PROPERTY MANAGEMENT PLAN

APPLICANT
Raphael Knapp

PROJECT LOCATION
4457 New Long Valley Road
Clearlake Oaks, CA 95423

PROJECT PROPERTY
Lake County APNs 006-009-23 and 53

TABLE OF CONTENTS

PROJECT DESCRIPTION

Raphael Knapp is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 4457 New Long Valley Road near Clearlake Oaks, CA on Lake County APNs 006-009-23 & 53 (Project Property). The proposed commercial cannabis cultivation operation would be developed in two stages. During the first stage of site development, the proposed cultivation operation would be composed of up to four acres (174,240 ft^2) of outdoor cultivation/canopy area, a 6,000 ft^2 Processing Facility (metal building), and a 120 ft^2 Pesticides & Agricultural Chemicals Storage Area (wooden shed). During the second stage of site development, twelve 3,000 ft^2 greenhouses and twenty-two 1,000 ft^2 hoop houses will be constructed within the footprint of two of the four acres of outdoor cultivation/canopy area established in the first phase of site development. The proposed cultivation operation would contain up to 174,240 ft^2 of Outdoor Canopy after the first stage of site development, and up to 87,120 ft^2 of Outdoor Canopy and 44,000 ft^2 of Mixed-Light Canopy after the second stage of site development.

The 99-acre RL-zoned Project Property is located within the Long Valley Creek watershed (HUC12), and approximately 4 miles north of the community of Clearlake Oaks, CA. The Project Property is accessed via two private access roads off of a New Long Valley Road. Both of the private access roads connect the Project Property to New Long Valley Road via steel bridges with wooden running surfaces over Long Valley Creek. Locking metal gates across the private gravel access roads control vehicular access to the Project Property. Historical land uses of the Project Property include extensive agriculture (animal grazing) and collective cannabis cultivation. The Project Property was recently burned in the Ranch Fire of 2018.

The northern third of the Project Property (where the proposed cultivation operation would be located) is relatively flat, located on the floor of Long Valley, with elevations between 1,300 and 1,315 feet above mean sea level. The southern two-thirds of the Project Property is mountainous, located on the northern slopes of High Valley Ridge, with elevations that range from 1,300 to 1,980 feet above mean sea level. Long Valley Creek, a perennial Class I watercourse, flows from northwest to southeast along the northern boundary of the Project Property. Sulphur Canyon Creek, an intermittent Class II watercourse and tributary of Long Valley Creek, flows from west to east through the Project Property, separating the relatively flat northern third of the Project Property from the mountains to the south. Multiple ephemeral Class III watercourses form on and/or flow through the Project Property, draining into Long Valley and Sulphur Canyon Creeks. No cannabis cultivation activities nor agricultural chemicals storage would occur within 100 feet of any surface waterbody. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°.

The cultivation season for the proposed outdoor cultivation/canopy areas would begin on or after May 15th of each year (depending on climactic conditions) and end on or before November 15th of each year. The proposed outdoor cultivation/canopy areas would be enclosed with 6-foot tall galvanized woven wire fencing, covered with privacy screen/mesh where necessary to screen the cultivation/canopy area from public view. Locking metal gates would be used to control access to the proposed outdoor cultivation/canopy areas. The growing medium of the proposed outdoor cultivation/canopy areas would be native soil amended with compost, with drip irrigation systems.

The proposed mixed-light canopy areas would be located within ten 30' X 100' (3,000 ft^2) greenhouse structures and twenty-two 10' X 100' (1,000 ft^2) hoop house structures. The growing medium of the proposed mixed-light canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in garden beds and nursery pots, with drip and micro-spray irrigation systems. Two of the proposed 3,000 ft^2 greenhouses would be used to cultivate immature plants for the proposed outdoor and mixed-light canopy areas. The cultivation season for the proposed mixed-light canopy areas would begin in March and end in December of each year. The immature plant greenhouses would be operated year-round.

Solid waste generated from the proposed cultivation operation will be transported weekly to the Eastlake Landfill. All cannabis waste generated from the proposed cultivation operation would be chipped and composted onsite. Composted cannabis waste would be stored in a designated composting area, until it is incorporated into the growing medium of the cultivation areas, as an organic soil amendment. Chemicals stored and used at the proposed cultivation operation include fertilizers/nutrients, pesticides, and petroleum products (agricultural chemicals). All agricultural chemicals will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Area. Only pesticides approved by the California Department of Pesticide Regulation and/or the California Department of Food and Agriculture for use on cannabis plants will be used.

Up to 13,000 watts of LED horticultural lights will be installed within each of the proposed greenhouses, for supplemental light. The proposed greenhouses will be covered with a black plastic film to prevent light from escaping when artificial light is being used. The Project Property is serviced by Pacific Gas and Electric's electrical grid. A new electrical utility service connection would be needed to provide power to the proposed greenhouses. The existing electrical utility service connection of the Project Property would be used to supply power to the existing groundwater well and proposed Processing Facility.

Self-Distribution

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

SITE PLANS AND MAPS (See Attachment 1)

Sheet 1 – Location Map

Sheet 2 – Surrounding Area Aerial

Sheet 3 – Existing Conditions Site Plan

Sheet 4 – Proposed Conditions Site Plan - Stage I

Sheet 5 – Proposed Conditions Site Plan - Stage II

Sheet 5 – Cultivation Site Plan with Canopy

Sheet 6 – Security Site Plan

Sheet 7 – Erosion and Sediment Control Site Plan

Sheet 8 – Proposed Processing Facility Layout

Sheet 9 – Greenhouse Elevations

Sheet 10 – Proposed Processing Facility Elevation

Lake County, CA

4457 New Long Valley Road

Web AppBuilder for ArcGIS

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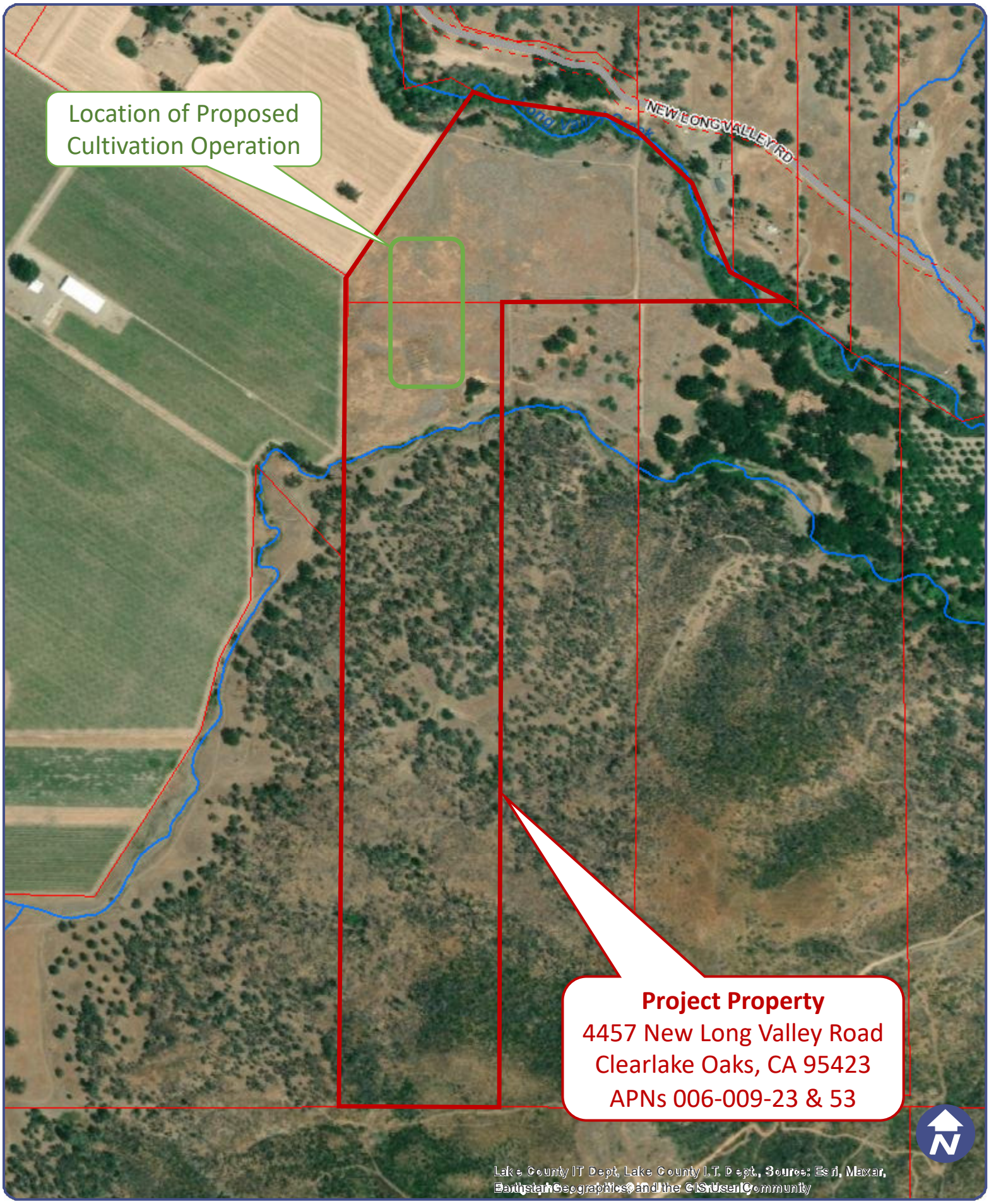
0 2 4

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

Print Date: 10/17/2022



Lake County, CA

4457 New Long Valley Road

built with Web AppBuilder for ArcGIS

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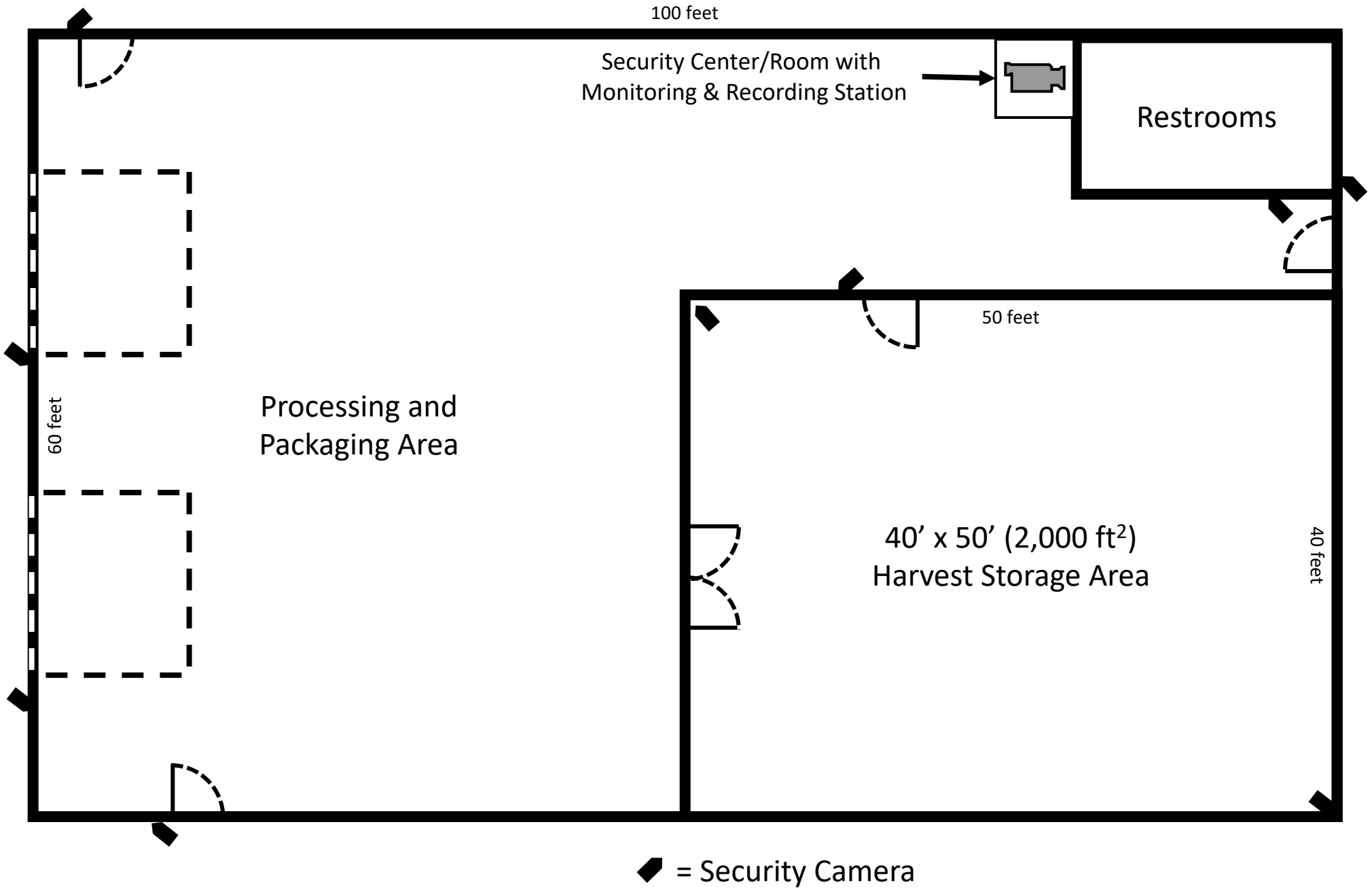
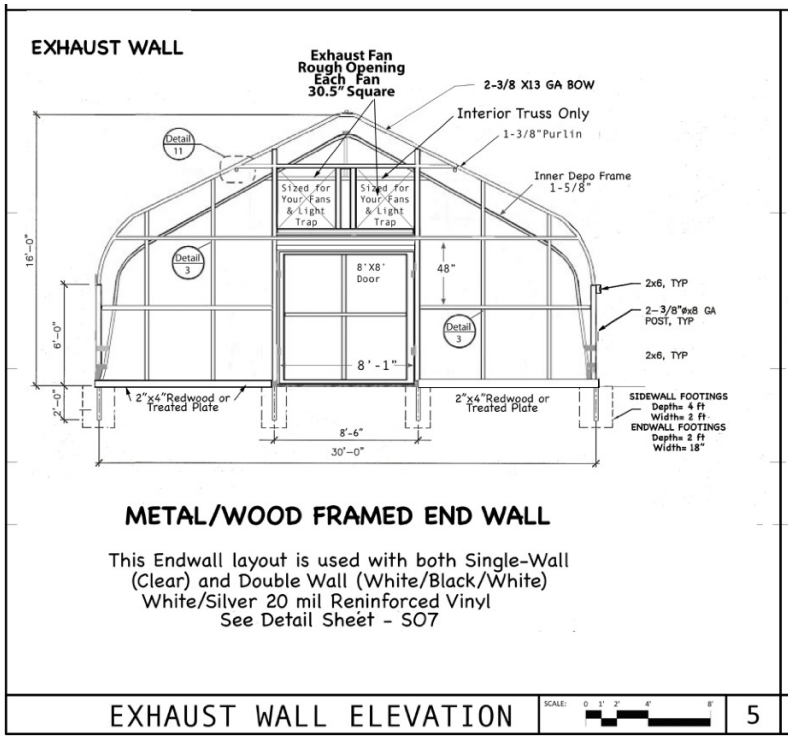
All parcel boundaries are *approximate*. Discrepancies in acerage, shape and location are common.
This map is not the legal survey document to be used in single site determinations. Consult your deed for a legal parcel description.

Print Date: 10/17/2022

PROPOSED PROCESSING FACILITY LAYOUT



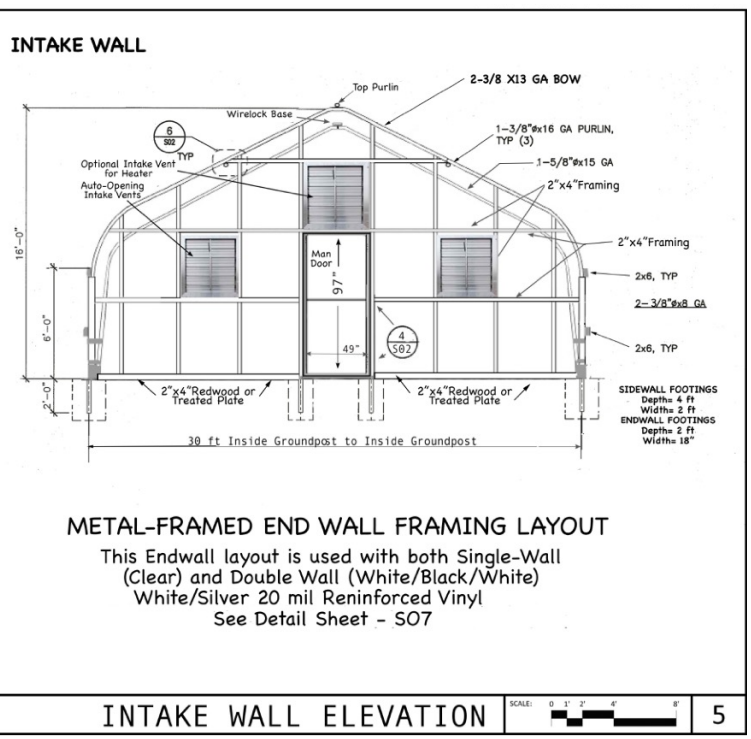
GREENHOUSE ELEVATIONS



METAL/WOOD FRAMED END WALL

This Endwall layout is used with both Single-Wall (Clear) and Double Wall (White/Black/White) White/Silver 20 mil Reninforced Vinyl
See Detail Sheet - S07

EXHAUST WALL ELEVATION | SCALE: 0 1' 2' 4' 8' | 5



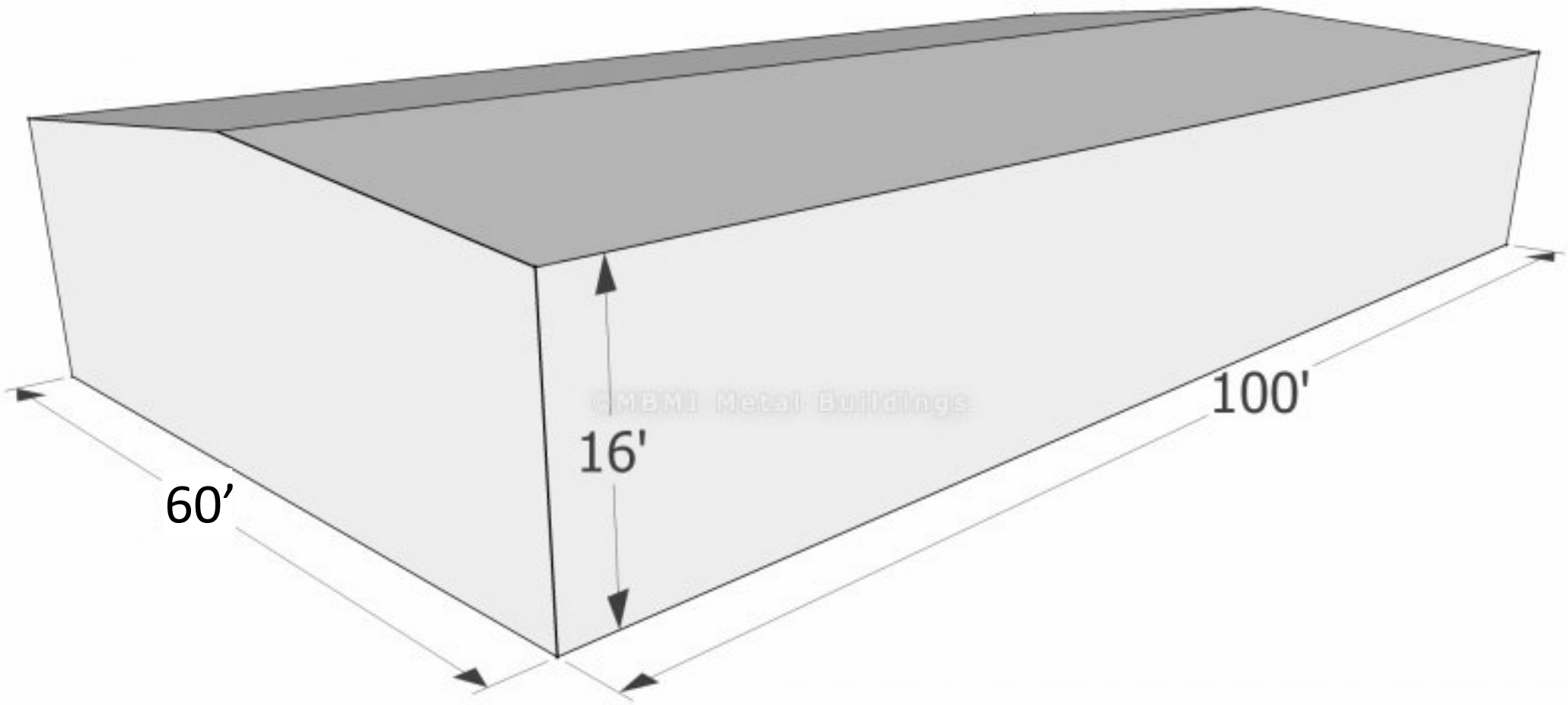
METAL-FRAMED END WALL FRAMING LAYOUT

This Endwall layout is used with both Single-Wall (Clear) and Double Wall (White/Black/White) White/Silver 20 mil Reninforced Vinyl
See Detail Sheet - S07

INTAKE WALL ELEVATION | SCALE: 0 1' 2' 4' 8' | 5

PROPOSED PROCESSING FACILITY ELEVATION

(Proposed Metal Building on Concrete Slab)



SECTION – C

AIR QUALITY MANAGEMENT PLAN

Air Quality Management Plan

Purpose and Overview

Raphael Knapp is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 4457 New Long Valley Road near Clearlake Oaks, California on Lake County APNs 006-009-23 & 53 (Project Property). The proposed commercial cannabis cultivation operation would be developed in two stages. During the first stage of site development, the proposed cultivation operation would be composed of up to four acres (174,240 ft^2) of outdoor cultivation/canopy area, a 6,000 ft^2 Processing Facility (metal building), and a 120 ft^2 Pesticides & Agricultural Chemicals Storage Area (wooden shed). During the second stage of site development, twelve 3,000 ft^2 greenhouses and twenty-two 1,000 ft^2 hoop houses will be constructed within the footprint of two of the four acres of outdoor cultivation/canopy area established in the first phase of site development.

The proposed outdoor cultivation areas would be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen/mesh where necessary to screen the cultivation areas from public view. The growing medium of the proposed outdoor canopy areas will be native soil amended with compost. The proposed mixed-light canopy areas would be located within ten 3,000 ft^2 greenhouse structures and twenty-two 1,000 ft^2 hoop house structures. The growing medium of the proposed mixed-light canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in garden beds and nursery pots. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°, and drip and micro-spray irrigation systems will be used to deliver irrigation water and to conserve water resources.

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…), a utility tractor (diesel engine), and from vehicular traffic associated with staff commuting. The generation of carbon dioxide would be offset by 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 soil or compost piles, and vehicle or truck trips on unpaved roads. Fugitive dust would be controlled by applying gravel or crushed rock (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 soil 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 proposed odor control equipment and practices, and the generous setbacks provided from public roads, property lines, and neighboring residences/outdoor activity areas. The ventilation system of the proposed Processing Facility, in which the processing of raw cannabis plant material from the proposed cultivation areas will occur, will be equipped with carbon filters/air scrubbers to mitigate odors emanating from the building. Accurate records of repairs and replacements to the ventilation and odor mitigation system will be maintained and retained onsite for at least three years.

Monitoring and Maintenance

All air filtration and odor mitigation equipment of the proposed cultivation operation will be inspected quarterly to determine if maintenance or replacement is required. The carbon filters/air scrubbers of the proposed Processing Facility will be replaced each quarter. Management will log and maintain accurate records, repairs, and replacements to ventilation and odor mitigation systems, and those records will be maintained onsite for at least three years. Management will review all documentation pertaining to the performance of this AQMP annually, to determine if the risk of nuisance odors or other air contaminants are within acceptable tolerances, or if they can be mitigated further by implementing new best management practices or advanced mechanical systems. All data and information will be made available to Lake County and/or Lake County Air Quality Management District officials upon request.

