

Cultivation and Operations Plan
For
Magick Mountain Organics Salmon Creek, LLC
APN 221-061-034
WDID# 1_12CC411865
Proposed Medical Cannabis Cultivation
Facilities

Prepared for:



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PROJECT OBJECTIVE

Magick Mountain Organics Salmon Creek, LLC APN#221-061-034 is proposing to obtain a Special Permit to cultivate 8,102 square feet of outdoor cultivation using light deprivation techniques. Cultivation occurs in GH#1 117'x 34.2', GH#2 124'x30', GH#3 19'x20' for a total of 8,102 SF cultivation area. Water is sourced from a 500,000-gallon rain catchment pond and a 25,000-gallon rain catchment tank. There is an additional 15,800 gallons of hard storage that is filled from the pond and catchment tank during the winter months. There is a well on-site that is used for domestic use only. The estimated annual water use is 92,000-gallons. Magick Mountain Organics Salmon Creek, LLC will purchase clone stock from a licensed nursery. Processing will occur on-site by the applicant utilizing a trim machine in an 8'x20' conex box for up to two years. After two years, the applicant will process off-site via a licensed processing facility. Cannabis is dried and stored in an 8'x20' conex box. All petroleum and liquid fertilizers are stored in a secure location with secondary containment.

SITE DESCRIPTION

The project site is located approximately 26 miles North West of Garberville, CA. To reach the site from Eureka take us-101 south for 54 miles to exit 653 to Salmon Creek Road. Turn right onto Salmon Creek Road for .2 miles. Take a slight right turn onto Salmon Creek Road. Turn right onto Salmon Creek Road. Turn left onto Thomas Road for 4.2 miles. The destination will be on the right side 3810 Thomas Road. Approximate drive time from Eureka, CA 1 hour and 42 minutes with 68 miles. The site is in section 9, township 3 south, range 2 east, h.b. & m. And can be seen on the 7.5' quadrangle map. Furthermore, the site is located at Latitude 40.2214 and longitude, - 123.9523. The subject parcel is approximately 48.87 acres in size (per Humboldt County WEBGIS).

LAND USE

The subject property has a General Plan designation of Dispersed Housing as identified by the Northern Humboldt General Plan (NHGP) and is zoned T: AG (FRWK) Agriculture Exclusive; TPZ. The proposed cultivation area occupies less than two percent (2%) of the total prime soil area. Land uses surrounding the parcel are comprised of residential, timber and agriculture. The surrounding parcels are zoned Agricultural Exclusive (AE), Timber Production Zone (TPZ), Forrest Recreation (FR), and Unclassified (U).

STATE OF CALIFORNIA COMMERCIAL CANNABIS ACTIVITY LICENSE

Magick Mountain Organics Salmon Creek, LLC will obtain a Provisional State License, of California Department of Cannabis Control (DCC).

STATE WATER RESOURCES CONTROL BOARD

A total of 1 watercourse crossing is located on this property. Water for Agricultural uses is provided by the 500,000-gallon Rain Catchment Pond and 25,000 rain catchment tank. The pond is located at the top of the property and is identified on the current plot map. Magick Mountain Organics Salmon Creek, LLC has obtained a Notice of Applicability with the State Water Board 1_1CC411865 and submits monitoring reports annually.

Magick Mountain Organics Salmon Creek, LLC is registered with the North Coast Region (WDID# 1B16752CHUM) in 2016. A Water Resources Protection Plan (WRPP) and a Site Management Plan (SMP) was developed for the project by Six Rivers Construction & Consulting and has been implemented for activities associated with onsite cultivation since August 2017.

HUMBOLDT COUNTY BUILDING DEPARTMENT

All necessary building permits will be obtained from the Humboldt County Building Department for all existing and proposed structures and supporting infrastructure upon approval of the Special Permit.

CAL FIRE

The subject property is located within a State Responsibility Area (SRA) for fire protection. Several improvements are proposed to meet SRA requirements, including designating a fire turn-around and pull-out area for emergency vehicles, and management of trees and vegetation around existing structures to maintain the required 100-foot defensible space. All structures on the property meet the 30-foot SRA setback requirement from property lines.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

LSAA has been completed by Chris Carroll of Timberland Resource Consultants. The project will decommission the lower outdoor sites, all greenhouse, and outdoor site located on the bench of the lower pond. The project will also decommission 4 dirt ford crossings to allow water to flow in natural configuration and decommission the road system to the lower cultivation areas.

