

Humboldt County Commercial Medical Cannabis Land Use Ordinance (CMMLUO) Application



Application Summary:

As described herein, Emerald Family, LLC is applying for permission to operate commercial cannabis cultivation operations within Humboldt County. These operations will take place at a location referred to as Willow Creek. The proposed operations will be compliant with Humboldt County Conditional Use Permit, with the intent to apply for state licenses:

- Outdoor Cultivation: 3 acres
- 8 Mixed light greenhouses: 160,000 sq ft.
- 1 Indoor 20,000 sq ft. Nursery (MMRSA Type 4)
- Processing and manufacturing facility 23,000 sq ft and 17,500 sq ft (MMRSA Type 6, and Type 7 using volatile solvents)

This application is compliant with Humboldt County Ordinance No. 2544, which adds Section 313-55.4 to Chapter 3 of Division 1 of Title III.

This application is organized following 55.4.10, Application Requirements for All CMMLUO Clearances or Permits.

DISCLAIMER

Cannabis is illegal under United States federal law. This is true even if the possession of cannabis is for medical purposes. This document has been prepared in accordance with California state law, which allows for a medical cannabis patient program. This document is not intended to promote the illegal sale or use of cannabis in any way. Green Rush Consulting discourages operating outside of MCRSA or Prop 64 state laws and guidelines.

Table of Contents

Application Summary:	1
Humboldt Application Requirements	9
a) Applicant Information	9
b) Owner Consent	9
c) Site Plan	9
d) Cultivation and Operations Plan	9
e) Water Source Documentation	10
f) Planned Water Use	11
g) Water Monitoring Self-Certification	11
h) Streambed Alteration Permit	11
i) County Well Permit	11
j) Timberland Conversion	12
k) Consent for Onsite Inspections	12
l) Source of Electrical Power	12
n) Acknowledge County Right to Reduce Cultivation Area	13
o) Acknowledge County Right to Engage Local Tribes	13
Appendix A: Business Plan	14
a) Executive Summary	14
b) Mission & Values	15
c) Cultivation and Manufacturing Operations	17
d) Cultivation Standards	18
e) Environmental Standards	19
f) Legal Compliance	20
g) Sales and Marketing	22
h) Management Team	23
Appendix B: Environmental Protection Plan	28
a) Clean Green Certification	28
b) Water usage	29
Water source	31
Water storage	31
Water conservation and use	31
Water Rights and Diversion	32
Projected use	33
c) Drainage, runoff and erosion control	34
d) Watershed and habitat protection	35
Appendix C: Hazardous Materials Plan	37
e) Using hazardous materials	37
Chemical clean up	38
f) Storing hazardous materials	38
Segregating ignitable or reactive materials	40

Appendix D: Cultivation Plan	41
a) Overview	41
Description of cultivation activities	41
Prior cannabis cultivation dates.....	42
Schedule of activities by month	42
Description of Cultivation Plan components	43
b) Cultivation Facilities	44
Outdoor features	44
Greenhouse features.....	44
Cannabis storage	48
c) Cultivation Cycle	49
Overview.....	50
Example of Month-by-Month Cultivation Schedule	51
Nursery: 20,000 sq ft Indoor Facility	52
Definitions.....	52
Propagation	52
Growing.....	55
Light management and photo periods.....	56
Vegetative phase	56
Flowering.....	57
d) Cultivation Inputs	58
Nutrients.....	58
Growing Medium.....	59
Pesticides.....	59
Disease and Pest Management Procedures	59
e) Cannabis Disposal	62
Record waste cannabis	64
Storing and segregating waste cannabis	64
Verify waste cannabis	64
Destroy waste cannabis	64
f) Cultivation Quality Assurance	65
Sample selection procedures.....	67
g) Cultivation Monitoring and Recordkeeping.....	67
h) Cultivation Training and Certification.....	68
Appendix E: Processing and Manufacturing Plan.....	71
Don Hays, Director of Manufacturing.....	72
a) Summary of Processing Practices.....	73
Preparation.....	73
Harvesting.....	73
Drying and Curing.....	74
Trimming and Trim Machines.....	74
Packaging, Labeling and Storing.....	75
Quality Assurance	76