Odor Response Program

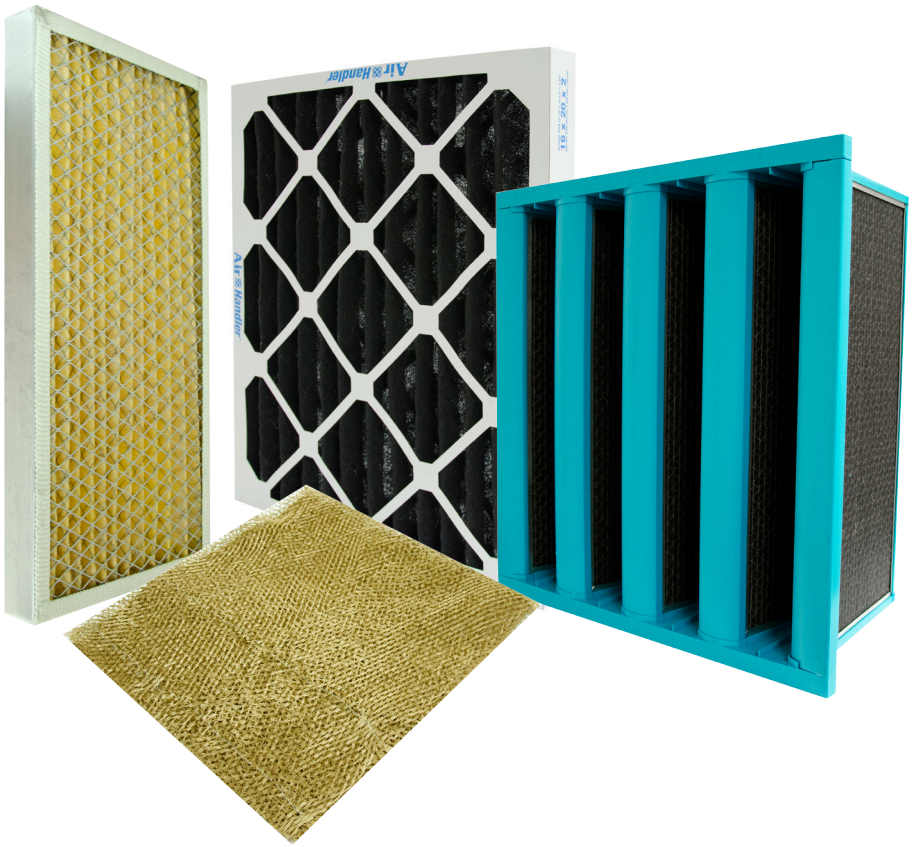
A Community Liaison/Emergency Contact will be made available to Lake County Officials/Staff and the Lake County Sheriff's Office at all times to address any needs or issues that may arise. The Community Liaison/Emergency Contact will be responsible for responding to odor complaints 24 hours a day, seven days a week, including holidays. Mr. Knapp 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. The Community Liaison/Emergency Contact will encourage neighboring residents and property owners to contact them 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 or other). Then mitigation methods will be 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. Raphael Knapp. Mr. Knapp's cell phone number is (510) 910-3354, and his email address is rafeknapp@gmail.com. There are no residences within 1,000 feet of the proposed Cultivation Operation. The owners of all properties within 250 feet of the Project Property will receive Mr. Knapp's contact information before development of the proposed cultivation operation occurs.

SPECIALTY FILTRATION



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Air Handler®

Clear the air. Ease your mind.

CARBON PLEAT

- Dual purpose: Filters particulate and absorbs odor
- Effective gas phase filter for intermittent gas applications
- Excellent filter to determine if carbon filters will help remove the odor
- Low pressure drop
- Disposable, easy installation, low service cost
- All filters wrapped and sealed in protective plastic bags to maintain filter viability

DESCRIPTION

The Air Handler Carbon Pleat filters are designed for the control of intermittent odor problems. Carbon pleated filters remove a wide range of odors and common indoor air pollutants. The advanced media has improved capability to absorb nuisance odors.

The fitler's construction consists of pleated, non-woven/ polyester media, impregnanted with an activated carbon. The pleated filter pack is enclosed in a heavy duty, moisture resistant (beverage board) die-cut frame that will not crack, warp or distort under normal operating conditions.

BENEFITS

In some light duty applications, the effectiveness of carbon pleated filters can equal many long-term solutions used for controlling odor problems. Carbon pleated filters can be used as a low cost method to verify the potential effectiveness of carbon for controlling odors. The carbon pleat receives an efficient removal of particulate MERV 6 per ASHRAE Standard 52.2-2007.

APPLICATIONS

The Air Handler Carbon Pleat is well suited for use where gas contaminants are low and/ or intermittent. Provides relief of odors created by cigarette smoke, industrial process, copier, pets and musty areas.

These filters are well suited for use in air make-up systems and re-circulation applications in office buildings, hospitals, airports, food courts and manufacturing facilities.

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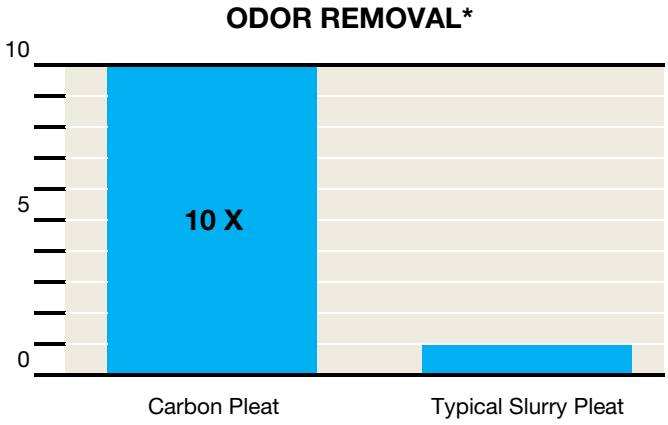
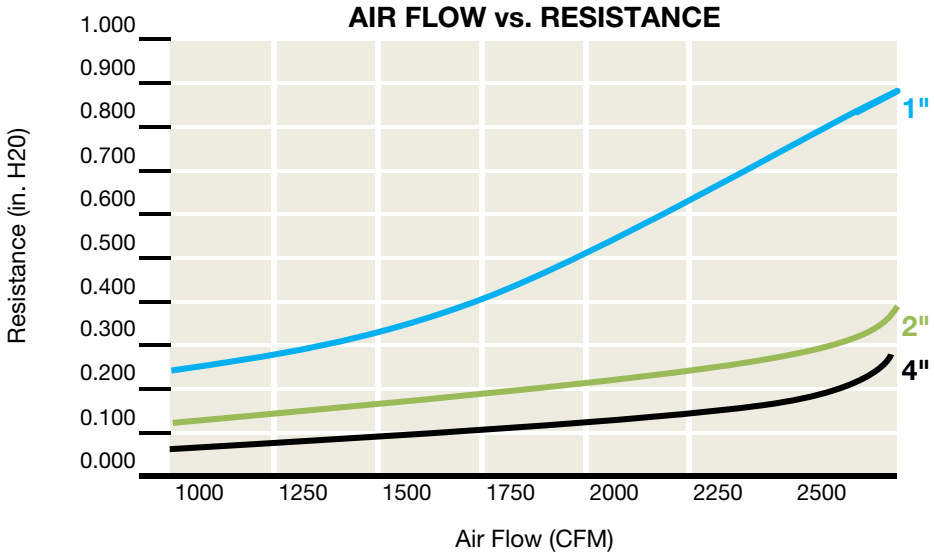
CARBON PLEAT

ODOR REMOVAL



*Amount of gas or odor removed at 50% break through given 880 PPM of Toluene @ 40 (media velocity)



*Results based on 24x24 filter

DIMENSIONS & PART #S

Nominal Size (in.)			Initial Resistance @ 250 FPM ("w.g.)	Initial Resistance @ 500 FPM ("w.g.)	Grainger #
H	W	D			
10	10	1	0.23	0.63	6B915
10	20	1	0.23	0.63	6B914
12	12	1	0.23	0.63	6B912
12	20	1	0.23	0.63	6B911
12	24	1	0.23	0.63	6B910
14	20	1	0.23	0.63	6B907
14	24	1	0.23	0.63	6B905
14	25	1	0.23	0.63	6B904
15	20	1	0.23	0.63	6B902
16	16	1	0.23	0.63	6B900
16	20	1	0.23	0.63	6B899
16	24	1	0.23	0.63	6B896
16	25	1	0.23	0.63	6B894
18	20	1	0.23	0.63	6B891
18	24	1	0.23	0.63	6B890
18	25	1	0.23	0.63	6B887
20	20	1	0.23	0.63	6B886
20	24	1	0.23	0.63	6B883
20	25	1	0.23	0.63	6B880
22	22	1	0.23	0.63	6B877
24	24	1	0.23	0.63	6B876
25	25	1	0.23	0.63	6B873
10	20	2	0.13	0.34	6B913
12	24	2	0.13	0.34	6B909
14	20	2	0.13	0.34	6B906
14	25	2	0.13	0.34	6B903
15	20	2	0.13	0.34	6B901
16	20	2	0.13	0.34	6B898
16	24	2	0.13	0.34	6B895
16	25	2	0.13	0.34	6B893
18	24	2	0.13	0.34	6B889
20	20	2	0.13	0.34	6B885
20	24	2	0.13	0.34	6B882
20	25	2	0.13	0.34	6B879
24	25	2	0.13	0.34	6B875
25	25	2	0.13	0.34	6B872
12	24	4	0.07	0.23	6B908
16	25	4	0.07	0.23	6B892
20	20	4	0.07	0.23	6B884
20	24	4	0.07	0.23	6B881
20	25	4	0.07	0.23	6B878
24	24	4	0.07	0.23	6B874

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Clear the air. Ease your mind.

CARBON HONEYCOMB

- Dual function: Odor absorption and particulate filtration
- Granular activated carbon to remove odorous and irritating gaseous contaminants
- Honeycomb construction ensures low air flow resistance
- Effective gas phase filtration in a compact design
- Individually wrapped in plastic

DESCRIPTION

These combination particulate and carbon filters are designed for the control of intermittent odor problems in re-circulated air applications.

Honeycomb style filters are designed to remove a wide range of pollutants. The 1" honeycomb filters are constructed using 0.5" honeycomb with a 0.5" pre-filter pad. The 2" honeycomb filters are constructed using 0.75" of honeycomb with a 1" pre-filter pleat offering medium efficiency.

BENEFITS

The activated carbon presented in the honeycomb filter acts like a porous sponge, collecting and retaining certain chemical compounds on its surface. The ability of activated carbon to absorb a gas or vapor is called its activity.

Carbon used in these filters has a minimum carbon tetrachloride (CCL4) activity of 60% which means it will absorb 60% of its own weight of CCL4 vapor under a standard set of conditions.

Max. Temp. - 150°F

APPLICATIONS

Dual purpose activated Carbon Honeycomb filters are designed to eliminate general odor problems where concentration levels are not extremely heavy. These combination filters offer medium particulate filtration along with an absorbent carbon for fume and odor removal.

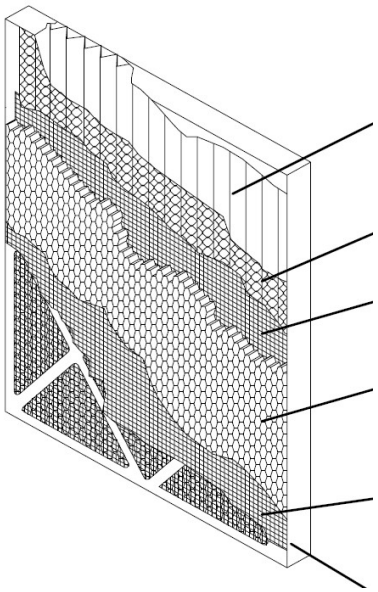
The honeycomb style filters are used extensively in office buildings, hospitals, airports, food courts and manufacturing facilities.

CARBON HONEYCOMB

ODORS REMOVED

- Cooking Odors
- Sewer Odors
- Gasoline Fumes
- Environmental Tobacco Smoke
- Most Volatile Organic Compound (VOC) Odors

FILTER ADVANCEMENTS



*NOTE: for 1" version a poly pad and no expanded metal replace the pleat media

DIMENSIONS & PART #S

0.5" POLY PRE-FILTER

50% Carbon Fill (with Pre-Filter)			
H	W	D	Grainger #
10	10	1	6B869
10	20	1	6B868
12	12	1	6B866
12	20	1	6B865
12	24	1	6W735
14	20	1	6B864
14	24	1	6B862
14	25	1	6B861
15	20	1	6B859
16	16	1	6B857
16	20	1	6W736
16	24	1	6B856
16	25	1	6W737
18	20	1	6B854
18	24	1	6B853
18	25	1	6B851
20	20	1	6W738
20	24	1	6B850
20	25	1	6W739
22	22	1	6B848
24	24	1	6W740
25	25	1	6B847

1" PLEATED PRE-FILTER

50% Carbon Fill (with Pre-Filter)			
H	W	D	Grainger #
10	20	2	6B867
12	24	2	6W741
14	20	2	6B863
14	25	2	6B860
15	20	2	6B858
16	20	2	6W742
16	24	2	6B855
16	25	2	6W743
18	24	2	6B852
20	20	2	6W744
20	24	2	6B849
20	25	2	6W754
24	24	2	6W746
25	25	2	6B846

0.5" POLY PRE-FILTER

			50% Carbon Fill (No Pre-Filter)	100% Carbon Fill (No Pre-Filter)	100% Carbon Fill (with Pre-Filter)
H	W	D	Grainger #	Grainger #	Grainger #
10	20	1	2JTW5	2JUA5	2JTR1
12	24	1	2JTW7	2JTR3	2JUT6
14	20	1	2JTW9	2JUA7	2JTR5
14	25	1	2JTX2	2JUA9	2JTR7
15	20	1	2JTX4	2JUC2	2JTR9
16	20	1	2JTX6	2JUC4	2JTT2
16	25	1	2JTX8	2JUC6	2JTT4
20	20	1	2JTY7	2JUC8	2JTT6
20	25	1	2JTY1	2JUD1	2JTT8
24	24	1	2JTY3	2GJD5	2JTU1
25	25	1	2JTY5	2JUD3	2JTU3

1" PLEATED PREFILTER

12	24	2	2GJD9	2JUD5	2JTU5
16	20	2	2JTY9	2JUD7	2JTU7
16	25	2	2JTZ2	2JUD9	2JTU9
18	24	2	2JTZ4	2JUF2	2JTV2
20	20	2	2JTZ6	2JUF4	2JTV4
20	24	2	2JTZ8	2JUF6	2JTV6
20	25	2	2JUA1	2JUF8	2JTV8
24	24	2	2GJE4	2JTD2	2JTW1
25	25	2	2JUA3	2JUH1	2JTW3

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Clear the air. Ease your mind.

FP GAS PHASE

- Improve indoor air quality through effective removal of contaminants, odors and gases
- Available with activated carbon for adsorption, potassium permanganate for chemisorption, or a 50/50 blend of both
- 100% fill for maximum single pass efficiency and longer service life

DESCRIPTION

The Air Handler FP Gas Phase filter is designed to remove a wide range of odors and common indoor air pollutants at high air flows. Constructed of heavy-duty galvanized steel and plastic, with 3/4" honeycomb media packs, the FP Gas Phase filter can be willed with one of two media or a blend of the two to fit any application.

BENEFITS

The FP Gas Phase filter provides effective odor removal with just a moderate increase in pressure drop.

Using 60% CTC activated carbon, potassium permanganate on zeolite, or a blend of the two, the FP Gas Phase filter removes a broad spectrum of compounds including Volatile Organic Compounds (VOC's), vehicle exhaust, sulfur compounds, ammonia and formaldehyde.

APPLICATIONS

These filters are used in commercial and industrial applications when odors and gases need to be removed to protect people, processes, equipment or artifacts.

With a standard header, it can be used in existing HVAC systems, easily retrofitted or specified for new construction. The dual direction design allows for a front or reverse mount installation, without a reduction in filter performance.

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FP GAS PHASE

DIMENSIONS & PERFORMANCE DATA

ACTIVATED CARBON (100%)			
Contaminants Removed by Activated Carbon			
Acetone	Gasoline	Naphtha	Perchloroethylene
Nitrobenzene	Pyridine	Chlorobenzene	Methyl Chloroform
Chloroform	Paint Fumes	Toluene	Methyl Ethyl Ketone
Benzene	Ozone	Styrene	Methylene Chloride

H	W	D	Initial Resistance @ 500 FPM ("w.g.)	Media Weight	Shipping Weight	Grainger #
12	24	12	0.51	11	16	2GGY7
20	24	12	0.51	20	27	2GGZ2
24	24	12	0.51	32	32	2GGV7

POTASSIUM PERMANGANATE (100%)			
Contaminants Removed by Potassium Permanganate Impregnated Media			
Acetylene	Amines	Mercaptans	Nitrogen Oxides
Alcohols	Ammonia	Sulfur Oxides	

H	W	D	Initial Resistance @ 500 FPM ("w.g.)	Media Weight	Shipping Weight	Grainger #
12	24	12	0.36	14	19	2GHA1
20	24	12	0.36	26	33	2GHA5
24	24	12	0.36	32	40	2GHA9

ACTIVATED CARBON / POTASSIUM PERMANGANATE BLEND (100%)			
Contaminants Removed by Activated Carbon / Potassium Permanganate Blend			
Acetic Acid	Cooking Odors	Butyric Acid	Chlorine Dioxide
Urea	Chlorine	Isoproanol	Sodium Thiosulfate
Trichloroethylene	Auto Exhaust	Tobacco Smoke	Cleaning Compounds
Animal Odors	Diesel Fumes		

H	W	D	Initial Resistance @ 500 FPM ("w.g.)	Media Weight	Shipping Weight	Grainger #
12	24	12	0.36	13	18	2GGY3
20	24	12	0.36	23	30	2GGZ6
24	24	12	0.36	28	37	2GGX8

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NESHAP / EPA METHOD 319

The EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) mandated that a new filtration test method be established to determine the efficiency of a filter to remove hazardous pollutants from paint overspray. The EPA guidelines went into effect on September 1, 1998 and continue to set the standard for paint overspray collection systems today. The test method to determine compliance is Test Method 319.

PREFERRED 1ST STAGE

PAINT FILTER PAD

Paint Filter Pad, Polyester media with ECXL style. The media is multilayered, with finer fiber structures downstream in order to enhance depth loading capacity. The multiple layers will avoid face loading as it captures overspray paint with a downstream tackifier.

APPROVED 2-STAGE SYSTEM

2 POCKET BAG FILTER

The recommended 2-stage system consists of a prefilter paint arrestor pad followed by a two pocket bag filter. This two pocket bag filter exceeds the approved EPA Method 319 testing requirements with or without the prefilter pad. The 2-pocket filter is self-sealing and has self supporting pockets. The Media construction is a multi-layered gradient density structure to maximize paint collection and retention.

APPROVED 3-STAGE SYSTEM

5 POCKET BAG FILTER

The recommended 3-stage system consists of a prefilter pad, a 2 pocket filter bag, followed by the EPA Method 319 approved 5 pocket bag filter. The 5 pocket bag filter is self sealing and exceeds the testing requirements with or without the pre-filter pad and two pocket filter bag. The media construction is multi-layered with the downstream layer consisting of a high efficiency synthetic media.

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NESHAP / EPA METHOD 319

DIMENSIONS & PART #S

Nominal Size (in.)			2-Pocket Bag
H	W	D	Grainger #
20	20	15	4YKR4
20	25	15	4YKR5
24	24	15	4YKR6

Nominal Size (in.)			5-Pocket Bag
H	W	D	Grainger #
20	20	12	4YKR1
20	25	12	4YKR2
24	24	12	4YKR3

PERFORMANCE COMPARISON 2-STAGE FILTER

Liquid Challenge - Oleic Acid			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>2.2um	>10%	55.40%	41%
>4.1um	>50%	81.30%	87%
>5.7um	>90%	92.40%	96%

Solid Challenge - KCl			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>2.2um	>10%	55.40%	41%
>4.1um	>50%	81.30%	87%
>5.7um	>90%	92.40%	96%

Initial dP @ 120 FPM Air Handler - 0.045”

Initial dP @ 120 FPM ATI - 0.13”

PERFORMANCE COMPARISON 3-STAGE FILTER

Liquid Challenge - Oleic Acid			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>0.42um	>65%	83.50%	75%
>1.0um	>80%	95.00%	87%
>2.0um	>95%	99.10%	99%

Solid Challenge - KCl			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>0.70um	>75%	93.80%	88%
>1.1um	>85%	97.80%	92%
>2.5um	>95%	99.50%	98%

Initial dP @ 120 FPM Air Handler - 0.22”

Initial dP @ 120 FPM ATI - 0.28”

The lower initial dP results in longer life and lower operating costs.

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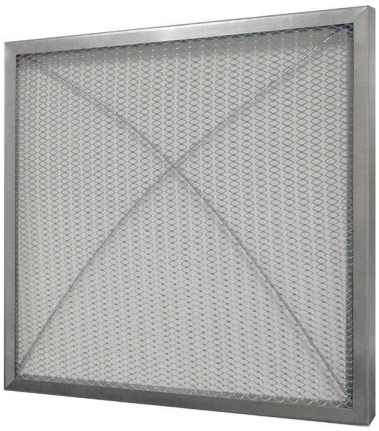
FILTER ACCESSORIES

PAD HOLDING FRAMES

Air Handler Pad Holding Frames are reusable. Permanent pad holding frames are constructed around a 24-gauge steel frame. The downstream side is 16-gauge, 1" x 1" welded wire. A hinged gate makes changing the pad easy, quick and safe.



DIMENSIONS & PART #S

H	W	D	Grainger #
10	10	1	6B730
10	20	1	6B729
12	12	1	5W082
12	20	1	6B727
12	24	1	5W081
14	20	1	6B725
14	25	1	6B723
15	20	1	6B721
16	16	1	6B719
16	20	1	5W080
16	24	1	6B718
16	25	1	5W079
18	18	1	5W078
18	20	1	6B716
18	24	1	5W077
18	25	1	6B714
20	20	1	5W076
20	24	1	6B713

H	W	D	Grainger #
20	25	1	5W075
22	22	1	5W074
24	24	1	5W073
25	25	1	5W083
10	20	2	6B728
12	24	2	6B726
14	20	2	6B724
14	25	2	6B722
15	20	2	6B720
16	20	2	5W072
16	24	2	6B717
16	25	2	5W071
18	24	2	6B715
20	20	2	5W070
20	24	2	6B712
20	25	2	5W069
24	24	2	6B711
25	25	2	6B710

AIR FILTER HOLDING FRAMES

Air Handler Filter Holding Frames are used to construct "built-from-scratch" filter banks for air handling systems. They may be bolted or riveted together utilizing matching holes on frames. Combined with a variety of holding clips, they can accept most 1", 2", 4", 6" and 12" supported filters and non-supporting pocket filters.

H	W	D	Case Qty.	Grainger #
24	24	3	8	6B731
20	24	3	8	6B732
12	24	3	8	6B733

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FILTER ACCESSORIES

GASKETING FOR AIR FILTERS

Air Handler Filter Gasketing consists of black neoprene foam construction with adhesive backing. Excellent resistant to chemicals, maximum temperature of 220°F. Used to seal filters and avoid air by-pass.

DIMENSIONS & PART #S

W	L	D	Grainger #
13/16"	75'	1/8"	6C523
13/16"	50'	1/4"	6C524

FILTER HOLDING CLIPS

Air Handler Filter Holding Clips keep all types of air filters firmly fastened within frames. Install using hand tools only - no rivets or bolts necessary. See chart below to match air filter to proper clip.

All pigtail clips are galvanized steel and all spring clips are stainless steel.

