

**HUMBOLDT KINGZ, LLC  
CULTIVATION AND OPERATIONS MANUAL  
HUMBOLDT COUNTY, CA**

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**PROPOSED CANNABIS  
CULTIVATION FACILITIES**

**PREPARED FOR:**



**February 2023**

**Cultivation and Operations Manual  
For  
Humboldt Kingz, LLC**

Apps. #: 12125  
APN: 216-136-004 / 216-135-008

**Proposed Commercial Cannabis Cultivation Facilities**



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**February 2023**

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## 1. PROJECT SUMMARY

### 1.1. PROJECT OBJECTIVE AND DESCRIPTION

Humboldt Kingz, LLC (“applicant”) is proposing to permit existing commercial cannabis cultivation activities in accordance with the County of Humboldt’s (County) Commercial Medical Marijuana Land Use Ordinance (CMMLUO). The applicant is applying for a Conditional Use Permit (CUP) for 37,250 square feet (sf) of outdoor cannabis cultivation, which includes permitting of existing and proposed facilities appurtenant to the cultivation (such as irrigation infrastructure, storage structures, and a drying building). The applicant was issued a Zoning Clearance Certificate Interim Permit for 37,250 sf.

A 24’ x 60’ metal building currently exists onsite. The project includes relocation of pre-2016 cultivation sites located within riparian buffers of Class III drainages. All relocated cultivation will be consolidated in two central locations on the parcel, outside of riparian setbacks. Restoration of all pre-existing areas will occur in accordance with the Restoration Plan. See Section 2.1 for further details.

Ultimately, water for this project is proposed to be sourced from a pond located onsite, pending issuance of an onstream pond Small Irrigation Use Registration permit from the State Water Resources Control Board and sign off from the California Department of Fish and Wildlife. The pond is approximately 6-million gallons. If this is unable to occur, the project will source all water from rainwater. Rainwater would be collected from catchment surfaces and plumbed to tank storage. Therefore, water sources proposed for this project are surface water and rainwater.

Currently, a groundwater well and surface water diversion with water storage tanks serve the proposed project. Use of the well would cease with permitting of the onstream pond or build-out of the rainwater catchment system and associated storage.

Power demands on the site are minimal, as all cultivation is outdoor and immature plants will be sourced offsite. Power is currently sourced from an existing generator and solar power. Power is ultimately proposed to come from PG&E with backup generator power. If PG&E is unavailable, solar will be built-out to accommodate drying activities.

Up to eight (8) employees are proposed to run the project during peak seasonal events (e.g., planting, harvesting). Immature plants will be sourced offsite. No processing is proposed onsite. The applicant aims to become fully compliant with State and Local cultivation regulations.

### 1.2. SITE DESCRIPTION

The Project is located off of Harris Rd., just north of the locality of Harris, CA (APN 216-136-004). The subject parcel is approximately 81.49 acres in size (per the County of Humboldt’s WebGIS), having southeast facing topography with slopes variable between 10% and greater than 30%. Several smaller Class II and III watercourses drain south into Perington Creek. An approximately 6-million gallon onstream pond is located on the property. The pond was constructed prior to the current landowner owning the property. Scattered springs and seeps are located on the parcel. Vegetation consists of open grasslands mixed with oak woodlands, manzanitas and mixed conifer, deciduous and riparian forest. An existing 24’ x 60’ metal building with a concrete slab (1,440 sf) and a 16’ x 24’ (384 sf) post to pier foundation building are located on a graded flat overlooking a Class II watercourse on the northeast corner of the parcel.

Cultivation takes place in seven (7) outdoor areas, many of which are located within close proximity to sensitive riparian areas. As described below, four of the seven cultivation areas will be adjusted or removed entirely and cultivation will be relocated. The relocation sites are existing flat areas with slopes less than 10% gradient that will require minimal grading. Any grading would be conducted after issuance of a grading permit from the Humboldt County Building Department.

### **1.3. LAND USE**

The subject property has a General Plan designation of Agricultural (AG) as identified by the Humboldt County General Plan and is zoned Agriculture Exclusive (AE-B-5-160). Land uses surrounding the parcel are comprised of agriculture, timber, and scattered rural residences. The surrounding parcels are zoned Agricultural Exclusive (AE) and Timber Production Zone (TPZ).

