

**SUNSHINE MEADOWS, LLC
CULTIVATION AND OPERATIONS MANUAL
HUMBOLDT COUNTY, CA**

**PROPOSED CANNABIS
CULTIVATION FACILITIES**



PREPARED FOR:



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Cultivation and Operations Manual
For
SUNSHINE MEADOWS, LLC
APPS# 12464

Proposed Medical Cannabis Cultivation Facilities

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1. PROJECT SUMMARY

1.1. PROJECT OBJECTIVE

Sunshine Meadows, LLC is proposing to permit cannabis cultivation activities in accordance with the county of Humboldt (county) Commercial Cannabis Land Use Ordinance (CMMLUO), Ordinance No. 2554. The operation includes 10,000 square feet (sf) of cannabis cultivation area, plus 1,000 sf of non-commercial nursery space in a proposed 20'x50' greenhouse. The project proposal includes permitting of 4,000 sf of existing outdoor cultivation and 6,000 sf of new outdoor cultivation, and the development of facilities appurtenant to the cultivation, including greenhouses, facilities for drying and curing of cannabis, and water irrigation systems with appropriate storage. The applicant aims to become fully compliant with State and Local cultivation regulations. An additional special permit is required for the two (2) existing structures (40'x65' shop and 15'x30 storage shed) that were built in 2012 inside the Streamside Management Area (SMA).

1.2. SITE DESCRIPTION

The Project is located at 605 Eubanks Road, Whitethorn, CA 95589, (APN 220-171-001). The subject parcel is approximately 42.4 acres in size (per the County of Humboldt's WebGIS). The southern center portion of the property is primarily characterized as open grasslands and is developed with an existing ag-exempt shop building and existing cultivation greenhouses. The north center portion of the property consist of open grass land and prime agricultural soils. A prime agricultural exploration and report was conducted by Lindberg Geologic Consulting. Results of the report found approximately 190,400 sf of prime agricultural soils. The 6,000 sf of proposed cultivation is well under the 20% threshold of allowable cultivation on prime agricultural soils.

1.3. LAND USE

The subject property has a General Plan designation of Agricultural Land (AL) as identified by the Humboldt County General Plan and is zoned Unclassified. Land uses surrounding the parcel are comprised of agriculture. The surrounding parcels are zoned Unclassified (U).

1.4. STATE AND LOCAL COMPLIANCE

1.4.1. STATE OF CALIFORNIA COMMERCIAL CANNABIS ACTIVITY LICENSE

SUNSHINE MEADOWS, LLC has obtained a Provisional Commercial Cannabis License from the Department of Cannabis Control for a Small Mixed Light Tier 1 License.

1.4.2. STATE WATER RESOURCES CONTROL BOARD

Water for cultivation uses is provided by the parcels well. A diversion from Eubank Creek provides domestic use. An initial statement of diversion and use has been filed for the pumped diversion (SO25513). No surface water diversion will be used for the irrigation of cannabis cultivation.

1.4.3. NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD

SUNSHINE MEADOWS, LLC has enrolled as a Tier 1, Low Risk with the State Water Resources Control Board (SWRCB) General Order WQ 2017-0023-DWQ *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Dischargers of Waste Associated with Cannabis Cultivation Activities (WDID:1_12CC417095)*. A *Site Management Plan* has been developed for this parcel by *Timberland Resource Consultants*.

1.4.4. 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.

1.4.5. CAL FIRE

The subject property is located within a State Responsibility Area (SRA) for fire protection. Several improvements are proposed in order 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. The applicant will install a 2,500-gallon water tank near the residence that will be filled by the well and dedicated for fire protection water only.

1.4.6. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

A Lake and Streambed Alteration Agreement (LSAA) from the Department of Fish and Wildlife (DFW) has been obtained (LSAA 1600-2016-0210-R1).

2. CULTIVATION AND PROCESSING

2.1. PROPAGATION AND INITIAL TRANSPLANT

A 2,800 sq. ft. nursery was constructed and now has been removed and it proposed to be relocated to an environmentally superior area. The 2,800 sq. ft. nursery was constructed inside of the stream side management area. A restoration plan has been developed. A 20'x50' greenhouse nursery is purposed on the previously disturbed area located where the pre-existing 2,592 sq. ft. greenhouse. Nursery and propagation greenhouse will use LED or fluorescent lighting to keep the mothers and juvenile plants in the in the 'vegetative' cycle. Any propagation area with supplemental lighting will be properly maintained and shielded to avoid being visible between 30 minutes prior sunset and until 30 minutes after sunrise using black-out tarps that will be hand pulled. The site will comply with International Dark Sky Association standards for Lighting Zone 0 and prevent light spillage which may impact local wildlife. Any and all complaints received in writing regarding light spillage will be corrected within 10 business days from the date of receipt.