Case quantity equals 12

DIMENSIONS & PART #S

Clip Style	To Hold	No. Required	Grainger #
1" Pigtail	1" Header	4	5E904
2" Pigtail	2" Filter	2	5E905
3" Pigtail	2" Prefilter to a filter w/ header	4	5E906
4" Pigtail	4" Filter	4	5E907
6" Spring	6" Rigid or Box	4	5E908
12" Spring	12" Rigid or Box	4	5E909

Pigtail Clip

Spring Clip

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SECTION – D

CULTURAL
RESOURCES
EVALUATION
(REDACTED)

SECTION – E

BIOLOGICAL RESOURCES ASSESSMENT

BIOLOGICAL RESOURCE ASSESSMENT WITH BOTANICAL SURVEY and DELINEATION OF WATERS OF THE U.S.

for the

KNAPP PROPERTY
APNS 006-009-23 & 53
LAKE COUNTY, CALIFORNIA

August 16, 2019

Prepared by
Northwest Biosurvey

BIOLOGICAL RESOURCE ASSESSMENT
WITH BOTANICAL SURVEY
and DELINEATION OF WATERS OF THE U.S.
for the
KNAPP PROPERTY
APNS 006-009-23 & 53
LAKE COUNTY, CALIFORNIA

August 16, 2019

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CONTENTS

FIGURES AND TABLES

1.0 PROJECT DESCRIPTION

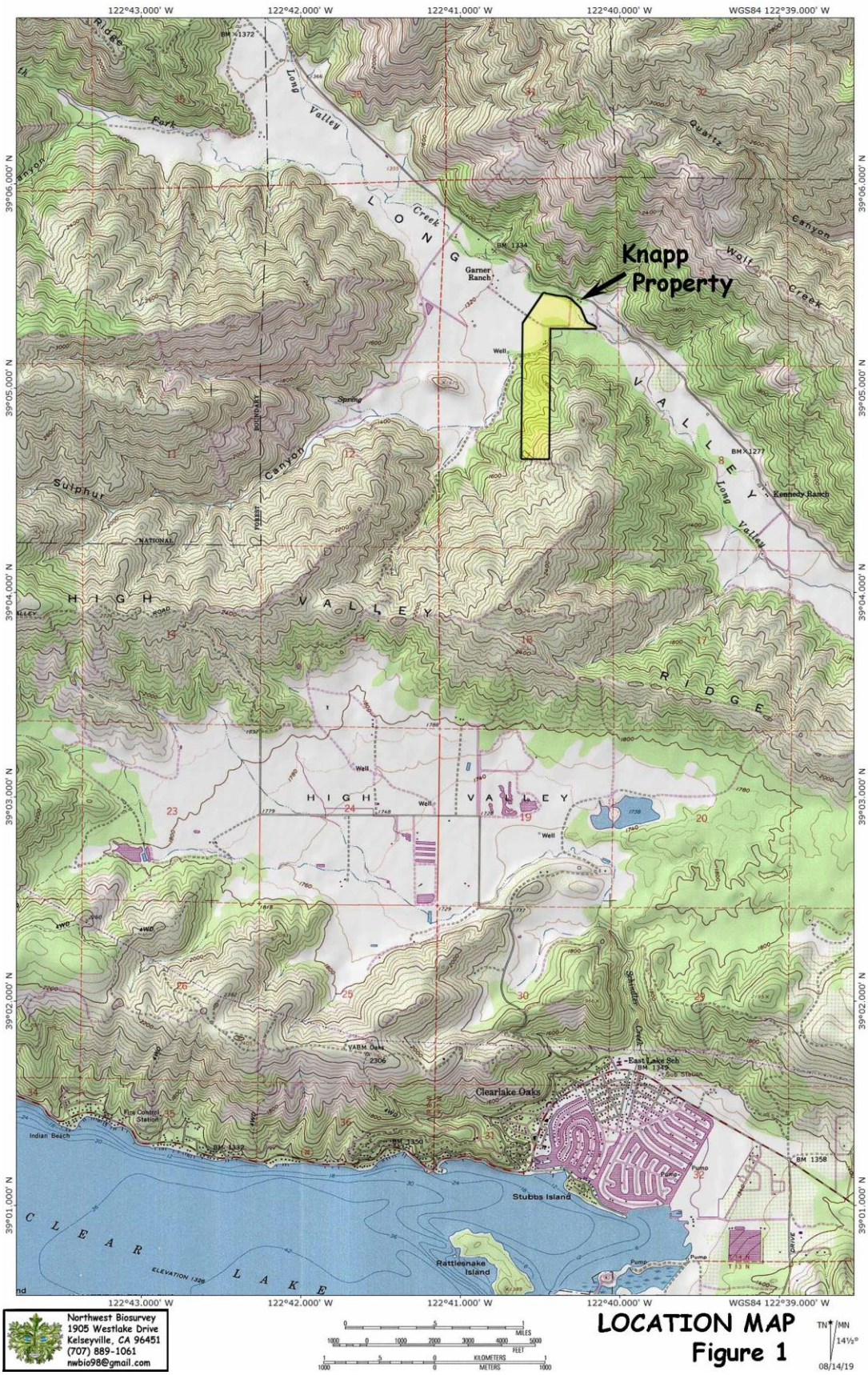
1.1 Proposed Project: This biological resource assessment and survey covers two parcels totaling approximately 99.8 acres which is proposed for cannabis cultivation. Vegetation types are mapped for the entire parcel. The property was burned in River Fire in 2017.

The local permitting agency is requesting completion of a botanical survey and assessment of biological resources on the property as part of the California Environmental Quality Act (CEQA) review required for new development. The initial phase of this assessment evaluates the potential of the property to contain sensitive plant and wildlife habitat. The second phase consists of field surveys, including a botanical survey listing all plant taxa[1]. The biological resource assessment will determine whether the property contains sensitive plants or potentially contains sensitive wildlife requiring mitigation under the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). As used here, the terms sensitive plant or wildlife includes all state or federal rare, threatened, or endangered species and all species listed in the California Natural Diversity Database (CNDDB) list of "Special Status Plants, Animals, and Natural Communities".

A delineation of waters of the U.S. was conducted as part of the assessment because of the presence of streams within the parcel. Due to the fact that delineations are prepared with a standard format for U.S. Army Corps of Engineers review, the delineation is provided as a separate report in **Appendix C**.

1.2 Location: The project site is located at 4379 & 4457 New Long Valley Road, Clearlake Oaks, California (APNs 006-009-23 & 53; Sec. 6&7 T15N R7W, Clearlake Oaks, Calif. 7½' Topographic Map). A location map is provided in **Figure 1**.

[1] Many sensitive plants and wildlife are subspecies or varieties which are taxonomic subcategories of species. The term "taxa" refers to species and their sub-specific categories.



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nwbio98@gmail.com

LOCATION MAP
Figure 1

TN 14½° MN
08/14/19

2.0 ASSESSMENT METHODOLOGY

The basis of the biological resource assessment is a comparison of existing habitat conditions within the project boundaries to the geographic range and habitat requirements of sensitive plants and wildlife. It includes all sensitive species that occupy habitats similar to those found in the project area and whose known geographic ranges encompass it. The approach is conservative in that it tends to over-estimate the actual number of sensitive species potentially present.

The analysis includes the following site characteristics:

- Location of the project area with regard to the geographic range of sensitive plant and wildlife species
- Location(s) of known populations of sensitive plant and wildlife species as mapped in the California Natural Diversity Database (CNDDB)
- Soils of the project area
- Elevation
- Presence or absence of special habitat features such as vernal pools and serpentine soils

In addition to knowledge of the local plants and wildlife, the following computer databases were used to analyze the suitability of the site for sensitive species:

- California Department of Fish and Wildlife (CDFW), *California Natural Diversity Database (CNDDB)*; RareFind 5, 2019
- California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (2019 edition)
- California Department of Fish and Wildlife, *California Wildlife Habitat Relationships System (CWHR)*, Version 9.0

The CNDDB and RareFind 5 databases consist of maps and records of all known populations of sensitive plants and wildlife in California. This data is continually updated by the CDFW with new sensitive species population data.

The CNPS database produces a list of sensitive plants potentially occurring at a site based on the various site characteristics listed above. While use of the CNPS inventory does not in itself eliminate the need for an in-season botanical survey, it can, when

used in conjunction with other information, provide a very good indication of the suitability of a site as habitat for sensitive plant species.

The CWHR database operates on the same basis as the CNPS inventory. Input includes geographic area, plant community (including development stage), soil structure, and special features such as presence of water, snags, cover, and food (fruit, seeds, insects, etc.).

2.1 Botanical Survey Methods: A full, in-season floristic-level survey was conducted for the project site. The CNDDB report and maps for the Clearlake Oaks quadrangle were referenced prior to the survey. Vegetation communities were identified based on the nomenclature of *A Manual of California Vegetation* (Sawyer et al. 2009) as modified by the California Native Plant Society (CNPS) and mapped on a 1"=275' aerial photo. Vegetation community names are based on an assessment of dominant cover species.

Plants occurring on the site were identified using *The Jepson Manual of Higher Plants of California*. Where necessary, species names were updated based on the 6th edition, *CNPS Inventory of Rare and Endangered Plants of California*. A map of the plant communities is provided in **Figure 2.**

2.2 Delineation Methods: The delineation was conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual,* January 1987 and the *Arid West 2008 Supplement.* Plant taxonomy and nomenclature is from the *Jepson Manual, Higher Plants of California*, 2012. Other texts, such as Munz's *A California Flora and Supplement*, 1973, and Mason's *Flora of the Marshes of California,* 1957, were used as supplemental texts. The survey included use of lidar mapped overlays and an extensive foot survey.

2.3 Survey Dates: Site visits for in-season floristic surveys, mapping, and the delineation were made on May 22 and August 12, 2019.

2.4 Biological Assessment Staff: The assessment, botanical field surveys, plant taxonomy, and the delineation were conducted by Steve Zalusky, Northwest Biosurvey principal biologist. Mr. Zalusky has a Master of Science Degree in Biology from the California State University at Northridge and a Bachelor of Science Degree in Zoology from the University of California at Santa Barbara. Mr. Zalusky has over 35 years of experience as a biologist in the government and private sectors. He completed his wetland delineation training under Terry Huffman of Huffman & Associates, Inc.

Mr. Zalusky was assisted in the field and with mapping and the delineation by Leigh Zalusky. Leigh Zalusky has a Bachelor of Science Degree in Computer Engineering from the University of California, Davis. He has developed extensive skills in plant taxonomy and ecology while managing and assisting in the development of the Seigler Valley Wetland Mitigation Bank and while assisting Northwest Biosurvey staff in field surveys and vegetation mapping over the past four years.

Danielle Zalusky, Northwest Biosurvey principal planner, assisted with database review and report preparation. Ms. Zalusky has 15 years of experience as a planner in local government and the private sector and 16 years as a field biologist. She has a Bachelor of Arts Degree all course work toward an M.A. Degree in Rural and Town Planning from Chico State University. Prior to joining Northwest Biosurvey in 2002, Ms. Zalusky was a senior planner for the Lake County Community Development Department.

3.0 SITE CHARACTERISTICS

3.1 Topography and Drainage: The Knapp property extends down the west-facing slope of a northern spur of High Valley Ridge and continues north onto the floor of Long Valley in the Interior North Coast Range. The terrain throughout the southern two-thirds of this parcel is steep. The southeast corner of the parcel is at 2,000 feet msl (mean sea level). The northern third of the parcel is on the valley floor at an elevation of 1,320 feet msl.

The montane portions of the property drain west to Sulphur Canyon Creek which passes from west to east through the property along the base of the slope and joins Long Valley Creek east of the property. The northern end of the property drains directly to Long Valley Creek. Long Valley Creek flows southeast to the North Fork of Cache Creek which continues west to the California Central Valley and its confluence with the Sacramento River.

3.2 Soils: The survey area contains the following soil units:

- **Lupoyoma silt loam, protected (soil unit 158):**

  This very deep, moderately well drained soil is on flood plains. It formed in alluvium derived from mixed rock sources. Slope is 0 to 2 percent. Vegetation is mostly annual grasses and scattered oaks. Permeability is moderately slow. Surface runoff is very slow and hazard of erosion is slight. The soil is subject to rare periods of flooding in winter and spring. The level area on the north part of the property contains this soil type.

- **Xerofluvents-Riverwash complex (soil unit 249, NRCS hydric soil criteria 4):**

  The complex occurs on narrow floodplains adjacent to stream channels, as well as within active stream channels. It occurs here along Long Valley Creek. It includes 55% Xerofluvents and 30% Riverwash. The Xerofluvents are very deep, excessively drained soils that formed in alluvium derived from mixed rock sources. Permeability is rapid and runoff is very slow. The hazard of erosion is slight except along streams. These soils are subject to frequent periods of flooding in winter and spring. Vegetation is limited to sparse annual grasses and forbs, including foxtail fescue, vinegar-weed and fillaree.

  The Riverwash soil is a very deep water-deposited sediment consisting of sand, gravel, cobbles, and stones in active stream channels. Areas of Riverwash are inundated during periods of high water and are subject to deposition and removal of material.

This is a hydric soil on the national wetland indicator list with a hydric rating of 4: Soils that are frequently flooded for long duration or very long duration during the growing season.

The following soil types are found on the vegetated slopes on the south two-thirds of the property:

- **Maymen-Hopland-Etsel Association, 15-50% slopes (soil unit 171):**

  This soil unit occurs on mountains. The association consists of 30% Maymen gravelly loam, 30% Hopland loam, and 20% Etsel gravelly loam. The Maymen and Etsel soils occur on ridgetops and on south- and west-facing (sunnier) slopes. Both of these soils are shallow and excessively drained. They formed in material weathered from sandstone or shale. Permeability is moderate, runoff is rapid and the hazard from erosion is severe. Vegetation on these soils is mainly brush, including chamise, manzanita and buckbrush.

- **Millsholm-Bressa-Hopland Association, 30-50% slopes (soil unit 178):**

  This association occurs on hills, and consists of 35% Millsholm loam, 20% Bressa loam, and 15% Hopland loam. All of the soils formed from materials weathered from sandstone or shale. The Millsholm soil is shallow and well drained and occurs on south-facing slopes. Permeability is moderate, runoff is rapid and erosion hazard is severe. The Bressa soil is moderately deep and well drained but otherwise has characteristics similar to the Millsholm soil. The Hopland soil is similar to the Bressa soil but occurs on north- and east facing slopes. Vegetation on these soils is mainly brush and annual grasses, or hardwoods and annual grasses on the Hopland soil. Understory plants include soft chess, wild oat, poison oak, blue wildrye, and filaree.

3.3 <u>Vegetation Types:</u> This site contains seven plant communities or vegetation types based on or derived from the "Standardized Classification" scheme described in the California Native Plant Society (CNPS) *A Manual of California Vegetation*. These vegetation types and other cover types are listed below in **Table 1**. They are described below the table and shown in the vegetation map provided in **Figure 2**.

TABLE 1. AREAS OF VEGETATION TYPES

VEGETATION TYPE	ACRES	PERCENT OF TOTAL
Red willow thicket	7.32	7.33
Blue oak woodland	46.98	47.05
Oregon white oak woodland	0.40	0.40
Chamise chaparral	4.68	4.69
Wild oat grassland	37.76	37.81
Narrow-leaf cattail marsh	0.04	0.04
Pale spike rush marsh	0.05	0.05
Open Water	0.17	0.17
Ruderal (roadways)	2.46	2.46
Total	**99.86**	**100.0%**

- **Red Willow Thicket:**

  Red willow (*Salix laevigata*) dominates the banks of Long Valley Creek and its tributary at the base of the slope to the south. Both communities were severely burned during the Ranch Fire in 2018. Many of the willows are successfully stump sprouting although a large percentage were killed. Stump sprouting is more successful along the southern tributary. The channel now supports a dense canopy of red willow to a height of 15-20 feet. Fremont cottonwood (*Populus fremontii var. fremontii*) and Oregon ash (*Fraxinus latifolia*) are widely scattered along the stream channel. These trees are recovering with similar success to the red willows. The channel supports scouring rush (*Equisetum hyemale ssp. affine*), torrent sedge (*Carex nudata*), and mugwort (*Artemesia douglasiana*). The upper banks support scattered patches of Himalayan blackberry bramble.

- **Blue Oak Woodland:**

  This mature woodland community dominates almost the entire northwest-facing slope in the southern two-thirds of the property. The canopy structure ranges from small copses of closed-canopy forest to open savanna. Ghost pine (*Pinus sabiniana*) is present but does not reach the level of sub-dominance. Where it occurs, the shrub layer is sparse; it consists of common manzanita (*Arctostaphylos manzanita ssp. manzanita*) and birch-leaf mountain mahogany (*Cercocarpus betuloides var. betuloides*). The ground cover is a continuation of the surrounding wild oat

grassland. In areas of denser canopy, hedgehog dogtail reaches a level of sub-dominance in the ground cover.

- **Oregon White Oak Woodland:**

  The few Oregon white oak (*Quercus garryanna var. garryanna*) trees present on the property are referred to as woodland only because they represent the minor presence of this community which occurs in much denser stands elsewhere throughout Long Valley. These trees are present as two small copses in the southernmost end of the valley. Northern California black walnut (*Juglans hindsii*) is represented as a member of this community with a single individual. The ground cover is a continuation of the wild oat grassland.

- **Chamise Chaparral:**

  This community was not accessible from the property but is present in the extreme southeast corner of the parcel on a steep, west-facing slope. It is not within the proposed development area. Based on accessible portions of this community elsewhere in the valley, it is heavily dominated by chamise with scattered manzanita (*Arctostaphylos ssp.*) and birch-leaf mountain mahogany. The canopy cover is typically too dense to support a ground cover layer. Due to inaccessibility, the ground cover layer was not sampled for this community on the property.

- **Wild Oat Grassland:**

  This grassland community dominates the valley bottom and openings in the oak woodland canopy on the steep slopes to the south. This community varies widely depending on soil moisture and shade from tree canopy cover. It consists of a mosaic of slender wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), blue wildrye (*Elymus glaucus ssp. glaucus*), perennial ryegrass (*Festuca perennis*), and scattered bull thistle (*Cirsium vulgare*). Throughout the spring and early summer these grasses provide a dense cover to four feet. As the summer progresses, the grassland is largely supplanted by yellow star thistle (*Centaurea solstitialis*).

- **Narrow-leaf Cattail Marsh:**

  This small marsh community occupies the shallow eastern end of the cattle pond, which occupies a clearing on the north-facing slope in the southern two-thirds of the property. The community consists of a homogenous cover of narrow-leaf cattail (*Typha angustifolia*).

- **Pale Spike Rush Marsh:**

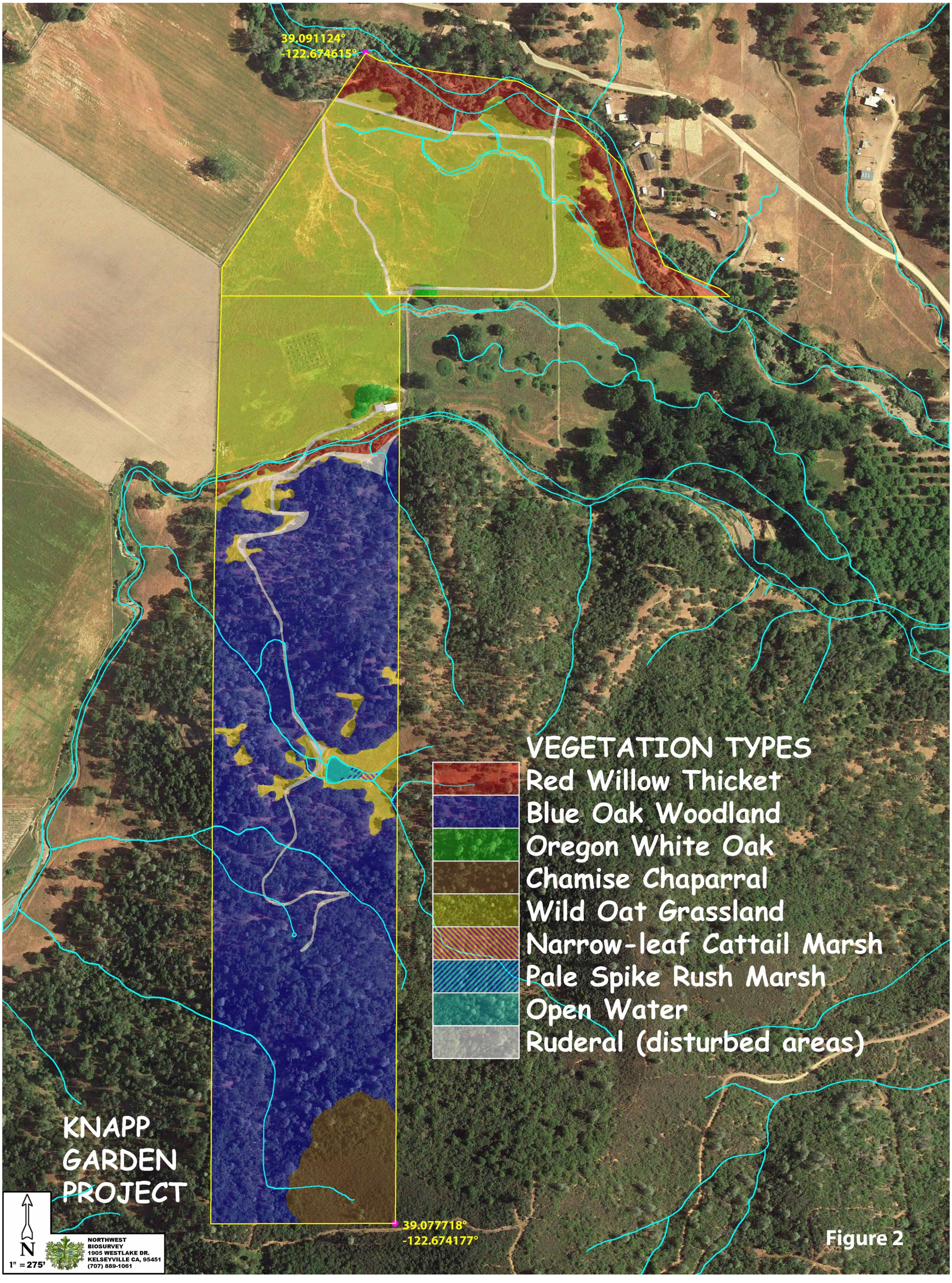
  This small community occupies the same pond as the narrow-leaf cattail marsh. It consists of a homogenous cover of pale spike rush (*Eleocharis macrostachya*) along the shallow edges of the pond banks.

- **Open Water:**

  Water within the above described pond is present perennially. Areas of the pond deeper than three feet support open water habitat.

- **Ruderal:**

  This term refers to disturbed areas. On the Knapp property it is limited to roadways. A former cannabis garden was eliminated during the Ranch Fire and has been naturally replaced by wild oat grassland.


39.091124°
-122.674615°
VEGETATION TYPES
Red Willow Thicket
Blue Oak Woodland
Oregon White Oak
Chamise Chaparral
Wild Oat Grassland
Narrow-leaf Cattail Marsh
Pale Spike Rush Marsh
Open Water
Ruderal (disturbed areas)
KNAPP
GARDEN
PROJECT
N
1" = 275'
NORTHWEST
BIOSURVEY
1905 WESTLAKE DR.
KELSEYVILLE CA, 95451
(707) 889-1061
39.077718°
-122.674177°
Figure 2

4.0 PRE-SURVEY RESEARCH RESULTS

4.1 <u>CNPS Electronic Inventory Analysis</u>: A California Native Plant Society (CNPS) analysis was conducted for all plants with federal and state regulatory status, and all non-status plants on the CNPS Lists 1B through 4. The query included all plants within this area of Lake County occurring within the plant communities identified on the project site. The inventory lists species potentially occurring at the site; these are listed in **Table 2**. These species were included in the list of potentially sensitive species specifically searched for during field surveys. It is important to note that this list includes species for which appropriate habitat is not present on the parcel (including serpentine species, vernal pool species, etc.). The CNPS database search does not allow fine-tuning for specific soil types and many specific habitats.

