

## ABBAY ROAD FARMING, LLC

### CULTIVATION, OPERATIONS, AND SECURITY PLAN

#### OPERATIONS PLAN

1. Description of Water Source, Storage, Irrigation Plan, and Projected Water Usage

**WATER SOURCE AND STORAGE:** The water supply for irrigation comes from diversion of surface water from a Class II stream to four 6,000-gallon, four 5,150-gallon, and one 7-gallon water tank and from a rainwater catchment pond that holds approximately 25,489 gallons. Current total storage capacity is 70,789 gallons. Applicant proposes installing additional water storage, including expanding the pond, hard water storage, and investigating a deep water well. Applicant will also submit a Water Management Plan (“WMP”) prepared by Pacific Watershed Associates (PWA) which will outline the forbearance and bypass flow requirements for the surface water diversion. Applicant is working with PWA to develop his WMP and Water Resources Protection Plan (“WRPP”) per the North Coast Regional Water Quality Control Board’s Order No. 2015-0021. Applicant will purchase water and/or limit cultivation until such time as appropriate water storage capacity can be met.

**IRRIGATION PLAN:** Irrigation water is applied at agronomic rates to minimize over watering cannabis plants and reducing the risk of irrigation runoff. Applicant anticipates watering cannabis plants every third day during the growing season. Irrigation is applied through a traditional drip irrigation and hand-watering. Applicant waters in the morning/early evening hours to reduce evaporative loss. Ground cover and weed barrier is used to minimize weed growth, which reduces water loss during watering. Applicant uses natural soil amendments to aid in soil moisture retention as part of irrigation plan.

**PROJECTED WATER USAGE:** Applicant will be cultivating approximately 15,236 sq. ft. of outdoor, full term cannabis pursuant to a use permit. Based on California Department of Fish and Wildlife estimates for cannabis irrigation needs, and Applicant’s irrigation practice of watering every third day, Applicant anticipates using 130,115.44 gallons of water for irrigation purposes  $((15,236 \text{ sf} \div 3) \times (1,523.60 \text{ sf} \times 1.4) \times (2,133.04 \text{ gal/days} \times 61 \text{ days}))$ .

The above figures are weather dependent and are only estimated water usage totals. Applicant will install flow meters at all critical points to measure actual yearly water usage upon implementation of the project.

2. Description of Site Drainage, including Runoff and Erosion Control Measures

**EROSION CONTROL, SITE DRAINAGE AND RUNOFF CONTROL MEASURES:**

Stream Crossings. There are two stream crossing on the property, which are properly sized to pass the expected 100-year peak streamflow with 18" culverts. However, Applicant will replace both with 24" culverts to promote drainage of the streams and to minimize erosion and sediment transport to receiving waters. Any exposed bare surface area before and after culvert replacement will be mulched and seeded with native grasses to prevent erosion and promote revegetation. Additionally, Applicant will ensure that the inboard and outboard slopes are laid back to stable angles or armored with appropriately sized rock to prevent erosion.

Site Maintenance, Erosion Control, and Drainage Features. Regarding roads on the property, there are currently four ditch relief culverts (DRC) on Applicant's property. Applicant has undertaken the following actions pursuant to the recommendations of PWA to promote drainage and minimize erosion control and sediment transfer to receiving waters:

1. Installation of multiple rolling dips and ditch relief culverts (DRC) along the entire road network to hydrologically disconnect road surfaces and inboard ditch runoff, including replacing the current 4" diameter DRCs with 18" diameter DRCs.
2. Armoring of the inboard DRC #1 with 0.25-foot diameter rock to prevent further erosion.
3. Installation a rolling dip on Tree Farm Road approximately 60 feet to the right of the intersection with Buck Mountain Road to intercept runoff from the pond spillway culvert to convey all pond runoff from the road. Armor the rolling dip outlet and outboard fillslope with 0.25 to 0.50-foot diameter rock to prevent further erosion. All rolling dips will be connected to the inboard ditch or cutbank unless otherwise recommended by PWA and will be armored with 0.25-foot diameter rock to prevent erosion of the outboard fillslope.
4. Insloping of DRC #1 to drain road surface runoff into the inboard ditch that drains to DRC #1, as well as infilling the opposite outboard ditch once insloping treatment occurs to ensure all collected road runoff is conveyed to the inlet of DRC #1. Armoring outlet of DRC #1 with 0.50 to 1.00-foot diameter rock to prevent future splash erosion.
5. Installation of appropriately-sized full round downspouts at DRCs #3 - #5 to outlet flow at the base of the fillslope, as well as armoring with 0.5 to 1.00-foot diameter rock to prevent splash erosion.
6. Upgrading of DRC #1, #2, and #5 to 18-inch culverts.