Juvenile plants are propagated on site from 'mother plants' that demonstrate the desired genetics for the specific cannabis strain. Mother plants remain in the vegetative stage solely for propagation. Cuttings are sampled from the mother plants and are rooted into a growing medium, typically oasis cubes, to produce 'clones.' The clones will be fully rooted after 2-3 weeks. The rooted clones are transplanted directly into 4" pots in the sites non-commercial nursery. The juvenile plants are irrigated using hand watering methods. After 4 weeks, the clones are then transplanted into 5- to 20-gallon pots with a soil and perlite medium and allowed to grow in a 'vegetative' state until they are ready to be transplanted into the flowering greenhouses.

2.2. OUTDOOR CULTIVATION PLAN AND SCHEDULE

The 10,000 sq. ft. of outdoor cultivation will occur in (5) 20'x100' greenhouses. The outdoor greenhouses utilize a combination of natural light and light deprivation to produce up to two (2) flowering cycles per year. The monthly Cultivation Schedule in Appendix B details the cultivation activities associated with the outdoor cultivation operation for a typical two-cycle year.

2.3. IRRIGATION PLAN AND SCHEDULE

Irrigation and fertigation of plants occurs using top-feed hand watering methods. SUNSHINE MEADOWS, 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. Adult plants will be watered with drip emitters. The monthly Cultivation Schedule in Appendix B details the irrigation activities associated with all cultivation.

2.4. HARVESTING, DRYING, AND TRIMMING

Plants that are ready for harvest have their flowering branches removed and suspended in the existing shop building, which is equipped with ventilation fans. The drying process takes approximately two weeks.

The dried flowers are then bucked into manageable buds and transported to an off-site processing facility.

2.5. PROCESSING FACILITY

No cannabis processing outside of drying and curing will occur on site. SUNSHINE MEADOWS, LLC will contract with a licensed off-site processing facility and/or sell bulk cannabis to a medical cannabis manufacturer.

2.6. EMPLOYEE PLAN

SUNSHINE MEADOWS, LLC is an “agricultural employer” as defined in the Alatorre-Zenovich-Dunlap-Berman Agricultural Labor Relations Act of 1975 (Part 3.5 (commencing with Section 1140) of Division 2 of the Labor Code), and complies with all applicable federal, state, and local laws and regulations governing California Agricultural Employers.

2.6.1. JOB DESCRIPTIONS AND EMPLOYEE SUMMARY

- *Agent in Charge*: Responsible for business oversight and management of the SUNSHINE MEADOWS, LLC. Responsibilities include, but are not limited to: inventory and tracking, personnel management, record keeping, budget, and liaison with State and County inspectors as needed. This is a part-time position.
- *Seasonal Laborer*: Provides cultivation and harvesting support. This is a part-time to full-time, seasonal position.

2.6.2. STAFFING REQUIREMENTS

In addition to the one (1) *Agent in Charge*, one (1) seasonal laborers are employed. The number of employees varies based on the needs of the operation during the cultivation and harvest seasons. During the peak harvest season, there are an estimated total of two (2) employees on site.

2.6.3. EMPLOYEE TRAINING AND SAFETY

On site cultivation, harvesting and drying is performed by employees trained on each aspect of the procedure, including: cultivation, harvesting techniques, use of pruning tools, and proper application and storage of pesticides and fertilizers. All cultivation staff are provided with proper hand, eye, body, and respiratory Personal Protective Equipment (PPE). Access to the onsite cultivation and drying facilities are 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 employee restroom. 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.

2.6.4. TOILET AND HANDWASHING FACILITIES

A septic suitability study has been conducted and has identified an area for a primary leach field and a reserve field. The proposed septic will allow for the property to have a working flush toilet as well as a sink with hot and cold running water. Anti-bacterial Liquid Soap and paper hand towels will be made available. Employees will work at a distance typically no greater than 1,300 feet from the restroom facility. A portable toilet will be used on-site until the proposed permitted septic has been installed. Drinking water for employees will be provided by the permitted well.