<u>Note</u>: *The CNPS list is used to broaden the list of sensitive species considered during the subsequent field surveys; however, it must be used with discretion because the database search does not allow fine-tuning for specific soil types or for many specific habitats required by sensitive plant taxa (e.g. serpentine and vernal pools). Consequently, the CNPS list generated for a site may include several taxa for which the required habitat is not present.*

4.2 <u>California Natural Diversity Database</u>: The California Natural Diversity Database (CNDDB) and CDFW RareFind 5 data and maps for the Clearlake Oaks 7½' quadrangle were reviewed for this project. **Table 3** presents a list of sensitive plant and wildlife species known to occur within this quadrangle. In addition to listing the species present within these quadrangles, the table provides a brief description of the habitat requirements and blooming season, along with an assessment of whether the project area contains the necessary habitat requirements for each species. **Appendix A** at the end of this report lists the species within the nine quadrangles in the vicinity of this property.

TABLE 2. CALIFORNIA NATIVE PLANT SOCIETY'S INVENTORY OF RARE AND ENDANGERED PLANTS

Selected CNPS Plants by Scientific Name:

Knapp Project APNs 006-009-23&53

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat/Micro-Habitat
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	None	None	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest; volcanic
Brodiaea rosea ssp. rosea	Indian Valley brodiaea	Themidaceae	perennial bulbiferous herb	3.1	**CE**	None	May-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland; serpentinite
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	4.3	None	None	Apr-Jun	Chaparral, Lower montane coniferous forest; sandy or gravelly, usually serpentinite
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	1B.2	None	None	Jun-Sep	Chaparral (serpentinite)
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	1B.2	None	None	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland; sandy, serpentinite

Key for Table 2:

CNPS Rare Plant-Threat Rank Definitions:

1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 = Rare, threatened, or endangered in California and elsewhere; moderately threatened in California
1B.3 = Rare, threatened, or endangered in California and elsewhere; not very threatened in California
2A = Presumed extinct in California, but extant elsewhere
2B.1 = Rare, threatened, or endangered in Calif., but more common elsewhere; seriously threatened in Calif.
2B.2 = Rare, threatened, or endangered in Calif., but more common elsewhere; moderately threatened in Calif.
2B.3 = Rare, threatened, or endangered in Calif., but more common elsewhere; not very threatened in Calif.
3 = Plants about which we need more information (Review List)
3.1 = Plants about which we need more information (Review List); seriously threatened in California
3.2 = Plants about which we need more information (Review List); moderately threatened in California

CNPS Rare Plant-Threat Rank Definitions (cont.):

3.3 = Plants about which we need more information (Review List); not very threatened in California
4.1 = Plants of limited distribution (watch list); seriously threatened in California
4.2 = Plants of limited distribution (watch list); moderately threatened in California
4.3 = Plants of limited distribution (watch list); not very threatened in California

State and Federal Status:

CESA = California Endangered Species Act
FESA = Federal Endangered Species Act

SR	=	*State. Rare*	*SE*	=	*State Endangered.*
ST	=	*State. Threatened*	*SD*	=	*State Delisted*
SSC	=	*CDFW Species of Special Concern*	*FP*	=	*CDFW Fully Protected*
WL	=	*CDFW Watch List*	*FE*	=	*Federal Endangered*
FT	=	*Federal Threatened*	*FD*	=	*Federal Delisted*

TABLE 3. CNDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE CLEARLAKE OAKS, CALIF. 7½' QUADRANGLE

Habitat Type	Habitat Present
Great Valley Mixed Riparian Forest	No

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Chaparral, cismontane woodland, lower montane conif. forest/volcanic; --/--/1B.3	March-May everg. shrub	Habitat is present
Brasenia schreberi	watershield	Marshes & swamps/freshwater; --/--/2B.3	June-Sept. rhizom. herb, aquatic	Habitat not present
Calyptridium quadripetalum	four-petaled pussypaws	Chaparral, lower montane coniferous forest/sandy or gravelly, usually serpentinite; --/--/4.3	April-June ann. herb	Habitat not present
Erythronium helenae	St. Helena Fawn lily	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/volcanic or serpentinite; --/--/4.2	Mar-May bulb. herb	Habitat not present
Hemizonia congesta ssp. calyculata	Mendocino tarplant	Valley and foothill grassland, foothill woodland/often serpentine;--/--/4.3	July-Nov. ann. herb	Poor habitat present
Layia septentrionalis	Colusa layia	Chaparral, cismontane woodland, valley & foothill grassland/sandy, serpentine; --/--/1B.2	April-May ann. herb	Habitat not present
Leptosiphon acicularis	bristly leptisiphon	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; --/--/4.2	April-July ann. herb	Habitat is present
Potamogeton zosteriformis	eel-grass pondweed	Marshes & swamps, wetlands; --/--/2B.2	June-July ann. herb aquatic	Habitat not present

*See CNPS list for key

Wildlife Species	Common Name	Habitat Requirements/Status	Season Present	Habitat Present
Dubiraphia brunnescens	brownish dubiraphian riffle beetle	Inhabits exposed, wave-washed willow roots in shallow water. Known only from NE shore of Clear Lake; G1/S1	year-round	Habitat is not present
Gonidea angulata	western ridged mussel	Freshwater mussel: inhabits creeks and rivers of all sizes. Can be found on substrates varying from firm mud to coarse particles; is rarely found in lakes or reservoirs; G3/S1S2	year-round	Habitat is not present
Archoplites interruptus	Sacramento perch	Warm water: sloughs, slow-moving rivers, ponds; SSC/G2G3/S1	year-round	Habitat is not present
Lavinia exilicauda chi	Clear Lake hitch	Clear Lake, Lake County, only; spawns in streams flowing to Clear Lake (spring-early summer); ST/SSC/G4/S1	year-round	Habitat is not present
Rana boylii	foothill yellow-legged frog	Riparian/aquatic: partly-shaded, shallow streams & riffles with a rocky substrate in variety of habitats; SSC/G3/S3	year-round	Habitat is present in Long Valley Creek
Emys marmorata	western pond turtle	Aquatic turtle found in ponds, lakes, rivers, creeks, marshes & irrigation ditches with abundant vegetation and rocky or muddy bottoms; In woodland, forest, & grasslands; SSC/G3G4/S3	year-round	Habitat is present in Long Valley Creek
Haliaeetus leucocephalus	bald eagle	Large bodies of water with adjacent snags; FD/SE/SFP/G5/S2	wintering and nesting	Habitat is not present
Pandion haliaetus	osprey	Large, fish-bearing waters usually in mixed conifer habitats; WL/G5/S4	sometimes migratory	Habitat is not present
Myotis yumanensis	Yuma myotis	Open conifer forests and riparian woodlands with nearby water. Roosts may be found in caves, mines, under bridges, and buildings; G5/S4	year-round	Habitat present in riparian woodlands
Corynorhinus townsendii	Townsend's big-eared bat	Roosts in open near relatively mesic sites, mainly montane forest habitats; SSC/G3/S2	local migrant	Habitat present in riparian woodlands

Wildlife Species	Common Name	Habitat Requirements/Status	Season Present	Habitat Present
Antrozous pallidus	pallid bat	Open, dry habitats, forest habitats, in caves, tunnels, buildings, bridges; sensitive to human disturbance; SSC/G5/S3	local migrant	Habitat present in woodlands
Pekania pennanti	fisher, West Coast DPS	No. Coast conifer forest: old-growth conifer or riparian forests; cavities, snags, logs, rocky areas; SCT/SSC/G5/S3	year-round	Habitat is not present

Key for Table :

SE/ST/SD=State Endangered/Threatened/Delisted
SC/SCD=State Candidate for Listing/Delisting
SSC=CDFW Species of Special Concern
SFP=CDFW Fully Protected
WL=CDFW Watch List
FE/FT/FD=Federal Endangered/Threatened/Delisted
FPE/FPT/FPD/FP=Federal Proposed Endangered/Threatened/Delisting

NatureServe Conservation Status:

G1/S1 = Global/State Critically Imperiled
G2/S2 = Global/State Imperiled
G3/S3 = Global/State Vulnerable
G4/S4 = Global/State Apparently Secure
G5/S5 = Global/State Secure
SNR=Not rated
FC=Federal Candidate

4.3 Wildlife Habitat Analysis Results: The California Wildlife Habitat Relationships analysis lists a large number of sensitive and non-sensitive native wildlife species as potentially occurring on the site based on the geographic location and wildlife habitats present. Selected sensitive species are included in the wildlife assessment based on local knowledge and experience. The complete CWHR results are presented in **Appendix B.**

4.4 Wildlife Assessment: Based on the pre-survey research conducted for this study, a total of thirteen sensitive wildlife species need to be accounted for within the project area. These consist of the species identified as present within the Clearlake Oaks quadrangle by the CNDDB; white-tailed kite is added based on presence of potential suitable habitat; yellow warbler and yellow-breasted chat have been added based on potential habitat along Long Valley Creek once those habitats have fully recovered from the fire. Accepted protocol requires that all CNDDB species in the surrounding U.S.G.S. quadrangle be discussed even through suitable habitat may not occur on the site.

- Habitat for the following species is not found on the property. These species include:

  - **Brownish dubiraphian riffle beetle** Clear Lake
  - **Western ridged mussel** – large creeks and rivers
  - **Clear Lake hitch** – Clear Lake and its tributaries
  - **Sacramento perch** – Clear Lake and its tributaries
  - **Bald eagle** – require large nesting structures near water
  - **Osprey** – require large nesting structures near water

The potential for occurrence of the remaining wildlife species is addressed below. The sensitive wildlife species with a potential to occur on this property may be found in oak woodlands.

- The following herptile species have a potential to be present within Long Valley Creek and other long-term streams, at least seasonally.

  - **Foothill yellow-legged frog (*Rana boylii*):**

  These frogs are relatively common along the shaded banks of perennial headwater streams, and they are heavily dependent on the presence of perennial water and are seldom far from pools where they can seek shelter from predation. Breeding begins between mid-March and May and lasts about two weeks. The larvae require three to four months to mature, making most ephemeral streams unsuitable as breeding sites. This frog may occur in Long Valley Creek and its tributaries on the property.

- **Western pond turtle (*Actinemys marmorata*):**

These turtles prefer slow or ponded water with sheltering vegetation but will range widely through less suitable habitat in search of these sites. Stream channels are often used as movement corridors between waterways or ponds. Eggs are laid on land in sheltered nests. Young overwinter in the nest and emerge the following spring in Northern California. Food includes aquatic insects, crustaceans, fish, and riparian vegetation. When present, pond turtles are readily observed basking along shorelines or on logs in shallow water. They may use the pond and some of the longer-term on-site streams as movement corridors.

- The following bat species may occur in within the oak woodlands and the riparian trees along Long Valley Creek:

  - **Yuma myotis (*Myotis yumanensis*):**

This is a small-sized bat with relatively large feet. Its preferred habitat is open conifer forests and riparian woodlands with nearby water, although it occurs in arid areas where permanent water is present. Day and night roosts are commonly found in caves, mines, under bridges, buildings, and sometimes trees. Its diet includes aquatic emergent insects such as mayflies, midges, caddis flies, along with small beetles, flies, and small moths; these are often gleaned from the surfaces of ponds and other bodies of water. Yuma myotis mate in the fall and births last from late May to mid-June with a peak in early June. Females bear a single young in a year. Threats to this species are from closures of mines and disturbance of maternity roosts in buildings, as well as pest control activities. This species does not have special status in California.

  - **Pallid bat (*Antrozous pallidus*):**

Optimal habitat for these bats consists of open forest and woodlands with sources of water over which to feed. These bats prefer the cool summer temperatures of caves, crevices, and mines as roosting sites where they are known to wedge themselves into small spaces, but they will also roost in buildings, bridges, and hollow trees. Foraging occurs over open country. Pallid bats take a variety of prey, including insects, reptiles, and rodents. Maternity colonies tend to be in the more protected, isolated locations and may consist of more than 100 individuals. These bats have a home range of 1 to 3 miles and are known to roost with other bat species. This species is extremely sensitive to human disturbance of roosting sites. Pallid bat is a California Species of Special Concern.

- The following bird species may occur in within the oak woodlands and adjacent grasslands:

    - **White-tailed kite (Elanus leucurus):**

    This bird is usually found near agricultural areas and prefers open terrain near woodlands and water. These raptors hunt over open country and prefer large, deciduous trees surrounded by expanses of grassland, meadows, farmland, and/or wetlands for nesting and roosting sites. They feed mostly on small diurnal mammals, but will sometimes eat birds, insects, amphibians, and reptiles. The California Fully Protected status of these raptors pertains to nesting pairs with an emphasis on protecting nesting habitat. This species is also protected under the Migratory Bird Treaty Act.

- The following bird species may occur along the creek and also in the willow habitat along Long Valley Creek near the pond:

    - **Yellow warbler (*Dendroica petechia brewsteri*):**

    These warblers require riparian woodland - often with a willow component - with a dense shrubby understory for nesting and cover. They arrive in this region in April and are typically gone by October; fledging is usually completed by August. Nests are constructed in shrubs and small trees in the lower canopy of the woodland, and they forage for insects in the upper canopy.

    - **Yellow-breasted chat (*Icteria virens)*:**

    The habitat requirements for this large warbler are very similar to those for the yellow warbler. They require dense willow thickets near streams for nesting and cover, arriving at this habitat for the breeding season in April and leaving by late September. The nesting season extends from May to August. They are omnivorous, eating insects and spiders as well as fruit.

5.0 FIELD SURVEY RESULTS

5.1 <u>Botanical Field Survey Results</u>: Table 4 presents the results of the floristic-level botanical survey within the survey area. Each of the sensitive plant taxa potentially occurring at the sites and listed in Tables 2 and 3 was specifically searched for during the survey. The survey identified a total of 89 plant taxa on the property, including native and introduced plants.

One plant taxon listed in the CNDDB database occurs within the northern third of the project boundaries. This is **Northern California black walnut (*Juglans hindsii,* CNPS Rare Plant Rank 1B.1*).*** Plants ranked 1B are considered by regulatory agencies to qualify as rare under Section 15380(d) of the California Environmental Quality Act (CEQA) and thus require consideration and subsequent mitigation during CEQA review. Due to the widespread loss of these natural populations throughout Northern California, Northern California black walnut is listed as a CNPS List 1B species. This listing requires natural populations of these trees to be included in CEQA review and mitigation under Section 15380(d) of the CEQA Guidelines. These trees occur adjacent to Sulphur Canyon Creek along the based of the slope, as well as in a small copse located at the southeastern intersection of the two Knapp parcels.

6.0 DELINEATION OF WATERS OF THE U.S.

The discussion of waters of the U.S. and Aquatic Resources in discussed in **Appendix C**, along with a map of possible aquatic resources.

TABLE 4. FLORA FOR APNs 006-009-23&53

Habit	Species	Common Name	Family	Origin
fern	*Equisetum hyemale ssp. affine*	common scouring rush	Equisetaceae	N
fern	*Equisetum telmaeteia ssp. braunii*	giant horsetail	Equisetaceae	A
forb	*Lomatium macrocarpum*	large fruited lomatium	Apiaceae	N
forb	*Torilis arvensis*	field hedge parsley	Apiaceae	A
forb	*Artemesia douglasiana*	mugwort	Asteraceae	N
forb	*Centaurea solstitialis*	yellow star thistle	Asteraceae	A
forb	*Chamomilla suaveolens*	pineapple weed	Asteraceae	A
forb	*Cirsium vulgare*	bull thistle	Asteraceae	A
forb	*Cynara cardunculus*	artichoke thistle	Asteraceae	A
forb	*Eriophyllum lanatum var. arachnoideum*	common woolly sunflower, spiderweb sunflower	Asteraceae	N
forb	*Grindelia hirsutula var. davyi*	Davy's gumweed	Asteraceae	N
forb	*Hemizonia congesta*	hayfield tarweed	Asteraceae	N
forb	*Logfia gallica*	daggerleaf cottonrose	Asteraceae	A
forb	*Rigiopappus leptocladus*	wire-weed	Asteraceae	N
forb	*Xanthium strumarium*	cocklebur	Asteraceae	N
forb	*Amsinckia menziesii*	small-flowered fiddleneck, rancher's fireweed	Boraginaceae	N
forb	*Heliotropium curassavicum*	salt heliotrope	Boraginaceae	N
forb	*Heliotropium europaeum*	European heliotrope	Boraginaceae	A
forb	*Plagiobothrys nothofulvus*	rusty popcornflower	Boraginaceae	N
forb	*Capsella bursa-pastoris*	shepherd's purse	Brassicaceae	N
forb	*Lepidium strictum*	peppergrass	Brassicaceae	N
forb	*Spergularia rubra*	ruby sand-spurrey	Caryophyllaceae	N
forb	*Convolvulus arvensis*	orchard morning-glory	Convolvulaceae	A
forb	*Eleocharis macrostachya*	creeping spikerush, pale spikerush	Cyperaceae	N
forb	*Croton setigerus*	turkey mullein	Euphorbiaceae	N
forb	*Lotus corniculatus*	bird's-foot trefoil	Fabaceae	A

Habit	Species	Common Name	Family	Origin
forb	*Lupinus bicolor*	miniature lupine	Fabaceae	N
forb	*Trifolium dubium*	shamrock clover, little hop clover	Fabaceae	A
forb	*Trifolium hirtum*	rose clover	Fabaceae	A
forb	*Vicia villosa ssp. villosa*	winter vetch, hairy vetch	Fabaceae	A
forb	*Erodium cicutarium*	red-stem storksbill	Geraniaceae	A
forb	*Juncus balticus*	Baltic rush	Juncaceae	N
forb	*Juncus bufonius var. bufonius*	toad rush	Juncaceae	N
forb	*Juncus bufonius var. occidentalis*	western toad rush	Juncaceae	N
forb	*Juncus confusus*	Colorado rush	Juncaceae	N
forb	*Juncus phaeocephalus var. paniculatus*	brownheaded rush	Juncaceae	N
forb	*Juncus tenuis*	poverty rush	Juncaceae	N
forb	*Monardella villosa*	coyote-mint	Lamiaceae	N
forb	*Calochortus luteus*	yellow Mariposa lily	Liliaceae	N
forb	*Triteleia laxa*	Ithuriel's spear	Liliaceae	N
forb	*Zigadenus fremontii*	small-flowered star lily	Liliaceae	N
forb	*Claytonia rubra ssp. rubra*	red-stem spring beauty	Montiaceae	N
forb	*Clarkia purpurea ssp. quadrivulnera*	purple clarkia, winecup clarkia, four-spot	Onagraceae	N
forb	*Epilobium brachycarpum*	tall annual willow herb	Onagraceae	N
forb	*Mimulus cardinalis*	scarlet monkeyflower	Phrymaceae	N
forb	*Pennisetum setaceum*	crimson fountain grass	Poaceae	A
forb	*Gilia tricolor ssp. diffusa*	bird's eye gilia	Polemoniaceae	N
forb	*Leptosiphon ciliatus*	whiskerbrush	Polemoniaceae	N
forb	*Navarretia intertexta ssp. intertexta*	needle navarretia	Polemoniaceae	N
forb	*Navarretia mellita*	skunk navarretia	Polemoniaceae	N
forb	*Navarretia pubescens*	purple navarretia, downy pincushion plant	Polemoniaceae	N
forb	*Rumex crispus*	curly dock	Polygonaceae	A
forb	*Lysimachia (Anagalis) arvensis*	scarlet pimpernel	Primulaceae	A
forb	*Ranunculus occidentalis*	western buttercup	Ranunculaceae	N
forb	*Galium aparine*	goose grass, common bedstraw	Rubiaceae	N

Habit	Species	Common Name	Family	Origin
forb	*Verbascum thapsus*	woolly mullein	Scrophulariaceae	A
forb	*Triteleia hyacinthina*	white brodiaea	Themidaceae	N
forb	*Typha angustifolia*	narrow-leaf cattail	Typhaceae	N
forb	*Verbena lasiostachys var. scabrida*	robust vervain, western vervain	Verbenaceae	N
grass	*Aira caryophyllea*	silver European hairgrass	Poaceae	A
grass	*Avena barbata*	slender wild oat	Poaceae	A
grass	*Briza minor*	small quaking grass	Poaceae	A
grass	*Bromus hordeaceus*	soft chess	Poaceae	A
grass	*Bromus madritensis ssp. rubens*	red brome	Poaceae	A
grass	*Dactylus glomerata*	orchard grass	Poaceae	A
grass	*Danthonia californica*	California oatgrass	Poaceae	N
grass	*Elymus caput-medusae*	medusahead	Poaceae	A
grass	*Elymus glaucus ssp. glaucus*	blue wildrye	Poaceae	N
grass	*Elymus triticoides*	creeping wild rye	Poaceae	N
grass	*Festuca myuros*	rattail sixweeks grass	Poaceae	A
grass	*Festuca perennis*	perennial ryegrass, Italian rye grass	Poaceae	A
grass	*Gastridium phleoides*	nitgrass	Poaceae	A
grass	*Hordeum brachyantherum ssp. brachyantherum*	meadow barley, northern barley	Poaceae	N
grass	*Hordeum marinum ssp. gussoneanum*	Mediterranean barley	Poaceae	A
grass	*Phalaris paradoxa*	hood canary grass	Poaceae	A
grass	*Poa bulbosa*	bulbous bluegrass	Poaceae	A
grass	*Polypogon monspeliensis*	rabbits-foot grass, annual beardgrass	Poaceae	A
shrub	*Baccharis pilularis*	coyote brush, chaparral broom	Asteraceae	N
shrub	*Arctostaphylos manzanita ssp. manzanita*	common manzanita	Ericaceae	N
shrub	*Cercocarpus betuloides var. betuloides*	birch-leaf mountain mahogany	Rosaceae	N
tree	*Quercus douglasii*	blue oak	Fagaceae	N
tree	*Quercus garryanna var. garryanna*	Oregon white oak	Fagaceae	N

Habit	Species	Common Name	Family	Origin
tree	*Aesculus californica*	California buckeye	Hippocastanaceae	N
tree	***Juglans hindsii***	**Northern California black walnut; CNPS Rank 1B.1**	**Juglandaceae**	**N**
tree	*Fraxinus latifolia*	Oregon ash	Oleaceae	N
tree	*Pinus sabiniana*	ghost pine, foothill pine	Pinaceae	N
tree	*Populus fremontii var. fremontii*	Fremont cottonwood	Salicaceae	N
tree	*Salix exigua var. hindsiana*	narrow-leaved willow, sandbar willow	Salicaceae	N
tree	*Salix laevigata*	red willow	Salicaceae	N

A=Alien, N=Native

7.0 SUMMARY AND RECOMMENDATIONS

7.1 Summary: This biological resource assessment involved the following analyses and surveys for sensitive plants and wildlife potentially occurring in the vicinity of the project:

- Review of current California Natural Diversity Database (CNDDB) mapping of known sensitive plant and wildlife populations within the region
- An analysis of the suitability of the site for sensitive plants and wildlife using the California Native Plant Society *On-line Inventory of Rare and Endangered Vascular Plants of California,* and the California Department of Fish and Wildlife's *Wildlife Habitat Relationships System*
- Vegetation mapping
- Delineation of waters of the U.S.

Sensitive Plants: A total of 89 native and introduced plant taxa were identified on the property during the in-season, floristic-level botanical surveys. One plant taxon listed in the CNDDB database occurs along Sulphur Canyon Creek at the base of the slope. This is **Northern California black walnut (*Juglans hindsii,* CNPS Rare Plant Rank 1B.1*).*** Plants ranked 1B are considered by regulatory agencies to qualify as rare under Section 15380(d) of the California Environmental Quality Act (CEQA) and thus require consideration and subsequent mitigation during CEQA review. As used here, the term sensitive includes species having state or federal regulatory status, included on Lists 1B through 4 by the California Native Plant Society, or otherwise listed in the California Natural Diversity Database.

Sensitive Wildlife: A total of thirteen sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDB database for the Clearlake Oaks quadrangle. Seven wildlife species with sensitive regulatory status have a potential to occur on within the oak woodlands on the property. These are:

- Birds: White-tailed kite, Yellow warbler, Yellow-breasted chat
- Mammals: Townsends big-eared bat, Pallid bat
- Herptiles: Foothill yellow-legged frog, Western pond turtle

Possible Waters of the U.S.: Numerous waterways occur on the property in the form of perennial stream (Long Valley Creek), an intermittent stream (Sulphur Canyon Creek), and several short-term ephemeral drainages. This is discussed in **Appendix C, Aquatic Resources Report**.

