	Vernal pool; Wetland	In beds of vernal pools. 1-1005 m.
Mt. Saint Helena morning-glory *Calystegia collina ssp. oxyphylla*	4.2	Chaparral; Lower montane coniferous forest; Ultramafic; Valley & foothill grassland	On serpentine barrens, slopes, and hillsides. 280-1010 m.
Lake County stonecrop *Sedella leiocarpa*	FE/CE/1B.1	Cismontane woodland; Valley & foothill grassland; Vernal pool; Wetland	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 515-640 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral; Cismontane woodland; Lower montane coniferous forest	Volcanic soils. 225-1830 m.
Napa false indigo *Amorpha californica var. napensis*	1B.2	Broadleaved upland forest; Chaparral; Cismontane woodland	Openings in forest or woodland or in chaparral. 30-735 m
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	1B.2	Cismontane woodland; Ultramafic; Valley & foothill grassland	Commonly on serpentine in grassland or openings in chaparral. 175-1005 m.
Cobb Mountain lupine *Lupinus sericatus*	1B.2	Broadleaved upland forest; Chaparral; Cismontane woodland; Lower montane coniferous forest; Ultramafic	In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine. 120-1390 m.
Saline clover *Trifolium hydrophilum*	1B.2	Marsh & swamp; Valley & foothill grassland; Vernal pool; Wetland	Mesic, alkaline sites. 1-335 m.
Napa bluecurls *Trichostema ruygtii*	1B.2	Chaparral; Cismontane woodland; Lower montane coniferous forest; Valley & foothill grassland; Vernal pool; Wetland	Often in open, sunny areas. Also has been found in vernal pools. 30-680 m.
Woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	4.2	Chaparral; Cismontane woodland; Valley & foothill grassland; Vernal pool; Wetland	Vernally wet areas, ditches, and ponds. 60-1335 m.
Two-carpellate western flax *Hesperolinon bicarpellatum*	1B.2	Chaparral; Ultramafic	Serpentine barrens at edge of chaparral. 175-825 m.
Lake County western flax *Hesperolinon didymocarpum*	CE/1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Serpentine soil in open grassland and near chaparral. 325-400 m.
Drymaria-like western flax *Hesperolinon drymarioides*	1B.2	Closed-cone coniferous forest; Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Serpentine soils, mostly within chaparral. 400-1100 m.
Sharsmith's western flax *Hesperolinon sharsmithiae*	1B.2	Chaparral; Ultramafic	Serpentine substrates. 180-670 m.

Keck's checkerbloom *Sidalcea keckii*	FE/1B.1	Cismontane woodland; Ultramafic; Valley & foothill grassland	Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. 85-505 m.
Snow Mountain buckwheat *Eriogonum nervulosum*	1B.2	Chaparral; Ultramafic	Dry serpentine outcrops, balds, and barrens. 445-2105 m.
Jepson's leptosiphon *Leptosiphon jepsonii*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 55-855 m.
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	1B.1	Cismontane woodland; Lower montane coniferous forest; Meadow & seep; Valley & foothill grassland; Vernal pool; Wetland	Vernal pools and swales; adobe or alkaline soils. 3-1680 m.
Few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	Vernal pool; Wetland	Volcanic ash flow, and volcanic substrate vernal pools. 425-855 m.
Many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE/CE/1B.2	Vernal pool; Wetland	Volcanic ash flow vernal pools. 30-915 m.
Small pincushion navarretia *Navarretia myersii ssp. deminuta*	1B.1	Vernal pool; Wetland	Known from only one site in lake county in vernal pool habitat on clay-loam soil; also in roadside depressions. 355 m.
Marin County navarretia *Navarretia rosulata*	1B.2	Closed-cone coniferous forest; Chaparral; Ultramafic	Dry, open rocky places; can occur on serpentine. 185-640 m.
Porter's navarretia *Navarretia paradoxinota*	1B.3	Meadow & seep; Ultramafic	Serpentinite, openings, vernally mesic, often drainages. 175-875 m.
Holly-leaved ceanothus *Ceanothus purpureus*	1B.2	Chaparral; Cismontane woodland	Rocky, volcanic slopes. 140-720 m.
Rincon Ridge ceanothus *Ceanothus confusus*	1B.1	Closed-cone coniferous forest; Chaparral; Cismontane woodland; Ultramafic	Known from volcanic or serpentine soils, dry shrubby slopes. 150-1280 m.
Calistoga ceanothus *Ceanothus divergens*	1B.2	Chaparral; Cismontane woodland; Ultramafic	Rocky, serpentine or volcanic sites. 100-950 m.
Sonoma ceanothus *Ceanothus sonomensis*	1B.2	Chaparral; Ultramafic	Sandy, serpentine or volcanic soils. 140-795 m.
Bolander's horkelia *Horkelia bolanderi*	1B.2	Cismontane woodland; Lower montane coniferous forest; Meadow & seep; Valley & foothill grassland	Grassy margins of vernal pools and meadows. 455-855 m.
Pink creamsacs *Castilleja rubicundula var. rubicundula*	1B.2	Chaparral; Cismontane woodland; Meadow & seep; Ultramafic; Valley & foothill grassland	Openings in chaparral or grasslands. On serpentine. 20-915 m.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE/1B.2	Freshwater marsh; Marsh & swamp; Vernal pool; Wetland	Clay soils; usually in vernal pools, sometimes on lake margins. 4-2410 m.
Sonoma beardtongue *Penstemon newberryi var. sonomensis*	1B.3	Chaparral	Crevices in rock outcrops and talus slopes. 425-1405 m.
Dimorphic snapdragon *Antirrhinum subcordatum*	4.3	Chaparral; Lower montane coniferous forest; Ultramafic	Generally on serpentine or shale in foothill woodland or chaparral on s- and w-facing slopes. 185-800 m.
Northern meadow sedge *Carex praticola*	2B.2	Meadow & seep; Wetland	Moist to wet meadows. 15-3200 m.

Santa Lucia dwarf rush *Juncus luciensis*	1B.2	Chaparral; Great Basin scrub; Lower montane coniferous forest; Meadow & seep; Vernal pool; Wetland	Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. 280-2035 m.
Narrow-anthered brodiaea *Brodiaea leptandra*	1B.2	Broadleaved upland forest; Chaparral; Cismontane woodland; Lower montane coniferous forest; Valley & foothill grassland	Volcanic substrates. 30-590 m.
Dwarf soaproot *Chlorogalum pomeridianum var. minus*	1B.2	Chaparral; Ultramafic	Serpentine. 120-1220 m.
Adobe-lily *Fritillaria pluriflora*	1B.2	Chaparral; Cismontane woodland; Ultramafic; Valley & foothill grassland	Usually on clay soils; sometimes serpentine. 45-945 m.
Geysers panicum *Panicum acuminatum var. thermale*	CE/1B.2	Closed-cone coniferous forest; Riparian forest; Valley & foothill grassland; Wetland	Usually around moist, warm soil in the vicinity of hot springs. 455-2470 m.
California satintail *Imperata brevifolia*	2B.1	Chaparral; Coastal scrub; Mojavean desert scrub; Meadow & seep; Riparian scrub; Wetland	Mesic sites, alkali seeps, riparian areas. 3-1495 m.
Slender Orcutt grass *Orcuttia tenuis*	FT/CE/1B.1	Vernal pool; Wetland	Often in gravelly substrate. 25-1755 m.
California alkali grass *Puccinellia simplex*	1B.2	Chenopod scrub; Meadow & seep; Valley & foothill grassland; Vernal pool	Alkaline, vernally mesic. Sinks, flats, and lake margins. 1-915 m.
Slender-leaved pondweed *Stuckenia filiformis ssp. alpina*	2B.2	Marsh & swamp; Wetland	Shallow, clear water of lakes and drainage channels. 5-2325 m.

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

**Copied verbatim from CNDDB, unless otherwise noted.

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

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

Plants Observed at 19955 Grange Road, Middletown
on February 8-9, April 21, and June 3, 2021

Common Name	Scientific Name
	Achaerachyna mollis
Deerweed	*Acmispon glaber*
Chamise	*Adenostoma fasciculatum*
	Agoseris grandiflora
White alder	*Alnus rhombifolia*
Red root pigweed	*Amaranthus retroflexus*
Common fiddleneck	*Amsinckia menziesii*
	Amsinckia intermedia
Common manzanita	*Arctostaphylos manzanita ssp. manzanita*
California mugwort	*Artemisia douglasiana*
Narrowleaf milkweed	*Asclepias fascicularis*
Milkweed	*Asclepias sp.*
California lace fern	*Aspidotis californica*
Slender wild oat	*Avena barbata*
Wild oat	*Avena fatua*
Coyote brush	*Baccharis pilularis*
Mule fat	*Baccharis salicifolia*
Brodiaea	*Brodiaea sp.*
California brome	*Bromus carinatus*
Ripgut brome	*Bromus diandrus*
Soft chess	*Bromus hordeaceus*
	Bromus madritensis
	Calandrinia ciliata
Western morning glory	*Calystegia occidentalis*
Western bittercress	*Cardamine oligosperma*
Italian thistle	*Carduus pycnocephalus*
Santa Barbara sedge	*Carex barbarae*
Torrent sedge	*Carex nudata*
	Castilleja attenuata
Wedge leaf ceanothus	*Ceanothus cuneatus*
Deerbrush	*Ceanothus integerrimus var. macrothyrsus*
	Centaurea melitensis
Yellow star thistle	*Centaurea solstitialis*
Birchleaf mountain mahogany	*Cercocarpus betuloides*
Wavy leaf soap plant	*Chlorogalum pomeridianum*
Chicory	*Cichorium intybus*
Bull thistle	*Cirsium vulgare*
Clarkia	*Clarkia sp.*
Miner’s lettuce	*Claytonia perfoliata*
Pipestems	*Clematis lasiantha*
	Convolvulus arvensis

Common Name	Scientific Name
	Achaerachyna mollis
Dove weed	*Croton setiger*
Swamp grass	*Crypsis schoenoides*
Bermuda grass	*Cynodon dactylon*
Dogtail grass	*Cynosurus echinoides*
Tall flatsedge	*Cyperus eragrostis*
Wild hyacinth	*Dichelostemma sp.*
Bush monkeyflower	*Diplacus aurantiacus*
Pale spikerush	*Eleocharis macrostachya*
Spikerush	*Eleocharis sp.*
Medusa-head grass	*Elymus caput-medusae*
Blue wildrye	*Elymus glaucus*
Ryegrass	*Elymus elymoides*
Creeping ryegrass	*Elymus triticoides*
Tall willowherb	*Epilobium brachycarpum*
Torrey's willowherb	*Epilobium torreyi*
Canada horseweed	*Erigeron canadensis*
Yerba santa	*Eriodictyon californicum*
Buckwheat	*Eriogonum sp.*
Wooly sunflower	*Eriophyllum lanatum*
Filaree	*Erodium botrys*
Red-stemmed filaree	*Erodium cicutarium*
Jepson's button celery	*Eryngium aristulatum var. aristulatum*
California poppy	*Eschscholzia californica*
Poppy	*Eschscholzia sp.*
Thyme-leaved spurge	*Euphorbia serpyllifolia*
Pacific fescue	*Festuca microstachys*
Italian ryegrass	*Festuca perennis*
California coffeeberry	*Frangula californica*
Bedstraw	*Galium aparine*
Bedstraw	*Galium sp.*
Chaparral silktassel	*Garrya congdonii*
	Grindelia camporum
Hairy gumplant	*Grindelia hirsutula*
Toyon	*Heteromeles arbutifolia*
Oregon false goldenaster	*Heterotheca oregona*
Shortpod mustard	*Hirschfeldia incana*
Wand tarplant	*Holocarpha virgata*
Meadow barley	*Hordeum brachyantherum*
Mediterranean barley	*Hordeum marinum ssp. gussoneanum*
Wall barley	*Hordeum murinum*
Iris	*Iris sp.*
Northern California black walnut	*Juglans hindsii*
Mexican rush	*Juncus mexicanus*

