

# HUMSUN LLC

## CULTIVATION, OPERATIONS, PROCESSING AND SECURITY PLAN

Updated 11/15/2022

### INTRODUCTION

As stewards of the land, our goal is to implement a permaculture design plan utilizing our property's diverse systems to create a sustainable working landscape. Our team is comprised of a soil biologist, environmental engineers, a permaculturalist and water resource management specialists who have been integral in creating a sustainable land management plan. This approach will foster the long-term cultivation of fruits, vegetables, cannabis, forestry, and animal husbandry to "close the loop," and reduce impacts to our working landscape.

### PROJECT SUMMARY

Application is being made to the Humboldt County Planning Department for a conditional use permit pursuant to Humboldt County's Commercial Medical Marijuana Land Use Ordinance ("CMMLUO") Section 55.4.8.2.1.1.[1] That section allows for permitting "new" cultivation areas up to an acre in size if the cultivation areas are located on prime agricultural soils with slopes of less than 15% on parcels larger than 320 acres in size. No more than 20% of the prime agricultural soils may be used for the cultivation of cannabis. The proposed application is being made on one parcel totaling over 1,766 acres with 65.18 acres being considered "prime agricultural soils."

This project proposes to farm a total of 3.5 acres (152,460 square feet) of mixed light cultivation and 8.5 acres (370,260 square feet) of outdoor cultivation. An additional total of 1.17 acres (51,060 square feet) of nursery is proposed. The cultivation will be located in two areas the *Lower Field* and the *Ridge* site.

The Lower Field site will consist of 3.5 acres (152,460 square feet) of mixed light grown in 60 hoop houses. Hoop house sizes range from 920 sqft to 4000 sqft. An additional four hoops houses will also be constructed at this site to provide 0.24 acres (10,380 sqft) of nursery space. Hoop houses will be constructed of metal posts and woven poly with no floors, plants will be planted in the ground. All mixed light and nursery hoop houses will have automated blackout tarps. These will be used to ensure no light is leaked from the hoop houses between one hour before sunset till one hour after sunrise whenever any supplemental light is used in the hoop house. Other infrastructure proposed at the Lower Field site includes: two drying and processing buildings (one 6000 sqft, one 1625 sqft) with septic systems and employees bathrooms, a 1,000 sqft compost area, 15 parking spaces (1 handicap, 1 bus, and 13 standard spaces), and 12 hard sided water tanks (5000

gallon each). Already existing at this site is a residence with a septic system, two sheds, a well, and a 5000 gallon hard sided water tank.

The Ridge site will consist of 8.5 acres (370,260 sqft) of outdoor cultivation. Plants will be grown out in the open on terraces. An additional 0.93 acres (40,680 sqft) of nursery in 16 hoop houses will be located just south and north of the outdoor areas on the ridge site. Nursery hoop houses will have automated blackout tarps. These will be used to ensure no light is leaked from the hoop houses between one hour before sunset till one hour after sunrise whenever any supplemental light is used in the hoop house. Other infrastructure proposed at the Ridge site includes two processing and drying buildings (7,200 sqft, and 9,000sqft) with septic systems and employees bathrooms, Three solar arrays (16,600 sqft, 9,000 sqft and 4,400 sqft), 1,000 sqft compost area, 14 parking spaces (1 handicap, 1 bus, and 12 standard spaces), and 31 hard sided water tanks (5000 gallon each). Already existing at this site are 3 wells (Honey well, Cow Knoll well, and Jelly Bean well) each well has a 5000 gallon hard sided water tank and a solar pannel.

## **OPERATIONS PLAN**

### *Cultivation Methods*

For the mixed light portion (3.5 acres) of the project the applicant is anticipating two cycles of mixed light cultivation a year. In the outdoor cultivation areas between one cycle per year will be done.

The project will have an onsite nursery and will start seedlings and clones on-site for its operation.

For the mixed light and outdoor cultivation, plants will be planted directly in the native Prime-Ag soil. This will greatly reduce the need to source materials off-site, thereby reducing the impact on the local infrastructure and environment. Planting in the ground has also been shown to reduce the overall water needs.

All green waste will be composted on site in the designated compost areas (one in the Lower Field and one on the Ridge) The project plans to implement a worm farm to create organic inputs and soil conditioners on-site. Chickens, goats, sheep, and cows will be located on site to aid in biodiversity and produce natural fertilizer.