b) Summary of Manufacturing Processes	77
Extraction equipment	77
Preparing Raw Plant Matter.....	78
Extraction	79
Final inspection and Packaging	82
Proper storage of cannabis concentrate products, raw materials, and waste	83
Proposed initial cannabis product forms	84
c) Description of location where processing will occur	85
Processing rooms.....	85
Manufacturing.....	85
General use	87
d) Estimated number of employees	87
Quality Assurance Manager.....	87
Lead Extraction Technician	88
Processing Manager.....	88
Facility Safety Manager	88
Packaging / Labeling Lead.....	88
e) Summary of Employee Safety Practices.....	89
f) Description of toilet and handwashing facilities.....	90
g) Description of plumbing and/or septic system and whether or not the system is capable of handling increased usage	90
h) Description of source of drinking water for employees.....	90
i) Description of increased road use resulting from processing and a plan to minimize that impact.....	90
j) Description of on-site housing.....	91
k) Manufacturing safety overview	91
l) Manufacturing equipment and standards.....	92
Solvent	92
Inspection.....	92
m) Product Safety Plan.....	93
n) Employee training and competency.....	93
o) Lab standards.....	94
p) Quality assurance and batch monitoring.....	94
Appendix F: Quality Assurance Plan.....	95
a) Overview of CAPA approach	95
b) Employee roles	96
c) Standards of cleanliness	97
Personal hygiene.....	97
Sanitation and handling protocols	98
Equipment sanitation.....	100
Contamination prevention.....	101
d) Standards for equipment maintenance.....	101
Manufacturing equipment	101

Proper calibration of equipment.....	101
e) Quality Control Testing.....	102
Standards for purity, integrity and potency.....	102
Testing.....	104
Live monitoring and real-time analytics for concentrates.....	104
Ensuring Accuracy of Testing.....	105
f) Cannabis recall protocol.....	105
Appendix G: Security Plan.....	106
a) Overview.....	106
Bill Keller (Omni Security Services), Director of Security.....	108
Hiring Certified Security Guards.....	108
Updating and Annual Review.....	108
Physical Copy of Security Plan and SOPs.....	109
Emergency Contacts.....	109
Proactive Engagement with Emergency Services and Law Enforcement.....	109
b) Facility Security.....	109
Perimeter Security.....	110
Interior Security.....	112
Limited Access Areas.....	112
c) Prevention and Detection of Diversion and Theft.....	114
Zero tolerance for diversion.....	114
Inventory Management.....	114
Cannabis storage.....	115
Cannabis waste disposal.....	115
No on-site consumption.....	116
d) Incident Management and Emergency Response.....	116
Incident Assessment.....	117
Incident Response.....	120
Incident Reporting and Incident Log.....	121
Post-incident Review.....	121
e) Personnel.....	121
Security guards.....	122
Background checks.....	122
Personnel Records.....	122
Training and drills.....	122
On-site behavior.....	123
f) Shipping and Transportation.....	124
Transportation schedule.....	124
Shipping and receiving.....	124
g) Video Surveillance and Lighting.....	125
Access to surveillance footage.....	125
h) Alarm Systems.....	126
Alarm system description.....	126

i) Power Failure Response	126
j) Cyber Security	127
Appendix H: Compliance Plan	128

Humboldt Application Requirements

a) Applicant Information

Humboldt County Code 313-55.4.10 (a)

The name, contact address, and phone number(s) of the applicant.

Name: Emerald Family LLC contact address:

Phone number:

b) Owner Consent

Humboldt County Code 313-55.4.10 (b)

If the applicant is not the record title owner of parcel, written consent of the owner for the application with original signature and notary acknowledgement.

Emerald Family LLC is the record title owner of parcel. See Attachment 1.

c) Site Plan

Humboldt County Code 313-55.4.10 (c)

Site plan showing the entire parcel, including easements, streams, springs, ponds, and other surface water features, and the location and area for cultivation on the parcel with dimensions of the area for cultivation and setbacks from property lines. The site plan shall also include all areas of ground disturbance or surface water disturbance associated with cultivation activities, including: access roads, water diversions, culverts, ponds, dams, graded flats, and other related features. If the area for cultivation is within ¼ mile (1,320 ft.) of a school, school bus stop, church or other place of religious worship, public park, or Tribal Cultural Resource, the site plan shall include dimensions showing that the distance from the location of such features to the nearest point of the cultivation area is at least 600 feet.