Common Name	Scientific Name
	Achaerachyna mollis
Rush	*Juncus sp.*
Bush beardtongue	*Keckiella breviflora*
Sharp-leaved fluellin	*Kickxia elatine*
Prickly lettuce	*Lactuca serriola*
	Lasthenia californica
	Layia platyglossa
Lomatium	*Lomatium spp.*
Pink honeysuckle	*Lonicera hispidula*
Chaparral honeysuckle	*Lonicera interrupta*
Bird's-foot trefoil	*Lotus corniculatus*
Miniature lupine	*Lupinus bicolor*
Lupine	*Lupinus nanus*
California loosestrife	*Lythrum californicum*
Tarplant	*Madia elegans*
California man-root	*Marah fabacea*
Horehound	*Marrubium vulgare*
Sweetclover	*Melilotus sp.*
Giant blazingstar	*Mentzelia laevicaulis*
	Microseris douglasii
Coyote mint	*Monardella villosa*
Navarretia	*Navarretia sp.*
Bird's-foot cliff brake	*Pellaea mucronata*
Goldback fern	*Pentagramma triangularis*
Phacelia	*Phacelia sp.*
Gray pine	*Pinus sabiniana*
Popcornflower	*Plagiobothrys sp.*
English plantain	*Plantago lanceolata*
Douglas' mesamint	*Pogogyne douglasii*
Rabbit's-foot grass	*Polypogon monspeliensis*
California scrub oak	*Quercus berberidifolia*
Blue oak	*Quercus douglasii*
Leather oak	*Quercus durata*
California black oak	*Quercus kelloggii*
Valley oak	*Quercus lobata*
Interior live oak	*Quercus wislizeni var. wislizeni*
Prickleseed buttercup	*Ranunculus muricatus*
Western buttercup	*Ranunculus occidentalis*
Buttercup	*Ranunculus sp.*
Himalayan blackberry	*Rubus armeniacus*
Elmleaf blackberry	*Rubus ulmifolius*
Curly dock	*Rumex crispus*
Fiddleleaf dock	*Rumex pulcher*
Sandbar willow	*Salix exigua*

Common Name	Scientific Name
	Achaerachyna mollis
Red willow	*Salix laevigata*
Arroyo willow	*Salix lasiolepis*
Blue elderberry	*Sambucus nigra ssp. caerulea*
Purple sanicle	*Sanicula bipinnatifida*
Pacific sanicle	*Sanicula crassicaulis*
Milk thistle	*Silybum marinum*
Blue-eyed grass	*Sisyrinchium bellum*
Sow thistle	*Sonchus oleraceus*
Red sandspurry	*Spergularia rubra*
Hedge nettle	*Stachys sp.*
Chickweed	*Stellaria media*
Common snowberry	*Symphoricarpos albus*
Tall sock-destroyer	*Torilis arvensis*
Poison-oak	*Toxicodendron diversilobum*
Death camas	*Toxicoscordion sp.*
	Tragopogon porrifolius
Clover	*Trifolium hirtum*
	Triphysaria versicolor subsp. faucibarbata
Triplet lily	*Triteleia sp.*
California bay	*Umbellularia californica*
Moth mullein	*Verbascum blattaria*
Common mullein	*Verbascum thapsus*
Spring vetch	*Vicia sativa*
Winter vetch	*Vicia villosa*
California grape	*Vitis californicus*
Smooth mule ears	*Wyethia glabra*
Cocklebur	*Xanthium strumarium*
Nemophila	*Nemophila sp.*

APPENDIX: SITE PHOTOS









































SECTION – F

GROUNDS MANAGEMENT PLAN

Grounds Management Plan

Purpose and Overview

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of twenty (20) A-Type 3 "Medium Outdoor" cultivation areas (with up to 854,840 ft^2 of total combined canopy area), five 6,000 ft^2 Harvest Storage & Staging Areas (engineered fabric structures), two 10' X 12' (120 ft^2) Pesticide & Agricultural Chemicals Storage Areas (proposed wooden sheds), and a 10' X 12' (120 ft^2) Security Center (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and composted organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). The proposed 7-foot wide canopy areas will be spaced 7 feet apart, to allow for the use of mechanized agricultural equipment. All water for the proposed cultivation operation will come from an existing groundwater well located at Latitude 38.77697° and Longitude -122.52711°.

This Grounds Management Plan is intended to ensure that the Project Property 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 Rancho Lake 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

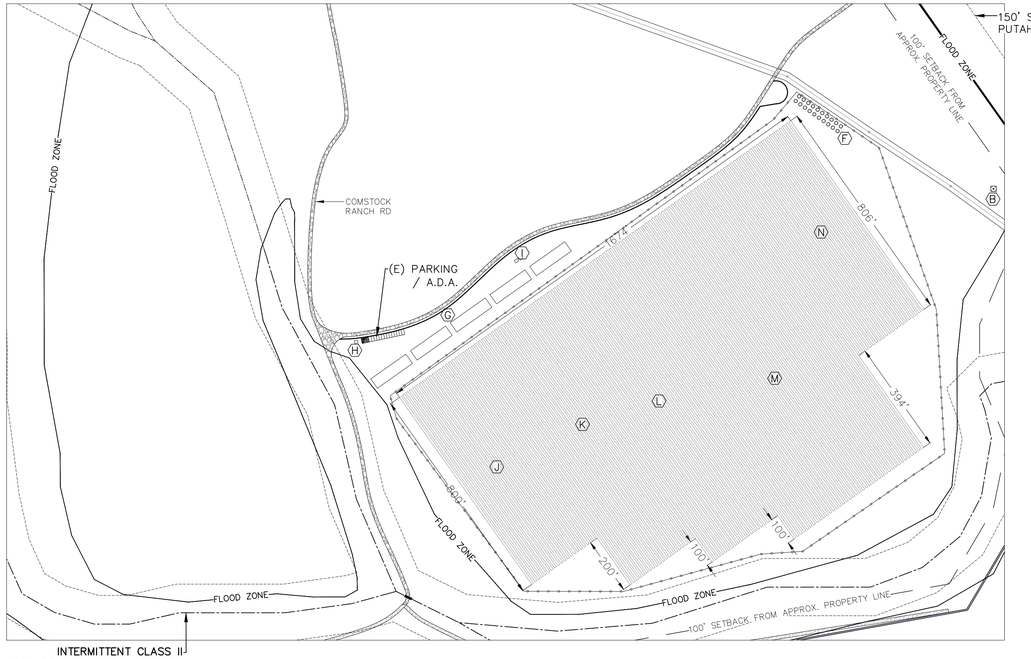
Chemicals stored and used at/by the proposed cultivation operation include fertilizers/nutrients, pesticides, and petroleum products (Agricultural Chemicals). All fertilizers/nutrients and pesticides, when not in use, will be stored in their manufacturer's original containers/packaging, undercover, and at least 100 feet from surface water bodies, inside the secure Pesticides & Agricultural Chemicals Storage Areas (proposed wooden sheds). Petroleum products will be stored under cover, in State of California-approved containers with secondary containment, and separate from pesticides and fertilizers within the secure Pesticides & Agricultural Chemicals Storage Areas. Spill containment and cleanup equipment will be maintained within the secure Pesticides and Agricultural Chemicals Storage Areas. No effluent is expected to be produced by the proposed cultivation operation.

Solid Waste Management

The types of solid waste that will be generated from the proposed cultivation operation include gardening materials and wastes (such as used plastic mulch and spent plastic fertilizer/pesticide bags and containers) 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. At no time will 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"), and hauled away to a Lake County Integrated Waste Management facility, at least every seven (7) days/weekly. The Eastlake Landfill is the closest Lake County Integrated Waste Management facility to the project site. Most, if not all, of the solid waste generated by the proposed cultivation operation can and will be deposited at this facility.

Site Maintenance

When not in use, all equipment will be stored in its proper designated area upon completion of the task for which the equipment was needed. 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 will be disposed of immediately. 100 feet of defensible space will be established and maintained around the proposed cultivation operation for fire protection and to ensure safe and sanitary working conditions. Areas of defensible space will be mowed and trimmed regularly around the cultivation operation to provide for visibility and security monitoring. Access roads and parking areas will be graveled to prevent the generation of fugitive dust, and vegetative ground cover will be preserved throughout the entire site to filter and infiltrate stormwater runoff from access roads, parking areas, and the proposed cultivation operation. Portable restroom facilities will be made available for use whenever staff are onsite and regularly serviced to ensure a safe and sanitary working environment.