### *Description of Water Source, Storage, Irrigation Plan, and Projected Water Usage*

*Water Source:* Applicant's proposed primary sources of irrigation water will be groundwater and rainwater catchment. Applicant has (4) permitted wells on the property as shown on the site map. The permitted well sites include: the Jelly Bean Well Site, the Cow Knoll Well Site, the Honey Well Site. The wells output 30 gallons per minute ("gpm"), 30 gpm, 10 gpm, and 20 gpm respectively. These wells will provide water for irrigation and supply the processing buildings. The fourth well (the meadow well) will not be used for cannabis irrigation. Well completion reports are provided in this application. Wells use solar powered pumps to fill the 5,000 gallon hard sided tank located next to each well. GHD has evaluated the geology and hydrogeology associated with the three completed wells on the ridge (Jelly Bean, Cow Knoll, and Honey) and found that they draw from a bedrock aquifer near the top of a ridge that is not associated with any subterranean

stream or alluvial deposit. Therefore, these three wells are non-jurisdictional. GHD determined that the Meadow well was likely hydrologically connected given its proximity to Larabee and Cooper Creek. This well will be permitted through the division of Water Rights for domestic use.

The Project would include the construction of a total of four rainwater catchment ponds. The proposed catchment area of the four ponds is 137,583 sf, with a total storage capacity of 9,168,115 gallons. The annual average rainfall from 2015 to 2020 at the Project Site is 56.7 inches a year. Based on this average, the four ponds can be estimated to capture approximately 3,104,417 gallons of rain water annually. The Project will include 23,825 sf of rooftop collectively on the four processing buildings, which will be designed to also collect rainwater. Based on the same rainfall average, the four processing buildings can be estimated to contribute an additional 837,544 gallons of rainwater to the ponds. This brings the total rainfall collected each year to approximately 3,941,961 gallons. The remaining pond capacity, approximately 5,088,571 gallons, will be diverted from surface water diversions or from the three existing wells on the Project Site. In total there will be four potential surface water diversions, and these diversions will comply with SWRCB SIUR requirements, which generally limit diversions to wet times of the year and limit the volume that may be diverted. The points of diversion are included in the Project site plans, and generally are located near the four ponds on the Project Site.

The Applicant will secure all necessary permits prior to constructing the ponds. The ponds will be designed with sufficient outflow to mitigate threat of pond failure. Ponds will be designed to be drainable if it becomes necessary to drain them at the end of the season to prevent bull frog infestation. They will be kept clear of vegetation around the edges to eliminate bull frog habitat. The ponds will be constructed with fencing around the ponds and escape ramps in the ponds to prevent harm to native wildlife. Preliminary grading plans have been provided with the application.

The Project would also have a total of forty-seven (47) 5,000-gallon hard-sided tanks onsite for an additional 235,000 gallons of water storage. The purpose of each of these 5,000-gallon tanks is summarized below:

- Thirty-three tanks (165,000 gallons) would be used for irrigation. These irrigation tanks would be repeatedly filled throughout the year from the ponds (and as necessary from the wells).
- Five tanks (25,000 gallons) would be used to store fire suppression water. These would be filled from the wells and kept full at all times for use in case of fire.
- Three tanks (15,000 gallons) would be used as transfer tanks to move water from the wells to other tanks.
- One tank (5,000 gallons) would supply domestic water at the Ridge Site processing building.
- One tank (5,000 gallons) would be used at the Lower Field Site as a transfer tank and as water supply for the Lower Field Site processing buildings. Both tanks would be filled from the wells.

- Four tanks (one 5,000-gallon tank at each processing building) would be used to collect and transfer rain water from the building roofs to the ponds.

*Irrigation Plan:* Applicant will be using a drip system to irrigate crops. The system will use three (3) gallon per hour emitters for every plant. Applicant intends to hand water one day each month of the growing season in lieu of drip irrigation in order to apply compost tea or liquid fertilizer that could damage the drip system. Applicant will apply mulch over bare soils to minimize evaporative loss. Applicant will water early in the mornings or late afternoon/evenings when temperatures are cooler to further minimize evaporative loss.

Applicant will plant directly in prime soils located on the property. Applicant will amend soils using local and native materials and apply a mulch layer to re-amend native soils after each use. This technique is proven to use substantially less water than standard industry practice of planting in above ground cloth pots.

Safety valves will be implemented, and on-site owner/operators will monitor irrigation lines to prevent leaks and maintain drip irrigation systems. Flow/Water meters will be installed at critical points to monitor water usage for reporting purposes. All water tanks will have float valves to prevent any water from overflowing.

