13160

Site Management Plan (Summary)

Humboldt County APN 522-032-011-000
SWRCB App# 432799

Submitted to:
State Water Resources Control Board -
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

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NRM
NATURAL RESOURCES MANAGEMENT
CORPORATION

Table of Contents

Figures

Tables

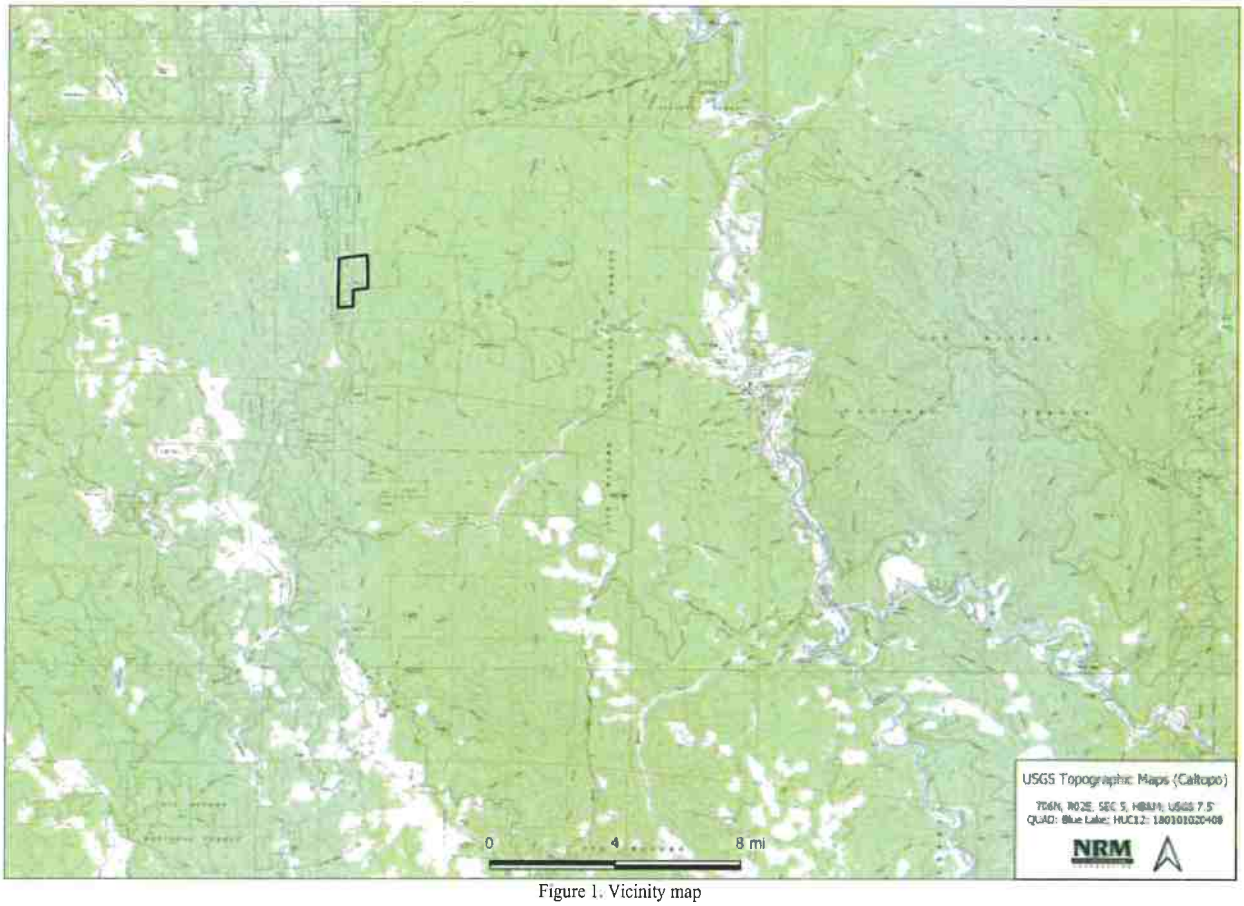

Figure 1. Vicinity map

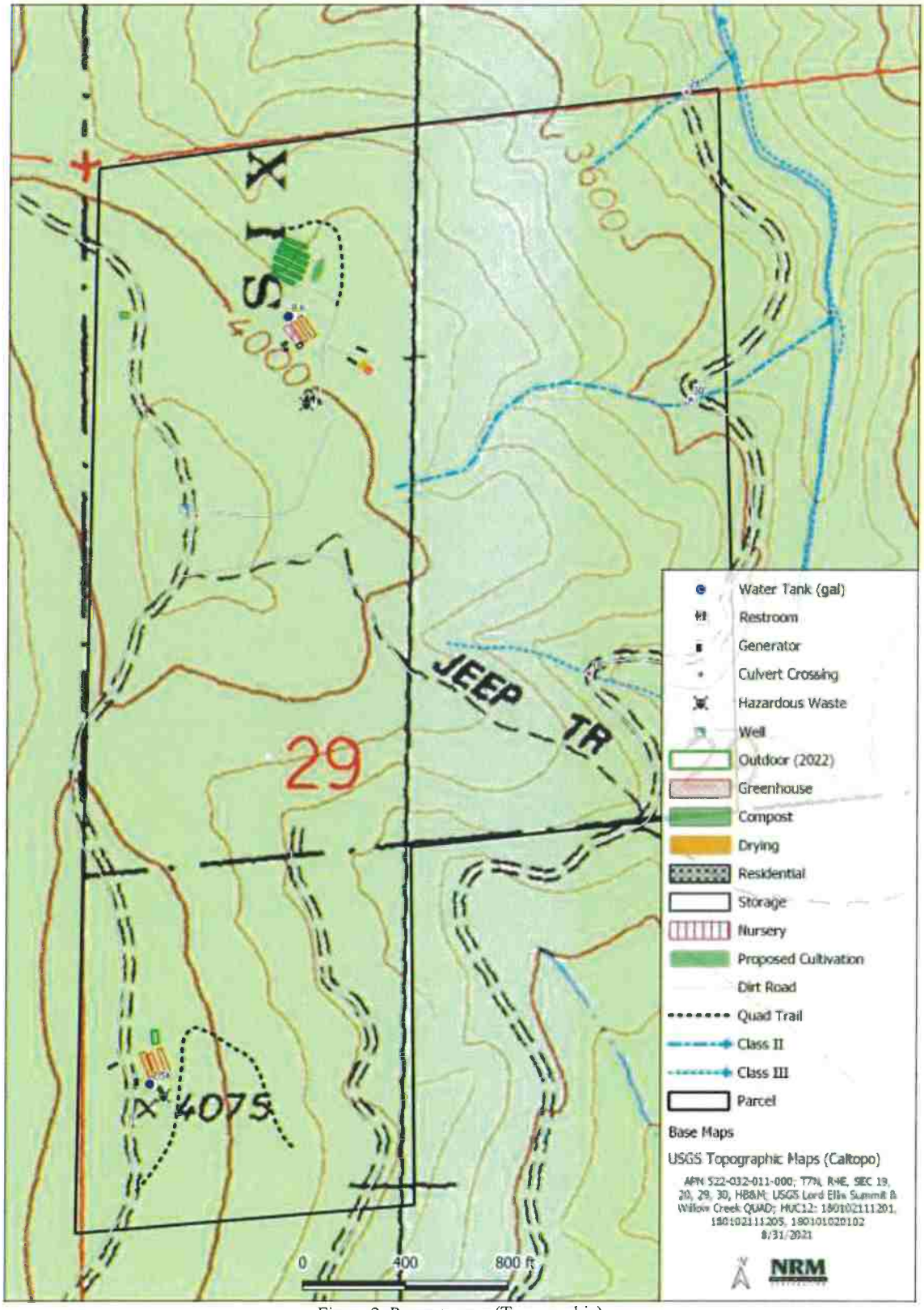

Figure 2. Property map (Topographic)

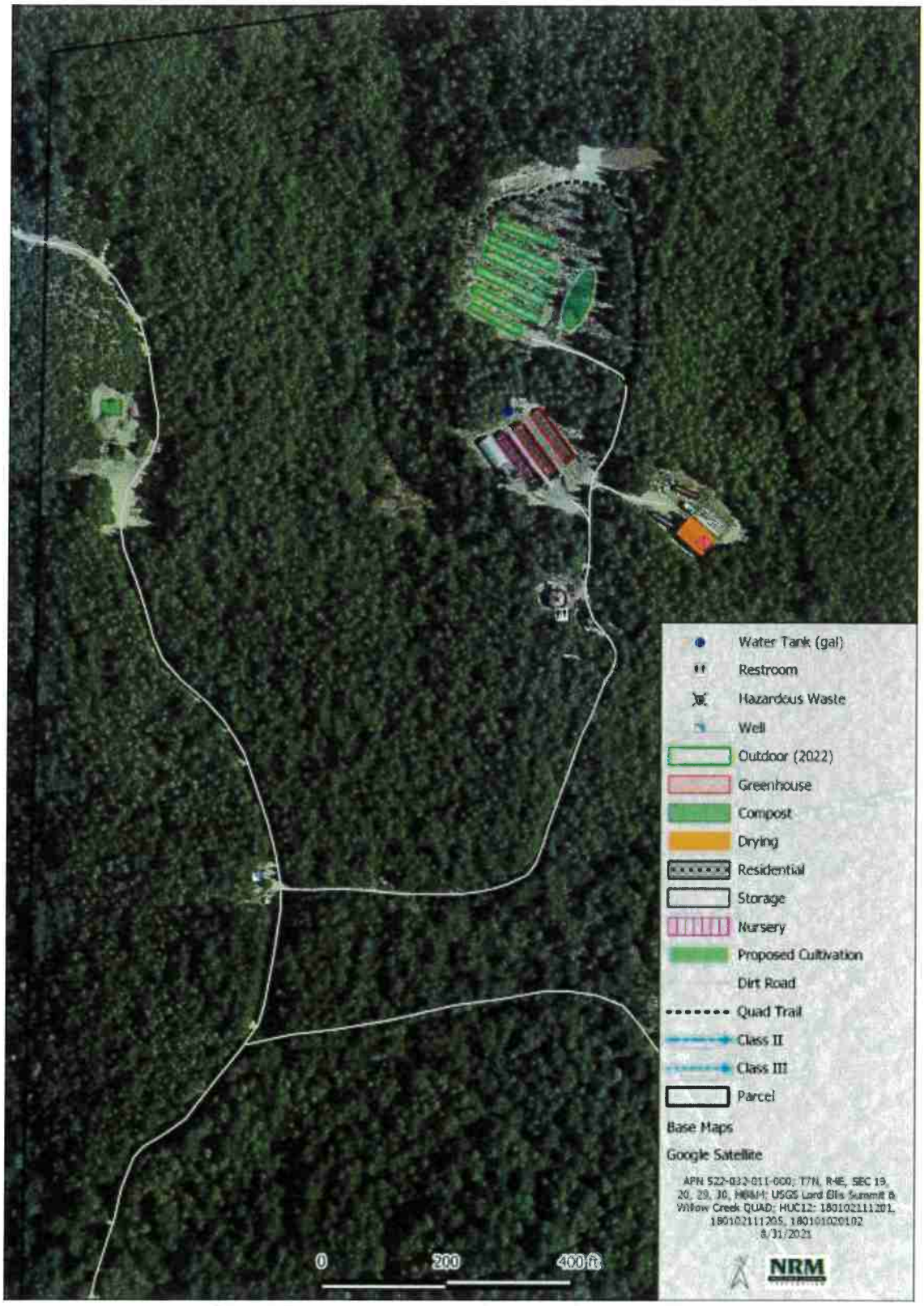

Figure 3. Property map, northern infrastructure (Google Satellite)

Figure 4. Property map, southern infrastructure (Google Satellite)