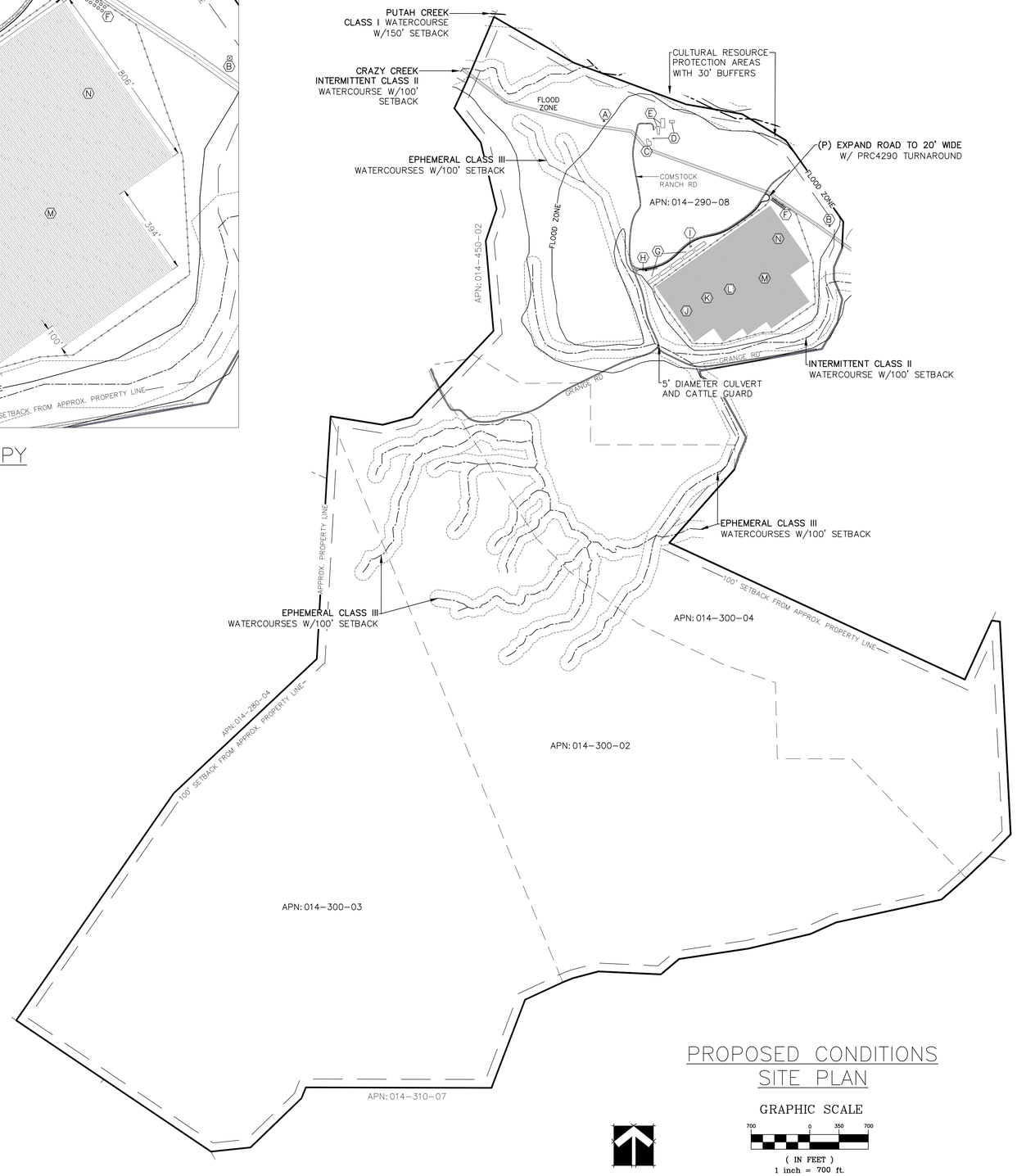


CULTIVATION SITE PLAN WITH CANOPY

GRAPHIC SCALE

250 0 125 250

(IN FEET)
1 inch = 250 ft.



PROPOSED CONDITIONS SITE PLAN

GRAPHIC SCALE

700 0 350 700

(IN FEET)
1 inch = 700 ft.

VICINITY MAP
NO SCALE

RANCHO LAKE, LLC
19955 GRANGE ROAD
MIDDLETOWN, CA 95461
APNs:014-290-08 AND
014-300-02, 03, & 04

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

Ⓐ (E) GROUNDWATER WELL
LAT: 38.77970°
LONG: -122.53429°
BENEFICIAL USES: DOMESTIC & FIRE PROTECTION

Ⓑ (E) GROUNDWATER WELL
LAT: 38.77697°
LONG: -122.52711°
BENEFICIAL USES: IRRIGATION

Ⓒ (E) RESIDENCE

Ⓓ (E) ACCESSORY AG STRUCTURE(S)

Ⓔ (E) BARN(S)

Ⓕ (E) TWENTY 5,000 GALLON HEAVY-DUTY WATER STORAGE TANKS

Ⓖ (E) FOUR 40'x50' (6000SF) HARVEST STORAGE AND STAGING AREAS

Ⓗ (E) 10'X12' (120SF) SECURITY CENTER/SHED

Ⓘ (E) 8'X20' (160SF) PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

Ⓙ (P) TWENTY 7'X800' (5,600SF) OUTDOOR CANOPY ROWS

Ⓚ (P) TWENTY 7'X1,000' (7,000SF) OUTDOOR CANOPY ROWS

Ⓛ (P) TWENTY 7'X1,100' (7,700SF) OUTDOOR CANOPY ROWS

Ⓜ (P) FOURTY 7'X1,200' (8,400SF) OUTDOOR CANOPY ROWS

Ⓝ (P) TWENTY 7'X806' (5,462SF) OUTDOOR CANOPY ROWS

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 06/30/25
CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN
RANCHO LAKE, LLC
19955 GRANGE RD.
MIDDLETOWN, CA 95461
LAKE COUNTY
APNs:014-290-08 & 12 AND 014-300-02, 03, & 04

PLOTTED BY: ---
DATE PLOTTED: 6/26/23
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 2

SECTION – G

SECURITY MANAGEMENT PLAN

Security Management Plan

Purpose and Overview

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of twenty (20) A-Type 3 "Medium Outdoor" cultivation areas (with up to 854,840 ft^2 of total combined canopy area), five 6,000 ft^2 Harvest Storage & Staging Areas (engineered fabric structures), two 10' X 12' (120 ft^2) Pesticide & Agricultural Chemicals Storage Areas (proposed wooden sheds), and a 10' X 12' (120 ft^2) Security Center (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and composted organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). The proposed 7-foot wide canopy areas will be spaced 7 feet apart, to allow for the use of mechanized agricultural equipment. All water for the proposed cultivation operation will come from an existing groundwater well located at Latitude 38.77697° and Longitude -122.52711°.

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/by 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 will be followed to ensure overall site security. This SMP is also designed to be compliant with the regulations for cannabis cultivation authored by the CDFA's CalCannabis Licensing program, as well as the regulations established by the California Bureau of Cannabis Control for state-licensed cannabis businesses.

Secured Entry and Access

The Project Property is accessed via Grange Road, and the Project Parcel is accessed via Comstock Ranch Road. Locking metal gates across Grange and Comstock Ranch Roads control access to the Project Property and the area of the proposed cultivation operation. The metal gate across Grange Road automatically closes and locks each time a vehicle pass through, and a PIN is needed to open it. The metal gate across Comstock Ranch Road will be closed and locked outside of core operating/business hours (8am to 6pm) and whenever Rancho Lake's managerial personnel are not present.

6-foot woven wire fences will be erected around the proposed cultivation area. Privacy Screen/Cloth will be installed on the fences where necessary to screen the cultivation area from public view. Posts will be set into the ground at not more than 10-foot intervals, and terminal posts

will be set into concrete footings. Secured entry and access to the cultivation area(s) will be controlled via locking gates that will be locked whenever Rancho Lake's managerial personnel are not present. All gates will be secured with heavy duty chains and commercial grade padlocks. Only the Comstock Family (landowner) and Rancho Lake's managerial staff will be able to unlock the gates of the Project Parcel.

100 feet of defensible space (vegetation management) will be established and maintained around the proposed cultivation areas and associated facilities for fire protection and to provide for visibility and security monitoring. Motion-sensing alarms and security lights will be installed at the metal gate controlling access to the Project Parcel, to alert personnel when someone/something has entered onto the premises. Motion-sensing security lights will be installed on all external corners of the proposed cultivation areas. All lighting will be fully shielded, downward casting and will not spill over onto other properties or the night sky.

Personnel will be instructed to notify Rancho Lake's managerial staff immediately if/when suspicious activity is detected. Rancho Lake's managerial staff will investigate the suspicious activity for potential threats, issues, or concerns. Rancho Lake's managerial staff will contact the Lake County Sheriff's Office immediately if/when a threat is detected. A member of Rancho Lake's managerial staff will be onsite 24 hours a day, 7 days a week, during the cultivation season. When a visitor arrives at the proposed cultivation operation via the main entrance during core operating/business hours, they will be immediately greeted by a member of Rancho Lake's managerial staff. The staff member will verify the visitor's identification and appropriate documentation/credentials. 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.

Video Surveillance

Rancho Lake will use a color capable closed-circuit television (CCTV) system with a minimum camera resolution of 1080p at a minimum of 30 frames per second to record activity in all sensitive areas. All cameras will equipped with motion sensing technology to activate the cameras when motion is detected, and all cameras (exterior and interior) will be waterproof. The CCTV system will feed into a Monitoring and Recording Station inside the Security Center (proposed wooden building), where video from the CCTV system will be digitally recorded. Video recordings will display the current date and time, and all recordings will be kept a minimum of 90 days, and 7 years for any corresponding reported incidents caught on tape. Video management software of the Monitoring and Recording Station will be capable of supporting remote access, and will be equipped with a failure notification system that immediately notifies Rancho Lake's managerial staff of any interruptions or failures. All sensitive areas covered by the video surveillance system will have adequate lighting to illuminate the camera's field of vision.

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

- Interior and exterior of all entryways and exits to the proposed Harvest Storage & Staging Areas;

- Perimeter of the proposed cultivation area; and
- The interior and exterior of the entryway/exit to the Security Center.

Diversion/Theft Prevention

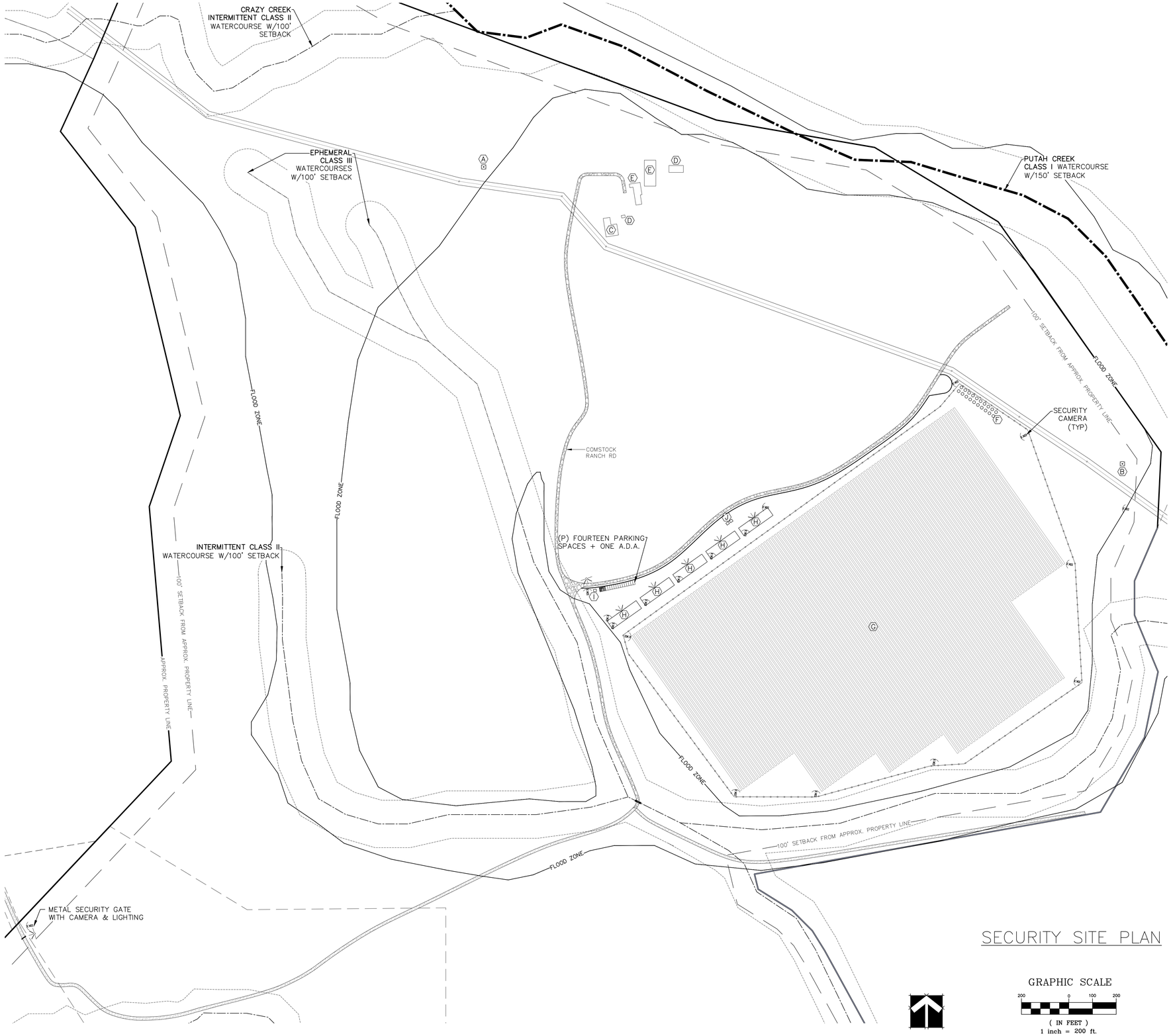
All personnel will be required to undergo a criminal background check with the Lake County Sheriff's Office. Visitors and personnel will be required to sign-in and sign-out each day, and record the areas in which they worked and the tasks they were assigned. Personnel will be required to store personal items (except for food, water, and drinks) in their vehicles throughout their shift.