### **1.4. STATE AND LOCAL COMPLIANCE**

#### **1.4.1. STATE OF CALIFORNIA COMMERCIAL CANNABIS ACTIVITY LICENSE**

Humboldt Kingz, LLC has received the following cannabis cultivation licenses through the Department of Cannabis Control.

#### **1.4.2. STATE WATER RESOURCES CONTROL BOARD – WATER RIGHTS**

Water for cannabis cultivation is proposed to be provided by surface water or rainwater. Currently, a permitted well serves cannabis cultivation needs. Use of the well is proposed to be discontinued with permitting of the onstream pond for cultivation use.

Surface water is proposed to come from an existing onstream pond, approximately 6-million gallons in size, located in the west of the parcel. Use of the onstream pond requires an onstream SIUR water right, which requires the pond to meet conditions specified in the Cannabis General Order and Policy and requires sign-off from resource agencies including CDFW. A Onstream Small Irrigation Use Registration (SIUR) will be applied for. If the onstream pond is unable to be permitted, rainwater catchment infrastructure will be put into place to supply water for irrigation demand.

Additionally, a historic domestic point of diversion exists in the western are of the property. The diversion is covered by an Initial Statement of Diversion and Use (ISDU S027958). This diversion is not used for cannabis cultivation.

#### **1.4.1. NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD AND STATE WATER RESOURCES CONTROL BOARD – WATER QUALITY**

Effective September 12, 2017, Journey Aquarian (of Myers and Aquarian, LLC) enrolled with the North Coast Regional Water Quality Control Board (NCRWQCB) for coverage under Tier 2 of Order No. 2015-0023 *Waiver of Waste Discharge Requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region*<sup>1</sup> (WDID Number 1B171713CHUM).

On June 30<sup>th</sup>, 2019, Journey Aquarian applied for Tier 2, High Risk coverage under 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*<sup>2</sup>. The discharger is currently under high risk status due to the cultivation areas located within proximity to stream buffers. Once the cultivation can be relocated to the central area, the existing areas within riparian buffers will be restored and the applicant will enroll as a low-risk discharger. A Site Management Plan, Nitrogen Management Plan, and Disturbed Area Stabilization Plan have been developed for this parcel.

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<sup>1</sup> [https://www.waterboards.ca.gov/northcoast/water\\_issues/programs/cannabis/#\\_Waiver\\_of\\_Waste](https://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/#_Waiver_of_Waste)

<sup>2</sup> [https://www.waterboards.ca.gov/water\\_issues/programs/cannabis/cannabis\\_water\\_quality.html](https://www.waterboards.ca.gov/water_issues/programs/cannabis/cannabis_water_quality.html)

#### **1.4.2. 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 Conditional Use Permit.

#### **1.4.3. 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. If required by Cal Fire, a 2,500-gallon water tank with a riser to SRA specifications will be installed for fire suppression purposes.

#### **1.4.4. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**

A Lake and Streambed Alteration Notification (1600 permit) for engineered stream crossings and the surface water point of diversion was submitted to the California Department of Fish and Wildlife (CDFW) in May 2018. A final Streambed Alteration agreement has been executed (Notification No. 1600-2018-0422-R1). Additionally, CDFW will need to agree to sign-off on the pond for onstream use. A draft wetland restoration plan has been developed and requires CDFW sign-off prior to implementation.

#### **1.4.5. CULTURAL RESOURCES**

A Cultural Resources Report has been completed for this site. No cultural resources were identified. If buried archaeological or historical resources are encountered during construction or cultivation activities, the applicant or contractor shall call all work in the immediate area to halt temporarily, and a qualified archaeologist is to be contacted to evaluate the materials. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, dietary bone, and human burials. If human burial is found during construction, state law requires that the County Coroner be contacted immediately. If the remains are found to be those of a Native American, the California Native American Heritage Commission will then be contacted by the Coroner to determine appropriate treatment of the remains. The applicant is ultimately responsible for ensuring compliance with this condition.