OUTDOOR CULTIVATION PLAN AND SCHEDULE

The mixed light cultivation will occur in (1) 4,001 SF greenhouse, (1) 3,720 Sf greenhouse, (1) 380 SF greenhouse for a total of 8,102 SF of outdoor cultivation with light deprivation technics. The greenhouses consist of heavy gauge steel tubing, covered with a woven, poly, translucent, opaque tarp. Each greenhouse is ventilated by intake and exhaust fans. The greenhouse flooring consists of a layer of black poly woven material, six inches of fractured rock, and one foot of soil in contained beds. The greenhouses utilize a combination of artificial light and light deprivation to produce up to two (2) flowering cycles per year. The monthly Cultivation Schedule in Appendix C details the cultivation activities associated with the mixed light cultivation operation for a typical two cycle year.

IRRIGATION PLAN AND SCHEDULE

Irrigation and fertigation of plants occurs using top-feed, hand watering methods. Magick Mountain Organics Salmon Creek, LLC maintains that irrigation and fertigation is more efficiently managed via hand watering, allowing for daily inspection of each plant by the cultivator and tailored irrigation and nutrient application depending on the needs of each individual plant.

HARVESTING, DRYING, AND TRIMMING

Plants are harvested and hung to dry in (2) 8'x20' Conex boxes. When plants reach the desired dryness, they are bucked down and trimmed using a trim machine by the applicant on-site. When the processing is complete the finished product is stored in boxes in the Conex box. The applicant plans to process on-site utilizing a trim machine in the Conex box

for the next two years. After two years, the applicant will process off-site at a licensed processing center.

STAFFING REQUIREMENTS

There will be (2) full time seasonal employees on-site during the cultivation cycles, one of which is the applicant.

EMPLOYEE TRAINING AND SAFETY

On-site cultivation, harvesting, and drying is performed by employees trained on each aspect of the procedure including cultivation and harvesting techniques and use of pruning tools; proper application and storage of pesticides and fertilizers. Access to the on-site cultivation, drying and curing facilities is limited to authorized and trained staff.

All employees are trained on proper safety procedure including fire safety; use of rubber gloves and respirators; proper hand washing guidelines; and protocol in the event of an emergency. Contact information for the local fire department, CAL FIRE, Humboldt County Sheriff and Poison Control as well as the Agent in Charge will be posted at the cultivation site. Each employee is provided with a written copy of emergency procedures and contact information. The Material Safety Data Sheets (MSDS) are kept on site and accessible to employees.

TOILET AND HANDWASHING FACILITIES

Portable toilets and hand washing stations are available for use of employees on-site. Toilets are serviced regularly by Six Rivers Portable Toilets.

FACILITY SECURITY

The cultivation facilities, including greenhouses are enclosed in a secured privacy fence. An entry gate is located off of Upper Thomas Road, and the perimeter of the facility facing the residence. The entry gates remain locked at all times and access to the cultivation area is limited exclusively to employees. Restricted access signs are posted conspicuously at the entry gates. The cultivation and drying/curing areas will have low intensity exterior lighting to illuminate the entrances and will include a small number of solar, motion activated security lights. All lighting will be designed and located so that direct rays are confined to the property. Security cameras will be installed and located at the main access gates and at entrances to the facilities.

HOURS OF OPERATION

Hours of operation are Monday-Friday 8am to 5pm. Weekends are by appointment only.

WATER SOURCE AND PROJECTED WATER USE

Water for Agricultural use is provided by the 500,000-gallon Rain Catchment Pond. The location of the pond is over 300' away from an unnamed class III stream. Water is then pumped and stored in hard storage tanks during the winter months to ensure adequate water levels throughout the year.

Magick Mountain Organics Salmon Creek, LLC utilizes water management strategies to conserve and reuse on-site water and fertilizers to achieve a net zero discharge.