Rancho Lake will adhere to the inventory tracking and recording requirements of the California Cannabis Track-and-Trace (CCTT) system. All personnel will be trained in the requirements of the CCTT system, and all cannabis transfers/movement will be reported through the CCTT system. At least one member of Rancho Lake's managerial staff will be a designated track-and-trace system administrator. A track-and-trace system administrator 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. Rancho Lake 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. Rancho Lake 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 Rancho Lake's annual Performance Review Report.

The Community Liaison/Emergency Contact for the proposed cultivation operation is Mr. John Feitshans. Mr. Feitshans' phone number is (951) 434-8261 and his email address is john@2cwproductions.com. The residents and owners of all properties neighboring the Project Parcel, will have Mr. Feitshans' contact information before cannabis cultivation begins.



SECURITY SITE PLAN

GRAPHIC SCALE

200 0 100 200

(IN FEET)
1 inch = 200 ft.

VICINITY MAP
NO SCALE

RANCHO LAKE, LLC
19955 GRANGE ROAD
MIDDLETOWN, CA 95461
APNs:014-290-08 AND
014-300-02, 03, & 04

LEGEND:

1530	CONTOUR ELEVATION
	(P) FENCE
	(P) SECURITY LIGHTS
	(P) SECURITY CAMERAS
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATE
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:
1. CONTOUR INTERVAL IS 20'

(A) (E) GROUNDWATER WELL
LAT: 38.77970°
LONG: -122.53429°
BENEFICIAL USES: DOMESTIC & FIRE PROTECTION

(B) (E) GROUNDWATER WELL
LAT: 38.77697°
LONG: -122.52711°
BENEFICIAL USES: IRRIGATION

(C) (E) RESIDENCE

(D) (E) ACCESSORY AG STRUCTURE(S)

(E) (E) BARN(S)

(F) (E) TWENTY 5,000 GALLON HEAVY-DUTY WATER STORAGE TANKS

(G) (P) OUTDOOR CULTIVATION AREA

(H) (E) FIVE 40'x50' (6000SF) HARVEST STORAGE AND STAGING AREAS

(I) (E) 10'X12' (120SF) SECURITY CENTER/SHED

(J) (E) TWO 10'X12' (120SF) PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

Revisions:

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

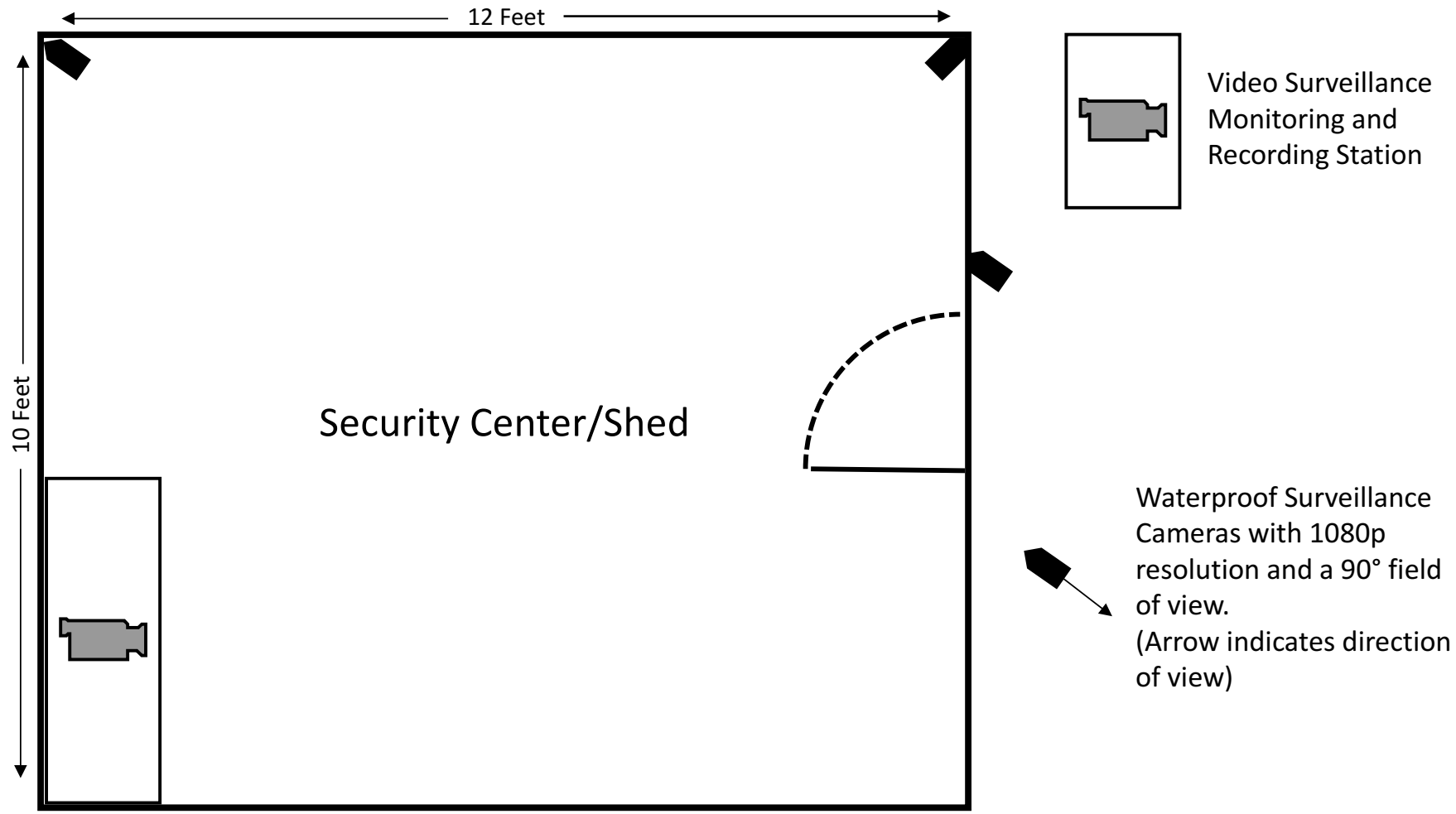
PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
exp06/30/25
CIVIL
STATE OF CALIFORNIA

SECURITY SITE PLAN
RANCHO LAKE, LLC
19955 GRANGE RD.
MIDDLETOWN, CA 95461
LAKE COUNTY
APNs:014-290-08 & 12 AND 014-300-02, 03, & 04

PLOTTED BY: ---
DATE PLOTTED: 6/26/23
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 3

Security Center/Shed
(Proposed Wooden Shed)



SECTION – H

STORM WATER MANAGEMENT PLAN

Storm Water Management Plan

Purpose and Overview

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of twenty (20) A-Type 3 "Medium Outdoor" cultivation areas (with up to 854,840 ft^2 of total combined canopy area), five 6,000 ft^2 Harvest Storage & Staging Areas (engineered fabric structures), two 10' X 12' (120 ft^2) Pesticide & Agricultural Chemicals Storage Areas (proposed wooden sheds), and a 10' X 12' (120 ft^2) Security Center (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and composted organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). The proposed 7-foot wide canopy areas will be spaced 7 feet apart, to allow for the use of mechanized agricultural equipment. All water for the proposed cultivation operation will come from an existing groundwater well located at Latitude 38.77697° and Longitude -122.52711°.

The intent/purpose of this Storm Water Management Plan is to protect the water quality of the surface and stormwater management systems managed by Lake County, and to evaluate the impact on downstream property owners. The proposed cultivation operation will increase the impervious surface area of the Project Property by approximately 30,360 ft^2, or less than 0.2% of the Project Parcel, through the installation of five 6,000 ft^2 engineered fabric structures (proposed Harvest Storage & Staging Areas) and three 120 ft^2 wooden sheds (proposed Security Center and Pesticide & Agricultural Chemicals Storage Area). The proposed outdoor cultivation/canopy areas will not increase the impervious surface area of the Project Parcel nor the volume of runoff from the Project Parcel. The proposed parking areas will have permeable gravel surfaces, and the proposed ADA parking spaces will be constructed of permeable pavers.

Rancho Lake will focus on low impact development (LID) and "green" stormwater management infrastructure to achieve permanent stabilization post site development as quickly as possible. LID practices utilizing "green" infrastructure will manage storm water by minimizing impervious surfaces, maintaining, preserving, and enhancing existing vegetation, and by using natural systems to filter and infiltrate stormwater into the ground. LID with "green" storm water infrastructure is cost competitive with traditional storm water management infrastructure/practices, while providing numerous other long-term benefits, such as improved water quality, ecosystem enhancement, and preserved/improved aesthetics. The stormwater management measures outlined in this Storm Water Management Plan meet and/or exceed the requirements of the Lake County Storm Water Management Ordinance (Chapter 29 of the Lake County Ordinance Code).

Receiving Water Bodies and Infrastructure

The Project Property is located in the eastern half of the Coyote Valley, within the Crazy Creek - Putah Creek Watershed (HUC 12). Putah Creek, a perennial Class I watercourse, flows from west to east through the northernmost portion of the Project Property. Crazy Creek, an intermittent Class II watercourse, flows from west to east through the northwest portion of the Project Property, and into Putah Creek. Multiple unnamed intermittent Class III watercourses flow generally from south to north, through the Project Property, and into Putah Creek. A large complex wetland occupies the floor of a small valley in the southern half of the Project Property (over 1000 feet from the proposed cultivation operation). No cannabis cultivation activities nor agricultural chemicals storage will occur within 100 feet of any surface waterbody (including wetlands), and no ground disturbance is proposed within 50 feet of any channel.

The Project Property is accessed via Grange Road (paved), and the Project Parcel is accessed via Comstock Ranch Road (gravel). The area of the proposed cultivation operation is accessed via an ephemeral Class II watercourse crossing composed of a 5' diameter CMP culvert with native fill and an 8' wide cattle guard on concrete abutments. There are no Lake County maintained bridges/watercourse crossings or stormwater management infrastructure downstream of the Project Property. Development of the proposed cultivation operation, with the implementation of the LID practices and erosion and sediment control measures outlined below, will not increase the volume of stormwater discharges from the Project Property onto adjacent properties or flood elevations downstream.