See Attachment 2.

d) Cultivation and Operations Plan

Humboldt County Code 313-55.4.10 (d)

A cultivation and operations plan that meets or exceeds minimum legal standards for water storage, conservation and use; drainage, runoff and erosion control; watershed and habitat

protection; and proper use and storage of fertilizers, pesticides, and other regulated products to be used on the parcel, and a description of cultivation activities (outdoor, indoor, mixed light), the approximate date(s) cannabis cultivation activities have been conducted on the parcel prior to the effective date of this ordinance, if applicable; and schedule of activities during each month of the growing and harvesting season. The operations plan shall also include a security plan describing measures to be taken to ensure the security of the medical cannabis and to safeguard against the diversion of medical cannabis for non-medical purposes, or access by minors.

Emerald Family has developed a comprehensive Cultivation and Operations Plan, divided into the following attached components for clarity:

Appendix A: Business Plan

Appendix B: Environmental Protection Plan

- Standards for water storage, conservation and use
- Drainage, runoff and erosion control
- Watershed and habitat protection

Appendix C: Hazardous Materials Plan

- Proper use and storage of fertilizers, pesticides, and other regulated products

Appendix D: Cultivation Plan

- Description of cultivation activities (outdoor, indoor, mixed light)
- Schedule of activities during each month of the growing and harvesting season

Appendix E: Processing and Manufacturing Plan

Appendix F: Quality Assurance Plan

Appendix G: Security Plan

- Safety of medical cannabis
- Safeguard against diversion of medical cannabis
- Safeguard against access by minors

Appendix H: Compliance Plan

e) Water Source Documentation

Humboldt County Code 313-55.4.10 (e)

Copy of the statement of water diversion, or other permit, license or registration filed with the State Water Resources Control Board, Division of Water Rights, if applicable.

Emerald Family will use the existing water infrastructure through the Willow Creek Community Services District. We will purchase water for the 1st year to get a scope on our water usage before we do our storage pond build out. Phase 2- will be the pond build out to the scope needed with data provided by the district.

See Attachment 3.

f) Planned Water Use

Humboldt County Code 313-55.4.10 (f)

Description of water source, storage, irrigation plan, and projected water usage.

See: Appendix B: Environmental Protection Plan

g) Water Monitoring Self-Certification

Humboldt County Code 313-55.4.10 (g)

If applicable, a copy of Notice of Intent and Monitoring Self-Certification and other documents filed with the North Coast Regional Water Quality Control Board demonstrating enrollment in Tier 1, 2 or 3, North Coast Regional Water Quality Control Board Order No. 2015-0023, or any substantially equivalent rule that may be subsequently adopted by the County of Humboldt or other responsible agency.

Description.

See Attachment 4.

h) Streambed Alteration Permit

Humboldt County Code 313-55.4.10 (h)

If any on-site or off-site component of the cultivation facility, including access roads, water supply, grading or terracing impacts the bed or bank of any stream or other watercourse, a copy of the Streambed Alteration Permit obtained from the Department of Fish & Wildlife.

Description.

See Attachment 5.

i) County Well Permit

Humboldt County Code 313-55.4.10 (i)

If the source of water is a rain catchment pond, a copy of the permit, if applicable.

Description.

See Attachment 6.

j) Timberland Conversion

Humboldt County Code 313-55.4.10 (j)

If the parcel is zoned TC or TPZ, or involves the conversion of timberland as defined under section 4526 of the Public Resources Code, a copy of a less-than-3-acre conversion exemption or timberland conversion permit, approved by the California Department of Forestry and Fire Protection (CAL-FIRE). Alternately, for existing operations occupying sites created through prior unauthorized conversion of timberland, evidence may be provided showing that the landowner has completed a civil or criminal process and/or entered into a negotiated settlement with CAL-FIRE.

The parcel is zoned AG. This item does not apply to the Applicant.

k) Consent for Onsite Inspections

Humboldt County Code 313-55.4.10 (k)

Consent for onsite inspection of the parcel by County officials at prearranged date and time in consultation with the applicant prior to issuance of any clearance or permit, and once annually thereafter.

Through this application, Emerald Family, LLC, gives consent for an onsite inspection, by County of Humboldt officials, at a prearranged date and time prior to issuance of any clearance or permit, and once annual thereafter.

l) Source of Electrical Power

Humboldt County Code 313-55.4.10 (l)

For indoor cultivation facilities, identify the source of electrical power and how it will meet with the energy requirements in section 55.4.8.2.3, and plan for compliance with applicable Building Codes.