7.2 Recommendations:

A. Habitat Fragmentation

Potential Impacts:

The proposed cannabis garden will be limited to a one-acre site within the valley portion of this 100-acre property. As long as this garden is not within the riparian zones of Long Valley or Sulphur Canyon creeks (mapped in red – Red Willow Thicket overlay in Figure 2), the project would not result in habitat fragmentation.

B. Sensitive Plants and Wildlife

Potential Impacts:

Plants: One sensitive plant taxon occurs within the northern third of the project boundaries during the in-season, floristic-level botanical survey conducted for this project: Northern California black walnut (*Juglans hindsii,* CNPS Rare Plant Rank 1B.1). Some of these trees occur in a small copse located at the southeastern intersection of the two Knapp parcels. This copse is mapped in **Figure 2** as green overlay as part of the Oregon white oak woodland

Wildlife: Impacts to woodlands have a potential to result in an incidental take of the following wildlife species with sensitive regulatory status:

- Townsends big-eared bat
- Pallid bat
- White-tailed kite

Impacts to red willow thicket riparian habitat has a potential to result in an incidental take of the following bird and herptile species.

- Yellow warbler (when riparian recovers)
- Yellow-breasted chat (when riparian recovers)
- Foothill yellow-legged frog
- Western pond turtle

As proposed, the cannabis garden will be located within the open grassland habitat of the valley floor portions of the property. It would not directly impact riparian or oak woodland habitat. Consequently, the proposed garden would not impact the above listed sensitive species.

If other project components such as development of a water source will impact riparian habitat, the following mitigation is recommended:

Proposed Mitigation:

Measure 1: In order to avoid impacts passerines and raptors protected under the Migratory Bird Treaty Act and California Fish and Wildlife Code, the following recommendation is made: Removal of trees during the nesting season (February 1 to August 31) must be preceded by a survey for nesting birds conducted by a qualified biologist. In the event that nesting birds are identified, a suitable construction buffer will be established around the nest site until either the end of the nesting season or upon determination by a qualified biologist that fledging has been completed, or that the nest has been abandoned. It is recommended that trees approved for removal be felled outside of the nesting season.

***Measure 2*:** In order to avoid incidental take of bats, the following recommendation is made: If work is proposed within woodland habitat during the maternity roosting season for bats (April 1 through September 15), trees with features capable of supporting roosting bats shall be surveyed for bat roosts or evidence of bat roosting (guano, urine staining and scent, dead bats) within 14 days of the start of project activities or removal of vegetation. If active roosts are discovered, a buffer of 50 feet around the active roost should be established by a qualified biologist. Removal may occur once active roosting ceases as determined by the biologist.

Measure 3: In order to avoid impacts to sensitive herptiles, any project-related work within the riparian zones of Sulphur Canyon or Long Valley creeks should be preceded by a survey for foothill yellow-legged frog and western pond turtle. If these species are present, any work done within the bed or banks of these channels when flows or pooled water is present should be monitored by a qualified biologist with a California Department of Fish and Wildlife collecting permit covering the potentially affected herptiles. The biologist will assure that these herptiles are temporarily cleared from the work area.

C. Waters of the U.S.

Potential Impact:

The survey area contains approximately 3.3654 acres of stream channels mapped as a perennial and intermittent streams (Long Valley Creek, Sulphur Canyon Creek), and numerous ephemeral streams. Placement of fill within any possible waters of the U.S. mapped in Appendix C, Figure W-2 would be regulated under the Clean Water Act.

Proposed Mitigation for Impacts to Waters of the U.S:

Placement of fill within Waters of the U.S. may require a Nationwide Permit by the Corps of Engineers (possibly a non-reporting permit under the Nationwide Permit Program), along with a 401 Water Quality Certification from the Regional Water Quality Control Board, and 1604 Stream Alteration Agreement from the California Department of Fish and Wildlife. The County of Lake may require stream setbacks.

D. Erosion Control

Potential Impacts:

Vegetation clearing and grading activities have a potential to result in sediment runoff into waterways.

Proposed Mitigation:

All work should incorporate extensive erosion control measures consistent with Lake County Grading Regulations. Coverage under the National Pollutant Discharge Elimination System (NPDES), General Permit for Storm Water Discharges associated with a Construction Activity (General Permit) and a Storm Water Pollution Prevention Plan (SWPPP) may be required.

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APPENDIX A

CNDDB SENSITIVE PLANT AND WILDLIFE SPECIES

WITHIN THE

SURROUNDING CALIF. 7½' QUADS.

Surrounding 9-Quad List: Clearlake Oaks Quadrangle

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Bartlett Mtn.	*Rana boylii*	foothill yellow-legged frog	None	Cand Threat	SSC	-
Bartlett Mtn.	*Agelaius tricolor*	tricolored blackbird	None	Threat	SSC	-
Bartlett Mtn.	*Pandion haliaetus*	osprey	None	None	WL	-
Bartlett Mtn.	*Bombus caliginosus*	obscure bumble bee	None	None	-	-
Bartlett Mtn.	*Corynorhinus townsendii*	Townsend's big-eared bat	None	None	SSC	-
Bartlett Mtn.	*Lasionycteris noctivagans*	silver-haired bat	None	None	-	-
Bartlett Mtn.	*Martes caurina humboldtensis*	Humboldt marten	None	End	SSC	-
Bartlett Mtn.	*Myotis lucifugus*	little brown bat	None	None	-	-
Bartlett Mtn.	*Myotis thysanodes*	fringed myotis	None	None	-	-
Bartlett Mtn.	*Myotis yumanensis*	Yuma myotis	None	None	-	-
Bartlett Mtn.	*Pekania pennanti*	fisher - West Coast DPS	None	Threat	SSC	-
Bartlett Mtn.	*Emys marmorata*	western pond turtle	None	None	SSC	-
Bartlett Mtn.	*Arctostaphylos manzanita ssp. elegans*	Konocti manzanita	None	None	-	1B.3
Bartlett Mtn.	*Calycadenia micrantha*	small-flowered calycadenia	None	None	-	1B.2
Bartlett Mtn.	*Ceanothus confusus*	Rincon Ridge ceanothus	None	None	-	1B.1
Bartlett Mtn.	*Hemizonia congesta ssp. calyculata*	Mendocino tarplant	None	None	-	4.3
Bartlett Mtn.	*Hesperolinon adenophyllum*	glandular western flax	None	None	-	1B.2
Bartlett Mtn.	*Hesperolinon bicarpellatum*	two-carpellate western flax	None	None	-	1B.2
Bartlett Mtn.	*Leptosiphon latisectus*	broad-lobed leptosiphon	None	None	-	4.3
Bartlett Mtn.	*Lupinus antoninus*	Anthony Peak lupine	None	None	-	1B.2
Bartlett Springs	*Rana boylii*	foothill yellow-legged frog	None	Cand Threat	SSC	-
Bartlett Springs	*Aquila chrysaetos*	golden eagle	None	None	FP ; WL	-
Bartlett Springs	*Bombus caliginosus*	obscure bumble bee	None	None	-	-
Bartlett Springs	*Lasionycteris noctivagans*	silver-haired bat	None	None	-	-
Bartlett Springs	*Pekania pennanti*	fisher - West Coast DPS	None	Threat	SSC	-
Bartlett Springs	*Emys marmorata*	western pond turtle	None	None	SSC	-
Bartlett Springs	*Arctostaphylos manzanita ssp. elegans*	Konocti manzanita	None	None	-	1B.3
Bartlett Springs	*Astragalus clevelandii*	Cleveland's milk-vetch	None	None	-	4.3
Bartlett Springs	*Balsamorhiza macrolepis*	big-scale balsamroot	None	None	-	1B.2
Bartlett Springs	*Calycadenia micrantha*	small-flowered calycadenia	None	None	-	1B.2
Bartlett Springs	*Calystegia collina ssp. oxyphylla*	Mt. Saint Helena morning-glory	None	None	-	4.2
Bartlett Springs	*Carex hystericina*	porcupine sedge	None	None	-	2B.1
Bartlett Springs	*Eriastrum tracyi*	Tracy's eriastrum	None	Rare	-	3.2
Bartlett Springs	*Erigeron greenei*	Greene's narrow-leaved daisy	None	None	-	1B.2
Bartlett Springs	*Eriogonum tripodum*	tripod buckwheat	None	None	-	4.2
Bartlett Springs	*Leptosiphon acicularis*	bristly leptosiphon	None	None	-	4.2
Bartlett Springs	*Leptosiphon latisectus*	broad-lobed leptosiphon	None	None	-	4.3
Bartlett Springs	*Lupinus sericatus*	Cobb Mountain lupine	None	None	-	1B.2
Benmore Canyon	*Rana boylii*	foothill yellow-legged frog	None	Cand Threat	SSC	-
Benmore Canyon	*Haliaeetus leucocephalus*	bald eagle	Delisted	End	FP	-
Benmore Canyon	*Emys marmorata*	western pond turtle	None	None	SSC	-
Benmore Canyon	*Amsinckia lunaris*	bent-flowered fiddleneck	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Benmore Canyon	*Asclepias solanoana*	serpentine milkweed	None	None	-	4.2
Benmore Canyon	*Astragalus clevelandii*	Cleveland's milk-vetch	None	None	-	4.3
Benmore Canyon	*Clarkia gracilis ssp. tracyi*	Tracy's clarkia	None	None	-	4.2
Benmore Canyon	*Collomia diversifolia*	serpentine collomia	None	None	-	4.3
Benmore Canyon	*Eriogonum tripodum*	tripod buckwheat	None	None	-	4.2
Benmore Canyon	*Fritillaria purdyi*	Purdy's fritillary	None	None	-	4.3
Benmore Canyon	*Harmonia hallii*	Hall's harmonia	None	None	-	1B.2
Benmore Canyon	*Horkelia bolanderi*	Bolander's horkelia	None	None	-	1B.2
Benmore Canyon	*Layia septentrionalis*	Colusa layia	None	None	-	1B.2
Benmore Canyon	*Leptosiphon acicularis*	bristly leptosiphon	None	None	-	4.2
Benmore Canyon	*Malacothamnus helleri*	Heller's bush-mallow	None	None	-	3.3
Benmore Canyon	*Potamogeton zosteriformis*	eel-grass pondweed	None	None	-	2B.2
Clearlake Highlands	*Rana boylii*	foothill yellow-legged frog	None	Cand Threat	SSC	-
Clearlake Highlands	*Rana draytonii*	California red-legged frog	Threat	None	SSC	-
Clearlake Highlands	*Ardea alba*	great egret	None	None	-	-
Clearlake Highlands	*Ardea herodias*	great blue heron	None	None	-	-
Clearlake Highlands	*Coccyzus americanus occidentalis*	western yellow-billed cuckoo	Threat	End	-	-
Clearlake Highlands	*Haliaeetus leucocephalus*	bald eagle	Delisted	End	FP	-
Clearlake Highlands	*Strix occidentalis caurina*	northern spotted owl	Threat	Threat	-	-
Clearlake Highlands	*Archoplites interruptus*	Sacramento perch	None	None	SSC	-
Clearlake Highlands	*Lavinia exilicauda chi*	Clear Lake hitch	None	Threat	-	-
Clearlake Highlands	*Lavinia symmetricus ssp. 4*	Clear Lake - Russian River roach	None	None	SSC	-
Clearlake Highlands	*Dubiraphia brunnescens*	brownish dubiraphian riffle beetle	None	None	-	-
Clearlake Highlands	*Hedychridium milleri*	Borax Lake cuckoo wasp	None	None	-	-
Clearlake Highlands	*Antrozous pallidus*	pallid bat	None	None	SSC	-
Clearlake Highlands	*Corynorhinus townsendii*	Townsend's big-eared bat	None	None	SSC	-
Clearlake Highlands	*Myotis lucifugus*	little brown bat	None	None	-	-
Clearlake Highlands	*Myotis yumanensis*	Yuma myotis	None	None	-	-
Clearlake Highlands	*Pyrgulopsis ventricosa*	Clear Lake pyrg	None	None	-	-
Clearlake Highlands	*Emys marmorata*	western pond turtle	None	None	SSC	-
Clearlake Highlands	*Clear Lake Drainage Resident Trout Stream*	Clear Lake Drainage Resident Trout Stream	None	None	-	-
Clearlake Highlands	*Coastal and Valley Freshwater Marsh*	Coastal and Valley Freshwater Marsh	None	None	-	-
Clearlake Highlands	*Northern Basalt Flow Vernal Pool*	Northern Basalt Flow Vernal Pool	None	None	-	-
Clearlake Highlands	*Northern Volcanic Ash Vernal Pool*	Northern Volcanic Ash Vernal Pool	None	None	-	-
Clearlake Highlands	*Antirrhinum virga*	twig-like snapdragon	None	None	-	4.3
Clearlake Highlands	*Arctostaphylos manzanita ssp. elegans*	Konocti manzanita	None	None	-	1B.3
Clearlake Highlands	*Arctostaphylos stanfordiana ssp. raichei*	Raiche's manzanita	None	None	-	1B.1
Clearlake Highlands	*Brasenia schreberi*	watershield	None	None	-	2B.3
Clearlake Highlands	*Calochortus uniflorus*	pink star-tulip	None	None	-	4.2
Clearlake Highlands	*Calyptridium quadripetalum*	four-petaled pussypaws	None	None	-	4.3
Clearlake Highlands	*Cordylanthus tenuis ssp. brunneus*	serpentine bird's-beak	None	None	-	4.3
Clearlake Highlands	*Eriastrum brandegeeae*	Brandegee's eriastrum	None	None	-	1B.1
Clearlake Highlands	*Eryngium constancei*	Loch Lomond button-celery	End	End	-	1B.1
Clearlake Highlands	*Gratiola heterosepala*	Boggs Lake hedge-hyssop	None	End	-	1B.2
Clearlake Highlands	*Harmonia hallii*	Hall's harmonia	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Clearlake Highlands	*Hemizonia congesta ssp. calyculata*	Mendocino tarplant	None	None	-	4.3
Clearlake Highlands	*Hesperolinon bicarpellatum*	two-carpellate western flax	None	None	-	1B.2
Clearlake Highlands	*Horkelia bolanderi*	Bolander's horkelia	None	None	-	1B.2
Clearlake Highlands	*Imperata brevifolia*	California satintail	None	None	-	2B.1
Clearlake Highlands	*Lasthenia burkei*	Burke's goldfields	End	End	-	1B.1
Clearlake Highlands	*Leptosiphon acicularis*	bristly leptosiphon	None	None	-	4.2
Clearlake Highlands	*Limnanthes floccosa ssp. floccosa*	woolly meadowfoam	None	None	-	4.2
Clearlake Highlands	*Myosurus minimus ssp. apus*	little mousetail	None	None	-	3.1
Clearlake Highlands	*Navarretia leucocephala ssp. bakeri*	Baker's navarretia	None	None	-	1B.1
Clearlake Highlands	*Navarretia leucocephala ssp. pauciflora*	few-flowered navarretia	End	Threat	-	1B.1
Clearlake Highlands	*Navarretia leucocephala ssp. plieantha*	many-flowered navarretia	End	End	-	1B.2
Clearlake Highlands	*Piperia michaelii*	Michael's rein orchid	None	None	-	4.2
Clearlake Highlands	*Potamogeton zosteriformis*	eel-grass pondweed	None	None	-	2B.2
Clearlake Highlands	*Sedella leiocarpa*	Lake County stonecrop	End	End	-	1B.1
Clearlake Highlands	*Sidalcea oregana ssp. hydrophila*	marsh checkerbloom	None	None	-	1B.2
Clearlake Highlands	*Toxicoscordion fontanum*	marsh zigadenus	None	None	-	4.2
Clearlake Highlands	*Viburnum ellipticum*	oval-leaved viburnum	None	None	-	2B.3
Clearlake Oaks	*Haliaeetus leucocephalus*	bald eagle	Delisted	End	FP	-
Clearlake Oaks	*Pandion haliaetus*	osprey	None	None	WL	-
Clearlake Oaks	*Archoplites interruptus*	Sacramento perch	None	None	SSC	-
Clearlake Oaks	*Lavinia exilicauda chi*	Clear Lake hitch	None	Threat	-	-
Clearlake Oaks	*Dubiraphia brunnescens*	brownish dubiraphian riffle beetle	None	None	-	-
Clearlake Oaks	*Antrozous pallidus*	pallid bat	None	None	SSC	-
Clearlake Oaks	*Corynorhinus townsendii*	Townsend's big-eared bat	None	None	SSC	-
Clearlake Oaks	*Myotis yumanensis*	Yuma myotis	None	None	-	-
Clearlake Oaks	*Pekania pennanti*	fisher - West Coast DPS	None	Threat	SSC	-
Clearlake Oaks	*Gonidea angulata*	western ridged mussel	None	None	-	-
Clearlake Oaks	*Emys marmorata*	western pond turtle	None	None	SSC	-
Clearlake Oaks	*Great Valley Mixed Riparian Forest*	Great Valley Mixed Riparian Forest	None	None	-	-
Clearlake Oaks	*Arctostaphylos manzanita ssp. elegans*	Konocti manzanita	None	None	-	1B.3
Clearlake Oaks	*Brasenia schreberi*	watershield	None	None	-	2B.3
Clearlake Oaks	*Calyptridium quadripetalum*	four-petaled pussypaws	None	None	-	4.3
Clearlake Oaks	*Erythronium helenae*	St. Helena fawn lily	None	None	-	4.2
Clearlake Oaks	*Hemizonia congesta ssp. calyculata*	Mendocino tarplant	None	None	-	4.3
Clearlake Oaks	*Layia septentrionalis*	Colusa layia	None	None	-	1B.2
Clearlake Oaks	*Leptosiphon acicularis*	bristly leptosiphon	None	None	-	4.2
Clearlake Oaks	*Potamogeton zosteriformis*	eel-grass pondweed	None	None	-	2B.2
Hough Springs	*Rana boylii*	foothill yellow-legged frog	None	Cand Threat	SSC	-
Hough Springs	*Haliaeetus leucocephalus*	bald eagle	Delisted	End	FP	-
Hough Springs	*Phalacrocorax auritus*	double-crested cormorant	None	None	WL	-
Hough Springs	*Perognathus inornatus*	San Joaquin Pocket Mouse	None	None	-	-
Hough Springs	*Emys marmorata*	western pond turtle	None	None	SSC	-
Hough Springs	*Amsinckia lunaris*	bent-flowered fiddleneck	None	None	-	1B.2
Hough Springs	*Asclepias solanoana*	serpentine milkweed	None	None	-	4.2
Hough Springs	*Astragalus clevelandii*	Cleveland's milk-vetch	None	None	-	4.3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Hough Springs	*Astragalus rattanii var. jepsonianus*	Jepson's milk-vetch	None	None	-	1B.2
Hough Springs	*Balsamorhiza macrolepis*	big-scale balsamroot	None	None	-	1B.2
Hough Springs	*Brodiaea rosea*	Indian Valley brodiaea	None	End	-	3.1
Hough Springs	*Calyptridium quadripetalum*	four-petaled pussypaws	None	None	-	4.3
Hough Springs	*Calystegia collina ssp. oxyphylla*	Mt. Saint Helena morning-glory	None	None	-	4.2
Hough Springs	*Carex klamathensis*	Klamath sedge	None	None	-	1B.2
Hough Springs	*Castilleja rubicundula var. rubicundula*	pink creamsacs	None	None	-	1B.2
Hough Springs	*Clarkia gracilis ssp. tracyi*	Tracy's clarkia	None	None	-	4.2
Hough Springs	*Collomia diversifolia*	serpentine collomia	None	None	-	4.3
Hough Springs	*Delphinium uliginosum*	swamp larkspur	None	None	-	4.2
Hough Springs	*Eriogonum nervulosum*	Snow Mountain buckwheat	None	None	-	1B.2
Hough Springs	*Eriogonum tripodum*	tripod buckwheat	None	None	-	4.2
Hough Springs	*Erythranthe nudata*	bare monkeyflower	None	None	-	4.3
Hough Springs	*Fritillaria purdyi*	Purdy's fritillary	None	None	-	4.3
Hough Springs	*Harmonia hallii*	Hall's harmonia	None	None	-	1B.2
Hough Springs	*Hesperolinon drymarioides*	drymaria-like western flax	None	None	-	1B.2
Hough Springs	*Horkelia bolanderi*	Bolander's horkelia	None	None	-	1B.2
Hough Springs	*Monardella viridis*	green monardella	None	None	-	4.3
Hough Springs	*Senecio clevelandii var. clevelandii*	Cleveland's ragwort	None	None	-	4.3
Hough Springs	*Streptanthus barbiger*	bearded jewelflower	None	None	-	4.2
Kelseyville	*Rana boylii*	foothill yellow-legged frog	None	Cand Threat	SSC	-
Kelseyville	*Taricha rivularis*	red-bellied newt	None	None	SSC	-
Kelseyville	*Pandion haliaetus*	osprey	None	None	WL	-
Kelseyville	*Progne subis*	purple martin	None	None	SSC	-
Kelseyville	*Calasellus californicus*	An isopod	None	None	-	-
Kelseyville	*Linderiella occidentalis*	California linderiella	None	None	-	-
Kelseyville	*Lavinia exilicauda chi*	Clear Lake hitch	None	Threat	-	-
Kelseyville	*Lavinia symmetricus ssp. 4*	Clear Lake - Russian River roach	None	None	SSC	-
Kelseyville	*Bombus caliginosus*	obscure bumble bee	None	None	-	-
Kelseyville	*Hydrochara ricksecker*i	Ricksecker's water scavenger beetle	None	None	-	-
Kelseyville	*Erethizon dorsatum*	North American porcupine	None	None	-	-
Kelseyville	*Emys marmorata*	western pond turtle	None	None	SSC	-
Kelseyville	*Clear Lake Drainage Cyprinid/Catostomid Stream*	Clear Lake Drainage Cyprinid/Catostomid Stream	None	None	-	-
Kelseyville	*Clear Lake Drainage Resident Trout Stream*	Clear Lake Drainage Resident Trout Stream	None	None	-	-
Kelseyville	*Clear Lake Drainage Seasonal Lakefish Spawning Stream*	Clear Lake Drainage Seasonal Lakefish Spawning Stream	None	None	-	-
Kelseyville	*Northern Volcanic Ash Vernal Pool*	Northern Volcanic Ash Vernal Pool	None	None	-	-
Kelseyville	*Amsinckia lunaris*	bent-flowered fiddleneck	None	None	-	1B.2
Kelseyville	*Arctostaphylos manzanita ssp. elegans*	Konocti manzanita	None	None	-	1B.3
Kelseyville	*Arctostaphylos stanfordiana ssp. raichei*	Raiche's manzanita	None	None	-	1B.1
Kelseyville	*Astragalus breweri*	Brewer's milk-vetch	None	None	-	4.2
Kelseyville	*Azolla microphylla*	Mexican mosquito fern	None	None	-	4.2
Kelseyville	*Brasenia schreberi*	watershield	None	None	-	2B.3
Kelseyville	*Calyptridium quadripetalum*	four-petaled pussypaws	None	None	-	4.3
Kelseyville	*Clarkia gracilis ssp. tracyi*	Tracy's clarkia	None	None	-	4.2
Kelseyville	*Cordylanthus tenuis ssp. brunneus*	serpentine bird's-beak	None	None	-	4.3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Kelseyville	*Eriastrum brandegeeae*	Brandegee's eriastrum	None	None	-	1B.1
Kelseyville	*Gratiola heterosepala*	Boggs Lake hedge-hyssop	None	End	-	1B.2
Kelseyville	*Harmonia hallii*	Hall's harmonia	None	None	-	1B.2
Kelseyville	*Hesperolinon adenophyllum*	glandular western flax	None	None	-	1B.2
Kelseyville	*Horkelia bolanderi*	Bolander's horkelia	None	None	-	1B.2
Kelseyville	*Lasthenia burkei*	Burke's goldfields	End	End	-	1B.1
Kelseyville	*Layia septentrionalis*	Colusa layia	None	None	-	1B.2
Kelseyville	*Legenere limosa*	legenere	None	None	-	1B.1
Kelseyville	*Leptosiphon acicularis*	bristly leptosiphon	None	None	-	4.2
Kelseyville	*Limnanthes floccosa ssp. floccosa*	woolly meadowfoam	None	None	-	4.2
Kelseyville	*Micropus amphibolus*	Mt. Diablo cottonweed	None	None	-	3.2
Kelseyville	*Monardella viridis*	green monardella	None	None	-	4.3
Kelseyville	*Navarretia leucocephala ssp. pauciflora*	few-flowered navarretia	End	Threat	-	1B.1
Kelseyville	*Navarretia leucocephala ssp. plieantha*	many-flowered navarretia	End	End	-	1B.2
Kelseyville	*Orcuttia tenuis*	slender Orcutt grass	Threat	End	-	1B.1
Kelseyville	*Potamogeton zosteriformis*	eel-grass pondweed	None	None	-	2B.2
Kelseyville	*Sidalcea oregana ssp. hydrophila*	marsh checkerbloom	None	None	-	1B.2
Kelseyville	*Streptanthus barbiger*	bearded jewelflower	None	None	-	4.2
Kelseyville	*Trichostema ruygtii*	Napa bluecurls	None	None	-	1B.2
Lower Lake	*Rana boylii*	foothill yellow-legged frog	None	Cand Threat	SSC	-
Lower Lake	*Taricha rivularis*	red-bellied newt	None	None	SSC	-
Lower Lake	*Aquila chrysaetos*	golden eagle	None	None	FP ; WL	-
Lower Lake	*Ardea herodias*	great blue heron	None	None	-	-
Lower Lake	*Haliaeetus leucocephalus*	bald eagle	Delisted	End	FP	-
Lower Lake	*Lavinia exilicauda chi*	Clear Lake hitch	None	Threat	-	-
Lower Lake	*Lavinia symmetricus ssp. 4*	Clear Lake - Russian River roach	None	None	SSC	-
Lower Lake	*Saldula usingeri*	Wilbur Springs shorebug	None	None	-	-
Lower Lake	*Antrozous pallidus*	pallid bat	None	None	SSC	-
Lower Lake	*Corynorhinus townsendii*	Townsend's big-eared bat	None	None	SSC	-
Lower Lake	*Myotis lucifugus*	little brown bat	None	None	-	-
Lower Lake	*Myotis yumanensis*	Yuma myotis	None	None	-	-
Lower Lake	*Emys marmorata*	western pond turtle	None	None	SSC	-
Lower Lake	*Amsinckia lunaris*	bent-flowered fiddleneck	None	None	-	1B.2
Lower Lake	*Astragalus rattanii var. jepsonianus*	Jepson's milk-vetch	None	None	-	1B.2
Lower Lake	*Delphinium uliginosum*	swamp larkspur	None	None	-	4.2
Lower Lake	*Fritillaria pluriflora*	adobe-lily	None	None	-	1B.2
Lower Lake	*Harmonia hallii*	Hall's harmonia	None	None	-	1B.2
Lower Lake	*Hesperolinon sharsmithiae*	Sharsmith's western flax	None	None	-	1B.2
Lower Lake	*Lasthenia burkei*	Burke's goldfields	End	End	-	1B.1
Lower Lake	*Layia septentrionalis*	Colusa layia	None	None	-	1B.2
Lower Lake	*Leptosiphon acicularis*	bristly leptosiphon	None	None	-	4.2
Lower Lake	*Lomatium hooveri*	Hoover's lomatium	None	None	-	4.3
Lower Lake	*Malacothamnus helleri*	Heller's bush-mallow	None	None	-	3.3
Lower Lake	*Navarretia leucocephala ssp. bakeri*	Baker's navarretia	None	None	-	1B.1
Lower Lake	*Navarretia leucocephala ssp. pauciflora*	few-flowered navarretia	End	Threat	-	1B.1