Ground Disturbance and Grading

Soils in the area of the proposed cultivation operation are identified as Lupoyoma silt loam by the NRCS Web Soil Survey (attached), and characterized as moderately well-drained alluvium composed of sandy, silt, and clay loams. The proposed cultivation operation will increase the impervious surface area of the Project Property by approximately 30,360 ft^2, or less than 0.2% of the Project Parcel, through the installation of five 6,000 ft^2 engineered fabric structures (proposed Harvest Storage & Staging Areas) and three 120 ft^2 wooden sheds (proposed Security Center and Pesticide & Agricultural Chemicals Storage Area). The proposed outdoor cultivation/canopy areas will not increase the impervious surface area of the Project Parcel nor the volume of runoff from the Project Parcel. The proposed parking areas will have permeable gravel surfaces, and the proposed ADA parking spaces will be constructed of permeable pavers.

The proposed cultivation operation will be established in areas of the Project Parcel that have been used to farm oats and hay, as well as for cattle grazing, since at least the early 1900s. No trees or vegetation will be removed to establish the proposed cultivation operation. The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and composted organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). Each spring, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disced and harrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disced and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the

winter wet weather period. The proposed Harvest Storage & Staging Areas (engineered fabric structures) will be erected in July of each year, and deconstructed/demolished in December of each year. The intent is for there to be little to no evidence during the winter and spring seasons, of the cultivation activities that occurred during the summer and fall of the previous year.

Erosion and Sediment Control Measures

Established vegetation within and around the proposed cultivation operation will be maintained/protected to the extent possible, as a permanent erosion and sediment control measure. All structures and cultivation areas will be located more than 100 feet from the nearest surface water bodies, and stormwater runoff from the structures and cultivation areas will be discharged to the well-vegetated buffers surrounding the proposed cultivation operation to filter and/or remove any sediment, nutrients, and/or pesticides mobilized by stormwater runoff, and prevent those pollutants from reaching nearby surface water bodies. Additionally, the proposed temporary hoop house structures and Harvest Storage and Staging Areas will have been deconstructed for the majority of the winter wet weather period.

A native grass seed mixture and certified weed-free straw mulch will be applied at a rate of two tons per acre to all areas of the exposed soil outside of the proposed cultivation/canopy areas, prior to November 15th of each year, until permanent stabilization has been achieved. Prior to November 15th of each year, a nitrogen-fixing cover crop will be planted in the proposed cultivation/canopy areas, to stabilize the site(s) for the winter wet weather period. Following site development, straw wattles will be installed and maintained throughout the proposed cultivation operation per the attached Erosion & Sediment Control Site Plan, until permanent stabilization has been achieved. 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. A member of Rancho Lake's managerial staff will conduct monthly monitoring inspections to confirm that this operation is in compliance with California Water Code/SWRCB's Cannabis General Order.

Regulatory Compliance (Stormwater)

The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order (Order No. WQ-2019-0001-DWQ), as a Tier 2 Low Risk Discharger on Ocotber 30th, 2020. Site Management and Nitrogen Management Plans will be developed for the proposed cultivation operation, and submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) for review, prior to planting. Each year, prior to March 1st, an Annual Monitoring Report will be prepared and submitted to the CVRWQCB, demonstrating measures taken over the course of the previous year to comply with the Cannabis General Order.

The stormwater management measures outlined above meet 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, and there are no public bridges or culverted watercourse crossings between the proposed cultivation operation and Lake Berryessa. All

proposed ground/land disturbing activities qualify for the Permit Exemptions and Requirements outlined in Article V of Chapter 30 of the Lake County Code (Grading Ordinance).

In particular, the proposed ground/land disturbing activities qualify for Section 17.4.2 and Section 17.4.3 of Article V:
Section 17.4.2 a - "Routine mechanical practices including, but not limited to: discing, harrowing, raking, chiseling, or plowing to till the soil for the production of agricultural crops on land historically used for that purpose".
Section 17.4.3, "All crop conversions involving agricultural grading are exempt provided the grading activities:

a) Do not expand the footprint of the existing farming activity or operation.
b) Do not occur within thirty (30) feet of the top of bank of a watercourse, wetland, lake, or vernal pool.
c) Do not remove previously cultivated trees, vines or other plants having stable woody root systems extending at least twelve (12) inches below the soil surface and occur on soils with a moderated or severe Erosion Hazard Rating.
d) Do not occur during the Winter Period.
e) Do not create any cut or fill slope of a ratio greater than two to one (2:1).

The soils of the fields in which the proposed cultivation operation will be established, have a low/slight Erosion Hazard Rating and have experience long-running intensive agricultural operations (plowing, discing, harrowing). Development of the proposed cultivation operation, with the implementation of the LID practices and erosion and sediment control measures outlined above, will not increase the volume of stormwater discharges from the Project Property onto adjacent properties or flood elevations downstream.

Storm Water Management Monitoring and Reporting

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 State 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."

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

Cannabis Vegetative Material Waste Management

Cannabis Waste

"Cannabis waste" is an organic waste, as defined in Section 42649.8(c) of the Public Resources Code. Cannabis waste generated from the proposed cannabis cultivation operation will be limited to cannabis plant leaves and stems. 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 and Manufacturers. The proposed cannabis cultivation operation should generate approximately 5,000 pounds of dried cannabis waste each cultivation season (May 1st through November 15th). All cannabis waste will be composted onsite.

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 ripped/shredded and placed in the designated composting areas. In the designated composting areas, cannabis waste will be composted until it is incorporated into the soils of the proposed outdoor cultivation/canopy areas as a 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. Rancho Lake 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.

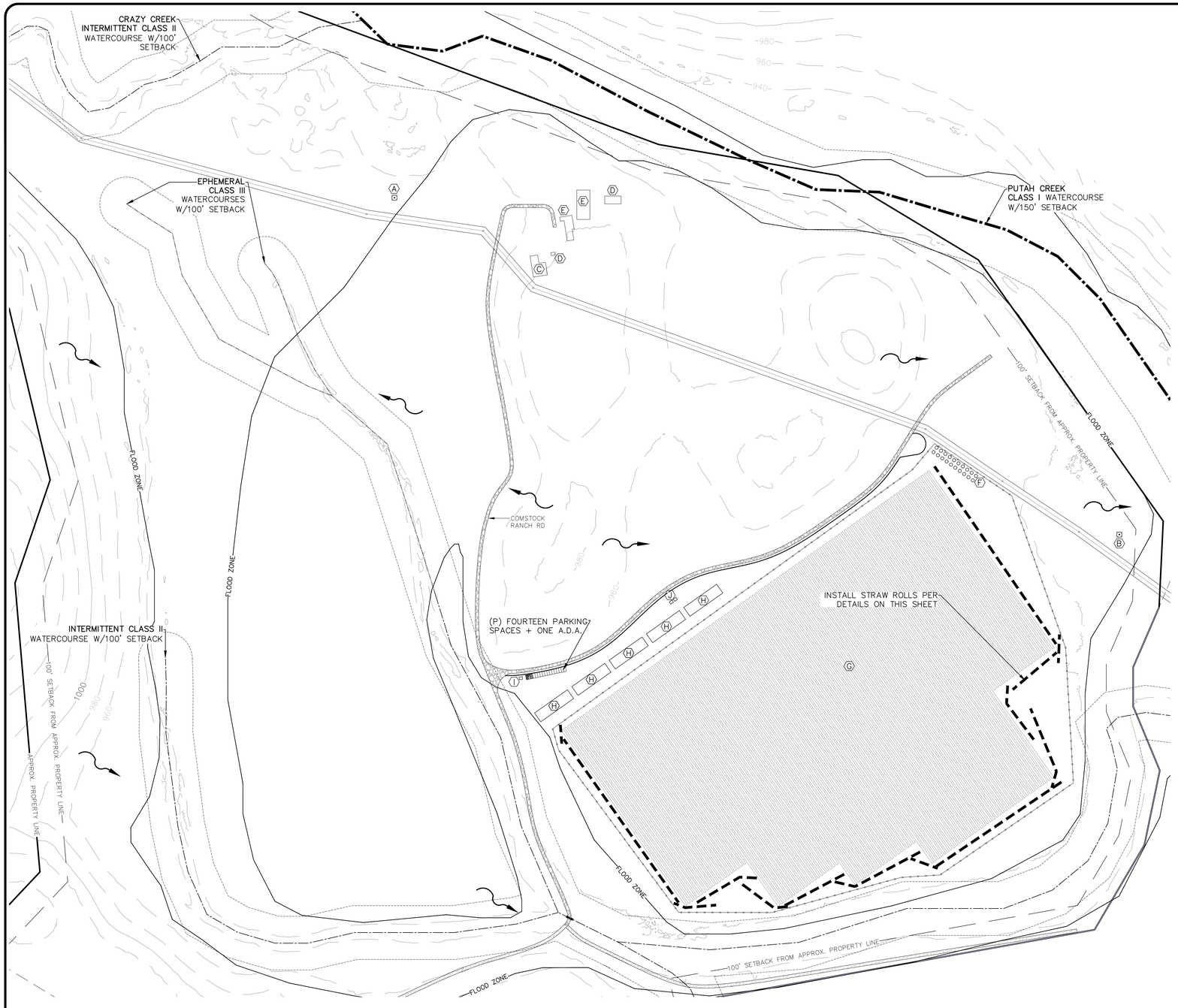
Growing Medium Management

Growing Medium Overview

The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and composted organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). Each year the growing medium of the proposed cultivation operation will be amended and reused. Each spring, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disced and harrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disced and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period.

Growing Medium Waste

Ideally, the growing medium of the cultivation areas will be amended and reused each year/cultivation season. In the event of a root and/or soil borne pest infestation, the infested soil will be 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. The treated soil will be returned to production after treatment. No growing medium waste should be generated from the proposed cannabis cultivation operation (all growing medium should be recycled/reused).

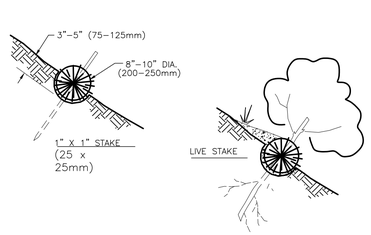


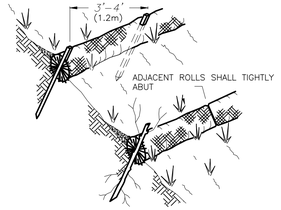
EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE

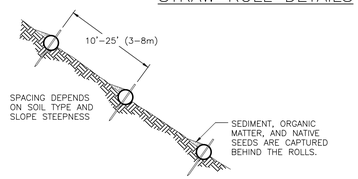
200 0 100 200

(IN FEET)
1 inch = 200 ft.