## **2. CULTIVATION AND PROCESSING**

### **2.1. EXISTING CULTIVATION AND PROPOSED RELOCATION**

The site has historically had approximately an acre of existing cultivation on site spread across seven (7) outdoor cannabis cultivation areas (see the plot plan in Appendix A for details); however, only 37,250 sf were able to be verified via aerial imagery in the Cultivation Area Verification produced by Humboldt County. As such, the applicant will reduce cultivation to 37,250 sf. Four of the seven cultivation areas will be either adjusted or removed completely to comply with standard riparian buffers, as described below:

- Area A historically had approximately 7,000 sq. ft. of outdoor cultivation and light-deprivation cultivation in a 30' x 50' greenhouse. This greenhouse may be relocated to Area H or I due to proximity to the property boundary.
- Area B historically had approximately 4,000 sq. ft. of outdoor cultivation and can remain as-is.

- Area C historically had approximately 6,000 sq. ft. of outdoor cultivation and needs to be reduced to 2,700 sq. ft. to comply with a 50' riparian buffer off a Class III watercourse near the north side of the cultivation area.
- Area D historically had approximately 4,100 sq. ft. of outdoor cultivation and can remain as-is.
- Area E historically had approximately 2,800 sq. ft. of outdoor cultivation but is located entirely within a riparian setback from a Class III watercourse. All cultivation-related equipment will be completely removed from this area and the area will be restored with natural vegetation.
- Area F historically had approximately 7,500 sq. ft. of cultivation. This area is located entirely within 100' from a Class II watercourse and 50' from a Class III drainage. All cultivation-related equipment will be completely removed from this area and the area will be restored with natural vegetation.
- Area G historically had approximately 11,660 sq. ft. of cultivation and will be reduced to approximately 8,650 sq. ft. of cultivation (~6,400 sq. ft. in light-deprivation greenhouses) due to proximity to a Class III drainage.

Accordingly, approximately 12,300 sf of cultivation from parts of Areas C, E, F, G, and A will be relocated to proposed Cultivation Areas H and I. Cultivation area H is located 200' from the nearest watercourse (Class II drainage) and Cultivation Area I is located over 100' from the nearest watercourse (Class II drainage). Relocating cultivation out of riparian areas will help protect and restore the quality of the riparian area, which is beneficial for fish and wildlife habitat and well-being, human health, municipal, domestic, and agricultural water supply, and recreational purposes.

Cultivation Area H is located on an existing flat road in the east of the parcel with slopes less than 8% and Cultivation Area I is located on an historic logging terrace in the northwest of the parcel with slopes of less than 10%. Due to these low slopes, both areas will require minimal grading to relocate approximately 12,300 sq. ft. of cultivation. Neither area requires significant vegetation removal. Both areas are easily accessible from a wide, flat, graveled road in good condition that meets the equivalent of Category Four Road standards. Using this road to access the area and ceasing use of the steep road segments leading to existing cultivation areas will help reduce sediment transport from roadways to nearby watercourses.

## **2.2. PROPAGATION AND INITIAL TRANSPLANT**

Juvenile plants will primarily be propagated on an adjacent parcel owned and operated by the same person (Journey Aquarian). They will be transplanted directly into the ground where they will continue their 'vegetative' cycle. The applicant may also choose to vegetate plants onsite in a given year in an area no greater than 3,700 sq. ft. The juvenile plants are irrigated using hand watering methods.

## **2.3. OUTDOOR CULTIVATION PLAN AND SCHEDULE**

Juvenile plants will be transplanted into pots or bags with amended soil. The full-sun cultivation uses the primary growing season to produce one (1) flowering cycle per year beginning in the late spring through early fall, and light-deprivation techniques utilize hoop houses and light manipulation to produce two (2) flowering cycles per year. No supplemental light is used. The monthly Cultivation Schedule in Appendix B details the cultivation activities associated with the outdoor cultivation.

## **2.4. IRRIGATION PLAN AND SCHEDULE**

Irrigation and fertigation of plants occurs using a solar-powered drip irrigation and some top-feed hand watering methods as appropriate. While most irrigation needs are on automatic drip, some 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. The monthly Cultivation Schedule in Appendix B details the irrigation activities associated with all cultivation.

## **2.5. HARVESTING, DRYING, AND TRIMMING**

Plants that are ready for harvest have their flowering branches removed and suspended in the 24' x 60' drying room which is equipped with ventilation fans. The drying process takes approximately one week.