*Projected Water Usage:*

The Project’s primary source of irrigation water would be rainwater catchment from four constructed ponds. Groundwater from the three wells and a State Water Resources Control Board Small Irrigation Use Registration (SIUR) for four points of diversion would be used as a secondary water source. Project cultivation and nursery canopy totals approximately 573,780 sf. CDFW assumes a minimum use of 100,000 gallons per 10,000 sf of canopy, which would equate to water demand of 5,227,200 gallons per year for this Project. However, the Project’s total projected yearly water usage for all irrigation needs is anticipated to be approximately 3.3 million to 4.75 million gallons of water a year (i.e., 5.6 to 8.3 gallons per sf of canopy). The Project by design includes a number of water conservation measures, including direct in-ground planting, automated drip irrigation systems, and a shortened cultivation period (approximately 5.5 months) for the outdoor cultivate area (8.5 acres).

*Schedule of Activities During Each Month of the Growing and Harvesting Season*

<b>Dates of Operations*</b>	<b>Lower Field</b>	<b>Ridge Site</b>	<b>Nursery</b>	<b>Onsite Processing</b>	<b>Employees**</b>
April 1 -5	Plant Lower Field Site		Maintain nursery		17-22
April 6 -June 1	Cultivation operations in Lower Field Site		Maintain nursery		9-12
June 1 - June 15	Harvest Lower Field Site		Maintain nursery		17-22
June 15- June 25	Replant Lower Field Site	Plant Ridge Site	Maintain nursery		17-22

June 25- August 15	Cultivation operations in Lower Field Site	Cultivation operations on Ridge Site	Maintain nursery	Possible Processing of Lower Field Site harvest	9-17
August 15 - August 21	Cultivation operations in Lower Field Site	Cultivation operations on Ridge Site and trellis plants	Maintain nursery		17-22
August 22 – October 1	Cultivation operations in Lower Field Site	Cultivation operations on Ridge Site	Maintain nursery		9-12
October 2 - November 15	Harvest Lower Field Site  Clean up and winterize Lower Filed Site	Harvest Ridge Site  Clean up and winterize Ridge Site	Maintain nursery	Process harvest	17-22
November 15 – December 31	Clean up and winterize Lower Field Site	Clean up and winterize Ridge Site	Maintain nursery	Continue Process	15-22
January 1- March 31			Maintain nursery, Cloning	Continue processing	15-22

\*Dates of operations are approximate, and will vary based on several factors, including weather, the specific strain of cannabis cultivated each year.

\*\*Employee count includes two security guards.

## PROCESSING PLAN

The processing facilities will meet commercial building standards. They will be equipped with ADA compliant restrooms and hand-washing facilities, as well as supplies for cleanliness and sanitation. Hand sanitizing liquid, gloves, potable water, and face masks shall be provided to employees. Potable water will be supplied from groundwater source located on the property and stored in 5,000-gallon water tanks. The dry rooms and processing facilities will be sanitized after every use using organic cleaning products to prevent mold growth and other contaminants. A daily cleaning routine for all work rooms and surface areas will be prepared and carried out by employees. Employees will be required to wash their hands prior to handling the product and after using the restroom. Sanitary equipment and products such as hand sanitizing liquids, paper towels, gloves, water and face masks will be provided and kept in good and operable condition. Emergency contact numbers will be posted in working areas, including the local poison control center.

The following safety practices will be implemented as a part of the processing plan: 1) functioning safety equipment, including masks, gloves, and respiratory equipment will be provided to employees in good and operable condition; 2) sanitized protective overcoats will be provided to prevent cross contamination and skin irritation; 3) poison control and emergency services contacts will be posted in processing areas; 4) safety signage will be posted and spillage prevention policies

will be developed; 5) safety training on proper use of trimming equipment; and 6) development and implementation of a workplace health and safety survey.

### *Lower Field Site*

Harvested plants from the Lower Field Site's mixed-light facilities would be air-dried. Drying facilities located in the onsite buildings would utilize passive drying techniques in the summer and early fall when possible. Passive drying would involve exposure to natural air flow without use of dehumidifiers. Humidity and temperature would be monitored to ensure proper curing conditions. If passive drying is not possible due to weather conditions, harvested product would be cured in dry rooms located within the on-site processing buildings. The dry rooms would be thermostatically controlled to regulate temperature and humidity levels. Product from the Lower Field Site may be trimmed on site in the processing buildings located on the Project Site or taken off site after drying for processing. For the Lower Field Site, the anticipated weight of dried product produced per harvest would be approximately 1,700 lbs per acre, per run, which amounts to approximately 11,900 lbs per year. The maximum number of daily trips would result if all product from the Lower Field Site were processed off site after drying. Conversely, on-site processing would reduce daily trips. A semi-truck can carry approximately 3,000 lbs of dried processed (i.e., dried, trimmed, and packaged for transportation) cannabis. The maximum number of truck trips for the Lower Field Site harvest would be four (4) semi-trucks annually.