STRAW ROLL DETAILS



NOTES:

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

DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

S-1 SAMPLING LOCATION

CMS CONSTRUCTION MATERIALS STORAGE AREA

EROSION & SEDIMENT CONTROL NOTES:

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

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

Ⓐ (E) GROUNDWATER WELL
LAT: 38.77970°
LONG: -122.53429°
BENEFICIAL USES: DOMESTIC & FIRE PROTECTION

Ⓑ (E) GROUNDWATER WELL
LAT: 38.77697°
LONG: -122.52711°
BENEFICIAL USES: IRRIGATION

Ⓒ (E) RESIDENCE

Ⓓ (E) ACCESSORY AG STRUCTURE(S)

Ⓔ (E) BARN(S)

Ⓕ (E) TWENTY 5,000 GALLON HEAVY-DUTY WATER STORAGE TANKS

Ⓖ (P) OUTDOOR CULTIVATION AREA

Ⓗ (E) FIVE 40'x50' (6000SF) HARVEST STORAGE AND STAGING AREAS

Ⓘ (E) 10'X12' (120SF) SECURITY CENTER/SHED

Ⓙ (E) TWO 10'X12' (120SF) PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

Revisions:

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

PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
exp06/30/25
CIVIL
STATE OF CALIFORNIA

EROSION & SEDIMENT CONTROL PLAN
RANCHO LAKE, LLC

19955 GRANGE RD.
MIDDLETOWN, CA 95461
LAKE COUNTY
APNs:014-290-08 & 12 AND 014-300-02, 03, & 04

PLOTTED BY: ---
DATE PLOTTED: 6/26/23
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 4

30 October 2020

WDID: 5S17CC429360

DISCHARGER/LANDOWNER
James Comstock
P.O. Box 993
Middletown, CA 95461

NOTICE OF APPLICABILITY, WATER QUALITY ORDER WQ-2019-0001-DWQ, JAMES COMSTOCK, APN 014-290-081-000, 014-290-120-000, 014-300-041-000, 014-300-021-000, 014-300-031-000, LAKE COUNTY

James Comstock (hereafter "Discharger and Landowner") submitted information through the State Water Resources Control Board's (State Water Board's) online portal on 12 October 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 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 No. WQ-2019-0001-DWQ (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 **5S17CC429360**.

The Discharger is responsible for all applicable requirements in the Policy, General Order, and this Notice of Applicability (NOA), including submittal of all required reports. The Discharger is the sole person with legal authority to, among other things, change information submitted to obtain regulatory coverage under the General Order; request changes to enrollment status, including risk designation; and terminate regulatory coverage. The Central Valley Regional Water Quality Control Board (Central Valley Water Board) will hold the Discharger liable for any noncompliance with the Policy, General Order, and this NOA, including non-payment of annual fees.

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 (http://www.waterboards.ca.gov/water_issues/programs/cannabis/). 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.

3. TECHNICAL REPORT REQUIREMENTS

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

1. A *Site Management Plan* must be submitted within 90 days of applying for enrollment in the General Order; this deadline falls on **10 January 2021**. For more information on the requirements to submit a *Site Management Plan*, see General Order Provision C.1.a, and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of a *Site Management Plan*. For more information on the requirements to submit a *Site Management Plan*, see General Order Provision C.1.a, and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of a *Site Management Plan*. Dischargers that cannot implement all applicable BPTC measures by the onset of the winter period, following their enrollment date, shall submit to the appropriate Central Valley Water Board a *Site Management Plan* that includes a time schedule and scope of work for use by the Central Valley Water Board in developing a compliance schedule as described in Attachment A of the General Order. You are not required to use a Qualified Professional for developing the *Site Management Plan.* However, you are required to submit the *Site Management Plan* to Central Valley Water Board staff for approval prior to any site development.
2. A *Nitrogen Management Plan* must be submitted within 90 days of applying for enrollment in the General Order; this deadline falls on **10 January 2021**,

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.*

3. *A Site Closure Report* must be submitted 90 days prior to permanently ending cannabis cultivation activities and seeking to rescind coverage under the Conditional Waiver. 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 the Monitoring and Reporting Program (MRP). Attachment B of the General Order provides guidance on the contents for the annual reporting requirement. Annual reports shall be submitted to the Central Valley Water Board by March 1 following the year being monitored. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Central Valley Water Board's Executive Officer or the State Water Board's Chief Deputy Director, or Deputy Director.

5. ANNUAL FEE

According to the information submitted, the discharge is classified as Tier 2, low risk with the current annual fee assessed at $1000. 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 Notice of Termination, 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

Cannabis cultivators that propose to terminate coverage under the Conditional Waiver or General Order must submit a Notice of Termination (NOT). The NOT must include a *Site Closure Report* (see Technical Report Requirements above), and Dischargers enrolled under the General Order must also submit a final monitoring report. The Central Valley Water Board reserves the right to inspect the site before approving a NOT. Attachment C includes the NOT form and Attachment D of the General Order provides guidance on the contents of the *Site Closure Report.*

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 Central Valley Water Board staff by telephone at 530-224-4845 so that a site-specific compliance schedule can be developed.

All monitoring reports, submittals, discharge notifications, and questions regarding compliance and enforcement should be directed to centralvalleyredding@waterboards.ca.gov or 530-224-4845.

(for) Patrick Pulupa,
Executive Officer

JF: mp

cc via email: Kevin Porzio, State Water Resources Control Board, Sacramento
Mark Roberts, Lake County Planning Department, Lakeport



Map Scale: 1:11,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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: Jul 2, 2019—Jul 5, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
116	Benridge variant loam, 2 to 15 percent slopes	3.7	0.7%
147	Kelsey fine sandy loam	27.2	5.1%
148	Kidd-Forward complex, 5 to 30 percent slopes	8.6	1.6%
158	Lupoyoma silt loam, protected	233.9	43.6%
164	Maxwell clay loam, 0 to 2 percent slopes	7.1	1.3%
199	Riverwash	40.5	7.5%
218	Sobrante-Guenoc-Hambright complex, 2 to 15 percent slopes	104.5	19.5%
219	Sobrante-Guenoc-Hambright complex, 15 to 30 percent slopes	85.2	15.9%
220	Sobrante-Hambright-Guenoc complex, 30 to 50 percent slopes	26.2	4.9%
Totals for Area of Interest		**536.9**	**100.0%**

SECTION – I

WATER USE MANAGEMENT PLAN

Water Use Management Plan

Purpose and Overview

Rancho Lake, LLC (Rancho Lake) is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 19955 Grange Road near Middletown, California on Lake County APN 014-290-08 (Project Parcel). Rancho Lake's proposed commercial cannabis cultivation operation will be composed of twenty (20) A-Type 3 "Medium Outdoor" cultivation areas (with up to 854,840 ft^2 of total combined canopy area), five 6,000 ft^2 Harvest Storage & Staging Areas (engineered fabric structures), two 10' X 12' (120 ft^2) Pesticide & Agricultural Chemicals Storage Areas (proposed wooden sheds), and a 10' X 12' (120 ft^2) Security Center (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and composted organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). The proposed 7-foot wide canopy areas will be spaced 7 feet apart, to allow for the use of mechanized agricultural equipment. All water for the proposed cultivation operation will come from an existing groundwater well located at Latitude 38.77697° and Longitude -122.52711°.

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. Also included in this WUMP is a description of the Water Resources of the Project Property, and a Water Availability Analysis.

Description of Water Resources

Surface Water

The Project Property is located in the eastern half of the Coyote Valley, within the Crazy Creek - Putah Creek Watershed (HUC 12). Putah Creek, a perennial Class I watercourse, flows from west to east through the northernmost portion of the Project Property. Crazy Creek, an intermittent Class II watercourse, flows from west to east through the northwest portion of the Project Property, and into Putah Creek. Multiple unnamed intermittent Class III watercourses flow generally from south to north, through the Project Property, and into Putah Creek. A large complex wetland occupies the floor of a valley in the southern half of the Project Property (over 1,000 feet from the proposed cultivation operation). No cannabis cultivation activities nor agricultural chemicals storage will occur within 100 feet of any surface waterbody (including wetlands), and no ground disturbance is proposed within 50 feet of any channel.

Groundwater

Soils in the area of the proposed cultivation operation are identified as Lupoyoma silt loam by the NRCS Web Soil Survey (attached), and characterized as moderately well-drained alluvium composed of sandy, silt, and clay loams. According to USGS geologic maps, Coyote Valley is a Quaternary alluvium filled valley that is bounded to the west by Upper Cretaceous sediments, by and the "Cache Formation" and Clear Lake Volcanics to the north and east, and the Lower Cretaceous-Upper Jurassic Great Valley Sequence and Serpentinized ultramafic rocks to the south and west. The Quaternary alluvium within Coyote Valley consists of unconsolidated to semi-consolidated sinuous deposits of fine to coarse-grained floodplain and stream channel deposits, and of inconsistently stratified fine-grained material of alluvial fan, lacustrine, and colluvial deposits (please see the attached report from the State Water Resources Control Board). The thickness of the alluvium within Coyote Valley is variable, but appears to be between 100 and 200 feet thick, and possibly as much as 300 feet thick in places.

The Project Property is located within the eastern portion of the Coyote Valley Groundwater Management Plan Area and Coyote Valley Groundwater Basin, as defined in the 2006 Lake County Groundwater Management Plan. Holocene alluvium, overlying the Cache Formation, is the primary water-bearing unit in the Coyote Valley Basin. Groundwater levels in the Coyote Valley Basin are shallow in the spring (approximately 10 to 15 feet below ground surface), decreasing over the summer, and recovering during the winter wet weather period. The general direction of groundwater flow in the Coyote Valley is to the southeast, in the direction of Putah Creek. Spring to summer drawdown of the water table varies by position in the Basin, with areas in the west experiencing larger drawdown (approximately 20 to 25 feet below ground surface) than areas in the eastern portion of the basin (approximately 5 to 10 feet). In 1960, the California Department of Water Resources (DWR) estimated that the Coyote Valley Groundwater Basin had an estimated storage capacity of 29,000 acre-feet, with 7,000 acre-feet of useable storage capacity. Average-year agricultural groundwater demand in the Coyote Valley Basin is approximately 671 acre-feet per year. DWR has monitored two groundwater wells located on adjacent properties east and west of the Project Parcel since the 1950s (please see the DWR Monitoring Well Data sheets). The water levels in these two wells has remained fairly constant over the last seven decades, with the usual seasonal variation.

There are two existing groundwater wells on the Project Parcel, located at Latitude 38.77970° and Longitude -122.53429° and Latitude 38.77697° and Longitude -122.52711°. All water for the proposed cultivation operation will come from the existing groundwater well located at Latitude 38.77697° and Longitude -122.52711°, directly adjacent to the proposed cultivation operation. The Well Completion Report for this groundwater well, indicates that it was drilled through sand, gravel, and clay (alluvium), to a depth of 160 feet (Well Completion Report attached). At the time it was drilled, this well had an estimated yield of 300 gallons per minute. On July 6th, 2021 JAK Drilling & Pump (licensed well driller) performed a well yield test of this well, pumping it at 355 gallons per minute for six hours. Analyzing data from the well performance test, we can conclude that the well can easily produce more than 355 gallons per minute, with a specific capacity of 9.59 gpm per foot of drawdown.

Water Resources Protection

Rancho Lake 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. Personnel will have access to portable restroom facilities at all times when onsite, and those restroom facilities will be established in a location that is at least 150 feet from any surface water body, and serviced regularly.

The Project Parcel was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order (Order No. WQ-2019-0001-DWQ), as a Tier 2 Low Risk Discharger on October 30th, 2020. Site Management and Nitrogen Management Plans will be developed for the proposed cultivation operation, and submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) for review, prior to planting. Each year, prior to March 1st, an Annual Monitoring Report will be prepared and submitted to the CVRWQCB, demonstrating measures taken over the course of the previous year to comply with the Cannabis General Order. Rancho Lake will maintain compliance with the Cannabis General Order for the protection of water resources for as long as the proposed cultivation operation is operating.