The table below outlines the estimated irrigation water usage for cultivation during a typical year. Variables such as weather conditions and specific cannabis strains will have a slight effect on water use.

Table 3.1: Estimated Annual Irrigation Water Usage (Gallons)											
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
0	0	0	8,000	12,000	15,000	15,000	15,000	15,000	12,000	0	0

WATER STORAGE

Water storage for irrigation use is provided in the form of water storage tanks. The property has (1) 500,000-rain catchment pond, (1) 25,000-gallon rain catchment tank, (2) 5,000-gallon, (6) 300-gallon, and (4) 1,000-gallon hard water storage tanks. Magick Mountain Organics Salmon Creek, LLC has a total of 540,800 gallons of water storage.

SITE DRAINAGE, RUNOFF, AND EROSION CONTROL

Magick Mountain Organics Salmon Creek, LLC is enrolled with the North Coast Regional Water Quality Control Board (NCRWQCB) for Tier 2 coverage, and a Water Resources Protection Plan (WRPP) and a Site Management Plan have been developed utilizing best management practices (BMP's) in accordance with the NCRWQCB's recommendations. The drainage and erosion control measures described below are referenced from the WRPP and SMP.

SITE DRAINAGE AND RUNOFF

Site investigation for the development of the Water Resources Protection Plan (WRPP) showed no evidence of surface runoff associated with the cultivation, nor was there evidence that it had occurred in the past. This area has good vegetation ground coverage consisting of native grasses with no evidence of leaching from cultivation related activities.

Fertilizers and pesticides are currently stored in an agricultural storage structure that meets all requirements for secondary containment.

To further prevent runoff to riparian areas, water conservation and containment measures will be implemented including the use of hand irrigation to prevent excessive water use, and the maintenance of a stable, vegetated buffer between the cultivation area and riparian zone.

EROSION CONTROL

The Water Resource Protection Plan (WRPP) includes erosion and sediment control BMP's designed to prevent, contain, and reduce sources of sediment. The WRPP also includes corrective actions to reduce sediment delivery, including stream crossing culvert maintenance and replacement and access road maintenance. Additionally, the WRPP requires mulch piles and spoils from any grading to be stored in a designated location away from watercourse. See the WRPP section titled *Best Management Practices for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities* in Appendix E for complete BMP recommendations and specifications.

WATERSHED AND HABITAT PROTECTION

Adherence to the Water Resource Protection Plan (WRPP) and the Site Management Plan (SMP) ensures that the watershed and surrounding habitat are protected. The cultivation activities and associated structures are >150 feet from the nearest watercourse, providing a suitable buffer between the cultivation operation and habitat. Additionally, site development and maintenance activities utilize BMP's in accordance with the NCRWQCB's recommendations. Any grading and earthwork activities are to be conducted by a licensed contractor in accordance with approved grading permits and the WRPP. Refer to the WRPP in Appendix E for detailed descriptions of watershed and habitat protection measures.

MONITORING AND REPORTING

Monitoring will be conducted to confirm the effectiveness of corrected measures listed in the Water Resource Protection Plan (WRPP) and SMP to determine if the site meets all Standard Conditions. Inspections will include photographic documentation of any controllable sediment discharge sites as identified on the site map. Visual inspection will occur at those locations on the site where pollutants or wastes, if uncontained, could be transported into receiving waters, and those locations where runoff from roads or developed areas drains into or towards surface water. The inspection will also document the progress of any plan element subject to a time schedule, or in the process of being implemented. A monitoring plan is included in the WRPP with photo points identified on WRPP map.

On-site monitoring shall occur:

- Before and after any significant alteration or upgrade to a given stream crossing, road segment, or controllable sediment discharge site. Inspection should include photographic documentation, with photo records to be kept on site.
- Prior to October 15 and December 15 to evaluate site preparedness for storm events and storm water runoff.
- Following any rainfall event with an intensity of 3" precipitation in 24 hours. Precipitation data can be obtained from the National Weather Service by entering the site zip code at <http://www.srh.noaa.gov/forecast>.