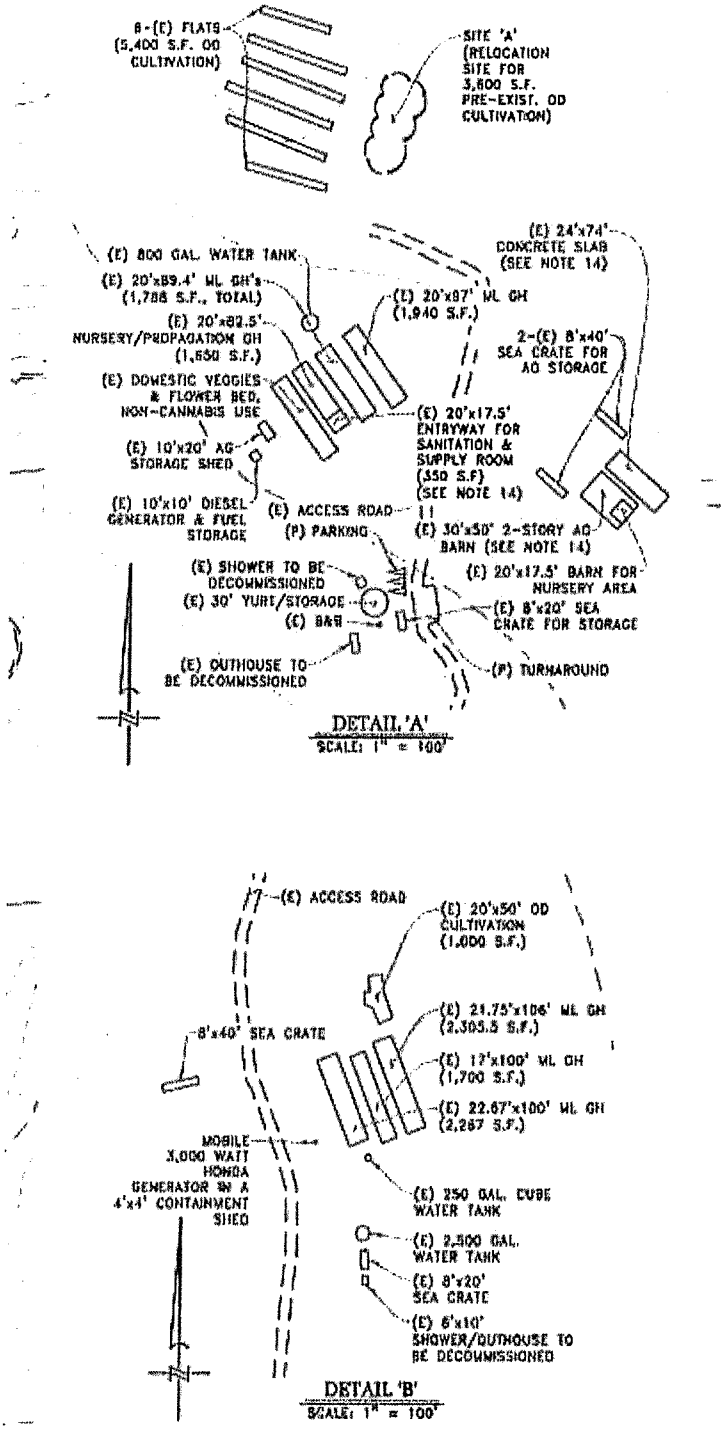

Figure 5. Cultivation details (from O&P Plot Plan)