Note: Applicant has interpreted this to refer to 55.4.8.3, as 55.4.8.2.3 is not present in Ordinance No. 2544 and 55.4.8.3 refers to electrical power.

Applicant is developing indoor, mixed-light and outdoor cultivation facilities, as well as processing and manufacturing facilities.

To that end, Applicant intends to use on-grid power. Applicant commits to purchasing carbon offsets for on-grid power not from renewable sources. Emerald Family will

integrate solar power systems in the future, and also investigate hydroelectric power solutions.

n) Acknowledge County Right to Reduce Cultivation Area

Humboldt County Code 313-55.4.10 (n)

Acknowledge that the County reserves the right to reduce the size of the area allowed for cultivation under any clearance or permit issued in accordance with this Section in the event that environmental conditions, such as a sustained drought or low flows in the watershed in which the cultivation area is located will not support diversions for irrigation.

Emerald Family, LLC, acknowledges that the County of Humboldt reserves the right to reduce the size of the area allowed for cultivation under any clearance or permit issued in accordance with Section 314-55.4 of the Humboldt County Code in the event that environmental conditions, such as a sustained drought or low flows in the watershed will not support diversions for irrigation.

o) Acknowledge County Right to Engage Local Tribes

Humboldt County Code 313-55.4.10 (o)

Acknowledge that the county reserves the right to engage with local Tribes before consenting to the issuance of any clearance or permit, if cultivation operations occur within an Area of Traditional Tribal Cultural Affiliation, as defined herein. This process will follow current departmental referral protocol, including engagement with the Tribe(s) through coordination with their Tribal Historic Preservation Officer (THPO) or other tribal representatives. This procedure shall be conducted similar to the protocols outlined under SB 18 (Burton) and AB 52 (Gatto), which describe “government to government” consultation, through tribal and local government officials and their designees. During this process, the tribe may request that operations associated with the clearance or permit be designed to avoid, minimize or mitigate impacts to Tribal Cultural Resources, as defined herein. Examples include, but are not limited to: conducting a site visit with the THPO or their designee to the existing or proposed cultivation site, requiring that a professional cultural resources survey be performed, or requiring that a tribal cultural monitor be retained during project-related ground disturbance within areas of sensitivity or concern. The county shall request that a records search be performed through the California Historical Resources Information System (CHRIS).

Finally, through this application, Emerald Family, LLC, acknowledges that the County of Humboldt reserves the right to engage the local Tribes before consenting to the issuance of any clearance or permit, if cultivation operations occur with an Area of Traditional Cultural Affiliation, as defined within Section 314-55.4.10(n) of the Humboldt County Code.

Appendix A: Business Plan

a) Executive Summary

Cannabis cultivation is the next great farming industry in the United States. Humboldt County will be the epicenter of this new industry, and Emerald Family LLC (“Emerald Family”) intends to be at the forefront of setting the standards that will justify Humboldt’s reputation for producing the world’s finest cannabis.

Emerald Family is proud of its Humboldt roots, and will help lay the foundation for a cannabis industry that is built on integrity and best practices, that safely serves the needs of patients, and that brings economic growth, job opportunities, tourism and other benefits to the county for generations to come.

By establishing world-class cannabis cultivation, processing and manufacturing facilities, Emerald Family will be a model for other Humboldt County cannabis businesses as they transition into a new, regulated business environment.

The company’s management team, composed of longtime Humboldt residents, has decades of combined experience in both indoor and outdoor cultivation, and has also developed advanced manufacturing techniques to meet the needs of California’s medical cannabis patients. Emerald Family’s leaders have been proactive organizers, working with county officials to determine appropriate regulations and standards for cannabis cultivators and manufacturers in Humboldt County. In this respect, Emerald Family’s goals dovetail with the county’s goals: to establish best practices that lead to safe, healthy working conditions for everyone involved in the industry.

After securing local and county operating licenses, Emerald Family plans to build out professional-grade facilities on its 40 acre site in Willow Creek, on Flower McNeil Road. In the coming years, the company plans to establish its cultivation, processing and manufacturing operations on this site, with Standard Operating Procedures (SOPs) and strict security measures to protect the health and safety of its employees. Emerald Family will provide thorough training programs for its employees, and offer a range of jobs and benefits to help local residents transition into a new era of cannabis production.