Water Sources and Storage

All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 38.77697° and Longitude -122.52711°, directly adjacent to the proposed cultivation operation. On July 6th, 2021 JAK Drilling & Pump (licensed well driller) performed a well yield test of this well, pumping it at 355 gallons per minute for six hours, to thoroughly evaluate the production capacity of the well. The results of this test indicate that the groundwater well located at Latitude 38.77697° and Longitude -122.52711° is capable of producing over 355 gallons per minute. Rancho Lake proposes to install twenty 5,000-gallon heavy-duty plastic water storage tanks on the Project Parcel to provide additional stored water for irrigation purposes/uses. Rancho Lake may develop additional water storage on the Project Parcel should it be needed to support the irrigation and fire protection 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. Irrigation water will be pumped from the water storage tanks to the irrigation systems of the proposed cultivation areas via HDPE water supply lines. 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. Rancho Lake 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 system of the proposed

cultivation/canopy areas will be composed of PVC piping and drip tapes/lines under white plastic mulch (to conserve water resources).

Water Availability Analysis

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."

Based on the information above, the proposed cultivation operation would have an estimated annual water use requirement of approximately 2.5 acre-feet per acre. The maximum total proposed outdoor cannabis canopy area is 854,840 ft^2 (approximately 19.6 acres), with an expected total annual water use requirement of approximately 49.1 acre-feet (~16,000,000 gallons). The cultivation season for the proposed outdoor cannabis cultivation operation would begin in May and end in November of each year. The following table presents the expected water use of the proposed cultivation operation by month during the cultivation season in gallons and acre-feet.

May	June	July	Aug	Sept	Oct	Nov
2,118,000	2,379,000	2,509,000	2,705,000	2,509,000	2,281,000	1,499,000
6.5	7.3	7.7	8.3	7.7	7.0	4.6

All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 38.77697° and Longitude -122.52711°. On July 6th, 2021 JAK Drilling & Pump (licensed well driller) performed a well yield test of this well, pumping it at 355 gallons per minute for six hours, to thoroughly evaluate the production capacity of the well. The results and conclusions of this test indicate that the groundwater well located at Latitude 38.77697° and Longitude -122.52711° is capable of producing over 355 gallons per minute. Rancho Lake proposes to install thirty 5,000-gallon heavy-duty plastic water storage tanks on the Project Parcel to provide additional stored water for irrigation purposes/uses. Rancho Lake may develop additional water storage on the Project Parcel should it be needed to support the irrigation and fire protection needs of the proposed cultivation operation.

The peak anticipated daily demand for water of the proposed cultivation operation is ~90,000 gallons per day, which equates to a need for the water supply well to produce at least 125 gallons

per minute in a 12 hour period. When the water supply groundwater well was drilled, it had an estimated yield of 300 gallons per minute. On July 6th, 2021 JAK Drilling & Pump (licensed well driller) performed a well yield test of this well, pumping it at 355 gallons per minute for six hours. Analyzing data from the well performance test, we can conclude that the well could easily produce more than 125 gallons per minute. As a result, there is little doubt that the existing onsite groundwater well will be able to provide enough water for the proposed cultivation operation on the hottest driest days in the latest part of the summer when irrigation water is needed most.

Water Conservation

Per the Water Conservation and Use requirements outlined in the SWRCB's Cannabis General Order, the following Best Practical Treatment and Control (BPTC) measures will be implemented to conserve water resources:

- Regularly inspect the entire water delivery system for leaks and immediately repair any leaky faucets, pipes, connectors, or other leaks.
- Apply weed-free mulch in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.
- Implement water conserving irrigation methods (drip or trickle and micro-spray irrigation).
- Maintain daily records of all water used for irrigation of cannabis. Daily records will be calculated by using a measuring device (inline water meter) installed on the main irrigation supply line between the water storage area and cultivation areas.
- Install float valves on all water storage tanks to keep them from overflowing onto the ground.

Monitoring and Reporting

A NSF/ANSI 61 compliant positive displacement mechanical brass totalizing meter, and water level meter equipped with data logging capabilities, will be installed on the existing water supply groundwater well prior to cultivation. Inline water meters compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7 will be installed on the main water supply lines running between the groundwater well and the storage tanks of the cultivation operation. Rancho Lake's staff will record daily water meter readings, and will maintain those records onsite for a minimum of five years. Rancho Lake 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 2/23/2021

WCR2021-002299

Owner's Well Number | Date Work Began 02/02/2021 | Date Work Ended 02/11/2021

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

Secondary Permit Agency | Permit Number WE-5548 | Permit Date 01/20/2021

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

Name James Comstock

Mailing Address C/O All Good LLC

2349 Circadian Way

City Santa Rosa State Ca Zip 95407

Planned Use and Activity

Activity New Well

Planned Use Water Supply Irrigation - Agriculture

Well Location

Address 19955 Grange RD

City Middletown Zip 95461 County Lake

Latitude 38 Deg. 46 Min. 34.7 Sec. N Longitude -122 Deg. 31 Min. 28 Sec. W

Dec. Lat. 38.7763056 Dec. Long. -122.5244444

Vertical Datum | Horizontal Datum WGS84

Location Accuracy 20 Ft | Location Determination Method

APN 014-029-08

Township 11 N

Range 06 W

Section 28

Baseline Meridian Mount Diablo

Ground Surface Elevation

Elevation Accuracy

Elevation Determination Method

Borehole Information

Orientation Vertical Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite

Total Depth of Boring 160 Feet

Total Depth of Completed Well 140 Feet

Water Level and Yield of Completed Well

Depth to first water | (Feet below surface)

Depth to Static Water Level 22 (Feet) Date Measured 02/11/2021

Estimated Yield* 300 (GPM) Test Type Air Lift

Test Length 1 (Hours) Total Drawdown 113 (feet)

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

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	20	Sand, soil and gravel
20	79	Sand and gravel
79	90	Sand and clay
90	112	Gravel and sand
112	129	Gravel
129	160	Clay

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	50	Blank	PVC	OD: 8.625 in. | SDR: 17 | Thickness: 0.508 in.	0.508	8.625			
1	50	130	Screen	PVC	OD: 8.625 in. | SDR: 17 | Thickness: 0.508 in.	0.508	8.625	Milled Slots	0.032	
1	130	140	Blank	PVC	OD: 8.625 in. | SDR: 17 | Thickness: 0.508 in.	0.508	8.625			

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	50	Cement	Portland Cement/Neat Cement		Seal
50	160	Filter Pack	Other Gravel Pack	3/8	Pea Gravel

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	50	14.75
50	160	12.25

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) | 02/23/2021 (Date Signed) | 177681 (C-57 License Number)

Attachments

014-290-08.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:

JAK Drilling & Pump

Well Drilling Pumps Water Treatment

Hole to Home

WELL PERFORMANCE TEST REPORT

Client Name: Somarosa Farms Attn: Melissa Huynh
Property Location: 19955 Grange Road, Middletown, CA
Parcel Number: 014-290-08
Number of Wells Evaluated: One
Well Performance Test Completion Date: March 12, 2021
Water Samples Collected: No
Pump Technician: Quinn Beckens

Location Description: 38.7763056, -122.524444
Total Depth: 140-feet below top of casing
Depth to Static Water Level: 13-feet below the top of casing
Diameter of well: 8-inches
Casing type: PVC
Test Duration: 6-hours
Test Type: Pump
Pumping Rate: > 129.69=Gallons Per Minute (GPM)

Observations: The well is located south of the property boundary in the northeast corner of the parcel (see attached Parcel Boundary and Well Location Maps). Per the attached Well Completion Report, the well was completed on February 11, 2021 by Week's Drilling and Pump Company. The well does not currently contain a submersible pump system. Per the well drilling report, while airlifting for approximately 1-hour, the well purportedly produced 300-GPM. Due to time constraints associated with obtaining a test pump capable of producing flows of 300+ GPM, the well performance test was conducted using a 100-GPM series submersible test pump.

Well Performance Pump Test:
The six-hour pump test was conducted on March 12, 2021 using a temporarily installed 5-horse 100-GPM submersible test pump set in accordance with industry standards. Per the pump curve, the submersible test pump is capable of producing flows of up to 130-GPM at a pumping level of between 140 and 150-feet below the top of casing. The static water level within the well was measured prior to the start of the test. Once the performance test began, the depth-to-water or pumping level was measured manually with a Powers Water Meter in the well every five minutes during the first half hour of the test and then every 10-minutes for the next hour of the test. The measurement interval was then increased to every 30-minutes for the remainder of the six-hour test. The pumping rate was measured by timing the flow through a temporarily installed totalizing flow meter connected to the discharge pipe directed away from the well location. The pumping rate was measured at the same intervals as the pumping level. Both the depth-to-water/pumping level and pumping rate measurements are summarized in the attached table.

The static water level was measured at 13-feet below the top of casing at the start of the performance test. The pumping level did not stabilize and slowly decreased over the course of the entire test; for example, the maximum drawdown of 20.25-feet was observed at the end of the test at 33.25-feet below the top of casing. The pumping rate, measured by timing the flow through the totalizing flow meter, measured at 130-GPM at the beginning of the test and then pulsed between 128-GPM and 131-GPM. After six hours of pumping, the well produced 46,690-gallons which averages out to a pumping rate of 129.69-GPM. Per the attached well completion report, the well is capable of higher flow volumes than what was observed during the test.

After six hours of pumping, well pump was shut off and the well was then allowed to rest and recharge. The depth-to-water was measured in the well after 10-minutes at 22.00-feet and then again in the well after 30-minutes at 17-feet below the top of casing; resulting in a recharge rate of 80.25% after resting 40-minutes. At the observed rate of recharge the well would be fully recharged within an hour of turning off the pump.

Water Quality: During the course of the performance test, JAK collected a water sample for the purpose of a field quality test with the following results:

Parameter	Concentration	Discussion
Hardness	41-Grains per gallon	VERY HARD, a softener is recommended when the hardness is greater than 7-gpg
Iron (ferrous)	1.6-part per million	EPA suggests a concentration of less than 0.3ppm for public drinking water system, higher concentrations can cause rust staining over time
pH	6.8	A pH of 7.0 is considered neutral
Total Dissolved Solids	690-part per million	Less than 500-ppm is acceptable, the higher the concentration the harder the water typically

Disclaimer:
Observations made of the well(s) are strictly limited to the date and time that the test(s) was conducted and are in no way a guarantee of future conditions, including but not limited to the quantity and/or quality of the water produced by this well. Please feel free to contact our office if there are any questions regarding the well test and/or well test report.

Sincerely,

Jessica Moreno
JAK Drilling & Pump

Attachments:
Parcel Boundary Map
Well Location Map
Well Completion Report
Table 1: Well Performance Test Data



PARCEL BOUNDARY MAP

19955 Grange Road

Middletown, CA



WELL LOCATION MAP

19955 Grange Road

Middletown, CA

TABLE 1
WELL PERFORMANCE TEST DATA
19955 Grange Road, Middletown, CA
March 12, 2021

Time	Gallons Per Minute	Depth to Water In Feet Below Top of Casing
11:25	Static	13.00
11:30	130.00	26.00
11:35	130.00	26.00
11:40	130.00	27.00
11:45	130.00	27.00
11:50	130.00	27.00
11:55	128.00	28.00
12:05	128.00	28.00
12:15	131.00	29.00
12:25	131.00	29.00
12:35	132.00	30.00
12:45	131.00	30.00
12:55	132.00	31.00
13:25	131.00	31.50
13:55	131.00	32.00
14:25	131.00	32.50
14:55	131.00	32.50
15:25	131.00	32.67
15:55	130.00	33.00
16:25	130.00	33.00
16:55	130.00	33.00
17:25	131.00	33.25
17:35	RECHARGE	22.00
18:05	RECHARGE	17.00

NOTES:

Flow rate measured by timing flow through totalizing flow meter.