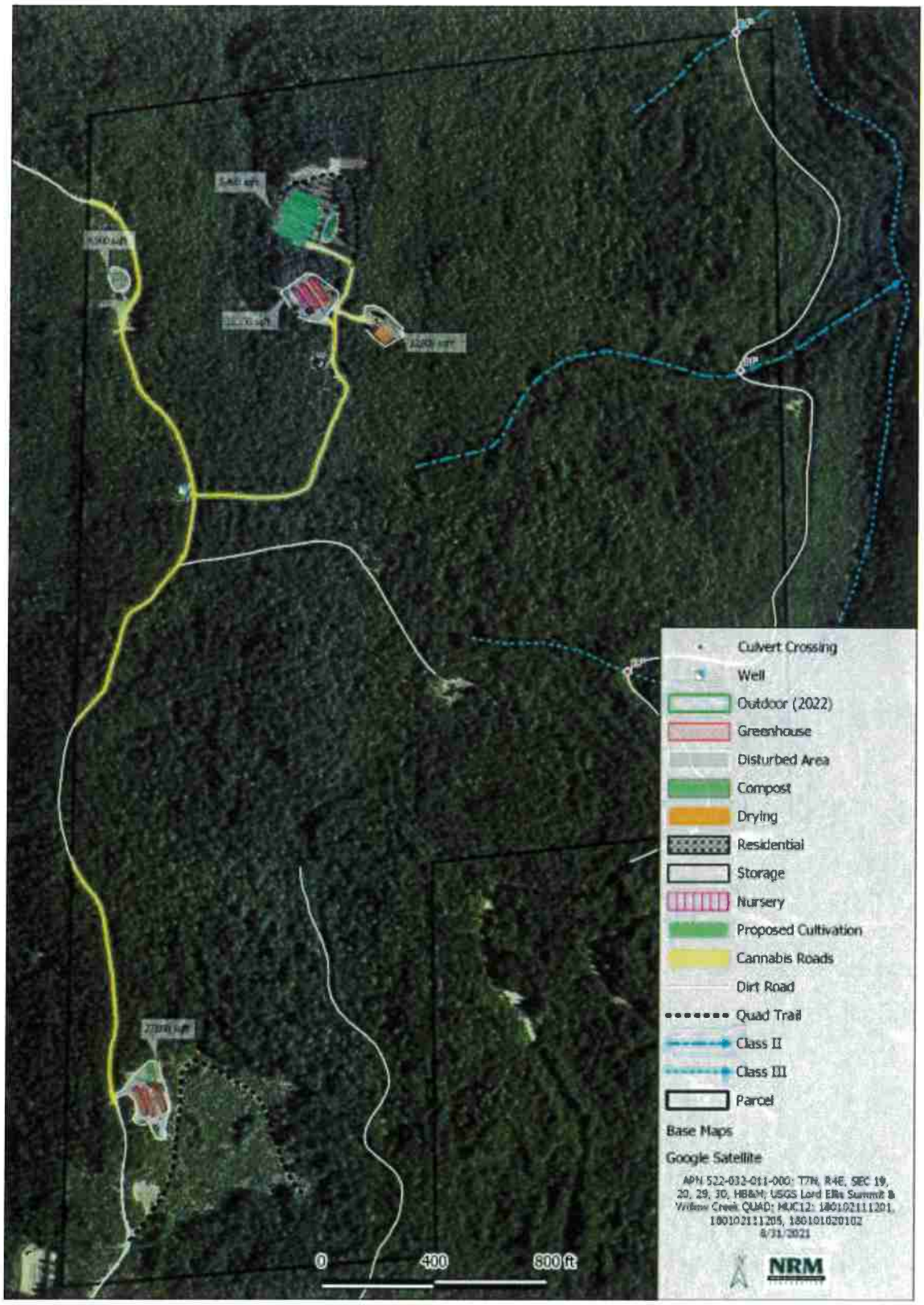

Figure 6. Disturbance associated with Cannabis cultivation

1. Sediment Discharge BPTC Measures

1.1. Site Characteristics

Cultivation Areas

2021 Season: There is a total of 12,000.50 square feet of cultivation being grown (including two nurseries) – the mixed light (greenhouse) cultivation areas are being used, while the full term outdoor areas have yet to be permitted. All hoop houses use raised beds. There is approximately 1,100 plants being grown, all of which will be harvested once in October. Plants are watered by hand.

2022 Season: There will be a total of 22,000.5 square feet of cultivation grown (including two nurseries); the greenhouses, which are permitted for mixed light use by Humboldt County, will be used as light deprivation and the outdoor, full sun gardens will be planted. All cultivation areas will used raised beds and the installation of a drip irrigation system with timers will be in-progress. For a typical cultivation season: plants are placed into the mixed light hoop houses by May 1st, the first mixed light harvest happens usually around mid-July, and the second mixed light/outdoor harvest happens by mid/late October.

1.1.3 Watercourse Crossings

Project 1: Culvert Replacement

Description: Rocked community road crosses Class III watercourse with 18-inch diameter metal culvert. The Rational Method predicts an 18.5 CFS flow here during a 100-year storm. A 36-inch diameter culvert is recommended to convey the predicted flow. The culvert is considered undersized and is not aligned with the channel or set to grade.

Work: Excavate existing culvert and form trench for new culvert. Install a 36-inch diameter by 60-foot-long culvert to grade and aligned with channel. Inlet shall extend 2 feet beyond fill slope and outlet shall extend 3 feet beyond fill slope. Armor inlet and outlet with average 14-inch diameter rock to prevent erosion. Construct critical dip to road-left. Re-cap driving surface with road-base rock for 50 feet to road-right and past critical dip to road-left. Store spoils at least 100 feet from crossing where they are not likely to enter a watercourse and cover with straw, or chips.

Disturbance: This project will temporarily disturb 60 feet of stream channel, about 754 square-feet, and excavate about 69 yards of soil. This project will likely result in 14 yards of spoils. This project will have to remove two 10-inch tanoak trees, two 4-inch tanoak trees, an already damaged 28-inch Douglas-fir tree, a 12-inch Douglas-fir tree, and several herbs.

Project 2: Culvert Replacement

Description: Rocked community road crosses Class II watercourse with 30-inch diameter metal culvert. Culvert outlet is rusted out 6 feet from outlet. A 18-inch diameter culvert with buried inlet and functioning outlet is located 12' to left of the 30-inch culvert. A swale 60 feet up road-right of the crossing drains to an inboard ditch. The Rational Method predicts a 43.1 CFS flow here during a 100-year storm. A 50-inch diameter culvert is recommended to convey the predicted flow. Channel dimensions average to one square foot of cross-sectional area. According to the 3X Bank-full Method a culvert with 1.95-foot diameter culvert will accommodate a 100-year storm flow. The current culvert is considered undersized and is not aligned with the channel or set to grade. A 42-inch diameter culvert should be sufficient to pass a 100-year storm flow and associated debris. The channel grade is 15% above and below crossing but the crossing grade would be 25% if set at base of fill slopes. An abrupt change in slope from 25% to 15% at outlet will greatly increase chances of outlet plugging. If culvert is set at 15% grade and dissipation armor is placed to protect the base of fill slope than debris will be more likely to pass the crossing.

Work: Excavate existing culverts and form trench for new culvert. Install a 42-inch diameter by 51-foot-long culvert at -15% grade and aligned with channel. Inlet shall extend 2 feet beyond fill slope and outlet shall extend 3 feet beyond fill slope. Armor inlet and outlet with average 18-inch diameter rock to prevent erosion. Place 7.5 yards of average 18-inch diameter riprap along fill slope from outlet to natural channel. Construct critical dip to road-left. Construct rolling dip 65 feet to road-right. Re-cap driving surface with road-base rock for 70 feet to road-right and past critical dip to road-left. Clean out inboard ditch.
Disturbance: This project will temporarily disturb 51 feet of stream channel, about 663 square-feet, and excavate about 61 yards of soil. This project will have to remove two 24-inch Douglas-fir trees, and a 7-inch red alder tree.