The dried flowers are then bucked into manageable buds and transported to an off-site processing facility for trimming, packaging, and distribution. Alternatively, the applicant may choose to move product offsite using fresh frozen techniques, where the freshly harvested product is picked up by a licensed distributor and frozen.

## **2.6. EMPLOYEE PLAN**

Humboldt Kingz, 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. STAFFING REQUIREMENTS**

Up to two (2) full-time seasonal labor positions are employed. The number of seasonal laborers varies based on the needs of the farm during the cultivation, harvest and processing seasons. During the peak harvest season, there are an estimated total of eight (8) employees on site. Eight parking spaces located near the existing drying building are proposed to accommodate employees.

### **2.6.2. 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. 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. Employees will have access to drinkable water located near the on-site bathroom. Drinkable water will be contained in 5-gallon bottles and will be trucked to the site.

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.

### **2.6.3. TOILET AND HANDWASHING FACILITIES**

Employees will utilize portable toilets, which will be regularly serviced as required by a qualified professional. Anti-bacterial Liquid Soap and paper hand towels will be made available. Employees will work at a distance typically no greater than 500 feet from the restroom facility. Processing is not proposed onsite.



**2.6.4. ON-SITE HOUSING**

The Lead Cultivator and Assistant Cultivator will live at a single-family residence on an adjacent parcel, that is close enough to allow for regular monitoring. All other full-time and seasonal employees live off site and commute daily to the cultivation site.

**2.7. SECURITY PLAN AND HOURS OF OPERATION**

**2.7.1. FACILITY SECURITY**

An entry gate is located on the driveway off Harris Road. The entry gate remains 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 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 (watering, transplanting, and harvesting) generally occur during daylight hours. All other activities such as harvesting and drying typically occur no earlier than 8 AM and extend no later than 8 PM.

**3. ENVIRONMENT**

**3.1. PROPOSED WATER SOURCE OVERVIEW**

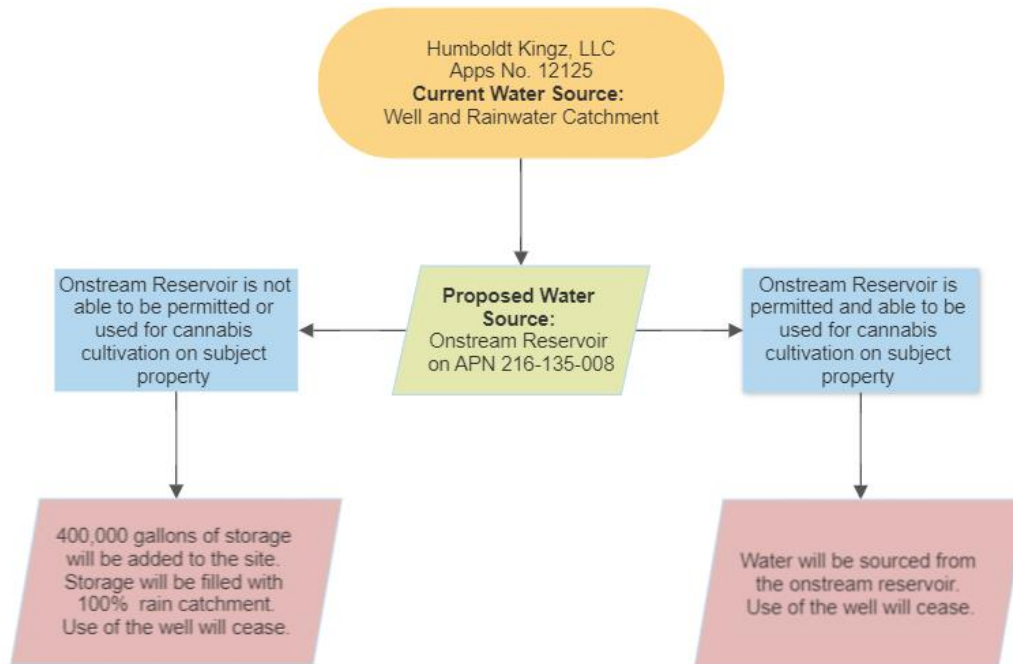


Figure 1: Overview showing existing and proposed water sources and alternative scenarios

### **3.2. CURRENT WATER SOURCE**

The current water source for cannabis cultivation is a well and rainwater catchment with associated tanks. Approximately 15,000 gallons of existing tanks are located onsite.