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Lower Lake	*Potamogeton zosteriformis*	eel-grass pondweed	None	None	-	2B.2
Lucerne	*Rana draytonii*	California red-legged frog	Threat	None	SSC	-
Lucerne	*Taricha rivularis*	red-bellied newt	None	None	SSC	-
Lucerne	*Ardea herodias*	great blue heron	None	None	-	-
Lucerne	*Branta hutchinsii leucopareia*	cackling (=Aleutian Canada) goose	Delisted	None	WL	-
Lucerne	*Falco mexicanus*	prairie falcon	None	None	WL	-
Lucerne	*Haliaeetus leucocephalus*	bald eagle	Delisted	End	FP	-
Lucerne	*Pandion haliaetus*	osprey	None	None	WL	-
Lucerne	*Phalacrocorax auritus*	double-crested cormorant	None	None	WL	-
Lucerne	*Archoplites interruptus*	Sacramento perch	None	None	SSC	-
Lucerne	*Lavinia exilicauda chi*	Clear Lake hitch	None	Threat	-	-
Lucerne	*Dubiraphia brunnescens*	brownish dubiraphian riffle beetle	None	None	-	-
Lucerne	*Corynorhinus townsendii*	Townsend's big-eared bat	None	None	SSC	-
Lucerne	*Lasionycteris noctivagans*	silver-haired bat	None	None	-	-
Lucerne	*Anodonta oregonensis*	Oregon floater	None	None	-	-
Lucerne	*Gonidea angulata*	western ridged mussel	None	None	-	-
Lucerne	*Margaritifera falcata*	western pearlshell	None	None	-	-
Lucerne	*Emys marmorata*	western pond turtle	None	None	SSC	-
Lucerne	*Clear Lake Drainage Cyprinid/Catostomid Stream*	Clear Lake Drainage Cyprinid/Catostomid Stream	None	None	-	-
Lucerne	*Clear Lake Drainage Seasonal Lakefish Spawning Stream*	Clear Lake Drainage Seasonal Lakefish Spawning Stream	None	None	-	-
Lucerne	*Coastal and Valley Freshwater Marsh*	Coastal and Valley Freshwater Marsh	None	None	-	-
Lucerne	*Amsinckia lunaris*	bent-flowered fiddleneck	None	None	-	1B.2
Lucerne	*Arctostaphylos manzanita ssp. elegans*	Konocti manzanita	None	None	-	1B.3
Lucerne	*Hesperolinon adenophyllum*	glandular western flax	None	None	-	1B.2
Lucerne	*Hesperolinon bicarpellatum*	two-carpellate western flax	None	None	-	1B.2
Lucerne	*Layia septentrionalis*	Colusa layia	None	None	-	1B.2
Lucerne	*Leptosiphon acicularis*	bristly leptosiphon	None	None	-	4.2
Lucerne	*Leptosiphon latisectus*	broad-lobed leptosiphon	None	None	-	4.3
Lucerne	*Lupinus antoninus*	Anthony Peak lupine	None	None	-	1B.2
Lucerne	*Potamogeton zosteriformis*	eel-grass pondweed	None	None	-	2B.2

Key for Table:

CNPS Rare Plant-Threat Rank Definitions:

1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 = Rare, threatened, or endangered in California and elsewhere; fairly threatened in California
1B.3 = Rare, threatened, or endangered in California and elsewhere; not very threatened in California
2A = Presumed extinct in California, but extant elsewhere
2B.1 = Rare, threatened, or endangered in Calif., but more common elsewhere; seriously threatened in Calif.
2B.2 = Rare, threatened, or endangered in Calif., but more common elsewhere; fairly threatened in Calif.
2B.3 = Rare, threatened, or endangered in Calif., but more common elsewhere; not very threatened in Calif.
3 = Plants about which we need more information (Review List)

3.1 = Plants about which we need more information (Review List); seriously threatened in California
3.2 = Plants about which we need more information (Review List); fairly threatened in California
3.3 = Plants about which we need more information (Review List); not very threatened in California
4.1 = Plants of limited distribution (watch list); seriously threatened in California
4.2 = Plants of limited distribution (watch list); fairly threatened in California
4.3 = Plants of limited distribution (watch list); not very threatened in California

CDFW / State and Federal Status:

SE/ST/SD = State Endangered/Threatened/Delisted
SC/SCD = State Candidate for Listing/Delisting
SSC = CDFW Species of Special Concern
SFP = State Fully Protected
WL = CDFW Watch List
FE/FT/FD = Federal Endangered/Threatened/Delisted
FPE/FPT/FPD/FP = Federal Proposed Endangered/Threatened/Delisting
FC = Federal Candidate

State and Federal Status:

Threat = Threatened
End = Endangered
Prop = Proposed
Cand = Candidate
Cand End/Threat = State Candidate for Endangered/Threatened

APPENDIX B

REGIONAL WHR DATABASE RESULTS

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM
supported by the
CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP
and maintained by the
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
Database Version: 9.0

SPECIES SUMMARY REPORT

FE = Federal Endangered
FT = Federal Threatened
CE = California Endangered
CT = California Threatened
CF = California Fully Protected
CP = California Protected
SC = California Species of Special Concern
PE = Federally-Proposed Endangered
PT = Federally-Proposed Threatened
FC = Federal Candidate
BL = BLM Sensitive
FS = USFS Sensitive
CD = CDF Sensitive
HA = Harvest

Note: Any given status code for a species may apply to the full species or to only one or more subspecies or distinct population segments.

ID	Species Name	Status	Native/Introduced
A004	CALIFORNIA GIANT SALAMANDER		NATIVE
A006	ROUGH-SKINNED NEWT		NATIVE
A007	CALIFORNIA NEWT	SC	NATIVE
A014	CALIFORNIA SLENDER SALAMANDER		NATIVE
A020	SPECKLED BLACK SALAMANDER		NATIVE
A022	ARBOREAL SALAMANDER		NATIVE
A032	WESTERN TOAD		NATIVE
A048	COASTAL GIANT SALAMANDER		NATIVE
B044	DOUBLE-CRESTED CORMORANT		NATIVE
B051	GREAT BLUE HERON	CD	NATIVE
B052	GREAT EGRET	CD	NATIVE
B053	SNOWY EGRET		NATIVE
B057	CATTLE EGRET		NATIVE
B058	GREEN HERON		NATIVE
B059	BLACK-CROWNED NIGHT HERON		NATIVE
B067	TUNDRA SWAN		NATIVE
B071	SNOW GOOSE	HA	NATIVE
B075	CANADA GOOSE	HA	NATIVE
B076	WOOD DUCK	HA	NATIVE
B077	GREEN-WINGED TEAL	HA	NATIVE
B079	MALLARD	HA	NATIVE
B080	NORTHERN PINTAIL	HA	NATIVE
B083	CINNAMON TEAL	HA	NATIVE
B085	GADWALL	HA	NATIVE
B086	EURASIAN WIGEON	HA	NATIVE
B087	AMERICAN WIGEON	HA	NATIVE
B094	LESSER SCAUP	HA	NATIVE
B101	COMMON GOLDENEYE	HA	NATIVE
B103	BUFFLEHEAD	HA	NATIVE
B104	HOODED MERGANSER	HA	NATIVE
B105	COMMON MERGANSER	HA	NATIVE

B107	RUDDY DUCK									HA	NATIVE
B108	TURKEY VULTURE										NATIVE
B110	OSPREY								CD		NATIVE
B111	WHITE-TAILED KITE			CF				BL			NATIVE
B113	BALD EAGLE		CE	CF				BL	FS	CD	NATIVE
B114	NORTHERN HARRIER				SC						NATIVE
B115	SHARP-SHINNED HAWK										NATIVE
B116	COOPER'S HAWK										NATIVE
B117	NORTHERN GOSHAWK				SC			BL	FS	CD	NATIVE
B119	RED-SHOULDERED HAWK										NATIVE
B123	RED-TAILED HAWK										NATIVE
B124	FERRUGINOUS HAWK										NATIVE
B125	ROUGH-LEGGED HAWK										NATIVE
B126	GOLDEN EAGLE			CF				BL		CD	NATIVE
B127	AMERICAN KESTREL										NATIVE
B128	MERLIN										NATIVE
B129	PEREGRINE FALCON			CF						CD	NATIVE
B131	PRAIRIE FALCON										NATIVE
B140	CALIFORNIA QUAIL				SC					HA	NATIVE
B141	MOUNTAIN QUAIL									HA	NATIVE
B145	VIRGINIA RAIL										NATIVE
B149	AMERICAN COOT									HA	NATIVE
B156	SEMIPALMATED PLOVER										NATIVE
B165	GREATER YELLOWLEGS										NATIVE
B170	SPOTTED SANDPIPER										NATIVE
B199	WILSON'S SNIPE										NATIVE
B200	WILSON'S PHALAROPE										NATIVE
B215	CALIFORNIA GULL										NATIVE
B251	BAND-TAILED PIGEON									HA	NATIVE
B255	MOURNING DOVE									HA	NATIVE
B259	YELLOW-BILLED CUCKOO		CE				PT	BL	FS		NATIVE
B260	GREATER ROADRUNNER										NATIVE
B262	BARN OWL										NATIVE
B264	WESTERN SCREECH OWL										NATIVE
B265	GREAT HORNED OWL										NATIVE
B267	NORTHERN PYGMY OWL										NATIVE
B269	BURROWING OWL				SC			BL			NATIVE
B270	SPOTTED OWL		FT		SC			BL	FS	CD	NATIVE
B272	LONG-EARED OWL				SC						NATIVE
B273	SHORT-EARED OWL				SC						NATIVE
B274	NORTHERN SAW-WHET OWL										NATIVE
B277	COMMON POORWILL										NATIVE
B281	VAUX'S SWIFT				SC						NATIVE

B282	WHITE-THROATED SWIFT		NATIVE
B287	ANNA'S HUMMINGBIRD		NATIVE
B291	RUFOUS HUMMINGBIRD		NATIVE
B292	ALLEN'S HUMMINGBIRD		NATIVE
B293	BELTED KINGFISHER		NATIVE
B294	LEWIS' S WOODPECKER		NATIVE
B296	ACORN WOODPECKER		NATIVE
B299	RED-BREASTED SAPSUCKER		NATIVE
B302	NUTTALL'S WOODPECKER		NATIVE
B303	DOWNY WOODPECKER		NATIVE
B304	HAIRY WOODPECKER		NATIVE
B307	NORTHERN FLICKER		NATIVE
B309	OLIVE-SIDED FLYCATCHER	SC	NATIVE
B311	WESTERN WOOD-PEWEE		NATIVE
B317	HAMMOND'S FLYCATCHER		NATIVE
B318	DUSKY FLYCATCHER		NATIVE
B320	PACIFIC-SLOPE FLYCATCHER		NATIVE
B321	BLACK PHOEBE		NATIVE
B323	SAY'S PHOEBE		NATIVE
B326	ASH-THROATED FLYCATCHER		NATIVE
B333	WESTERN KINGBIRD		NATIVE
B337	HORNED LARK		NATIVE
B338	PURPLE MARTIN	SC	NATIVE
B339	TREE SWALLOW		NATIVE
B340	VIOLET-GREEN SWALLOW		NATIVE
B341	NORTHERN ROUGH-WINGED SWALLOW		NATIVE
B343	CLIFF SWALLOW		NATIVE
B346	STELLER'S JAY		NATIVE
B348	WESTERN SCRUB-JAY		NATIVE
B352	YELLOW-BILLED MAGPIE		NATIVE
B353	AMERICAN CROW	HA	NATIVE
B354	COMMON RAVEN		NATIVE
B356	MOUNTAIN CHICKADEE		NATIVE
B357	CHESTNUT-BACKED CHICKADEE		NATIVE
B358	OAK TITMOUSE		NATIVE
B360	BUSHTIT		NATIVE
B361	RED-BREASTED NUTHATCH		NATIVE
B362	WHITE-BREASTED NUTHATCH		NATIVE
B364	BROWN CREEPER		NATIVE
B367	CANYON WREN		NATIVE
B368	BEWICK'S WREN	SC	NATIVE
B369	HOUSE WREN		NATIVE
B370	WINTER WREN		NATIVE

B372	MARSH WREN		SC	NATIVE
B373	AMERICAN DIPPER			NATIVE
B375	GOLDEN-CROWNED KINGLET			NATIVE
B376	RUBY-CROWNED KINGLET			NATIVE
B377	BLUE-GRAY GNATCATCHER			NATIVE
B380	WESTERN BLUEBIRD			NATIVE
B381	MOUNTAIN BLUEBIRD			NATIVE
B382	TOWNSEND'S SOLITAIRE			NATIVE
B385	SWAINSON'S THRUSH			NATIVE
B386	HERMIT THRUSH			NATIVE
B389	AMERICAN ROBIN			NATIVE
B390	VARIED THRUSH			NATIVE
B391	WRENTIT			NATIVE
B393	NORTHERN MOCKINGBIRD			NATIVE
B398	CALIFORNIA THRASHER			NATIVE
B404	AMERICAN PIPIT			NATIVE
B407	CEDAR WAXWING			NATIVE
B408	PHAINOPEPLA			NATIVE
B410	LOGGERHEAD SHRIKE	FE	SC	NATIVE
B415	CASSIN'S VIREO			NATIVE
B417	HUTTON'S VIREO		SC	NATIVE
B418	WARBLING VIREO			NATIVE
B425	ORANGE-CROWNED WARBLER			NATIVE
B426	NASHVILLE WARBLER			NATIVE
B430	YELLOW WARBLER		SC	NATIVE
B435	YELLOW-RUMPED WARBLER			NATIVE
B436	BLACK-THROATED GRAY WARBLER			NATIVE
B437	TOWNSEND'S WARBLER			NATIVE
B438	HERMIT WARBLER			NATIVE
B460	MACGILLIVRAY'S WARBLER			NATIVE
B461	COMMON YELLOWTHROAT		SC	NATIVE
B463	WILSON'S WARBLER			NATIVE
B467	YELLOW-BREASTED CHAT		SC	NATIVE
B471	WESTERN TANAGER			NATIVE
B475	BLACK-HEADED GROSBEAK			NATIVE
B477	LAZULI BUNTING			NATIVE
B483	SPOTTED TOWHEE		SC	NATIVE
B484	CALIFORNIA TOWHEE	FT CE		NATIVE
B487	RUFOUS-CROWNED SPARROW		SC	NATIVE
B489	CHIPPING SPARROW			NATIVE
B493	BLACK-CHINNED SPARROW			NATIVE
B495	LARK SPARROW			NATIVE
B497	BELL'S SPARROW	FT	SC	NATIVE

B499	SAVANNAH SPARROW	CE	SC			NATIVE
B501	GRASSHOPPER SPARROW		SC			NATIVE
B504	FOX SPARROW					NATIVE
B505	SONG SPARROW		SC			NATIVE
B506	LINCOLN'S SPARROW					NATIVE
B509	GOLDEN-CROWNED SPARROW					NATIVE
B510	WHITE-CROWNED SPARROW					NATIVE
B512	DARK-EYED JUNCO					NATIVE
B519	RED-WINGED BLACKBIRD		SC			NATIVE
B520	TRICOLORED BLACKBIRD		SC	BL		NATIVE
B521	WESTERN MEADOWLARK					NATIVE
B522	YELLOW-HEADED BLACKBIRD		SC			NATIVE
B528	BROWN-HEADED COWBIRD					NATIVE
B532	BULLOCK'S ORIOLE					NATIVE
B536	PURPLE FINCH					NATIVE
B538	HOUSE FINCH					NATIVE
B542	PINE SISKIN					NATIVE
B543	LESSER GOLDFINCH					NATIVE
B544	LAWRENCE'S GOLDFINCH					NATIVE
B545	AMERICAN GOLDFINCH					NATIVE
B546	EVENING GROSBEAK					NATIVE
B554	PLUMBEOUS VIREO					NATIVE
B699	BARRED OWL					NATIVE
B773	AMERICAN REDSTART					NATIVE
B798	WHITE-THROATED SPARROW					NATIVE
B799	HARRIS'S SPARROW					NATIVE
B809	INDIGO BUNTING					NATIVE
M006	ORNATE SHREW	FE	SC			NATIVE
M012	TROWBRIDGE'S SHREW					NATIVE
M023	YUMA MYOTIS			BL		NATIVE
M025	LONG-EARED MYOTIS			BL		NATIVE
M027	LONG-LEGGED MYOTIS					NATIVE
M028	CALIFORNIA MYOTIS					NATIVE
M030	SILVER-HAIRED BAT					NATIVE
M031	CANYON BAT					NATIVE
M033	WESTERN RED BAT		SC		FS	NATIVE
M034	HOARY BAT					NATIVE
M037	TOWNSEND'S BIG-EARED BAT		SC	BL	FS	NATIVE
M038	PALLID BAT		SC	BL	FS	NATIVE
M039	BRAZILIAN FREE-TAILED BAT					NATIVE
M045	BRUSH RABBIT	FE	CE		HA	NATIVE
M047	AUDUBON'S COTTONTAIL				HA	NATIVE
M051	BLACK-TAILED JACKRABBIT		SC		HA	NATIVE

M055	YELLOW-PINE CHIPMUNK		NATIVE
M057	SHADOW CHIPMUNK		NATIVE
M059	SONOMA CHIPMUNK		NATIVE
M075	GOLDEN-MANTLED GROUND SQUIRREL		NATIVE
M077	WESTERN GRAY SQUIRREL	HA	NATIVE
M080	NORTHERN FLYING SQUIRREL	SC FS	NATIVE
M105	CALIFORNIA KANGAROO RAT	SC	NATIVE
M112	AMERICAN BEAVER	HA	NATIVE
M113	WESTERN HARVEST MOUSE		NATIVE
M117	DEER MOUSE	SC	NATIVE
M119	BRUSH MOUSE		NATIVE
M120	PINYON MOUSE		NATIVE
M127	DUSKY-FOOTED WOODRAT	FE SC	NATIVE
M134	CALIFORNIA VOLE	FE CE SC BL	NATIVE
M139	COMMON MUSKRAT	HA	NATIVE
M146	COYOTE	HA	NATIVE
M149	GRAY FOX	HA	NATIVE
M151	BLACK BEAR	HA	NATIVE
M152	RINGTAIL	CF	NATIVE
M153	RACCOON	HA	NATIVE
M157	LONG-TAILED WEASEL	HA	NATIVE
M158	AMERICAN MINK	HA	NATIVE
M162	STRIPED SKUNK	HA	NATIVE
M163	NORTHERN RIVER OTTER	SC	NATIVE
M165	MOUNTAIN LION	SC	NATIVE
M166	BOBCAT	HA	NATIVE
M177	ELK	HA	NATIVE
M181	MULE DEER	HA	NATIVE
R004	WESTERN POND TURTLE	SC BL FS	NATIVE
R022	WESTERN FENCE LIZARD		NATIVE
R040	SOUTHERN ALLIGATOR LIZARD		NATIVE
R042	NORTHERN ALLIGATOR LIZARD		NATIVE
R046	NORTHERN RUBBER BOA	CT FS	NATIVE
R051	NORTH AMERICAN RACER		NATIVE
R053	STRIPED RACER	FT CT	NATIVE
R057	GOPHERSNAKE	SC	NATIVE
R058	EASTERN KINGSNAKE		NATIVE
R061	COMMON GARTERSNAKE	FE CE CF SC	NATIVE
R062	TERRESTRIAL GARTERSNAKE		NATIVE
R071	DESERT NIGHTSNAKE		NATIVE
R076	WESTERN RATTLESNAKE		NATIVE
R078	AQUATIC GARTERSNAKE		NATIVE

Total Number of Species: 245

Query Parameters

Included Locations
Lake Co

Included Location Seasons
Migrant, Summer, Winter, Yearlong

Included Habitats & (Stages)
Annual Grassland, Blue Oak-foothill Pine, Chamise-redshank Chaparral, Valley Foothill Riparian

Habitat Suitability Threshold
Reproduction - Low, Cover - Low, Feeding - Low

Included Habitat Seasons
Migrant, Summer, Winter, Yearlong

Excluded Elements
Algae, Barren, Brush Pile, Buildings, Campground, Cave, Dump, Jetty, Kelp, Lithic, Mine, Nest Box, Nest Island, Nest Platform, Pack Stations, Ponds, Rock, Salt Ponds, Sand Dune, Shrub/agriculture, Soil - Friable, Soil - Gravelly, Soil - Organic, Soil - Saline, Soil - Sandy, Streams - Intermittent, Streams - Permanent, Talus, Transmission Lines, Tree/agriculture, Trees - Fir, Water - Created Body, Water/agriculture, Wharf

Included Species All Species Included

Included Special Statuses Native

APPENDIX C

AQUATIC RESOURCES/DELINEATION REPORT

DELINEATION OF WATERS OF THE U.S.