A Monitoring and Reporting Form (Order No. 2015-0023 Appendix C) will be submitted upon initial enrollment in the Order (NOI) and then annually by March 31 to the Regional Water Board. The annual report will include data from the monitoring reports.

ENERGY PLAN AND GENERATOR USE

Off-grid electricity is provided by generators for domestic and agricultural use. Power is provided by a 45kW Whisper Watt generator and two solar panels, which provide 30-kW of power. The generator is located away from the property line to ensure the noise level does not exceed 50 decibels. Decibel readings have been taken and are 38.9 decibels at the property line. The generator and diesel fuel are located within a secondary containment trough. Spill kits and eye wash stations are located at all fuel and generator locations. The applicant proposes to install additional solar panels with the use of a backup generator in emergency situations.

BEST MANAGEMENT PRACTICES

Best Management Practices (BMP's) are employed when storing, handling, mixing, application and disposal of all fertilizers, pesticides, and fungicides. All nutrients, pesticides and fungicides are in a locked storage room, and contained within watertight, locked and labeled containers in accordance with manufactures instruction. Application rates will be tracked and reported with the end of the year monitoring report required in the Water Resources Protection Plan (WRPP). Employees responsible for application are trained to handle, mix, apply or dispose of pesticides/fungicides with proper hand, eye body and respiratory protection in accordance with the manufacturer's recommendations. See the WRPP for complete BMP specifications for the use and storage of regulated products.

FERTILIZERS

Nutrients and biological inoculants used for cultivation include:

- Roots Organic-Formula 707 Soil
- Maxsea 16-16-16
- Cal-Mag

- Kelp
- Liquid Fish

PESTICIDES AND FUNGICIDES

Pesticides and fungicides used for cultivation include:

- Diatomaceous Earth
- Neem Oil
- Green Cleaner

See Appendix B - *Regulated Products Resource List* for product details.

FUELS AND OILS

There is a 500-gallon fuel tank with secondary containment located on a flat above the upper greenhouse location. All small amounts of fuel and oil are in the 10'x12' storage shed located by the residence. Spill kits and eye wash stations are located at all fuel and generator locations.

SOLID WASTE MANAGEMENT

Trash and recycling containers are located near Conex boxes in safe enclosed location. Solid waste and recycling are hauled off-site to the nearest transfer station at least once per week.

CULTIVATION WASTE AND SOIL MANAGEMENT

Stalks are placed in a composted or chipped for ground cover and compost. Root balls are hauled away as green waste or composted. Spent potting soil is stored in a contained area with environmental measures in place. Spent soil is cover during winter months and then amended in pots before the further use. All packaging from soil, amendments and fertilizers will be collected and disposed at an appropriate facility.

WASTEWATER MANAGEMENT

The water management plan aims to achieve an entirely closed-cycle irrigation and nutrient system. Hand watering methods minimize the over-irrigation of plants and subsequent runoff.

There is a working septic system on the parcel. The septic system is serviced every two years or as needed.

Appendix A: Site Plan

Appendix B: Regulated Products Resource List

Fertilizers and Biological Inoculants:

<http://www.hydro-organics.com/site/products/fertilizers-liquid>

Maxsea: <http://www.maxsea.biz>

Botanicare: <http://www.botanicare.com>

<https://www.groworganic.com/products/pvfs-liquid-fish->

Pesticides and Fungicides:

Green Cleaner- [https://www.1000bulbs.com/product/172201/GROW-](https://www.1000bulbs.com/product/172201/GROW-749800.html?utm_source=SmartFeedGoogleBase&utm_medium=Shopping&utm_term=GR)
[749800.html?utm_source=SmartFeedGoogleBase&utm_medium=Shopping&utm_term=GR](https://www.1000bulbs.com/product/172201/GROW-749800.html?utm_source=SmartFeedGoogleBase&utm_medium=Shopping&utm_term=GR)
[OW-](https://www.1000bulbs.com/product/172201/GROW-749800.html?utm_source=SmartFeedGoogleBase&utm_medium=Shopping&utm_term=GR)

[749800&utm_content=Spider+Mites&utm_campaign=SmartFeedGoogleBaseShopping&gclid=CI-emNGCvdACFZI7gQodnRAFiA](https://www.1000bulbs.com/product/172201/GROW-749800.html?utm_source=SmartFeedGoogleBase&utm_medium=Shopping&utm_term=GR)