### *Ridge Site*

The Applicant proposes to bring grid power to each processing building on the Ridge Site by 2026 through the extension of power lines and connection with PG&E transmission lines. On site power lines would be installed underground within the existing driveway prism to each site. Until PG&E power is established a combination of sound-shielded generators and solar power will be used to provide electrical power to the buildings.

Approximately one half to two thirds of the total harvest from the Ridge Site would be frozen fresh and transported to an offsite permitted manufacturing facility for further processing. Harvested cannabis may be frozen in freezers located at the Lower Field Site, and then would be removed by a distributor for further processing off-site. Alternatively, harvested cannabis could be placed in freezer trucks. One of these freezer trucks can transport approximately 3,000 lbs of harvested cannabis. The Ridge Site would be able to produce approximately 60,000 to 85,000 lbs of fresh cannabis (i.e., cannabis before it is dried) per harvest. If frozen in freezer trucks, between 20 and 29 truck loads would be necessary to transport harvested product off site.

Any portion of the Ridge Site harvest not frozen would be dried on site utilizing passive drying techniques in the summer and early fall when possible. Passive drying would involve exposure to natural air flow without use of dehumidifiers. Humidity and temperature would be monitored to ensure proper curing conditions. If passive drying is not possible due to weather conditions, harvested product would be cured in dry rooms located within the on-site processing buildings. The dry rooms would be thermostatically controlled to regulate temperature and humidity levels.

Ridge Site processing buildings will be powered by solar, grid and generator power. Generators will be utilized only until grid power can be made available at the Ridge Site, as described above.

*Protocols for Proper Storage and Use of Fertilizers, Pesticides, and Other Regulated Products:*

The pest management practices to be used are as follows: clones and seeds are started with healthy pest free stock, this helps to start with clean pest free starts. Diatomaceous earth will be used in the early season and throughout the growing season. Predator nematodes will be applied periodically to the soil starting in the pre-season to kill any larva and adult pests that live in the soil. Predator mites (*amblyseius fallacis*, *amblyseius californicus*, *amblyseius swirskii*) will be used for mite control. *Steinernema feltiae* (beneficial nematodes) will be used on mothers and in the nurseries.

*Pesticides* : Applicant may use the following pesticides: Green Clean, Plant Therapy, Venerate, Grandevo, Regalia, Cease. Further details can be found in the Applicant's Pest Management Plan. All pesticides or herbicides on the property will be all natural, OMRI certified organic ingredients and will be used according to the product labeling. Pesticides will be stored in locked cabinets in the processing buildings. These buildings will have impermeable floors. Applicant will maintain a spill kit in each of the three buildings.

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 in the processing buildings .

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*: Applicant uses the following fertilizers: Green sand, alfalfa pellets, worm castings, compost, blood meal, bone meal, kelp, fish hydrolysate, feather meal, crab meal, and oyster shell. All fertilizers on the property will be all natural, OMRI certified organic ingredients and will be used according to the product labeling. Fertilizers will be stored in the processing buildings or locked sheds located at the Lower Field. Applicant will maintain spill kits in each processing building.

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*: Applicant will utilize best practices to minimize carbon footprint. In the short-term, Applicant will take soil samples and purchase amendments and organic inputs from a local wholesaler. Long-term, Applicant will make their own compost, worm casting, and biochar, using

animal byproducts and biomass grown on the ranch. Applicant will also make their own fertilizers using lactobacillus fermentation techniques. Applicant will make their own compost tea. These techniques will help close the loop creating a self-sustaining farm. Two compost areas have been planned, one located at the Lower Field the other at the Ridge site. Compost tea will be brewed within the compost areas .

Soil amendment components will be bought in quantities needed for immediate use. Generally they will be purchased a short time prior to use and will not need to be stored. Any left over amendments will be stored in containment in buildings or sheds. Applicant will maintain a spill kit on site.

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:* Gasoline would be needed onsite to run some power tools (weedwhacker, mower etc.) Applicant intends to store gasoline and/or diesel fuel in quantities of less than 50 gallons. Gasoline will be stored inside of separate locked storage container, in approved fuel storage containers. These containers will be located next to the processing building. Applicant will maintain a spill kit on site and secondary containment will be used to prevent leaching. All local, state, and federal regulations will be followed regarding petroleum storage on site.

#### *Cultivation Related Waste Protocols:*

Applicant's cultivation related green waste will be composted on site. All other waste will be taken offsite to be recycled or landfilled.

Inputs for soil amendments are bought in bulk. Generally they will be purchased a short time prior to use and will not need to be stored. Any left over amendments will be stored in containment in buildings or sheds. Pots for nursery are washed and reused and stored inside the sheds or processing buildings when not in use. Applicant will re-amend soils using cover crops, thereby eliminating soil waste. Soils will remain in place during off-season.