7. Installation of couplers at the outlet of the 12" diameter pond spillway to culvert and the 8" diameter pipe as recommended by PWA.

Runoff Control Measures. There are currently four greenhouses (GH) at the cultivation site. Applicant has undertaken the following actions pursuant to the recommendations of PWA to promote drainage and minimize erosion control and sediment transfer to receiving waters:

1. Excavation of GH #2 and buttressing of the base of the outboard fillslope with appropriately sized rock to prevent perimeter pad failure.

2. Installation of straw wattles around the perimeter of the graded pads and across drainage ditches to filter fine grained sediment and prevent sediment delivery to surface waters.

3. Installation of sediment collection basins at outlets of existing drainage ditches to trap fine sediment.

4. Installation of French drains along the outboard edges of pads to allow for adequate runoff and minimize saturation of the outboard fillslope.

5. Reroute existing drainage ditches so as to disperse runoff and fine sediment as far as feasible from surface waters

The measures outlined above are intended to promote drainage of the streams located on the property, drainage of the cultivation site, and to minimize erosion and sediment transport into receiving waters. Applicant will re-seed and revegetate any exposed soils around the cultivation areas and install straw bales and sediment control fencing on slopes or discharge points that may transport sediment to receiving waters. Applicant will consult with and implement recommendations from PWA to improve road and site drainage on an as needed basis.

### 3. Details of Measures Taken to Ensure Protection of Watershed and Nearby Habitat

**PROTECTION OF WATERSHED AND HABITAT:** The southeast portion of GH #1, solar panels, drying shed, and a generator shed are currently located within the 50-foot riparian buffer of a Class III stream and springy area. All other cultivation areas and existing facilities are located outside the riparian buffer zones.

Applicant intends to undertake the removal of the drying shed and its relocation site will be noted on the site plan.

Due to the non-feasibility of relocating the existing electrical infrastructure of the solar panels, generator shed, and the southeast portion of the GH #1, Applicant will be seeking to procure a

variance from the NCRWQCB in this regard and will implement appropriate BMP's to mitigate any future impacts to the riparian area.

Should Applicant be required to relocate GH #1, Applicant may be required to excavate the fill from the existing graded pad and recontour and revegetate the area with native plants. Applicant will work with and implement the recommendations of PWA in this regard. Additionally, any other bare soil or disturbed areas will be reseeded with native grasses and mulched with straw to mitigate erosion control and sediment and fertilizer transfer from any surface runoff and minimize harm to organisms within habitat and riparian zones. Applicant's WMP will address water storage and water conservation and develop a plan that meets irrigation needs while observing forbearance periods and bypass flow requirements to promote and maintain in stream flows.

**CULTIVATION RELATED WASTE PROTOCOLS:** Applicant is implementing measures to reduce and/or eliminate cultivation related waste. All plant related material will be composted in piles covered with plastic sheeting to prevent nutrient transport and will be reused as part of Applicant's soils management plan. Potting bags containing starts and clones will be washed, rinsed, and reused between seasons and recycled at the end of their useful life. Applicant will recycle pesticide and fertilizer containers per California pesticide regulations. Cultivation will occur in native soils and using bio-amendments (cover crops) to re-amend soils, resulting in zero soil waste on site. All other associated waste will be placed in garbage cans with lids and placed on concrete surfaces to prevent nutrients from being leached to groundwater or transported to watercourses. Applicant will determine frequency of disposal to permitted disposal sites that prevents rodent infestation and other nuisances on the property. This will likely be done on a bi-weekly schedule during the growing season.