2.6.5. ON SITE HOUSING

There is an existing residence on site that is occupied by the agent in charge and seasonal employee of the operation. Use of the existing residence on site will lessen the required amount employee travel and reduce the amount of use on the road to the site.

2.7. SECURITY PLAN AND HOURS OF OPERATION

2.7.1. FACILITY SECURITY

A gate controls access to the site. Restricted access signs will be posted conspicuously at the entrance. The cultivation facility area will have low-intensity exterior lighting to illuminate the entrances and will include a small number of motion activated security lights. All lighting will be designed and located so that direct rays are confined to the property.

2.7.2. HOURS OF OPERATION

Activities associated with cultivation in the greenhouses (watering, transplanting, and harvesting) generally occur during daylight hours. All other activities typically occur no earlier than 8 AM and extend no later than 5 PM.

3. ENVIRONMENT

3.1. WATER SOURCE AND PROJECTED WATER USE

Water for cultivation uses will be provided by the existing permitted well (17/18 0136). Water for domestic use will be provided by a spring. Approximately 110,000 gallons of water is required to irrigate the 10,000 sq. ft. of cultivation (11 gal/sq.ft.) The applicant is proposing to voluntarily forbear from the well for irrigation purposes during the dry season (April-Nov).

Refer to section 2.4 for a summary of irrigation practices, and Appendix B for the monthly irrigation schedule.

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

Table 3.1: Estimated Annual Irrigation Water Usage (Gallons) per 10,000 SF of Cultivation											
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
500	500	1,000	5,000	10,000	17,000	24,000	24,000	17,000	10,000	500	500

3.2. WATER STORAGE

There is an existing 90,000-gallon water tank and ten (10) 5,000-gallon water tanks for a total of 140,000 gallons of existing water storage. The capacity of the existing water storage meets the needs of the cannabis irrigation use.

3.3. SITE DRAINAGE, RUNOFF, AND EROSION CONTROL

SUNSHINE MEADOWS, LLC has enrolled as a Tier 1, Low Risk with the State Water Resources Control Board (SWRCB) General Order WQ 2017-0023-DWQ *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Dischargers of Waste Associated with Cannabis Cultivation Activities (WDID:1_12CC417095)*. A *Site Management Plan* has been developed for this parcel by *Timberland Resource Consultant*.

3.3.1. SITE DRAINAGE AND RUNOFF

The site generally drains from the north to the southwest. There are four stream crossings on the site. Three of the crossing shall be upgraded as the existing culverts are undersized. The existing 2,800 sq. ft. nursery greenhouse on the lower flat has been relocated to outside of the required 50' buffer for the culverted class III drainage that runs through the lower site.

Site investigation for the development of the Site Management Plan (SMP) showed no evidence of surface runoff associated with cultivation. Cultivation structures will be located 50 feet from the nearest water course, providing a sufficient buffer to prevent sediment and nutrient delivery. 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.

3.3.2. EROSION CONTROL

Sources of potential erosion on the site are limited due to relatively flat topography. The access road and parking areas will be maintained and rocked. Compost and soil stockpile areas will be wattled and seeded with cover crops in the winter. These practices will ensure the risk of sediment delivery will be minimized.

3.4. WATERSHED AND HABITAT PROTECTION

The cultivation activities and associated structures are >50 feet from the nearest watercourse, providing a suitable buffer between the cultivation operation and habitat. Additionally, site development and maintenance activities utilize BMPs in accordance with the NCRWQCB's recommendations. Any grading and earthwork activities will be conducted by a licensed contractor in accordance with approved grading permits and the WRPP.

3.5. MONITORING AND REPORTING

Monitoring will be conducted to confirm the effectiveness of corrected measures listed in the Site Management Plan (SMP) and 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.

Onsite monitoring shall occur:

- Before and after any significant alteration or upgrade to a given stream crossing, road segment, or other 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 stormwater runoff.
- Following any rainfall event with an intensity of 3 inches 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>.