*Green Waste:* There will be a composting facility located at each site. A 1,000 sqft facility at the lower field and a 1,000 sqft facility at the Ridge site. These will be maintained by cultivation staff. The composting facility will be permitted with the Regional Water Board if determined to be required (WQ 2015-0121-DWQ); composting operations will meet all of the required standards to keep storm water from mixing with the composting material and to eliminate any runoff from the composting site. The composting areas will have a concrete pad and will be enclosed with three walls and a roof to keep storm water out.

*Refuse Disposal:* Applicant will have on-site trash cans with lids located near all cultivation sites and bear proof dumpsters located near the main house. Non-compostable waste will be hauled off site at least twice per month by project staff and disposed of at either the Redway or Fortuna Transfer Stations.



*Human Waste:* We will make use of an existing permitted septic system, and ADA portable toilets during construction of initial facilities. Additional septic systems permitted in the drying and processing facilities. Each of the five processing and drying buildings will have an ADA compliant restroom. Additional porta-potties may be brought in as needed during peak times such as harvest.

The existing ranch house located on the property is served by a permitted septic tank/leach field system. The system is equipped with a 1200-gallon tank and four lines fifty foot in length with a five foot- deep trench. We will ensure the bathroom facilities meet all accessibility (i.e. ADA) requirements. We will use additional ADA compliant portable toilets to service cultivation areas during harvest. Portable toilets will be regularly serviced, and service records will be kept on site for inspection.

### Employees

The Project would operate year-round, with peak activity during the late summer and fall months. From April 1 to October 15, cannabis would be grown, cultivated, and harvested. From October 15 to April 1 of the following year, Project activities would include cannabis nursery activities, cloning, drying, processing, and regular operations and maintenance activities.

The Project would typically operate seven days per week, between the hours of 7:00 a.m. and 7:00 p.m. For daily operations, between April 1 and November 30, the Project would employ approximately 7 to 10 employees. The Project has been designed to require fewer employees than other similarly-sized projects through use of automated systems. Generally, employees' daily duties would be to ensure automated systems function properly. Additional employees would be required periodically to complete cultivation activities, including to plant the first mixed light round, outdoor and second mixed light round, to trellis the outdoor cultivation sites, and during the first mixed light harvest, the second mixed light harvest, and processing activities. During these times the Project would employ additional temporary staff for a total employee count of between 17 and 20 daily employees. In addition to regular operations staff, two security guards would be on site at all times. Including security personnel, at any given time the Project Site could have between 9 and 22 employees.

The first annual planting of the Lower Field Site would take approximately five days. The Lower Field Site would be tilled with a tractor and the clones planted out as plugs. Outdoor planting at the Ridge Site, and planting the second round of mixed light would take ten days. Again, areas would be tilled with a tractor and the clones planted out as plugs. The first mixed light harvest would take two to three weeks (in approximately June 1-15) and the second harvest period (October 12-November 15) would take approximately one and a half months. Processing would take four to six months.

During peak harvest periods, or when the average daily employee count is ten or more, the Project would utilize twelve-passenger vans to transport workers from Fortuna to the Project Site, and then within the Project Site between the Lower Field Site and the Ridge Site. In general, both full time

and temporary employees would be sourced from the already existing pool of cannabis workers in southern Humboldt County.

## **SECURITY PLAN**

Applicant will implement various security measures to ensure safety, protection of crop, and non-diversion of cannabis. Currently, a fence exists along the perimeter of the property. All cultivation sites will be fenced in. Gates lock the main entrances along the roads. Cameras will be used to monitor gates, cultivation sites, and drying facilities. A locking keypad entry system will also limit access to processing facilities, preventing unauthorized access.

A licensed security firm will provide on-site 24-hour security for restricted areas including drying buildings, cultivation sites, and the nursery areas, during September, October, and November.

Applicant will contract with licensed distributors for distribution of its products. Applicant operates an “on-demand” product shipment system whereby licensed distributor is on-site to select crop to distribute before harvest takes place. Staggered harvests and continual shipping are utilized to reduce the amount of dried cannabis kept on site. Applicant will implement a track and trace system in compliance with all state and local laws and regulations. We will also store product at our Santa Rosa processing facility.

Security lighting will be placed around all processing and drying buildings. Lighting, in conformance with the International Dark Sky standards, will have a warm color rating (approx. 2500K) and be shielded to avoid uplighting and glare; lighting will only illuminate downward to provide safe access and security.

## **ELECTRICAL**

### ***Lower Field Site***

Electrical power for the Lower Field Site, including the mixed-light hoop house lights and fans, processing buildings, water pumps, and security lighting, would be supplied by PG&E. Power would be supplied through the local utility Redwood Coast Energy Authority Community Choice Energy, Repower Plus Program. This program would allow the Project to purchase on-grid power with one-hundred percent renewable energy resources. There is currently a 200-amp PG&E drop at the Lower Field Site that would be upgraded to serve the Project. The upgrade will not result in any additional ground disturbance.