Project 3: Culvert Replacement
Description: Rocked community road crosses Class II watercourse with 24-inch diameter metal culvert. The Rational Method predicts a 11.9 CFS flow here during a 100-year storm. A 30-inch diameter culvert is recommended to convey the predicted flow. The current culvert is considered undersized and is not set to grade.
Work: Excavate existing culverts and form trench for new culvert. Install a 30-inch diameter by 55-foot-long culvert at grade and aligned with channel. There is not enough space for inlet to extend 2', set inlet at current inlet. Outlet shall extend 3 feet beyond fill slope. Armor inlet and outlet with average 12-inch diameter rock to prevent erosion. Construct critical dip to road-left. Construct rolling dip 60 feet to road-right. Re-cap driving surface with road-base rock for 60 feet to road-right and past critical dip to road-left.
Disturbance: This project will temporarily disturb 55 feet of stream channel, about 385 square-feet, and excavate about 61 yards of soil. This project will not have to remove any trees.

1.1.3.1 Legacy Discharge Issues
There are no legacy discharge issues associated with APN 522-032-011-000.

Any future grading or road work will follow the requirements listed out in Section II of Attachment A of the General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Order WQ 2017-0023-DWQ), constructed by the State Water Resources Control Board.

2. Fertilizer, Pesticide, Herbicide, and Rodenticide BPTC Measures

The Cannabis cultivation at this site includes the use of fertilizers/amendments along with Plant Therapy and Pure Crop as needed. The cultivator makes his own compost tea out of compost, kelp powder, aloe powder, molasses, bokashi, frass, yucca powder, humic powder, and guano. All ingredients stored in metal shipping container until used, and if any products are not used in their entirety, they are put back into storage during the winter season and used the following season. 500 gallons of compost tea is applied every other weeks.

A Spill Kit is kept on site to address chemical spills, all chemicals are kept in secondary containment. The basic components of the cultivator's spill kit include:

Emergency phone numbers (California Office of Emergency Services: 1-800-852-7550)
Labels and MSDSs of all fertilizers, pesticides and rodenticides on hand
A Copy of the Spill Plan
Personal Protective Equipment: rubber gloves, footwear, apron, goggles, face shield, respirator
Heavy plastic bags for material storage

10 lbs. of absorbent materials (cat litter, vermiculite, sorbant pads, etc.)
Shovel, broom or hand broom, dustpan
Heavy duty detergent, chlorine bleach, and water for final clean up
Sturdy plastic container that closes tightly and will hold the largest quantity of pesticide on hand
First aid supplies

(From USDA FS Herbicide Spill Plan https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd497003.pdf)

3. Petroleum Product BPTC Measures

The petroleum product used on property are gasoline and petroleum. The gas is used for the smaller 2600W generator that is only used for making compost tea, while the diesel fuels the larger industrial (1,000 gallon fuel cell) generator. Both generators and the fuel they use are in secondary containment; the diesel is delivered to the property once a year in October before the final harvest happens, and the gasoline is purchased by the cultivator as needed and brought to property in 5 gallon jugs. The well is powered by solar panels and water is gravity fed to the transfer/nutrient tanks and the gardens.

3.1 Hazardous Materials Safety and Reporting

The State of California requires an owner or operator of a facility to complete and submit a Hazardous Materials Business Plan (HMBP) if the facility handles a hazardous material or mixture containing a hazardous material occurs in reportable amounts (HMBP FAQ: https://www.caloes.ca.gov/FireRescueSite/Documents/HMBP%20FAQ%20-%20Feb2014.pdf)

> Reportable material (hazardous material) for this site is diesel (any product with a Material Data Sheet or Safety Data Sheet (SDS) contains one or more reportable/hazardous materials).
>
> The minimum reportable amounts of hazardous materials are 55 gallons (liquids), 500 pounds (solids), or 200 cubic feet (compressed gas).

While the specific additional components of a facility's HMBP may vary (ie: may also require a Spill Prevention Control and Countermeasures (SPCC) plan if the total volume of fuel is over 1,320 gallons onsite), all facilities with HMBP are required to recertify annually or every three years and receive CUPA inspectors onside for periodic inspections.

The registration and materials inventory process begins online at https://cersbusiness2.calepa.ca.gov/Account/Register. The local contact is usually represented at the county level by a Certified Unified Program Agency (CUPA) inspector.

Humboldt County's CUPA is a part of the County Hazardous Materials Unit in the Department of Health and Human Services, Environmental Health Division. A CUPA inspector can be reached at:
100 H St.
Suite 100
Eureka, CA 95501
Ph: 707-445-6215

4. Trash/Refuse and Domestic Wastewater BPTC Measures

Trash/refuse generated at this site consist of general household waste (cardboard, glass, metals, plastics, organics, etc.) as well as garden specific waste. The organic garden waste (stems, roots, and leaves) are composted onsite. The other Cannabis related waste produced at this site include, but are not limited to, wiring, cardboard, and plastic packaging (cellophane and recyclable HDPE containers). The hazardous materials, nonhazardous trash, and recyclables are separated into containers (standard, Rubbermaid garbage cans with lids) and stored onsite until taken to Humboldt Sanitation in McKinleyville, CA. Trips to the waste facility are taken every few days because the cultivator is currently upgrading the trash storage area to be bear-proof.

There no full-time employees associated with this project, the landowner and family members take care of the property. Seasonally there are approximately four employees hired to help with cultivation. While there is a yurt on property, none of the staff members stay overnight, and the landowner/cultivator has a 30-ft travel trailer that he uses when staying on property. Along with the family members and seasonal staff, there are also occasional visits from consultants or contractors.

There is a B&B on property that is serviced regularly and hauled off property each year for the winter season.