3.6. ENERGY AND GENERATOR USE

On-site electricity is provided by an existing solar array for all domestic uses and supplements the irrigation system and drying facility. The solar array is (9) 240-watt panels and was constructed in 2012. A Honda 7kW and Honda 3kW generator is currently used to provide additional electrical needs for the nursery and the drying and curing of the commercial cannabis, and backup power for the residence. The noise level produced by the generator will not exceed 50 dBA at either 100-feet from its location, the edge of the nearest forested habitat, or the nearest property line. The generator will have secondary containment along with any fuel storage. The existing and proposed outdoor cultivation greenhouse is open-ventilated and does not use electricity or fans.

3.7. USE AND STORAGE OF REGULATED PRODUCTS

3.7.1. BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) will be employed when storing, handling, mixing, application and disposal of all fertilizers, pesticides and fungicides. All nutrients, pesticides and fungicides will be located in a locked storage room and contained within water-tight, locked and labeled containers in accordance with manufacturer's 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.

3.7.2. FERTILIZERS

Nutrients and biological inoculants to be used annually per 10,000 sf of cultivation include:

- GH Organics Bio Thrive Nitrogen: 40 gallons
- GH Organics Bio Thrive Bloom: 96 gallons
- GH Bio Bud Bloom Booster: 64 gallons
- GH Armorsi Silica: 40 gallons
- GH Bio Marine Base Supplement: 48 gallons
- Bone Meal: 200 lbs
- Dr Earth Organic (2-3-3): 600 lbs
- Organic Bat Guano (0-3-7): 200 lbs
- Organic Bat Guano (7-1-1): 200 lbs

3.7.3. PESTICIDES AND FUNGICIDES

Pesticides and fungicides to be used annually per 10,000 sf of cultivation include:

- Plant Therapy: 8 gallons

- Organicide: 4 gallons
- Einstein Oil: 4 gallons
- Azamax: 4 gallons
- Coco Wet: 8 gallons
- SM90: 4 gallons

3.7.4. FUELS AND OILS

Approximately four 5-gallon gas cans are kept in the shop building for the generator.

3.8. WASTE MANAGEMENT PLAN

3.8.1. SOLID WASTE MANAGEMENT

Trash and recycling containers are located near the residence. The trash containers are enclosed within a fenced area to prevent animal intrusion. Solid waste and recycling is hauled off-site to the Eel River Disposal station at least once per week.

3.8.2. CULTIVATION WASTE AND SOIL MANAGEMENT

Cultivation vegetative matter such as root balls, branches, and leaves are composted at a designated area. Spent potting soil is sent to the nursery area for use after each grow season. Cultivation activities within structures for the nursery operations are done in a soil medium to avoid the production of liquid waste.

Soils are analyzed by DBS, a local consulting firm providing soil testing, analysis, and management services. After consultation, the soils are amended and reused. All packaging from soil amendments and fertilizers will be collected and disposed at an appropriate facility.

3.8.3. WASTEWATER MANAGEMENT

The water management plan aims to achieve an entirely closed-cycle irrigation and nutrient system. Hand watering methods minimize excess irrigation of plants and subsequent runoff. Any run-off within the greenhouses will soak into the earthen floors.

4. PRODUCT MANAGEMENT

4.1. PRODUCT TESTING AND LABELING

Samples are selected from individual harvested cannabis strains and are tested by a licensed third-party lab in accordance with State and local standards.

4.2. PRODUCT TESTING AND LABELING

Samples are selected from individual harvested cannabis strains and are tested by a licensed third-party lab in accordance with State and local standards.

4.3. PRODUCT INVENTORY AND TRACKING

Sunshine Meadows, LLC is enrolled in the California Cannabis Track & Trace (CCTT) METRC program and complies with all METRC regulations.

4.4. TRANSPORTATION AND DISTRIBUTION

Transportation will be handled by a licensed transporter/distributor in accordance with State and Local regulations. All merchantable product will be distributed through licensed medical cannabis dispensaries. Prior to moving packages from the on-site holding facility to another physical location, a transport manifest will be created by the distributor/transporter and will include:

- Product ID numbers and product weight
- Route to be travelled
- Origin and destination addresses
- Time of departure
- Time of arrival

The *Agent in Charge* and the *Processing Manager* are responsible for performing a physical inventory of all packages being transported and ensuring that the physical inventory coincides with the transport manifest. Journey Aquarian is enrolled in the California Cannabis Track & Trace (CCTT) METRC program and complies with all METRC regulations.

Appendix A: Site Plan