### ***Ridge Site***

Power needs at the Ridge Site include hoop house nursery lights, fans, water pumps, security lighting, and the processing buildings. The nursery on the Ridge Site would require lights during the months of May and June when the full-term plants are being started; power for these lights would be supplied entirely by solar.

PG&E grid power would be brought to the three Ridge Site processing buildings by 2026. The power line would be buried in the existing driveway prism to the sites. In the interim, electrical

needs for the Ridge Site would be provided by a combination of three solar panel arrays and three Kohler 60–80-kilowatt (kW) propane generators. The generators would be used as backup for the solar system in times of prolonged cloudy conditions during the 1.5 months in the fall drying season (October 1 to November 15). The 16,600-sf solar area would provide 315 kilowatts of power, the 9,000-sf solar area would provide 171 kilowatts of power, and the 4,400-sf area would provide 84 kilowatts of power, for a total of 570 kilowatts of DC power.

For day-to-day operations (fans, water pumps, indoor building lighting, and security lighting) the solar system should provide adequate power. If prolonged cloudy weather is encountered, it may be necessary to charge the batteries using the onsite generators, up to a maximum six hours of generator use, per generator, per day. Once grid power is brought to the Ridge Site, generators would no longer be used except as emergency backup power.

Until 2026 no more than half of the harvested canopy would be dried and processed onsite. The remainder would be frozen fresh and transferred to a licensed facility offsite. Once PG&E power is available at the Ridge Site, the Applicant will have the option to process all cannabis on or off site.

For the remaining half or less (estimated to be no more than 8,500 pounds of dried and processed product) of the cannabis grown at the Ridge Site that is not frozen, several drying and processing methods may be employed. Passive drying would involve exposure to natural air flow without use of dehumidifiers. Humidity and temperature would be monitored to ensure proper curing conditions. If passive drying is not possible due to weather conditions, harvested product would be cured in dry rooms located within the on-site processing buildings. The dry rooms would be thermostatically controlled to regulate temperature and humidity levels. Each of the two processing buildings at the Ridge Site would be equipped with a backup Kohler generator. A propane tank would be located next to each generator. Once grid power is available at the sites the generators would no longer be used except as emergency backup power.

## **NOISE**

The only noise that the project will generate from ongoing project operations apart from the infrequent driving of the vehicles and human conversation will come from the greenhouse fans and the intermittent use of the backup generators at the Ridge Site.

The fans used in the hoop houses will be ½ horse power gable 7 amp fans and Quiet Breeze horizontal air flow 1 amp fans. Each hoop house will have 2 gable fans on at each end. The number of Quiet Breeze fans will vary based on the length of the hoop house. See the Table below for the number of fans in each hoop house. At the Lower Field Site there will be a total of 128 gable fans and 322 Quiet Breeze fans. At the Ridge Site nursery there will be 30 gable fans and 88 Quiet Breeze fans.

Lower Field: Number of fans in each hoop house

Hoop House	Width (ft) x Length (ft)	Area (sq ft)	Number of gable fans	Number of quiet air fans	Hoop House	Width (ft) x Length (ft)	Area (sq ft)	Number of gable fans	Number of quiet air fans
<i>ML #1</i>	20x177	3540	2	7	<i>ML #33</i>	20x200	4000	2	8
<i>ML #2</i>	20x171	3420	2	7	<i>ML # 34</i>	20x148	2960	2	6
<i>ML #3</i>	20x171	3420	2	7	<i>ML #35</i>	20x46	920	2	2
<i>ML #4</i>	20x168	3360	2	7	<i>ML #36</i>	20x122	2440	2	5
<i>ML #5</i>	20x161	3220	2	6	<i>ML #37</i>	20x86	1720	2	3
<i>ML #6</i>	20x155	3100	2	6	<i>ML #38</i>	20x70	1400	2	3
<i>ML #7</i>	20x147	2940	2	6	<i>ML #39</i>	20x70	1400	2	3
<i>ML #8</i>	20x144	2880	2	6	<i>ML #40</i>	20x70	1400	2	3
<i>ML #9</i>	20x141	2820	2	6	<i>ML #41</i>	20x72	1440	2	3
<i>ML #10</i>	20x140	2800	2	6	<i>ML # 42</i>	20x72	1440	2	3
<i>ML #11</i>	20x138	2760	2	5	<i>ML #43</i>	20x72	1440	2	3
<i>ML #12</i>	20x136	2720	2	5	<i>ML #44</i>	20x72	1440	2	3
<i>ML #13</i>	20x134	2680	2	5	<i>ML #45</i>	20x72	1440	2	3
<i>ML #14</i>	20x134	2680	2	5	<i>ML #46</i>	20x76	1520	2	3
<i>ML #15</i>	20x132	2640	2	5	<i>ML #47</i>	20x78	1560	2	3
<i>ML #16</i>	20x132	2640	2	5	<i>ML #48</i>	20x85	1700	2	3