Emerald Family has sufficient capital in place to build, secure, and start up the proposed Willow Creek facility. The company’s projected start-up budget demonstrates more than

sufficient capitalization to cover estimated costs of building, operation, compensation of employees with benefits, equipment costs, utility costs, legal compliance, and other costs as needed.

Emerald Family has established relationships with medical dispensaries throughout the state, and through this managed their own distribution along with a security contract in place with Omni Security Services.

With the upcoming state licensing process under the Medical Cannabis Regulation and Safety Act (MMRSA), medical cannabis businesses are expected to be operating in a legally regulated industry in 2018. In anticipation of this licensing process, Emerald Family has set up its articles of incorporation and other legal paperwork, and has assembled an accomplished leadership team to guide the company into a new, regulated cannabis industry. Obtaining the proper local and county operating permits are the next step in the process.

Emerald Family's management team includes longtime Humboldt residents who believe strongly in sustainable agriculture and environmental conservation. In addition to its master cultivators and processors, Emerald Family has relationships with industry professionals in the legal, banking, security, and consulting fields. With this team, Emerald Family will create an industry-leading facility for sustainable and compliant cannabis cultivation.

With its temperate rainforest, natural water resources, diverse plant and animal species, complex soil compositions, and abundant sunshine throughout the year, Humboldt County has one of the most unique natural environments on the West Coast, and an ideal environment for cannabis cultivation. As the first generation of legally registered cannabis farmers comes into the light, Emerald Family respects and appreciates the responsibility it has to the land, and is committed to doing everything possible to conserve and maintain this exceptional natural environment for generations to come.

b) Mission & Values

Emerald Family Farm's mission is to cultivate and produce the highest quality cannabis for the medical market in California. In doing so, it will help reduce suffering and restore hope and productivity for patients who use this medicine as an alternative to traditional pharmaceutical prescriptions.

Hand in hand with its business endeavors, Emerald Family strives to be a positive force for change in Humboldt County. Emerald Family will hire good people who want to be in service to the local community and to all cannabis patients in California. The company's leadership team has high expectations of all employees and expects them to

demonstrate in their behavior and actions a deep commitment to the core values of the company.

The company will provide community support in the form of tax revenues, donations, employment and training opportunities, community infrastructure improvements, and by setting high standards for other cannabis businesses that operate in the county. Emerald Family will be a leader in environmental stewardship by conducting environmental compliance workshops, and leading by example utilizing renewable power systems and other technologies that help preserve the environment.

By identifying and implementing its own best practices, Emerald Family means to be an industry leader both in Humboldt County and in the state of California.

Emerald Family's core values include the following:

- Local and state compliance in all aspects of the business and its operations.
- Environmental conservation and stewardship.
- High standards for the health and safety of its employees.
- Fair and equal pay for all employees.
- A good neighbor policy that respects and serves surrounding communities.
- An operating culture that recognizes the key roles of employees and the patients who will be using its products.
- Organic and "Clean Green" cultivation methods that ensure safe, effective medicine for patients.

In order to produce high-quality medicine for patients across the state, Emerald Family will focus on cannabis cultivars that have been shown to be effective for conditions patients have reported in California. The company will also stay up to date on current research related to medical cannabis and its applications. As a provider of best-in-class cannabis-based medicine, Emerald Family will enable patients to return to productive living with a quality of life that encourages their positive contributions to society.

In order to be a good neighbor in the communities where Emerald Family will operate, the company will reach out to local community groups and keep communication lines open to resolve any issues that arise. If a citizen or organization has a concern or complaint regarding Emerald Family's business or operations, Emerald Family will be responsive and diligent in addressing these concerns.

Emerald Family will also support other cannabis farms and related businesses in Humboldt County, by assisting them with compliance issues, sales and distribution, environmental solutions, and in other areas.

To ensure compliance with all local and state regulations around cannabis production, Emerald Family will run a transparent organization that communicates openly and

honestly with local and state regulatory agencies. The company will continue to work with local officials and community leaders to address some of the negative side effects that cannabis cultivation has created over the years in Humboldt County.

In order to preserve and protect the natural environment, Emerald Family will strive to be exemplary example of ecological stewardship. Emerald Family is committed to leveraging best-practice agricultural science throughout the entire growth cycle, and will train all of its employees on how to ensure these practices in all of its operations.