The existing well is located at lat/long 40.10463, -123.64845 and is approximately 200 ft. in depth. Per the Well Completion Report (Well Completion Report #WCR2021-001603), the well has an estimated yield of 10 gallons per minute. No hydrological determination has been performed on this well. Instead, the applicant is proposing to discontinue use once the proposed water sources are permitted and in place.

Domestic: Water for seasonal domestic purposes was historically sourced from a spring Point of Diversion (POD). This POD is located on the adjacent parcel to the west (APN 216-135-010) and consists of a 12"-diameter shallow cement cistern located on a spring. The cistern is submerged approximately 3" beneath the soil level with an intake pipe 1" below the soil level. The cistern is sealed off to wildlife. This point of diversion was historically used for domestic purposes but has not been used in recent years. The POD is covered by an Initial Statement of Diversion and Use (ISDU S027958). This pod is not used for cannabis cultivation, but will be continued to be maintained in accordance with the ISDU and LSAA.

### **3.3. PROPOSED WATER SOURCE**

The proposed water source for this project is a 6-million-gallon onstream pond on APN 216-135-008, owned by the applicant, pending issuance of an onstream pond Small Irrigation Use Registration permit from the State Water Resources Control Board and sign off from the California Department of Fish and Wildlife. If approved for this use, the applicant will follow all requirements outlined in the SWRCB General Order and Policy regarding onstream pond use, including bypass of all inflow during the forbearance period and compliance with the diversion rate and diversion season bypass conditions.

Once the pond is fully permitted and signed off on by agencies, the applicant will discontinue existing use of the well.

The pond is an unlined, approximately 6-million-gallon capacity pond that was constructed prior to 2004 for livestock and recreation purposes. An engineering inspection revealed no significant structural flaws or signs of dam failure. The pond has an existing 5'-wide cement spillway that conveys overflow toward the Class III drainage below.

The pond regularly provides a water source for CALFIRE and the Alderpoint Volunteer Fire Department to fill up their fire protection and suppression equipment. The pond requires wetland restoration and invasive species management protocols per the SWRCB and CDFW. The pond regularly provides a water source for CALFIRE and the Alderpoint Volunteer Fire Department to fill up their fire protection and suppression equipment.

As a contingency, if the pond is unable to be fully permitted by resource agencies for cannabis irrigation use, the applicant will build-out full storage in water storage for the water demand on the site (approximately 400,000 gallons – see Table 1, below). This would be achieved through the addition of approximately 77 x 5,000-gallon capacity tanks, or tanks of equivalent volume. The 400,000 gallons of storage would be filled by rainwater catchment. Rain catchment tanks would be plumbed to collection surfaces for collection. See below calculations for rainwater feasibility during average and drought years.

See Figure 1 for an overview.

**3.3.1. WATER USE**

Approximately 400,000 gallons of water per year are required to irrigate the 37,250 sq. ft. of outdoor cultivation (approximately 11 gallons/sq. ft.). Table 1 outlines the estimated irrigation water usage for cultivation during a typical year, which is expected to equal approximately 400,000 gallons. Variables such as weather conditions and specific cannabis strains will have a slight effect on water use.

*Table 1: Estimated Annual Irrigation Water Usage (Gallons)*

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
0	0	0	30,000	45,000	55,000	65,000	70,000	72,000	50,000	13,000	0	<b>400,000</b>

**3.4. RAIN CATCHMENT ANALYSIS**

As illustrated above, if the pond cannot be permitted and used as a legal water source for cannabis cultivation, then rainwater catchment and associated storage will supply all the proposed irrigation demand for the project. This section details how much rainwater can be captured and stored on the project site for the proposed project build-out.

Water storage tanks will be plumbed to catchment surfaces (primarily the existing metal building) to collect and store rainwater for use during the dry period. Table 2 provides a summary of the potential rainwater harvest volume for the year.

Precipitation depth data for the project area was obtained from PRISM and used to calculate an average annual rainfall depth of 73.8 inches over the last approximately 30 years (1990-2021). To obtain the volume of the water that reaches the catchment area, the average rainfall depth was multiplied by the catchment surface area, and multiplied by the capture efficiency, as shown in Equation 1. The capture efficiency of the metal building catchment surface was estimated to be approximately 95% due to potential breaks in the guttering or other unforeseen complications. Capture efficiency of the tanks was assumed to be 100%.