<i>ML #17</i>	20x130	2600	2	5	<i>ML #49</i>	20x88	1760	2	3
<i>ML #18</i>	20x134	2680	2	5	<i>ML #50</i>	20x95	1900	2	4
<i>ML #19</i>	20x144	2880	2	6	<i>ML #51</i>	20x104	2080	2	4
<i>ML #20</i>	20x146	2920	2	6	<i>ML #52</i>	20x108	2160	2	4
<i>ML #21</i>	20x148	2960	2	6	<i>ML#53</i>	20x108	2160	2	4
<i>ML #22</i>	20x148	2960	2	6	<i>ML#54</i>	20x108	2160	2	4
<i>ML #23</i>	20x146	2920	2	6	<i>ML #55</i>	20x114	2280	2	5
<i>ML #24</i>	20x140	2800	2	6	<i>ML #56</i>	20x114	2280	2	5
<i>ML #25</i>	20x140	2800	2	6	<i>ML #57</i>	20x92	1840	2	4
<i>ML #26</i>	20x150	3000	2	6	<i>ML #58</i>	20x68	1360	2	3
<i>ML #27</i>	20x164	3280	2	7	<i>ML #59</i>	20x150	3000	2	6
<i>ML #28</i>	20x180	3600	2	7	<i>ML #60</i>	20x148	2960	2	6
<i>ML #29</i>	20x182	3640	2	7	<i>Nur. #1</i>	20x121	2420	2	4
<i>ML #30</i>	20x192	3840	2	8	<i>Nur. #2</i>	20x132	2640	2	4
<i>ML #31</i>	20x194	3880	2	8	<i>Nur. #3</i>	20x132	2640	2	4
<i>ML # 32</i>	20x196	3920	2	8	<i>Nur. #4</i>	20x134	2680	2	4

Ridge Site Nursery: Number of fans in each hoop house

Hoop House	Width (ft) x Length (ft)	Area (sq ft)	Number of gable fans	Number of quiet air fans	Hoop House	Width (ft) x Length (ft)	Area (sq ft)	Number of gable fans	Number of quiet air fans
#1	20x140	2800	2	6	#8	20x140	2800	2	6
#2	20x140	2800	2	6	#9	20x140	2800	2	6
#3	20x140	2800	2	6	#10	20x140	2800	2	6
#4	20x140	2800	2	6	#11	20x140	2800	2	6
#5	20x140	2800	2	6	#12	20x140	2800	2	6
#6	20x140	2800	2	6	#13	20x140	2800	2	6
#7	20x140	2800	2	6	#14	20x140	2800	2	6
					#15	20x74	1480	2	4

The sound output of the Kohler 60-80kw propane generator is 69 dB. Sound containment will be erected around the generator to reduce noise levels.

The noise during the construction period will primarily come from the use of heavy equipment during the initial phase (trenching for electric lines, grading roads and flats, application of gravels, and the digging of ponds). This phase will last approximately 8-12 weeks. All outdoor construction activity and use of heavy equipment will take place between 7:00 a.m. and 6:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturday and Sunday. Construction equipment most likely to be used includes skidsteers, mini-excavators, cement trucks, water truck, work trucks, and tractors.

## ROADS

The project is access in two places off of Alderpoint road. Alderpoint Road is a major rural collector for Humboldt county with speeds up to 45 mph. This road is paved and has a centerline and meets category four road standards and is therefore appropriate for commercial cannabis traffic. During project operations, employees traveling on this road are expected to travel anywhere

from eight (8) miles (Bridgeville, or Blocksburg) to around 38 to 45 miles (Garberville or Fortuna) to reach the entrance to the private ranch road.

Project-generated traffic is described in the following tables.

Summarizes approximate construction-related vehicle trips.

**Vehicle Trips – Construction.**

<b>Construction (Phase One and Two) Vehicle Trips</b>		
	Estimated Daily Round Trips	Summary of Trips
Construction Phase One	4-6 daily trips Cumulative average of 2 daily trips for rock imports	The trips in phase one will include 4-6 daily trips for construction employees, performing grading, fencing, and building. Additionally, rock imports will cumulatively add 2 daily trips.
Construction Phase Two	2-4 daily trips, with one trip to bring construction equipment to the Project site, and one trip to remove it after construction concludes.	The trips in phase two will consist of 2-4 daily trips for construction employees. Additionally, there will be two trips for skid steers, mini-excavators, cement trucks, water truck, work trucks, and tractors which will be left on site and removed once construction is complete.