Emerald Family believes that the more people who can see its operations and business culture, the better. Through transparency and a continuous flow of information, Emerald Family will demonstrate that it is thinking holistically about business decisions and how those decisions impact the greater good.

c) Cultivation and Manufacturing Operations

Upon local and county licensing approval in 2 phases, Emerald Family plans to build a 3-acre outdoor garden (phase I), 8 customized 20,000 sq. ft. greenhouses (160K sq ft mixed light) and 20,000 sq ft. indoor commercial nursery facility on its Willow Creek site on Flower McNeil Road. The facility is being designed and built (in phase II) with 60,000 sq ft of indoor to be leased to other licensees. The Indoor Building and the Distribution Building will be built later phase II of the project and will be separate permits that are applied for later featuring state of the art technology with forward-looking green practices. Security and safety are critical components of Emerald Family's operations, and Omni Security Services will design and implement customized security plans for the Willow Creek complex.

Through a proprietary cultivation model, Emerald Family will implement the best business practices and technological processes to provide the highest quality cannabis products with the greatest affordability, while minimizing risks to employees, core operations, and the community. In the planning of its business and cultivation operations, Emerald Family identified five fundamental challenges faced by all medical cannabis businesses: Quality, Variety, Security, Abundance, and Cost. Emerald Family has developed strategies that provide realistic solutions to these challenges.

- Use of natural light, proprietary nutrient blends, and optimal cultivation practices will work together to guarantee a superior product. (Quality)
- Emerald Family's cultivar selection will undergo constant review and refinement in order to produce an optimal variety of medical cannabis cultivars that adequately meet the needs of California's patients. (Variety)
- Emerald Family will develop and implement detailed quality control policies and procedures, and along with Omni Security will maintain a stringent security program.

(Security)

- The deployment of sustainable agricultural practices will drive growth and revenues for years to come. (Abundance)
- The company will focus on a disciplined Cost of Goods Sold (COGS) business model. (Cost)

d) Cultivation Standards

Emerald Family's goal is to create an advanced cultivation, processing and manufacturing complex that will serve the patient population in California using industry best practices and natural energy from the sun to create the highest quality cannabis plants possible. The cannabis will be grown using a proven, successful and perpetual greenhouse cultivation system using all organic and "Clean Green" certified operations.

Emerald Family has designed its cultivation center and manufacturing processes to set the medical cannabis industry standard by incorporating decades of best practices from commercial greenhouse agriculture and using sustainable cultivation methods that take advantage of Humboldt County's unique natural resources and environment. Healthy and vibrant plants yield higher quality products, and the more effective Emerald Family is in cultivating high-yielding and fast-growing plants, the more affordable products will be for patients.

The success of an annual crop is determined largely in part by cultivar selection and plant genetics. While certain cultivars may thrive under the intense heat, direct sunlight, and base soil that is typical of Northern California, these very same cultivars may fail when grown in other parts of the state. Emerald Family's combined experience selecting, crossbreeding, and cultivating cultivars of cannabis that flourish in Humboldt County conditions is arguably unrivaled.

Quality & Consistency

To ensure the safety of its products, all of Emerald Family's cannabis will be cultivated in secure environments with rigorous quality assurance and quality control protocols along every step of the growth cycle. The company will employ detailed Standard Operating Procedures (SOPs) to train staff in all of its cultivation procedures and techniques, and will not compromise on quality -- Emerald Family understands that the market will reward premium organic flowers and extracts. After all, there is no better place on earth to produce these products than in Humboldt County, which will be featured prominently in Emerald Family's marketing materials.

Breeding and Propagation

Emerald Family will invest in plant genetics research to create stable breeds developed for the most efficient production of the company's cultivars. The company's cultivation research team has expertise in cannabis genetics and plant biology and will develop cultivars targeted for patients' needs, and tailored to specific forms of extraction and manufacturing.

Emerald Family will use a craftsman's approach to nurturing its growing medium and the beneficial probiotic bacteria contained within. In doing so, the environment will be conducive to the production of a cornucopia of cannabinoid and terpene profiles that will not only produce superior aesthetics and taste, but greater healing properties as well.