1.0 Methodology

1.1 Purpose of Delineation: This delineation has been conducted at the request of the local permitting agency in order to determine the extent of possible waters of the U.S. on the project.

1.2 Delineation Procedure: This delineation has been conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, 2008.* Plant taxonomy and nomenclature is from the *Jepson Manual, Higher Plants of California*, 2012. Other texts, such as Munz's *A California Flora and Supplement* 1973, and Mason's *Flora of the Marshes of California,*1957, were used as supplemental texts; however, all nomenclature and wetland indicator status have been checked with the U.S. Army Corps of Engineers. 2016. *National Wetland Plant Lists: Arid West* and *California*.

The survey included use of Google satellite images, 7.5' USGS quadrangle maps, and LIDAR mapped overlays along with an extensive foot survey.

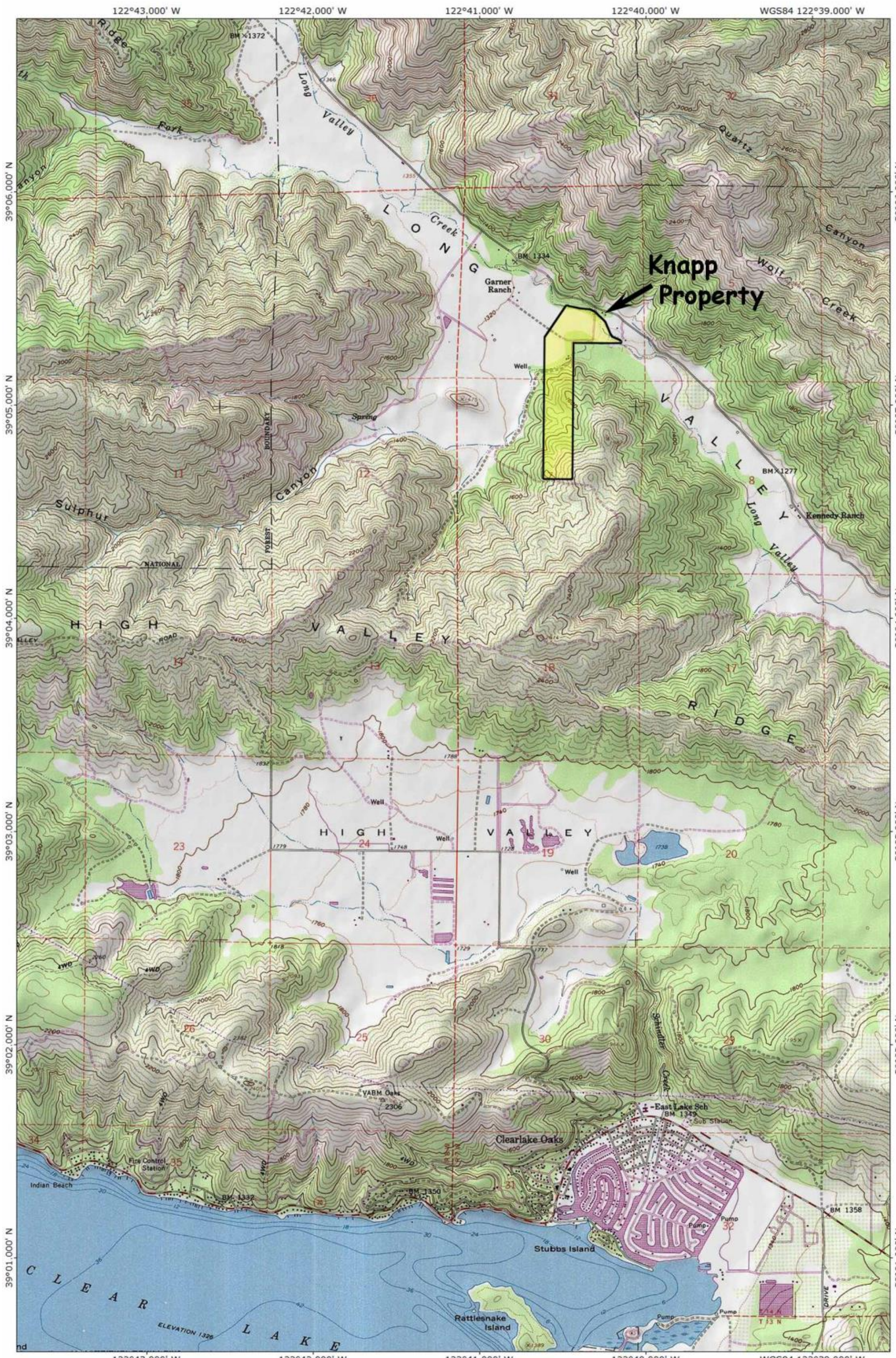
1.3 Delineation Date: Delineation fieldwork was completed on May 22, 2019.

1.4 Delineation Staff: The delineation was conducted by Steve Zalusky, Northwest Biosurvey principal biologist. Mr. Zalusky has a Master of Science Degree in Biology from the California State University at Northridge and a Bachelor of Science Degree in Zoology from the University of California at Santa Barbara. Mr. Zalusky has more than 35 years of experience as a biologist in the government and private sectors. He completed his wetland delineation training under Terry Huffman of Huffman & Associates, Inc.

Fieldwork, mapping, and report preparation were also conducted by Leigh Zalusky. Leigh Zalusky has a Bachelor of Science Degree in Computer Engineering from the University of California, Davis. Leigh also received formal delineation training under Terry Huffman of Huffman & Associates, Inc.

2.0 Existing Conditions

2.1 Location: The project site is located at 4379 & 4457 New Long Valley Road, Clearlake Oaks, California (APNs 006-009-23 & 53; Sec. 6&7 T15N R7W, Clearlake Oaks, Calif. 7½' Topographic Map). A location map is provided in **Figure 1**.



Northwest Biosurvey
1905 Westlake Drive
Kelseyville, CA 96451
(707) 889-1061
nwbio98@gmail.com

LOCATION MAP
Figure 1

2.1 Site Topography and Drainage: The Knapp property extends down the west-facing slope of a northern spur of High Valley Ridge and continues north onto the floor of Long Valley in the Interior North Coast Range. The terrain throughout the southern two-thirds of this parcel is steep. The southeast corner of the parcel is at 2,000 feet msl (mean sea level). The northern third of the parcel is on the valley floor at an elevation of 1,320 feet msl.

The montane portions of the property drain west to Sulphur Canyon Creek which passes from west to east through the property along the base of the slope and joins Long Valley Creek east of the property. The northern end of the property drains directly to Long Valley Creek. Long Valley Creek flows southeast to the North Fork of Cache Creek which continues west to the California Central Valley and its confluence with the Sacramento River.

2.2 Soils: The survey area contains the following soil units:

- **Lupoyoma silt loam, protected (soil unit 158):**

  This very deep, moderately well drained soil is on flood plains. It formed in alluvium derived from mixed rock sources. Slope is 0 to 2 percent. Vegetation is mostly annual grasses and scattered oaks. Permeability is moderately slow. Surface runoff is very slow and hazard of erosion is slight. The soil is subject to rare periods of flooding in winter and spring. The level area on the north part of the property contains this soil type.

- **Xerofluvents-Riverwash complex (soil unit 249, NRCS hydric soil criteria 4):**
  The complex occurs on narrow floodplains adjacent to stream channels, as well as within active stream channels. It occurs here along Long Valley Creek. It includes 55% Xerofluvents and 30% Riverwash. The Xerofluvents are very deep, excessively drained soils that formed in alluvium derived from mixed rock sources. Permeability is rapid and runoff is very slow. The hazard of erosion is slight except along streams. These soils are subject to frequent periods of flooding in winter and spring. Vegetation is limited to sparse annual grasses and forbs, including foxtail fescue, vinegar-weed and fillaree.

  The Riverwash soil is a very deep water-deposited sediment consisting of sand, gravel, cobbles, and stones in active stream channels. Areas of Riverwash are inundated during periods of high water and are subject to deposition and removal of material.

  This is a hydric soil on the national wetland indicator list with a hydric rating of 4: Soils that are frequently flooded for long duration or very long duration during the growing season.

The following soil types are found on the vegetated slopes on the south two-thirds of the property:

- **Maymen-Hopland-Etsel Association, 15-50% slopes (soil unit 171):**

  This soil unit occurs on mountains. The association consists of 30% Maymen gravelly loam, 30% Hopland loam, and 20% Etsel gravelly loam. The Maymen and Etsel soils occur on ridgetops and on south- and west-facing (sunnier) slopes. Both of these soils are shallow and excessively drained. They formed in material weathered from sandstone or shale. Permeability is moderate, runoff is rapid and the hazard from erosion is severe. Vegetation on these soils is mainly brush, including chamise, manzanita and buckbrush.

- **Millsholm-Bressa-Hopland Association, 30-50% slopes (soil unit 178):**

  This association occurs on hills, and consists of 35% Millsholm loam, 20% Bressa loam, and 15% Hopland loam. All of the soils formed from materials weathered from sandstone or shale. The Millsholm soil is shallow and well drained and occurs on south-facing slopes. Permeability is moderate, runoff is rapid and erosion hazard is severe. The Bressa soil is moderately deep and well drained but otherwise has characteristics similar to the Millsholm soil. The Hopland soil is similar to the Bressa soil but occurs on north- and east facing slopes. Vegetation on these soils is mainly brush and annual grasses, or hardwoods and annual grasses on the Hopland soil. Understory plants include soft chess, wild oat, poison oak, blue wildrye, and filaree.

3.0 Aquatic Resources Results

3.1 Waters of the U.S: The results of the delineation are shown on the aerial photo base map provided in **Appendix C, Figure W-2**. Waters of the U.S. within the property consist of perennial, intermittent, and ephemeral streams, and a pond. No potential wetland resources were found.

The total area of all delineated aquatic resources is **3.3654 acres**. The delineation results are shown in **Table 1**.

TABLE 1. POSSIBLE AQUATIC RESOURCES WITHIN THE SURVEY AREA

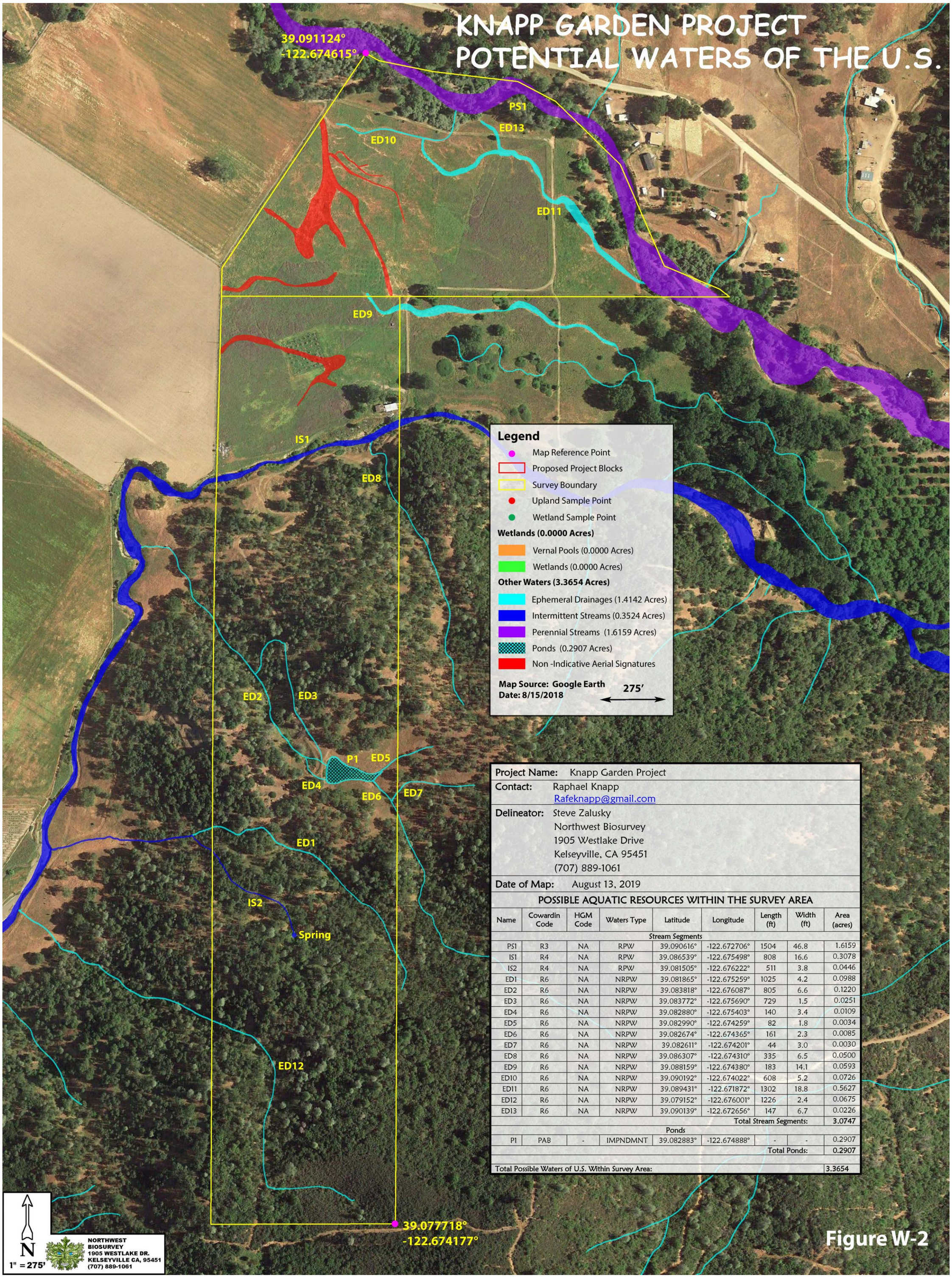
Name	Cowardin Code	HGM Code	Waters Type	Latitude	Longitude	Length (ft)	Width (ft)	Area (acres)
Stream Segments								
PS1	R3	NA	RPW	39.090616°	-122.672706°	1504	46.8	1.6159

Name	Cowardin Code	HGM Code	Waters Type	Latitude	Longitude	Length (ft)	Width (ft)	Area (acres)
Stream Segments								
IS1	R4	NA	RPW	39.086539°	-122.675498°	808	16.6	0.3078
IS2	R4	NA	RPW	39.081505°	-122.676222°	511	3.8	0.0446
ED1	R6	NA	NRPW	39.081865°	-122.675259°	1025	4.2	0.0988
ED2	R6	NA	NRPW	39.083818°	-122.676087°	805	6.6	0.1220
ED3	R6	NA	NRPW	39.083772°	-122.675690°	729	1.5	0.0251
ED4	R6	NA	NRPW	39.082880°	-122.675403°	140	3.4	0.0109
ED5	R6	NA	NRPW	39.082990°	-122.674259°	82	1.8	0.0034
ED6	R6	NA	NRPW	39.082674°	-122.674365°	161	2.3	0.0085
ED7	R6	NA	NRPW	39.082611°	-122.674201°	44	3.0	0.0030
ED8	R6	NA	NRPW	39.086307°	-122.674310°	335	6.5	0.0500
ED9	R6	NA	NRPW	39.088159°	-122.674380°	183	14.1	0.0593
ED10	R6	NA	NRPW	39.090192°	-122.674022°	608	5.2	0.0726
ED11	R6	NA	NRPW	39.089431°	-122.671872°	1302	18.8	0.5627
ED12	R6	NA	NRPW	39.079152°	-122.676001°	1226	2.4	0.0675
ED13	R6	NA	NRPW	39.090139°	-122.672656°	147	6.7	0.0226
Total Stream Segments:								**3.0747**
Ponds								
P1	PAB	-	IMPNDMNT	39.082883°	-122.674888°	-	-	0.2907
Total Ponds:								**0.2907**
Total Possible Waters of U.S. Within Survey Area:								**3.3654**

4.0 RECOMMENDATIONS

Any work proposed within the possible waters of the U.S. will require permits from the following:

- U.S. Army Corps of Engineers (Nationwide Permit)
- Regional Water Quality Control Board (Water Quality Certification 401 permit)
- California Department of Fish and Wildlife (1602 Stream Alteration Agreement)


KNAPP GARDEN PROJECT
POTENTIAL WATERS OF THE U.S.
39.091124°
-122.674615°
PS1
ED13
ED10
ED11
ED9
IS1
ED8
ED2
ED3
P1
ED5
ED4
ED6
ED7
ED1
IS2
Spring
ED12
39.077718°
-122.674177°
Legend
Map Reference Point
Proposed Project Blocks
Survey Boundary
Upland Sample Point
Wetland Sample Point
Wetlands (0.0000 Acres)
Vernal Pools (0.0000 Acres)
Wetlands (0.0000 Acres)
Other Waters (3.3654 Acres)
Ephemeral Drainages (1.4142 Acres)
Intermittent Streams (0.3524 Acres)
Perennial Streams (1.6159 Acres)
Ponds (0.2907 Acres)
Non -Indicative Aerial Signatures
Map Source: Google Earth
Date: 8/15/2018
275'
Project Name: Knapp Garden Project
Contact: Raphael Knapp
Rafeknapp@gmail.com
Delineator: Steve Zalusky
Northwest Biosurvey
1905 Westlake Drive
Kelseyville, CA 95451
(707) 889-1061
Date of Map: August 13, 2019
POSSIBLE AQUATIC RESOURCES WITHIN THE SURVEY AREA
Name | Cowardin Code | HGM Code | Waters Type | Latitude | Longitude | Length (ft) | Width (ft) | Area (acres)
Stream Segments
PS1 | R3 | NA | RPW | 39.090616° | -122.672706° | 1504 | 46.8 | 1.6159
IS1 | R4 | NA | RPW | 39.086539° | -122.675498° | 808 | 16.6 | 0.3078
IS2 | R4 | NA | RPW | 39.081505° | -122.676222° | 511 | 3.8 | 0.0446
ED1 | R6 | NA | NRPW | 39.081865° | -122.675259° | 1025 | 4.2 | 0.0988
ED2 | R6 | NA | NRPW | 39.083818° | -122.676087° | 805 | 6.6 | 0.1220
ED3 | R6 | NA | NRPW | 39.083772° | -122.675690° | 729 | 1.5 | 0.0251
ED4 | R6 | NA | NRPW | 39.082880° | -122.675403° | 140 | 3.4 | 0.0109
ED5 | R6 | NA | NRPW | 39.082990° | -122.674259° | 82 | 1.8 | 0.0034
ED6 | R6 | NA | NRPW | 39.082674° | -122.674365° | 161 | 2.3 | 0.0085
ED7 | R6 | NA | NRPW | 39.082611° | -122.674201° | 44 | 3.0 | 0.0030
ED8 | R6 | NA | NRPW | 39.086307° | -122.674310° | 335 | 6.5 | 0.0500
ED9 | R6 | NA | NRPW | 39.088159° | -122.674380° | 183 | 14.1 | 0.0593
ED10 | R6 | NA | NRPW | 39.090192° | -122.674022° | 608 | 5.2 | 0.0726
ED11 | R6 | NA | NRPW | 39.089431° | -122.671872° | 1302 | 18.8 | 0.5627
ED12 | R6 | NA | NRPW | 39.079152° | -122.676001° | 1226 | 2.4 | 0.0675
ED13 | R6 | NA | NRPW | 39.090139° | -122.672656° | 147 | 6.7 | 0.0226
Total Stream Segments: 3.0747
Ponds
P1 | PAB | - | IMPNDMNT | 39.082883° | -122.674888° | - | - | 0.2907
Total Ponds: 0.2907
Total Possible Waters of U.S. Within Survey Area: 3.3654
N
1" = 275'
NORTHWEST BIOSURVEY
1905 WESTLAKE DR.
KELSEYVILLE CA, 95451
(707) 889-1061
Figure W-2

SECTION – F

GROUNDS MANAGEMENT PLAN

Grounds Management Plan

Purpose and Overview

Raphael Knapp is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 4457 New Long Valley Road near Clearlake Oaks, California on Lake County APNs 006-009-23 & 53 (Project Property). The proposed commercial cannabis cultivation operation would be developed in two stages. During the first stage of site development, the proposed cultivation operation would be composed of up to four acres (174,240 ft^2) of outdoor cultivation/canopy area, a 6,000 ft^2 Processing Facility (metal building), and a 120 ft^2 Pesticides & Agricultural Chemicals Storage Area (wooden shed). During the second stage of site development, twelve 3,000 ft^2 greenhouses and twenty-two 1,000 ft^2 hoop houses will be constructed within the footprint of two of the four acres of outdoor cultivation/canopy area established in the first phase of site development.

The proposed outdoor cultivation areas would be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen/mesh where necessary to screen the cultivation areas from public view. The growing medium of the proposed outdoor canopy areas will be native soil amended with compost. The proposed mixed-light canopy areas would be located within ten 3,000 ft^2 greenhouse structures and twenty-two 1,000 ft^2 hoop house structures. The growing medium of the proposed mixed-light canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in garden beds and nursery pots. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°, and drip and micro-spray irrigation systems will be used to deliver irrigation water and to conserve water resources.

This Grounds Management Plan is intended to ensure that the Project Parcel is well maintained in order to protect the public health, safety and welfare, as well as the natural environment of Lake County. This Grounds Management Plan outlines how BCM's employees 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 Area (proposed wooden shed). Petroleum products will be stored under cover, in State of California-approved containers with secondary containment, and separate from pesticides and fertilizers within the proposed Pesticides & Agricultural Chemicals Storage

Area. Spill containment and cleanup equipment will be maintained within the proposed Pesticides and Agricultural Chemicals Storage Area, as well as Materials Safety Data Sheets (MSDS/SDS) for all potentially hazardous materials used onsite. No effluent is expected to be produced by the proposed cultivation operation.

All fertilizers/nutrients will be mixed/prepared on an impermeable surface that is at least 100 feet from surface water bodies. Personnel will be trained how to appropriately prepare and apply fertilizers/nutrients before being allowed to use them. When using/preparing fertilizers and other chemicals, personnel will be required to use personal protective equipment (PPE) consistent with the MSDS/SDS recommendations for the product they're using/preparing. PPE to be used by staff include safety glasses, gloves, dust masks, boots, pants, and long-sleeved shirts.

Solid Waste Management

The types of solid waste that will be generated from the proposed cultivation operation include gardening materials and wastes (such as used fertilizer/pesticide 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/canopy areas. 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 closest Lake County Integrated Waste Management facility to the proposed cultivation operation is the Eastlake Landfill. Most, if not all, of the solid waste and recyclables generated by proposed commercial cannabis cultivation operation can and will be deposited there.

Site Maintenance

When not in use, all equipment will be stored in 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. Staff will have access to the restrooms/washrooms of the proposed Processing Facility whenever they are onsite.

Compliance with SRA Fire Safe Regulations

The Project Property is located within the Northshore Fire Protection District and the California Board of Forestry and Fire Protection (CALFIRE) State Responsibility Area (SRA). As such, the proposed cultivation operation must comply with SRA Fire Safe Regulations, and the following improvements will established/developed to adhere to those regulations. Please see the attached Fire Map for a graphic representation of the existing/proposed improvements referenced below.

Emergency Access and Egress

The Project Property is accessed via two private access roads off of a New Long Valley Road. Both of the private access roads connect the Project Property to New Long Valley Road via steel bridges with wooden running surfaces over Long Valley Creek. The eastern bridge is capable of supporting fire apparatus weighing at least 75,000 pounds, and has been inspected by professional fire personnel. The structures of the proposed cultivation operation will be accessed via a 20-foot wide gravel access road that will have a grade of less than 16 percent and an aggregate surface capable of supporting fire apparatus weighing at least 75,000 pounds. A "hammerhead" at the end of the 20-foot wide access road will provide adequate emergency vehicle turnaround space.