**REFUSE DISPOSAL:** Applicant will purchase and utilize garbage cans equipped with lids which will be kept in secondary containment to prevent leaching and transport of foreign materials to receiving waters. Applicant will determine the frequency of pickup and delivery to disposal facilities that prevents rodent infestation and other nuisances on the property. This will likely be done on a bi-weekly schedule during the growing season.

**HUMAN WASTE:** The project site has an existing OWTS, but the permitting status is currently unknown. Applicant will research the permitting status with the Humboldt County Department of Environmental Health and, if necessary, conduct subsurface investigations to retroactively permit the existing system, if possible, or design and install a new and permitted system, which will be sufficient to serve the anticipated number of on-site residents and workers anticipated to be present during perk cultivation-related operations. Until such time, Applicant will provide a sufficient number of ADA compliant portable toilets. Portable toilets will be located outside stream management areas and BMPs of NCRWQCB Order No. R1-2013-0023 regarding water quality will be implemented. Portable toilets will be placed where they do not pose a threat to water quality, will be serviced on a weekly basis, and Applicant will be post and maintain service records.

4. Protocols for Proper Storage and Use of Fertilizers, Pesticides, and Other Regulated Products

**PESTICIDES:** Applicant does not currently use Pesticides. If pesticide are used they will be stored on site in a shed in their original containers and secondary containment to prevent leaching of pesticides into groundwater or transport to surface waters. Approved spill proof containers with appropriate warning and information labels will be used to transport pesticides to and from site.

Applicant will maintain and keep personal protective equipment required by the pesticide label in good working order. Coveralls will be washed after all use when required.

All required warning signs will be posted and material safety data sheets (MSDS) will be kept in the area where pesticides are stored. Emergency contact information in the event of pesticide poisoning shall also be posted at the work site including the name, address and telephone number of emergency medical care facilities. Change areas and decontamination rooms will be available off-site.

Before making a pesticide application, operators will evaluate equipment, weather conditions, and the property to be treated and surrounding areas to determine the likelihood of substantial drift or harm to non-target crops, contamination, or the creation of a health hazard.

**FERTILIZERS:** Fertilizers will be stored on site in a storage shed with a concrete floor to prevent leaching of pesticides into groundwater or transport to surface waters. Applicant will store and use fertilizers according to the protocols it uses for pesticide storage and use. Fertilizers will be kept in secondary containment totes to further prevent leaching. Applicant will use all fertilizers according to the label and use personal protective equipment as required by the label.

Before making a fertilizer application, operators will evaluate equipment, weather conditions, and the property to be treated and surrounding areas to determine the likelihood of substantial drift or harm to non-target crops, contamination, or the creation of a health hazard.

**SOIL AMENDMENTS:** Soil amendments will be stored on site in a shed with a concrete floor to prevent leaching of pesticides into groundwater or transport to surface waters. Applicant will store and use fertilizers according to the protocols it uses for pesticide storage and use. Fertilizers will be kept in secondary containment totes to further prevent leaching. Applicant will use all fertilizers according to the label and use personal protective equipment as required by the label.

Before making a fertilizer application, operators will evaluate equipment, weather conditions, and the property to be treated and surrounding areas to determine the likelihood of substantial drift or harm to non-target crops, contamination, or the creation of a health hazard.

Before making a soil amendment application, operators will evaluate equipment, weather conditions, and the property to be treated and surrounding areas to determine the likelihood of substantial drift or harm to non-target crops, contamination, or the creation of a health hazard.

**PETROLEUM PRODUCTS AND STORAGE:** Applicant stores approximately 100 gallons of gasoline, 80 gallons of diesel, and 200 gallons of propane on site. The gasoline and diesel are stored in plastic containers and applicant will have secondary containment. The propane is stored in an Amerigas propane tank. Applicant will have a spill-proof kit on-site to prevent seepage into groundwater or transport to surface water. Applicant will also store combustible materials in a difference location from petroleum products. Generators will be equipped with secondary containment and spill-prevention kits are on-site. Applicant will muffle generator noise to less than 50 dbs to prevent disturbance of surrounding habitat.