Meter Start	Meter End	Total Volume Produced
70415	117105	46,690-gallons

Average Pumping Rate = 46,690 gallons/360 Minutes = 129.69-GPM
Recharge Rate = (((33.25 -17) ÷ (33.25-13)) x 100) = 80.25%

DWR MONITORING WELL EAST OF PROJECT PARCEL

CALIFORNIA DEPARTMENT OF WATER RESOURCES

WDL Station Map | Water Quality | Groundwater | Continuous Data | About | Login

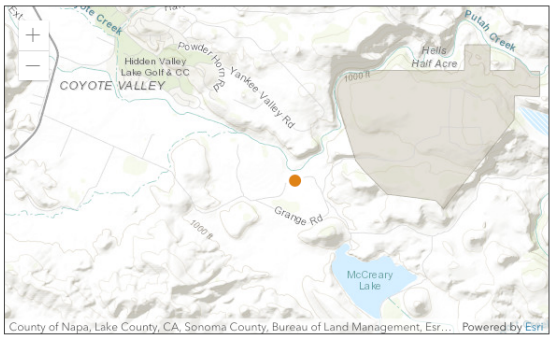
Back to Search

Groundwater Level Report

Station 387746N1225223W001

Station Data | Groundwater Level Data

State Well Number:	11N06W27M001M
Local Well Name:	11N-06W-27M1
Site Code:	387746N1225223W001
Latitude (NAD83):	38.7746
Longitude (NAD83):	-122.5223
Basin Subbasin Name (Code):	Coyote Valley (5-018)
Well Use Type:	Stockwatering
Well Status:	Active
WCR Number:	NONE
Reference Point Elevation (NAVD88 ft):	947.880
Ground Surface Elevation (NAVD88 ft):	947.380
Well Depth (feet bgs):	
Perforated Interval Depths (feet bgs):	

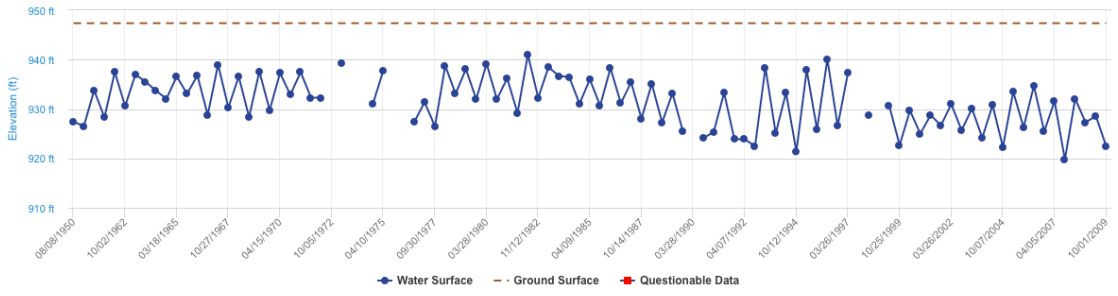


Groundwater Level Report

Station 387746N1225223W001

Station Data | Groundwater Level Data

Groundwater Levels for Well 387746N1225223W001



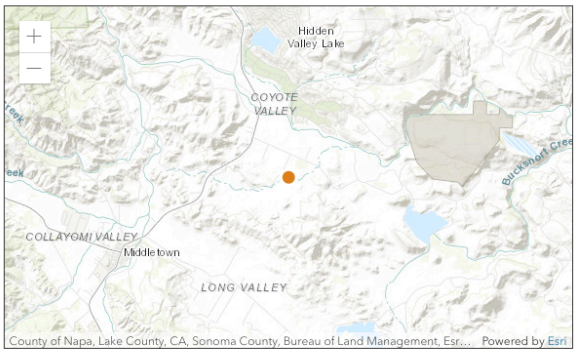
DWR MONITORING WELL WEST OF PROJECT PARCEL

Groundwater Level Report

Station 387732N1225564W001

Station Data | Groundwater Level Data

State Well Number:	11N06W29M001M
Local Well Name:	11N-06W-29M1
Site Code:	387732N1225564W001
Latitude (NAD83):	38.773162
Longitude (NAD83):	-122.556342
Basin Subbasin Name (Code):	Coyote Valley (5-018)
Well Use Type:	Irrigation
Well Status:	Active
WCR Number:	
Reference Point Elevation (NAVD88 ft):	958.500
Ground Surface Elevation (NAVD88 ft):	958.000
Well Depth (feet bgs):	100
Perforated Interval Depths (feet bgs):	

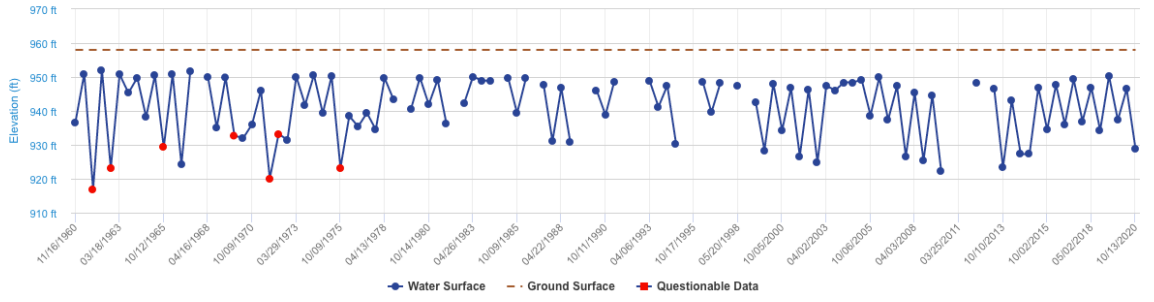


Groundwater Level Report

Station 387732N1225564W001

Station Data | **Groundwater Level Data**

Groundwater Levels for Well 387732N1225564W001



APPENDIX – PHOTOS



Entrance to Project Property (locking metal gate across Grange Road)



Grange Road on the Project Property (east view)



Junction of Grange & Comstock Ranch Roads (upper photo) and Class II Watercourse Crossing



Ephemeral Class II Watercourse Crossing of Comstock Ranch Road – 5’ CMP Culvert and 8’ Cattle Guard



Location of Proposed Cultivation/Canopy Area (southwest view)



Visual Example of Proposed Cultivation Methods/Practices (photo from Licensed Cannabis Farm)

Cannabis Cultivation Project (19955 Grange Road)

PEST MANAGEMENT PLAN

Cultural Control Methods:

Sanitation

Effective pest and disease control methods begin with avoidance, the backbone of which is rigorous sanitation. The facility is routinely cleaned to prevent the build up of excess dirt, dust, and debris via sweeping, mopping, and/or vacuuming. Growing surfaces, such as rolltop benches, are cleaned and sanitized after removal of older plants and prior to placement of new plants on the benches. Weeds in and around the greenhouse and outdoor cultivation are destroyed via hoeing or spraying with organic herbicide. Ant traps are regularly placed around premises to kill ants, which have a symbolic relationship with aphids and increase aphid pressure significantly. Dead and unhealthy leaves are removed from cannabis plants and container media are kept free of dead leaves and weeds. Tools, such as pruning shears, are routinely sanitized with rubbing alcohol during use as well as before and after use.

Scouting

Trained horticultural technicians routinely monitor plants and indicator cards (e.g., sticky yellow and blue cards) for the presence of pests and disease and/or symptoms of their damage. Additionally, plants are routinely removed from containers and the roots and soil is inspected for the presence of pest and disease.

Irrigation & Fertilization

In order to avoid environmental conditions and depleted plant health conducive to pest and/or pathogen infestation plants are properly irrigated and fertilized.

Environmental Monitoring

Anticipating pest and pathogen pressure via monitoring weather forecast allows cultivators to take prophylactic measures (changes in environmental control parameters, changes in irrigation/fertilization, application of preventative chemical control products, preventative release of biological control agents) prior to outbreaks of pests or disease.

Biological Control Methods:

Biological Control Agents

Release of insect, arachnid, and nematode natural enemies of pests is performed on both preventative and reactive/curative bases. Natural enemies, also known as biological control agents, are typically either predators (directly consume pest) or parasitoids (lay eggs in pests) or pests. Biological control agents are released on scheduled basis; their releases are increased in quantity and frequency when necessary based on weather forecasts indicating increased pest pressure and/or identification of pests or symptoms of their presence. Chemical control methods are typically ceased for approximately one week following biological control agent releases.

Microbial Pesticides

Microbial pesticides are used prophylactically when pest and disease pressure is high and reactively under pre-infestation level pest and pathogen levels. Microbial pesticides contain live or dormant inoculum of bacteria or fungi and/or metabolites derived from their fermentation. Acceptable microbial insecticides active ingredients include *Bacillus thurinigensis* subsp. Kurkstaki, *B. thurinigensis* subsp. *Israelensis, Beauveria bassiana, Burkholderia* spp., *Chromobacterium subtsugae*, and *Isaria fumosorosea*; the modes of action of most microbial insecticides are enzymatic degradation of pest exoskeletons, stomach poisons that necessitate ingestion by pest, and reduced pest reproductive capabilities following exposure. Acceptable microbial fungicides and bactericides active ingredients include *Bacillus amyloliquefaciens, B. subtilis, Streptomyces lydicus,* and *Trichoderma harzianum;* the most common mode of action of microbial fungicides and bactericides is suppression via competitive exclusion, meaning that preventative applications are the most effective way to apply these materials.

Chemical Control Methods:

Prophylactic

Similar to microbial pesticides, many of the pesticides acceptable for use of cannabis in California are most effective when applied preventatively and/or when pest populations and disease levels are low. Examples of acceptable chemical pesticides that can or must be used prophylactically are azadirachtin, neem oil, phosphorous acid, potassium silicate, *Reynoutria sachalinensis* extract, and sulfur. Preventative chemical control method modes of action generally activate plant immune responses to improve resistance to pests and pathogens and/or leave a residue on plants to create conditions undesirable for pests and pathogens.

Curative

The limited number of acceptable curative chemical control insecticides/acaricides generally have two modes of action: smothering/suffocation and desiccation; such active ingredients include horticultural oil, potassium salts of fatty acid, and sulfur. Curative chemical control fungicides/bactericides generally have three modes of action: leaving reside on leaf surface that changes leaf chemistry in fashion unsuitable for pathogens, oxidation, and desiccation; examples of these active ingredients include potassium bicarbonate, hydrogen dioxide and peroxyacetic acid, potassium salts of fatty acid, horticultural oil, and sulfur. While curative control methods are affective at eradicating pests and pathogens, they are most effective when applied prior to infestation levels and make curative applications prior to severe outbreaks occurring.

Products that may be applied at any Stage of Plant Growth

Product Name	**Ingredient(s)**
Azaguard	Azadirachtin
Azamax	Azadirachtin
Pyganic Gardening	Pyrethrins
Pyganic 5.0	Pyrethrins
Green Cleaner	Soybean oil, Sodium lauryl sulfate, Isopropyl alcohol, Water, Sodium citrate, Citric acid
Circadian Sunrise	Water, Corn oil, Sodium lauryl sulfate, Kaolin clay, Gum Arabic, Potassium bicarbonate