*Equation 1: Harvested Rainwater (gal.)*  
 = catchment area (sq. ft.) x annual precipitation (in.) x 0.623 conversion factor x capture efficiency (%)

To prepare for the changing climate, it is important to also analyze rainfall collection potential during a drought year. The lowest 5 years of precipitation from 1990-2021 per PRISM data average out to 41.42 inches of precipitation, representing the average drought rainfall year.

As shown in Tables 2 and 3, the existing and proposed catchment surfaces (including the 24 x 60' metal building, storage buildings, greenhouses, and the proposed water storage tanks) would be sufficient catchment surfaces to catch greater than 400,000 gallons in both an average and drought rainfall year. During an average rainfall year, harvest volumes from rainwater could total up to 1,280,610 gallons, much greater than the irrigation water use. During a drought rainfall year, harvest volumes from rainwater collection could total up to 668,871, clearly in excess of the expected irrigation water use demand.

Therefore, in either an average year or a drought precipitation year, sufficient rainwater catchment areas and storage would exist onsite to provide 100% of the irrigation water (greater than 400,000 gallons), if the pond is unable to be permitted for irrigation use.

*Table 2: Rainwater Catchment Surfaces and Harvest Volumes for an Average Rainfall Year*

Catchment Surface	Catchment Area (ft <sup>2</sup> )	Drought Annual Rainfall (in.)	Rainfall Capture Potential (gal)	Adjusted Rainfall Capture Potential (gal)
Existing 24' x 60' Metal Building	1,440	73.8	66,207	62,897
Existing (4) 20' x 80' Greenhouses in Area G	1,400 each; 6,400 total	73.8	295,225	280,464
Area H Relocation: 6,000 sq. ft. of greenhouses	6,000	73.8	275,864	262,071
Area I Relocation: 6,300 sq. ft. of greenhouses	6,300	73.8	289,658	275,175
77 x 5,000-gallon Rainwater Catchment Tanks	8,700	73.8	400,003	400,003
<b>Total</b>				<b>1,280,610 Gallons</b>

*Table 3: Rainwater Catchment Surfaces and Harvest Volumes for a Drought Rainfall Year*

Catchment Surface	Catchment Area (ft <sup>2</sup> )	Drought Annual Rainfall (in.)	Rainfall Capture Potential (gal)	Adjusted Rainfall Capture Potential (gal)
Existing 24' x 60' Metal Building	1,440	41.4	37,141	35,284
Existing (4) 20' x 80' Greenhouses in Area G	1,400 each; 6,400 total	41.4	165,070	156,817
Area H Relocation: 6,000 sq. ft. of greenhouses	6,000	41.4	103,169	98,011
Area I Relocation: 6,300 sq. ft. of greenhouses	6,300	41.4	162,491	154,367
77 x 5,000-gallon Rainwater Catchment Tanks	8,700	41.4	224,392	224,392
<b>Total</b>				<b>668,871 Gallons</b>

**3.5. SITE DRAINAGE, RUNOFF, AND EROSION CONTROL**

Journey Aquarian of Myers and Aquarian, LLC has enrolled for coverage under the General Order, and a Site Management Plan, Nitrogen Management Plan, and Disturbed Area Stabilization Plan have been developed utilizing Best Practicable Treatment and Control (BPTC) measures in accordance with Attachment A of the Order.

**3.5.1. SITE DRAINAGE AND RUNOFF**

Site investigation for the development of the Water Resources Protection Plan (WRPP) and Site Management Plan (SMP) showed little evidence of surface runoff associated with the existing cultivation areas entering nearby drainages. Moreover, the existing cultivation areas are located within 50 feet of watercourses and are therefore targeted for relocation. The location of the proposed relocation cultivation areas are more than 100 feet away from the nearest watercourse and is in an area where the slope is less than 10% gradient, 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 drip irrigation to prevent excessive water use, and the maintenance of a stable, vegetated buffer between the cultivation area and riparian zone.