5. Winterization BPTC Measures

At the end of the growing season, prior to winter rains, the follow steps will be taken to prepare the site for winter:

- Any bare soil on the fill slopes on the landing will be covered with straw 2 to 3 inches thick and secured with a tackifier or describe any revegetation activities that will occur either at the beginning or end of the precipitation season. Cannabis cultivators shall apply erosion repair and control measures to the bare ground (e.g., cultivation area, access paths, etc.) to prevent discharge of sediment to waters of the state.
- Cannabis stems and root balls will be composted on-site
- All nutrients, fuels, and all chemicals will be placed in a secure storage shed
- All cultivation trash and debris will be properly disposed of
- Cannabis cultivators shall maintain all culverts, drop inlets, trash racks and similar devices to ensure they are not blocked by debris or sediment. The outflow of culverts shall be inspected to ensure erosion is not undermining the culvert. Culverts shall be inspected prior to the onset of fall and winter precipitation and following precipitation events that produce at least 0.5 inch/day or 1.0 inch/7 days of precipitation to determine if maintenance or cleaning is required.
- Cannabis cultivators shall block or otherwise close any temporary access roads to all motorized vehicles no later than the onset of the winter period each year.
- Cannabis cultivators shall not operate heavy equipment of any kind at the cannabis cultivation site during the winter period, unless authorized for emergency for emergency repairs contained in an enforcement order issued by the State Water Board, Regional Water Board, or other agency having jurisdiction

If any BPTC measure cannot be completed before the onset of winter period, the landowner will contact the Regional Water Board to establish a compliance schedule.

As stated by the Water Code section 13267 the landowner will complete and submit technical monitoring reports monthly until winterization measures have been implemented.

6. Water Use and Storage BPTC Measures

Water for both domestic and irrigation use is sourced from an on-property, permitted ground water well. Water is diverted from the well, using solar power, into a transfer tank and then gravity fed to the gardens.

A water meter has been installed as of August 2021 and monthly usage is now being recorded.

Table 1. Estimated monthly water usage in 2022

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Irrigation	0	0	0	0	24000	27000	27000	33000	27000	21000	15000	0
Domestic	0	0	0	150	150	150	150	150	150	150	150	0

For continued future compliance, water meters are used to quantify both direct diversion and diversion to storage. A photo of the meter reading will be taken monthly to document water use.

7. Summary of Corrective Actions and Monitoring

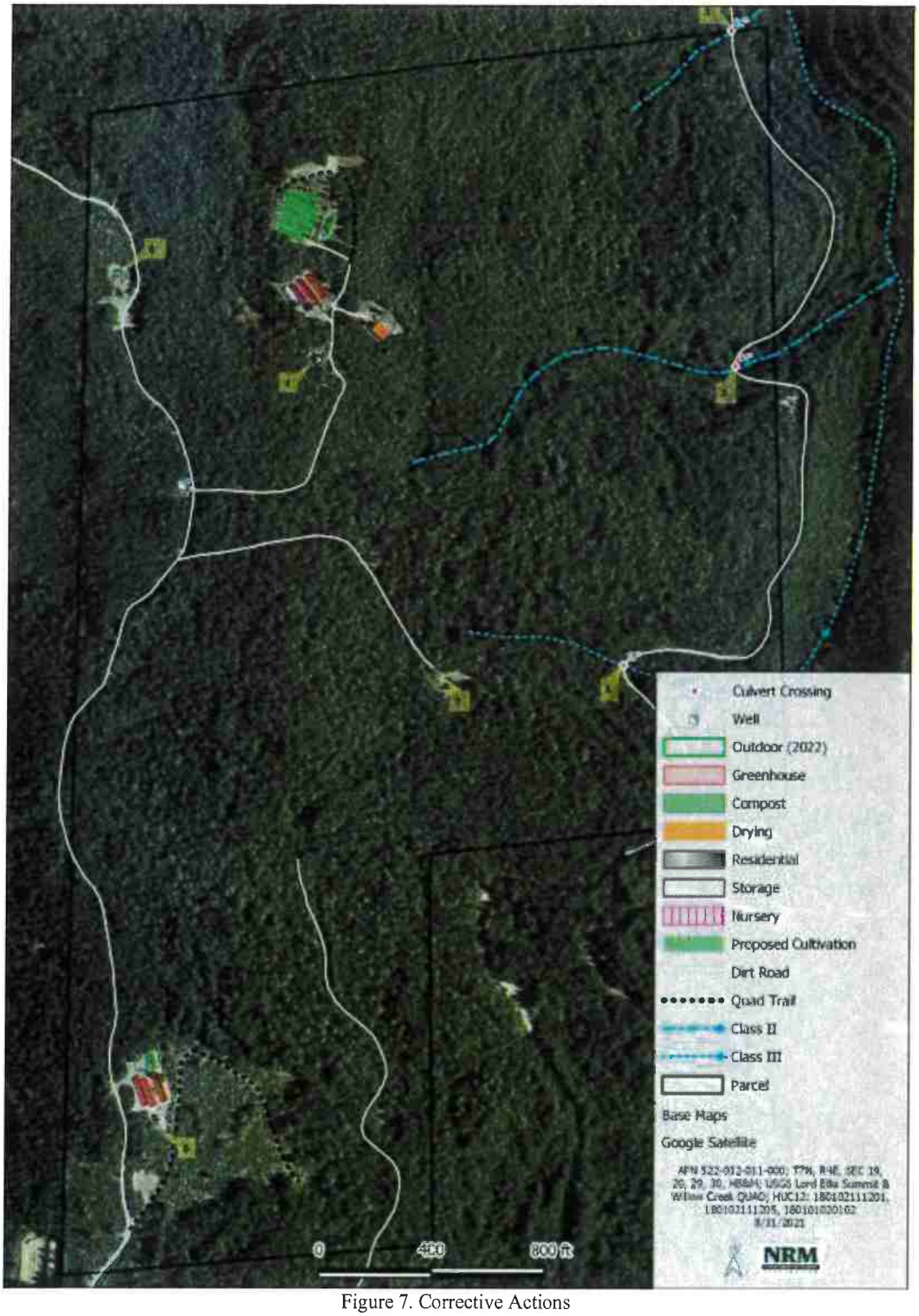

Figure 7. Corrective Actions

Table 2. Corrective actions required

Corrective Action	Description	Temporary BMP	Permanent BMP	Time Schedule for Final Completion
1	Culvert Upgrade	Annual monitoring during rainy season	Replace 18" with 36" CMP	October 2024
2	Culvert Upgrade	Annual monitoring during rainy season	Replace 30" with 42" CMP	October 2024
3	Culvert Upgrade	Annual monitoring during rainy season	Replace 24" with 30" CMP	October 2024
4	Outhouse Decommission	Discontinue use	Remove outhouse	October 2021
5	Outhouse Decommission	Discontinue use	Remove outhouse	October 2021
6	Compost	n/a	Construct compost in compliance with SWRCB	June 2022
7	Clearing	n/a	Remove all remaining cultivation infrastructure, clear any dead and piled brush by hand	October 2022