5. Description of Cultivation Activities (e.g. outdoor, indoor, mixed light)

**CULTIVATION ACTIVITIES:** Applicant is proposing to permit existing full-term outdoor cultivation with a cultivation area of 15,236 sf and 1,000 sf of accessory use. Applicant will be applying for a use permit for the above referenced activity. Applicant will irrigate cultivation from a surface water diversion pursuant to agreement with DFW. Applicant will be cultivating in smart pots/bags to prevent excess irrigation runoff and promote soil moisture retention. Cover crops will be planted at the end of the year to promote soil regeneration and to prevent nutrient leaching and erosion of the soil medium.

Applicant will follow all performance standards outlined in Humboldt County's Commercial Medical Marijuana Land Use Ordinance ("CMMLUO") with respect to cultivation activities, including developing employee safety protocols which include: 1) an emergency action response plan and spill prevention protocols; 2) employee accident reporting and investigation policies; 3) fire prevention policies; 4) maintenance of Material Safety Data Sheets (MSDS); 5) materials handling policies; 6) job hazard analyses; and 7) personal protective equipment policies. Applicant will ensure that all safety equipment is in good and operable condition, and provide employees with training on the proper use of safety equipment.

Applicant will post and maintain an emergency contact list which includes: 1) operation manager contacts; 2) emergency responder contacts; and 3) poison control contacts. All cultivation activities will be charted and calendared and visibly posted in the cultivation facilities.

Applicant does not anticipate increased road activity for the cultivation activities listed above.

6. Schedule of Activities During Each Month of the Growing and Harvesting Season

- January, February
- No Activity

March

- Bring starts/clones to property
- Transplant from 4" containers to half gallon containers
- Water every third day
- Anticipated Generator Use: 16 Hours per day

April

- Plant in in one green house
- Use Age Old Organic Supplement and Calmag as supplement
- Transfer to 3-gallon bags
- Water every third day
- Anticipated Generator Use: 8 Hours per day

May

- Water every third day
- Continue to use supplements.
- Anticipated Generator Use: 4 Hours per day

June

- Transport to 20-gallon smart bag/pots
- Place in 4 greenhouses
- Fertilizer with MaxSea 3-16-16, Calmag, Fulvex
- Water every third day
- Anticipated Generator Use: 4 hours per day

July

- Tie up plants
- Clean leaves
- Fertilize with MaxSea 3-16-16
- Water every third day.
- Anticipated Generator Use: 2 Hours per day

August

- Begin defoliation
- Use MaxSea 3-20-20, Calmag, Fulvex
- Water every third day.
- Anticipated Generator Use: 5 Hours per day

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September

- Continue defoliation
- Begin harvesting
- Trim and manicure harvested plants
- Water as needed
- Apply MaxSea 3-20-20 and Beastly Bloom
- Anticipated Generator Use: 2 Hours per day

October

- Continue harvesting
- Trim and manicure harvested plants
- Apply MaxSea 3-20-20 and CalMag as needed

November, December

- Clean and landscape cultivation areas
- End of year reporting



### **PROCESSING PLAN AND ACTIVITIES**

**PLAN:** Currently, Applicant does not intend to process on site other than to dry. Applicant will identify permitted processing facility once permits for such facilities have been issued by the County.

### **SECURITY FEATURES**

Applicant has implemented security measures to safeguard the product and prevent nuisance from occurring on the property. Perimeter fencing around the cultivation areas have been established. Security gates are installed along all main roads.

Applicant intends to install security cameras around the exterior of the cultivation sites, and at the entrance to the parcel.

To ensure the non-diversion of product, Applicant will enroll in a track and trace program upon the implementation of those programs at the state and local level. Applicant will comply with SB 420 and the Attorney General Guidelines for the Security and Non-Diversion of Medical Cannabis (2007).

**SOIL AMENDMENTS/SUPPLEMENTS**

<u>PRODUCTS USED</u>	<u>AMOUNTS STORED ON-SITE</u>
Maxsea Fertilizer	Two 50 lb. Containers.
Calmag Supplement	20 lb. Container
Open Sesame	5 pounds
Beastly Bloom	5 pounds
Cha Ching	5 pounds
Fulvex	5 pounds