**3.5.2. EROSION CONTROL**

The Water Resource Protection Plan (WRPP) and subsequent Site Management Plan (SMP) includes erosion and sediment control BPTCs designed to prevent, contain, and reduce sources of sediment. The SMP also includes corrective actions to reduce sediment delivery, including: maintaining roads, replacing culverts, and revegetating areas of disturbance. Additionally, the SMP requires mulch piles and spoils from any grading to be stored in a designated location away from watercourse.

**3.6. WATERSHED AND HABITAT PROTECTION**

Adherence to the Water Resource Protection Plan (WRPP) and Site Management Plan ensures that the watershed and surrounding habitat are protected. Proposed relocation areas will ensure that cultivation areas are located outside of all riparian buffer areas. All cultivation areas will be adjusted or relocated entirely to comply with riparian setbacks (Table 2). Additionally, site development and maintenance activities utilize BMP's 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.

Table 2: Cultivation Area/Associated Facility Distance to Water Body and Slope APN 216-136-004 / 216-135-008 (Pond)				
Disturbed Area Type	Area (sq. ft.)	Disturbed Area Slope	Distance to Water Body (ft.)	Water Body Type
Outdoor Cultivation A, Water Tank (1,100-gal.)	5,500	10.2%	250	Class III Drainage
Light-dep Greenhouse	1,500	12.5%	248	Class III Drainage
Storage Shed	112	4.4%	282	Class III Drainage
Drying Shed	683	6.1%	230	Class III Drainage
Shipping Container 1	200	6.3%	128	Class III Drainage
Shipping Container 2	200	6.3%	124	Class III Drainage
Outdoor Cultivation B, 550-gal. Water Tank	4,000	10.9%	80	Class III Drainage
Outdoor Cultivation C, Water Tanks ([1] x 1,000-gal., [1] x 2,500-gal.) – to be relocated	6,000 → 2,700	10.4%	25	Class III Drainage
Outdoor Cultivation D, 1,100-gal. Water Tank	4,100	12.1%	82	Class III Drainage
Outdoor Cultivation E, 550-gal. Water Tank – to be relocated	2,800 → 0	6.8%	40	Class III Drainage
Outdoor Cultivation F, Water Tanks ([1] x 1,100-gal., [1] x 2,500-gal.) – to be relocated	7,500 → 0	15.6%	0/40	Seep / Class II Drainage
Outdoor Cultivation G, Water Tanks ([1] x 550-gal., [1] x 1,100-gal.) – to be adjusted	11,660 → 8,650	11.4%	22	Class III Drainage
Proposed Cultivation Area H	~6,300	5%	200'	Class III Drainage
Proposed Cultivation Area I	~6,300	8%	100'	Class II Drainage

**3.7. MONITORING AND REPORTING**

Monitoring will be conducted to confirm the effectiveness of corrected measures listed in the WRPP and SMP and determine if the site meets all of the BPTC Measures in Attachment A of the Order. The

Site Management Plan and Disturbed Area Stabilization Plan provide more details regarding Monitoring and Reporting. Journey Aquarian tracks all water diversion and use and records fertilizer applications. This information will be reported to the State Water Resources Control Board in the Annual Report, due annually by March 1<sup>st</sup>.

### **3.8. ENERGY AND GENERATOR USE**

Energy for this project is currently supplied by solar and generator use but is proposed to transition to PG&E with generator backup over the next five years, or whenever PG&E becomes available. The applicant proposes to continue to build-out solar if PG&E is not available within the next five years.

Water pumps and fertigation pumps are powered by solar panels located near each cultivation site. A single 36-kw Whisper Watt Super Silent mobile generator is currently used to power the onsite building for drying purposes. Use of the generator follows all guidelines set up by Humboldt County and the State of California. The generator is located away from the property line to ensure the noise level does not exceed 60 decibels at the property line. The generator and diesel fuel are located within a secondary containment trough.

PG&E is proposed to be brought to this property over the next five years, or when PG&E is available. The final build-out of the proposed project would be powered by PG&E with a generator for backup purposes only. The applicant proposes to continue to build-out solar if PG&E is not available within the next five years.

### **3.9. USE AND STORAGE OF REGULATED PRODUCTS**

#### **3.9.1. 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 located in a locked storage room, and contained within water tight, 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.