Summarizes approximate vehicle trips associated with Project operations, excluding the July-August and October-November peak activity periods.

**Vehicle Trips – Operations (Typical).**

<b>Operational Nov 16 - June 24) Vehicle Trips</b>		
	Estimated Round Trips	Summary of Trips
Employees	9 daily round trips	8 employee trips to the Project site and one possible 12 passenger van trip
Garbage and recycling	Twice/month	Garbage and recycling would be removed twice per month.

Supplies	Once/month	This includes cultivation supplies as well as tools, equipment, and miscellaneous items.
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Summarizes approximate vehicle trips associated with the July-August and October-November peak activity periods.

**Vehicle Trips – Operations (Peak).**

<b>Operational (June 25 - Nov 15) Vehicle Trips</b>		
	Estimated Round Trips	Summary of Trips
Employees	10 daily round trips	7 employee trips and up three 12-person van trip for additional employees
Garbage and Recycling	Twice a month	Garbage and recycling would be removed twice per month.
Supplies	Once per week	This includes cultivation supplies as well as tools, equipment, and miscellaneous items.
Security	Six daily trips	Two guards providing 24-hour security. Accounting for shift changes this equates to six daily round trips.
Other	Approximately three trips per day Frozen cannabis product delivery would be transported using 20-29 truck trips per harvest season. The majority of these truck trips would occur in a one-week period at the end of the harvest period. An additional maximum of 4 semi-truck trips annually to remove the dried lower field harvest.	Additional trips for distributors transporting harvested materials, or frozen cannabis product.

A total of 3.6 miles of internal ranch road will be used for this project. The lower field site and the ridge site are accessed separately off the Alderpoint road. The access road to the ridge sites is pre-existing and in good condition (see road evaluation submitted with project documents). To meet the Fire Safe standards 18 turnouts will be installed on this road. The installation of these turnouts will impact 12,120 square feet of road side area.

The internal ranch roads will be kept in a well rocked condition. During the dry season during both the construction phase and ongoing project operations water from the wells or rain water catchment ponds will be used to water the roads to eliminate dust. During the short construction



phase we estimate the roads may need to be watered between 2 and 3 times a day. During on-going operations the project van will be used to transport most employees from the lower field site to the ridge site greatly reducing the number of car trips on the longer internal road.

## **WATER QUALITY**

*Water Course Crossing:* On the internal ranch roads used by the project contains 23 stream crossings that will be repaired and brought up to the 100 year flood standards. Table 1 in the LSA Notification prepared by Mother Earth details the impacts of each crossing repair. The total permanent impacts outside of the existing road prism will be 239 sq ft all within the bed and bank. A total of 750 sqft of incidental riparian vegetation will be impacted. One tanoak 10 to 15 inches in diameter will be removed. An additional nine saplings less than 5 inch in diameter will be removed. See 1600 notification Addendum for further details.

*Site Drainage:* Cultivation areas are located on prime agricultural soils in areas with slopes of less than 15%. Applicant's proposed cultivation areas are located outside of the Water Board watercourse buffers and the County SMAs (see site plan for details).

Applicant will design and implement cultivation areas with drainage features such as rip rap installations, drains, and routing that promote drainage, infiltration, and dispersal of flows and prevent transport to receiving waters. The proposed cultivation areas are buffered with areas of native grasses with gentle slopes, minimizing the threat of erosion or other significant threats to water quality.

*Erosion Control Measures:* Upon project approval, Applicant will consult with, and implement, all recommended control measures developed by project engineers in conjunction with any grading plans developed for the property. The roads located on site are adequately rocked and Applicant intends to put in amplified rolling dips to promote road drainage and minimize erosion threat. Cross drains located along roads will have rip-raps placed at outlets for energy dissipation. No new roads are proposed to be built or graded. The proposed cultivation areas have relatively little slope, will only be lightly graded, and present minimal threats of erosion damage.

*Runoff Control Measures:* Applicant waters at agronomic rates and therefore does not anticipate any runoff from cultivation activities. Applicant anticipates cultivating in ground therefore does not anticipate any storm water runoff from the cultivation areas.

Applicant will design and implement cultivation areas with drainage features such as rip rap installations, drains, and routing that promote drainage, infiltration, and dispersal of flows and prevent sediment and nutrient transport to receiving waters. The proposed cultivation areas are buffered with areas of native grasses with gentle slopes, minimizing the threat of erosion or other significant threats to water quality.