Neem Oil- <http://www.discoverneem.com/neem-oil-insecticide.html>

Appendix C: Cultivation Schedule

April 15 – Jun 15: Light Deprivation Phase-Cycle 1

Taking into account factors such as height, growth density and overall health of the clones, determination of the exact date for the light deprivation process begins. Once that date is determined, 100% light resistant, specifically designed tarps will be automatically pulled over the outside of the greenhouses which adheres to the International Dark Sky Standards. This process will reduce the daylight hours from approximately fifteen (15) hours of daylight to the desired twelve (12) hours of daylight, twelve (12) hours of darkness desired to induce flowering. During the first two weeks of light deprivation, the plants will enter into a transitional phase. During this transitional phase plants will continue vegetative growth while transitioning into flowering.

It is not uncommon for plants to obtain 25% of their entire height and vegetative growth density during the transitional phase. Once the plants enter in the final bloom or flowering phase, they will begin to expend energy into the production of flowers, therefore, ceasing vegetative growth and begin to flower. The entire flowering process, including the transitional and final bloom phases, will last fifty-five (55) to sixty-five (65) days depending on strain variation and weather conditions.

June 15 – 22: First Harvest and Re-Planting

Once the light deprivation phase has concluded and it has been determined that the plants are at their peak, harvest procedures will be initiated. The soil in the pots will be turned and amended. All amendments used are in accordance with Humboldt County and State of California Department of Agriculture compliance. New clones will be transplanted into the greenhouses.

Due to the length of daylight hours, the plants will continue in a vegetative state for approximately one month.

June 22 – September 15: Light Deprivation-Cycle 2

See Light Deprivation-Cycle 1 for a description of activities during this phase.

September 15 - September 22 – Second Harvest and Re-Planting

See First Harvest and Re-Planting for a description of activities during this phase.

October 1 – February 1st- Repair, Upgrade and Recondition Phase

Magick Mountain Organics Salmon Creek, LLC APN#221-061-034 will inspect all cold frames and covers for wear and replace as necessary. All watering hoses, etc. will be inspected and repaired or replaced, as appropriate. Refilling of irrigation tanks will commence in accordance with the Small Irrigation Use Registration and Conditions of the Department of Fish and Wildlife (DFW) Lake or Streambed Alteration Agreement (LSAA). Pots will be turned over and composted within the greenhouses to prepare for the upcoming season.

Appendix D: References

- a) Bass, Ronald E., Kenneth M. Bogdan, and Terry Rivasplata. 2013. CEQA Desktop. Point Arena, CA; Solano Book Press. Page 44.
- b) California Code of Regulations. Health and Safety Code Section 11357-11362.9. <<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=11001-12000&file=11357-11362.9>> Date accessed: July 16, 2014.
- c) California NORML. SB 420 Establishes Prop. 215 Guidelines, Voluntary Patient Identification Card System. <<http://www.canorml.org/laws/sb420.html>> Date accessed: July 21, 2014.
- d) County of Humboldt. *Medical Marijuana Land Use Ordinance (MMLUO) – Phase IV, Commercial Cultivation, Processing, Manufacturing and Distribution of Cannabis for Medical Use* (Staff Report to the Board of Supervisors). January 26, 2016. <<https://humboldt.legistar.com/Calendar.aspx>> Date accessed: March 28, 2016.
- e) North Coast Regional Water Quality Control Board. 2016. *Cannabis Cultivation Waste Discharge Regulatory Program*. http://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/. Date accessed: March 28, 2016.
- f) State Board of Equalization. Information on the Sales and Registration for Marijuana Sellers. June 2007. <<http://www.boe.ca.gov/news/pdf/173.pdf>>
- g) State of California. Guidelines for the Security and Non-Diversion of Marijuana Grown for Medical Use.
- h) August 2008. <http://www.ag.ca.gov/cms_attachments/press/pdfs/n1601_medicalmarijuanaguidelines.pdf>

Appendix E: Water Resources Protection Plan (WRPP)

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Appendix F: Site Management Plan