#### **3.9.2. FERTILIZERS**

Nutrients and biological inoculants that may be used for cultivation include:

- Dr. Earth All-Purpose Fertilizer
  - <https://drearth.com/products/organic-fertilizers/life-all-purpose-fertilizer/>
- Spare Time Trace Minerals
  - <https://nhs-hydroponics.com/sparetime-trace-mineral-additive-25/>
- Sparetime Mocha Bat Guano
  - <https://shop.sparetimesupply.com/products/sparetime-mocha-bat-guano--4-6-1---br-10--477.html>
- Stutzman Chicken Manure (3-2-2)
  - <http://www.stutzman-environmental.com/fert-supgreen.php>
- Sparetime Fossilized Seabird Guano (0-6-0)
  - <https://shop.sparetimesupply.com/products/sparetime-fossilized-seabird-guano--0-6-0---br-8--4890.html>
- Azomite - trace minerals

- <http://www.azomite.com/about.html>
- Precipitated Bone Meal – Dicalcium Phosphate (0-18.5-0)
  - <https://shop.sparetimesupply.com/products/precipitated-bone-meal--0-18-5-0---br-50--347.html>

### **3.9.3. PESTICIDES AND FUNGICIDES**

Pesticides and fungicides used for cultivation include:

- Neem Oil
  - <http://www.gardensafe.com/Products/Fungicide/Neem-Oil-Extract-Concentrate.aspx>

### **3.9.4. FUELS AND OILS**

Fuels and oils stored on site include:

- Gasoline – 10 Gallons
- Diesel – 10 Gallons

## **3.10. WASTE MANAGEMENT PLAN**

### **3.10.1. SOLID WASTE MANAGEMENT**

Trash and recycling containers are located inside the existing metal building, enclosed within a secure area to prevent animal intrusion. Solid waste and recycling is hauled off-site to the Eel River Resource Recovery's transfer station in Redway, CA at least once per week.

### **3.10.2. 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 stored in a designated contained covered area that is lined to prevent any soil erosion or nutrient seepage. The soils are analyzed using soil testing procedures, and after consultation, the soils are amended and reused. Used pots will be collected and stored in the metal building for the winter. All packaging from soil amendments and fertilizers will be collected and disposed at an appropriate facility.

### **3.10.3. WASTEWATER MANAGEMENT**

The water management plan aims to achieve an entirely closed-cycle irrigation and nutrient system. Hand watering and drip irrigation methods minimize the over-irrigation of plants and subsequent runoff. Moreover, the cultivation areas designed to capture any runoff from irrigation for reuse in the fertilization holding tank. All runoff recaptured is tested and augmented to plant nutrient specifications, and eventually recycled into the fertigation system.

## **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. The finished product is labeled and will include tracking ID's provided by the County of Humboldt and/or Statewide tracking systems once they become available.

#### 4.2. PRODUCT INVENTORY AND TRACKING

Until such time as either a County or Statewide cannabis product and inventory tracking system becomes available, an internally-developed system of inventory and tracking is utilized. The Agent in Charge and Lead Cultivator ensure all medical cannabis from clone to packaged product is tracked, accounted for and inventoried. Records are kept at each phase of the harvest for reporting and compliance with State and Local regulations. The information recorded for each harvest includes:

- Cultivation canopy area
- Weight of flowers, by-product, and trim waste after drying and separation
- Product ID numbers and product weight
- Staff identification (at each step)
- Physical location of the plant material at all times

#### 4.3. TRANSPORTATION AND DISTRIBUTION

Transportation will be handled by a third-party, contracted, 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.



## **APPENDIX A: SITE PLAN**

## APPENDIX B: CULTIVATION ACTIVITIES SCHEDULE

Item	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Drainage, Runoff, and Erosion Control	Winterization (storage of pots/greenhouse covers)												
	Temporary Erosion Control BMP's (straw, seeding, fiber rolls, etc.)												
	Road maintenance												
	Culvert and inboard ditch maintenance/inspection												
	Cover soil beds and seed / straw with cover crop												
Irrigation Activities	Irrigation of juvenile plants/clones												
	Irrigation of flowering plants												
Pre-cultivation Activities	Transplant clones into beds												
	Amend soil in beds												
	Import new cultivation soil												
Outdoor Cultivation and Harvest Schedule	Outdoor Cultivation Cycle												
	Harvest activities												
	Drying Activities												

## APPENDIX C: REFERENCES

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