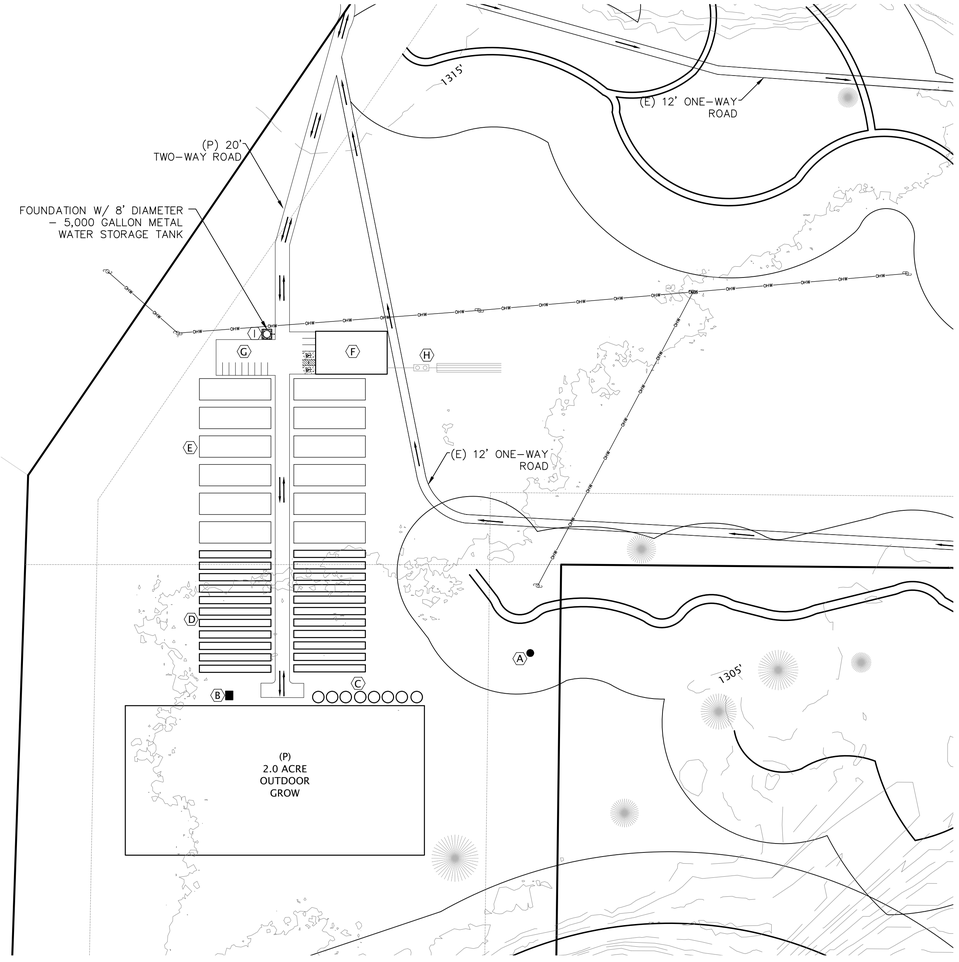
Signing and Building Numbering

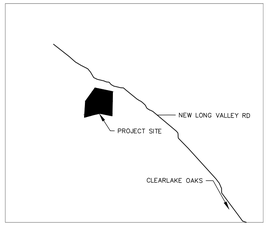
The addresses of the Project Property (and the proposed cultivation operation) will be displayed on metal rectangles mounted to a metal post in a location that is visible and legible from at least 100 feet in both directions from New Long Valley Road. The numbers of the addresses will be reflectorized, of a contrasting color (to the color of the metal rectangle), and have a height of at least 4 inches with 0.5 stroke.

Emergency Water Supply & Defensible Space

A 5,000-gallon metal fire water storage tank will be established for the proposed cultivation operation, net to the proposed Processing Facility (please see attached "Fire Map"). The metal fire water storage tank will be connected to a 2-foot high hydrant/fire valves equipped with 4-inch National Hose male thread and cap, located approximately 6 feet west of the 20' wide access road. The location of the hydrant/fire valves will be identified with a +3" reflectorized blue marker mounted to a 4-foot tall/high metal post.

All flammable vegetation within 30 feet of the structures, cultivation areas, metal fire water storage tank, and hydrants/fire valves of the proposed cultivation operation will be removed. 100 feet of defensible space will be maintained around the proposed cultivation operation, by regularly mowing grasses to a maximum height of 4 inches, creating and maintaining space between shrubs and trees, and by removing all tree branches and other ladder fuels within 6 feet of the ground surface.





VICINITY MAP
NO SCALE

KNAPP
4379 & 4457 NEW LONG VALLEY RD
CLEARLAKE OAKS, CA 95423
APN: 006-009-23 & 53

LEGEND:

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

NOTES:
1. CONTOUR INTERVALS = 10'

Ⓐ (E) WELL LOCATION (39.088154, -122.674149)

Ⓑ (P) 120 S.F. SHED FOR FERTILIZER AND PESTICIDES

Ⓒ (P) 2,500 GALLON WATER TANK

Ⓓ (P) 10 X 100 HOOP HOUSE

Ⓔ (P) 30' X 100' GREENHOUSE

Ⓕ (P) 60' X 100' 6000 S.F PROCESSING BUILDING

Ⓖ PARKING LOT WITH ADA

Ⓗ (P) SEPTIC / LEACH FIELD

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

PROPOSED CONDITIONS SITE PLAN

GRAPHIC SCALE

100 0 50 100
(IN FEET)
1 inch = 100 ft.

Revisions:

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

PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
exp 06/30/23
CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS / FIRE MAP
KNAPP
4379 & 4457 NEW LONG VALLEY RD
CLEARLAKE OAKS, CA 95423
LAKE COUNTY
APN: 006-009-23 & 53

PLOTTED BY: ---
DATE PLOTTED: 10/14/22
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 5

SECTION – G

SECURITY MANAGEMENT PLAN

Security Management Plan

Purpose and Overview

Raphael Knapp is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 4457 New Long Valley Road near Clearlake Oaks, California on Lake County APNs 006-009-23 & 53 (Project Property). The proposed commercial cannabis cultivation operation would be developed in two stages. During the first stage of site development, the proposed cultivation operation would be composed of up to four acres (174,240 ft^2) of outdoor cultivation/canopy area, a 6,000 ft^2 Processing Facility (metal building), and a 120 ft^2 Pesticides & Agricultural Chemicals Storage Area (wooden shed). During the second stage of site development, twelve 3,000 ft^2 greenhouses and twenty-two 1,000 ft^2 hoop houses will be constructed within the footprint of two of the four acres of outdoor cultivation/canopy area established in the first phase of site development.

The proposed outdoor cultivation areas would be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen/mesh where necessary to screen the cultivation areas from public view. The growing medium of the proposed outdoor canopy areas will be native soil amended with compost. The proposed mixed-light canopy areas would be located within ten 3,000 ft^2 greenhouse structures and twenty-two 1,000 ft^2 hoop house structures. The growing medium of the proposed mixed-light canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in garden beds and nursery pots. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°, and drip and micro-spray irrigation systems will be used to deliver irrigation water and to conserve water resources.

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 two private access roads off of a New Long Valley Road. Both of the private access roads connect the Project Property to New Long Valley Road via steel bridges with wooden running surfaces over Long Valley Creek. Locking metal gates across the private gravel access roads control vehicular access to the Project Property. These gates will be

closed and locked outside of core operating/business hours (8am to 6pm) and whenever managerial personnel are not present.

6-foot woven wire fences will be erected around the proposed outdoor cultivation areas. Privacy Screen/Cloth will be installed on the fences where necessary to screen the cultivation areas 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 outdoor cultivation area(s) will be controlled via locking gates that will be locked whenever managerial staff are not present. All gates will be secured with heavy duty chains and commercial grade padlocks. Commercial-grade locks will be used to secure the proposed greenhouse structures. Only approved managerial staff will be able to unlock the gates of the Project Property.

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 gates controlling access to the proposed cultivation operation, 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 managerial staff immediately if/when suspicious activity is detected. Management will investigate the suspicious activity for potential threats, issues, or concerns. Management will contact the Lake County Sheriff's Office immediately if/when a threat is detected. 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 staff member. 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

Color capable closed-circuit television (CCTV) systems with a minimum camera resolution of 1080p at a minimum of 30 frames per second will be used to record activity in all sensitive areas. All cameras will equipped with motion sensing technology to activate the cameras when motion is detected, and all cameras (exterior and interior) will be waterproof. The CCTV systems will feed into a Monitoring and Recording Station inside the Security Room within the proposed Processing Facility, 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 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:

- Perimeter of the proposed cultivation/canopy areas;
- Interior and exterior of all entryways and exits to the proposed Processing Facility; and
- Interior of each room of the proposed Processing Facility, including the proposed the Security Room.

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.

The proposed cultivation operation will adhere to the inventory tracking and recording requirements of the California Cannabis Track-and-Trace (CCTT) system. All staff will be trained in the requirements of the CCTT system, and all cannabis transfers/movement will be reported through the CCTT system. A member of the managerial staff will be the designated track-and-trace system administrator. The 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. Mr. Knapp will provide the name, cell phone number, and email address of the Community Liaison/Emergency Contact to all interested County Departments, Law Enforcement Officials, and neighboring property owners and residents. Mr. Knapp 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 annual Performance Review Reports.

The Community Liaison/Emergency Contact for the proposed cultivation operation is Mr. Raphael Knapp. Mr. Knapp's cell phone number is (510) 910-3354, and his email address is rafeknapp@gmail.com. The owners of all properties within 250 feet of the Project Property will receive Mr. Knapp's contact information before development of the proposed cultivation operation occurs.

SECTION – H

STORM WATER MANAGEMENT PLAN

Storm Water Management Plan

Purpose and Overview

Raphael Knapp is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 4457 New Long Valley Road near Clearlake Oaks, California on Lake County APNs 006-009-23 & 53 (Project Property). The proposed commercial cannabis cultivation operation would be developed in two stages. During the first stage of site development, the proposed cultivation operation would be composed of up to four acres (174,240 ft^2) of outdoor cultivation/canopy area, a 6,000 ft^2 Processing Facility (metal building), and a 120 ft^2 Pesticides & Agricultural Chemicals Storage Area (wooden shed). During the second stage of site development, twelve 3,000 ft^2 greenhouses and twenty-two 1,000 ft^2 hoop houses will be constructed within the footprint of two of the four acres of outdoor cultivation/canopy area established in the first phase of site development.

The proposed outdoor cultivation areas would be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen/mesh where necessary to screen the cultivation areas from public view. The growing medium of the proposed outdoor canopy areas will be native soil amended with compost. The proposed mixed-light canopy areas would be located within ten 3,000 ft^2 greenhouse structures and twenty-two 1,000 ft^2 hoop house structures. The growing medium of the proposed mixed-light canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in garden beds and nursery pots. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°, and drip and micro-spray irrigation systems will be used to deliver irrigation water and to conserve water resources.

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 42,120 ft^2, or approximately 1% of the Project Property, through the construction of twelve 3,000 ft^2 greenhouses, a 6,000 ft^2 metal building, and a 120 ft^2 wooden shed. The proposed outdoor cultivation/canopy areas and hoop houses would not increase the impervious surface area of the Project Property and should not increase the volume of runoff from the Project Site. The proposed parking lot will have a permeable gravel surface, and the proposed ADA parking space will be constructed of permeable pavers.

Receiving Water Bodies and Infrastructure

Long Valley Creek, a perennial Class I watercourse, flows from northwest to southeast along the northern boundary of the Project Property. Sulphur Canyon Creek, an intermittent Class II watercourse and tributary of Long Valley Creek, flows from west to east through the Project Property, separating the relatively flat northern third of the Project Property from the mountains to the south. Multiple ephemeral Class III watercourses form on and/or flow through the Project Property, draining into Long Valley and Sulphur Canyon Creeks. No cannabis cultivation activities nor agricultural chemicals storage would occur within 100 feet of any surface waterbody. Stormwater runoff from the structures of the proposed cultivation operation will be discharged to well-vegetated buffers surrounding the cultivation operation. Development of the proposed cultivation operation, with the implementation of the erosion and sediment control measures outlined below, should not increase the volume of stormwater discharges from the Project Property onto adjacent properties or flood elevations downstream.

Ground Disturbance and Grading

Soils of the Project Site are identified as Lupoyoma silt loam by the NRCS Web Soil Survey, and characterized as very deep, moderately well drained soil of flood plains, formed in alluvium derived from mixed rock sources. The proposed cultivation operation will increase the impervious surface area of the Project Property by approximately 42,120 ft^2, or approximately 1% of the Project Property, through the construction of twelve 3,000 ft^2 greenhouses, a 6,000 ft^2 metal building, and a 120 ft^2 wooden shed. The proposed outdoor cultivation/canopy areas and hoop houses would not increase the impervious surface area of the Project Property and should not increase the volume of runoff from the Project Site. The proposed parking lot will have a permeable gravel surface, and the proposed ADA parking space will be constructed of permeable pavers.

The proposed outdoor cultivation/canopy areas would be established by ripping, plowing/discing and furrowing the native soils of the Project Site. Extra care will be taken to preserve the rich topsoil of the Project Site when preparing the proposed outdoor cultivation/canopy areas. The growing medium of the proposed outdoor cultivation/canopy areas will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. Each spring, the native soil/growing medium of the proposed outdoor cultivation/canopy areas will be plowed/disced and furrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil/growing medium 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. Minimal grading/site prep will be needed to establish level pads, on which the proposed structures would be constructed, in the nearly flat valley floor of the Project Site. In all, 5 to 6 acres of Wild Oat Grassland vegetation will be disturbed by development of the proposed cultivation operation.

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.

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 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 outdoor cultivation/canopy area, to stabilize the site for the winter wet weather period. Straw wattles will be installed and maintained throughout the proposed cultivation operation per the attached Erosion & Sediment Control Site Plan following site development, 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. BCM 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 Parcel has been enrolled for coverage under the State Water Resources Control Board's (SWRCB) Cannabis General Order since September 27th, 2019 (WDID: 5S17CC421353). 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 development of the proposed cultivation operation. 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). Development of the proposed cultivation operation, with implementation of the LID practices and erosion and sediment control measures outlined above, should 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."

Mr. Knapp will adhere to these monitoring requirements to maintain compliance with the Cannabis General Order, and would 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 would be limited to cannabis plant leaves and stems. All other parts of cannabis plants cultivated at this site will be transferred to State of California-licensed Distributors and Manufacturers. The proposed cannabis cultivation operation should generate approximately 1,000 pounds of dried cannabis waste each year. All cannabis waste would 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. BCM 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 area(s) will be native soil amended with compost, with drip irrigation systems covered in white plastic mulch (to conserve water resources). Each year the growing medium of the outdoor cultivation area(s) will be amended and reused. Each spring, the native soil of the outdoor cultivation area(s) will be plowed/disced and harrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil of the outdoor cultivation area(s) will be plowed/disced and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period.

The growing medium of the proposed mixed-light cultivation/canopy areas will composed of an above grade organic soilless growing medium (composed mostly of composted forest material), in aboveground planters (garden beds and plastic garden pots). The organic soilless growing medium of each garden bed/pot will be amended with compost, composted manure, worm castings, and vermiculite (only when needed to achieve the desired soil density), and reused annually. Only low salt fertilizers will be used, so that salts do not accumulate within the growing medium of the proposed cultivation areas, rendering it unusable.

Growing Medium Waste

Ideally, the growing medium of the cultivation areas would 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 and/or California Department of Pesticide Regulation. The treated soil would 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).

SECTION – I

WATER USE MANAGEMENT PLAN

Water Use Management Plan

Purpose and Overview

Raphael Knapp is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 4457 New Long Valley Road near Clearlake Oaks, California on Lake County APNs 006-009-23 & 53 (Project Property). The proposed commercial cannabis cultivation operation would be developed in two stages. During the first stage of site development, the proposed cultivation operation would be composed of up to four acres (174,240 ft^2) of outdoor cultivation/canopy area, a 6,000 ft^2 Processing Facility (metal building), and a 120 ft^2 Pesticides & Agricultural Chemicals Storage Area (wooden shed). During the second stage of site development, twelve 3,000 ft^2 greenhouses and twenty-two 1,000 ft^2 hoop houses will be constructed within the footprint of two of the four acres of outdoor cultivation/canopy area established in the first phase of site development.

The proposed outdoor cultivation areas would be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen/mesh where necessary to screen the cultivation areas from public view. The growing medium of the proposed outdoor canopy areas will be native soil amended with compost. The proposed mixed-light canopy areas would be located within ten 3,000 ft^2 greenhouse structures and twenty-two 1,000 ft^2 hoop house structures. The growing medium of the proposed mixed-light canopy areas will be an imported organic soilless growing medium (composed mostly of composted forest material) in garden beds and nursery pots. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°, and drip and micro-spray irrigation systems will be used to deliver irrigation water and to conserve water resources.

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. Additionally, a Hydrology Report and Drought Management Plan (attached) was prepared by Western Groundwater Surveyors, Inc. for the proposed cultivation operation.

Description of Water Resources

Surface Water

The Project Property is located within the Long Valley Creek watershed (HUC12). Long Valley Creek, a perennial Class I watercourse, flows from northwest to southeast along the northern boundary of the Project Property. Sulphur Canyon Creek, an intermittent Class II watercourse and

tributary of Long Valley Creek, flows from west to east through the Project Property, separating the relatively flat northern third of the Project Property from the mountains to the south. Multiple ephemeral Class III watercourses form on and/or flow through the Project Property, draining into Long Valley and Sulphur Canyon Creeks. No cannabis cultivation activities nor agricultural chemicals storage would occur within 100 feet of any surface waterbody.

Groundwater

Soils of the Project Site are identified as Lupoyoma silt loam by the NRCS Web Soil Survey, and characterized as very deep, moderately well drained soil of flood plains, formed in alluvium derived from mixed rock sources. The United States Geological Survey Map, *Framework Geologic Map and Structure Sections along Bartlett Springs Fault Zone and Adjacent Area from Round Valley to Wilbur Springs*, indicates that the Project Site is underlain principally by older alluvial fan and terrace deposits, underlain by metasandstone, argillite, and conglomerate. The Project Site is located within the Long Valley Groundwater Basin/Source Area, as identified in the 2006 Lake County Groundwater Management Plan. The Long Valley Groundwater Basin is made up of alluvial fill, surrounded by mountains and hills of the Franciscan Formation. According to the 2006 Lake County Groundwater Management Plan, very little information exists for the Long Valley Groundwater Basin, and the average-year agricultural groundwater demand in the Basin is approximately 253 acre-feet per year.

All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°. This well was drilled in June of 2014, through clay, sand, and gravel, to a depth of 54 feet below ground surface, however the well was only completed to a depth of 52 feet below ground surface. The well was screened between 22 and 52 feet below ground surface and had an estimated yield of 50 gallons per minute at the time it was drilled.

Water Resources Protection

Existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas will be protected 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 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 the restroom/washroom facilities of the proposed Processing Facility at all times when onsite.

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 September 27th, 2019 (WDID: 5S17CC421353). 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 establishing the

proposed cultivation operation. 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. Compliance with / adherence to the Cannabis General Order will be maintained, for the protection of water resources, for as long as the proposed cultivation operation is operating.

Water Sources, Storage, & Irrigation

All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°. A 4-hour well yield test was conducted of the onsite groundwater well by Jim's Pumps (License No. 993066) on September 22nd, 2021. During the well yield test, the onsite well was pumped at 100 gallons per minute, and the water level within the well only dropped a foot. The water level within the onsite groundwater well fully recovered (100%) within 15 minutes after pumping ceased.

Irrigation water for the proposed cultivation operation would be stored within eight proposed 2,500-gallon water storage tanks. The water storage tanks will be equipped with float valves to shut off the flow of water from the wells and prevent the overflow and runoff of irrigation water when full. PVC water supply lines will be run from the water storage tanks to the irrigation systems of each of the proposed cultivation areas. The water supply lines will be equipped with safety valves, capable of shutting off the flow of water so that waste of water and runoff is prevented/minimized when leaks occur and the system needs repair, and inline water meters compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7. Daily water meter reading records will be maintained for a minimum of five years, and those records will be made available to Water Boards, CDFW, and Lake County staff upon request. The irrigation systems of the proposed cultivation/canopy areas will be composed of black poly tubing and drip tapes/lines and emitters.

Water Availability Analysis

The total proposed combined outdoor canopy area is four acres or 174,240 ft^2, with an estimated annual water use requirement of 7.92 acre-feet (~2,580,700 gallons), including employee usage. The total proposed combined mixed-light cultivation area is approximately 1.33 acres or 58,000 ft^2, with an estimated annual water use requirement of 3.96 acre-feet (~1,290,400 gallons). The proposed mixed-light cultivation areas would replace two acres of outdoor cultivation/canopy area, halving the amount of water needed for outdoor cultivation once established. Therefore, the combined 2-acre outdoor canopy and 1.33-acre mixed-light cultivation areas has an estimated annual water use requirement of 7.92 acre-feet (~2,58,700 gallons). The proposed outdoor canopy areas would be planted on or after May 15th of each year (depending on climactic conditions) and harvested before November 15th of each year. Plants would be cultivated within the proposed mixed-light cultivation areas year round, with minimal operations occurring during the months of January and February. The following tables present the expected water use of the proposed cultivation operation by month during the cultivation season in gallons and acre-feet for each stage of site development.

May	June	July	August	September	October	November
146,700	299,800	593,000	593,000	534,400	299,800	114,000
0.45	0.92	1.82	1.82	1.64	0.92	0.35

Stage I – 4 Acres of Outdoor Cultivation/Canopy Area

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
9,800	19,600	39,100	58,600	146,600	293,200	495,300	537,700	495,300	319,300	146,600	19,600
0.03	0.06	0.12	0.18	0.45	0.9	1.52	1.65	1.52	0.98	0.45	0.06

Stage II – 2 Acres of Outdoor and 1.33 Acres of Mixed-Light Cultivation Area

The proposed cultivation operation would have a maximum daily water use requirement of approximately 17,900 gallons, and an average annual water demand of approximately 7,070 gallons per day. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 39.08815° and Longitude -122.67415°. A 4-hour well yield test was conducted of the onsite groundwater well by Jim's Pumps (License No. 993066) on September 22nd, 2021. During the 4-hour well yield test, the onsite well was pumped at 100 gallons per minute, and the water level within the well only dropped a foot. The water level within the onsite groundwater well fully recovered (100%) within 15 minutes after pumping ceased.

As demonstrated by the well yield test, the onsite groundwater well can produce at least 100 gallons per minute for four hours. At 100 gallons per minute, the onsite groundwater well could produce the maximum estimated daily demand for water of the proposed cultivation operation in less than 3 hours. Additionally, the proposed cultivation operation would have 20,000 gallons of water storage capacity (eight 2,500-gallon water storage tanks), which is twice the peak anticipated daily water demand of the proposed cultivation operation. As such, the existing onsite groundwater well is a sufficient water supply source for the proposed cannabis cultivation operation. Additionally, a Hydrology Report was prepared by Western Groundwater Surveyors, Inc., indicating that there are sufficient available water resources on the Project Property for the proposed cultivation operation (please see attached).

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 measuring devices (inline water meters) installed on the main irrigation supply lines between the onsite groundwater wells and water storage tanks.

Monitoring and Reporting

Prior to cultivation, an inline water meter compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7 will be installed on the main irrigation water supply line running between the existing onsite groundwater well and the water storage tanks of the proposed cultivation operation. Prior to cultivation, a water level meter equipped with data logging capabilities, will be installed on the existing onsite groundwater well. BCM's staff will record daily water meter readings, and will maintain those records onsite for a minimum of five years. BCM will make those records available to Water Boards, CDFW, and Lake County staff upon request.

SECTION – J

SITE PHOTOS

North View of Proposed Cultivation Area

East View of Proposed Cultivation Area

South View of Proposed Cultivation Area

West View of Proposed Cultivation Area

Primary Access from New Long Valley Road (Western Bridge, South View)

Emergency Vehicle Access from New Long Valley Road (Eastern Bridge, South View)