Appendix A. Photo Documentation

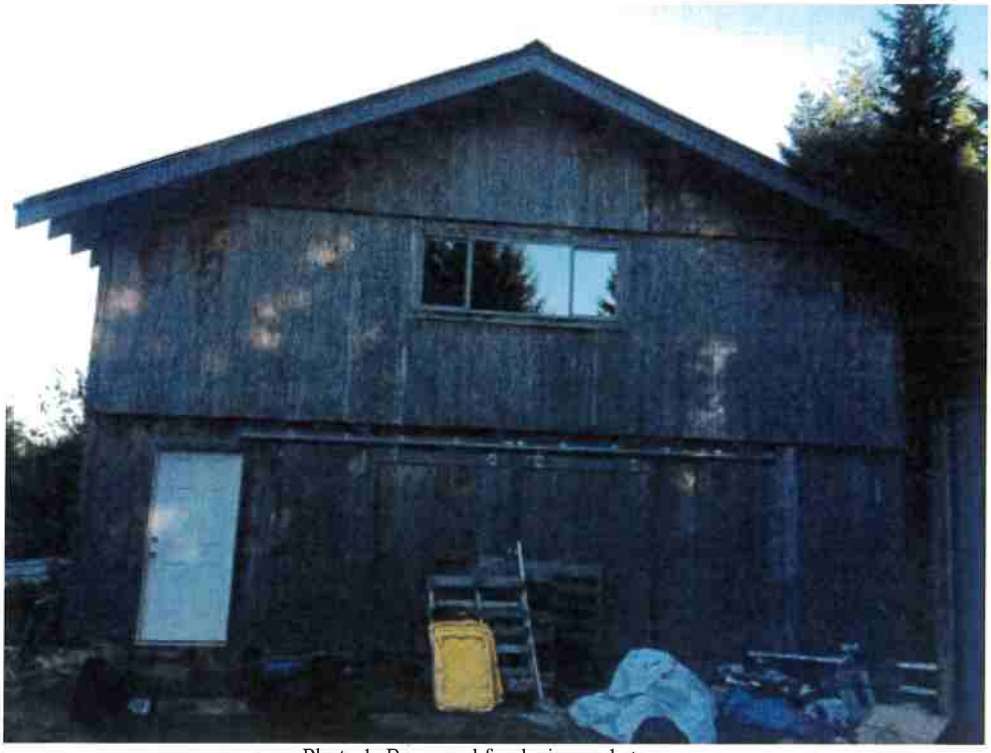

Photo 1. Barn used for drying and storage

Photo 2. Mixed light grown east of barn

Photo 3. Compost area

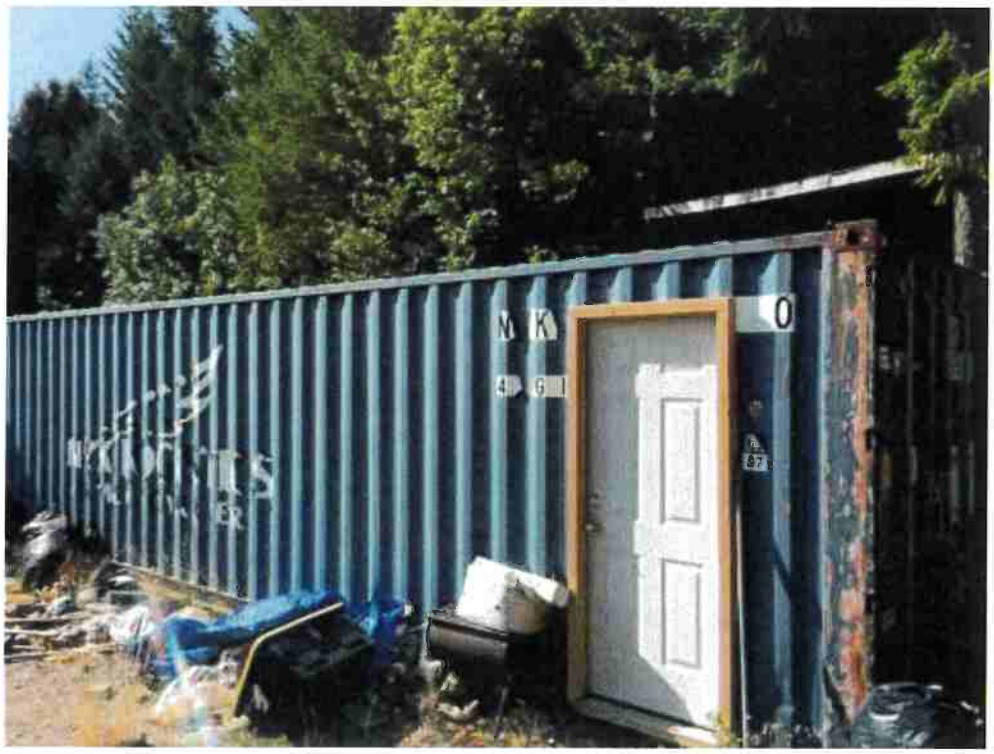

Photo 4. Shipping container for fuel storage

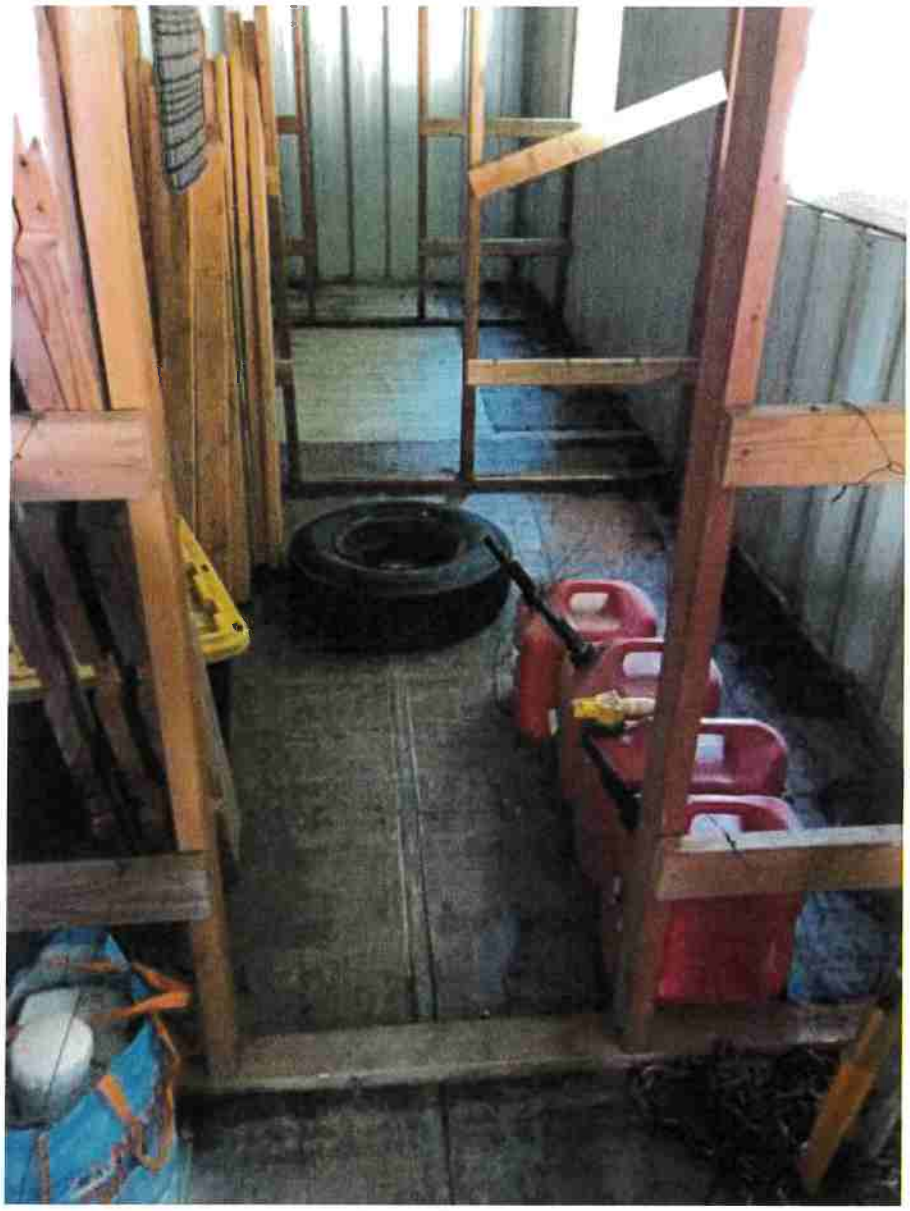

Photo 5. Fuel storage

Photo 6. Generator storage, industrial generator circled

Photo 7. Mixed light hoop house

Photo 8. Hoop house interior

Photo 9. Hoop house interior

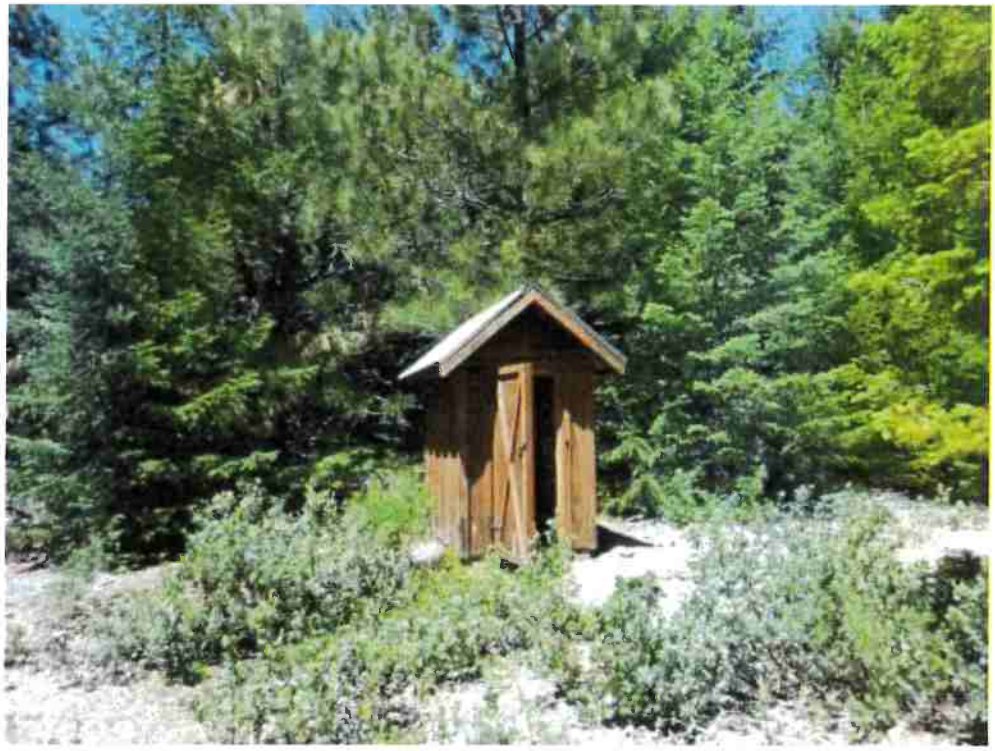

Photo 10. Well pumphouse

Photo 11. Solar panel for well

Photo 12. Outdoor cultivation terraces

Photo 13. Yurt

Photo 14. Outhouse to be decommissioned

Photo 15. Clearing associated with corrective action #7

Photo 16. Corrective action #7 - cultivation infrastructure to be cleared