When its facilities are fully operational, Emerald Family's team will have the capacity to perform tissue cultures and retain a large catalog of cultivars without expending the energy and resources required to maintain mother stock. Tissue culture can also be effective in eradicating plant disease. Through these methods, Emerald Family will have a unique seed bank to create cultivars that are disease resistant with original genetics.

e) Environmental Standards

Sustainable business solutions are difficult to achieve in a non-regulated environment. Technology and sustainable growth can be very limiting to the majority of cultivators in California. The importance of sustainable resources and reduced environmental impact is also a very high concern in the state.

Emerald Family has designed its production process and business operations with an emphasis on environmental, economical and medicinal sustainability. Focusing on these areas will help to ensure the longevity and consistency of high quality cannabis production.

Because the state is prone to severe drought, Emerald Family takes seriously its responsibility to use only the absolute best management and production practices. Only by acknowledging and being made aware of the potential harm and impact that the cultivation of medical cannabis may have on the topography of the state, can the appropriate measures be taken to ensure environmental sustainability.

Emerald Family's Cultivation Facility will operate with significantly less energy consumption than the medical cannabis industry standard by using sunlight power in greenhouse facilities in conjunction with energy-efficient lights. This will allow Emerald Family to be sustainable from both an ecological and a financial standpoint. Emerald

Family is also prepared to purchase carbon offsets for power that is not derived from renewable sources.

By maintaining a lower cost of production than other cultivators, Emerald Family will be able to sustain an overall competitive edge while reducing its environmental impact.

Clean Green

Emerald Family has already received a certification from the Clean Green program, which is comprised of three parts: a legal compliance review, a review of the manner in which the medicine is grown, and a standard agricultural crop inspection. Taken together, the program helps to ensure our legal compliance as well as distinguishing the quality of the product from others available to qualified patients and soon, customers. The program reduces the environmental impact of cannabis crops, ensures state and local compliance, and regulates the chemicals used on ingested medicine.

As a certified operation, Emerald Family is licensed to use the Clean Green Certified label on products. Continued use of this label requires an annual review including on-site inspection and third-party laboratory testing.

f) Legal Compliance

Since Proposition 215 passed in 1996, California growers have been operating in a legal grey area that has created confusion across the state. Each municipality has its own regulations. While a unified state regulatory licensing structure is currently in the works, local governments will still have the power to regulate, restrict or ban cannabis operations in their municipalities. Retaining an attorney familiar with state and local cannabis law will be critical to setting up a compliant company.

The state intends to begin licensing cannabis businesses in 2018, and Emerald Family intends to do everything possible in advance to prepare for this licensing process. This begins with local permits and licensing.

At the state level, the Medical Cannabis Regulation and Safety Act consists of three separate bills that were enacted together on Oct. 9, 2015. The bill creates a comprehensive state licensing system for the commercial cultivation, manufacture, retail sale, transport, distribution, delivery, and testing of medical cannabis. Commercial cannabis operations will require both a state license and a license, permit, or other authorization from a local government.

Banking and Taxation

FDIC insured banks are not likely to work with cultivators until cannabis is legal on the federal level. More and more companies are coming out with banking solutions and

credit unions are starting to work with cannabis businesses. However, financing and loans are not available to cannabis businesses, and businesses operate mostly in cash as opposed to other forms of money transfer and management. Emerald Family has been researching banking options, and will have a banking solution in place when its operations ensue.

Tax regulation is difficult to navigate for California cultivators and Emerald Family will obtain a knowledgeable tax accountant who is familiar with local and state taxes to ensure that the correct payments are made in a timely fashion. Section 280E of the Federal Income Tax Code makes it difficult to operate a cannabis-based business, as operators cannot write off their business operations. Section 280E prevents cannabis producers, processors and retailers from deducting expenses from their income, except for those considered a Cost of Goods Sold (COGS). As a consequence, cannabis businesses are required to determine what expenses are included in COGS and, therefore, what expenses are deductible.

Emerald Family will continue to work with Fiona Ma and the Board of Equalization in order to find banking solutions for cannabis businesses in California.

Tracking, Records and Lab Testing

If a product does not meet up to Emerald Family's high standards, or if a lab result indicates a defect with the product, our recall process will ensure that all products from the same production run can be quickly identified. All active ingredients will be traceable from seed, to plant, to extraction, to compounding, to dispensary. Emerald Family LLC is the group participating in the county's new pilot track and trace SICPA program.

All data will be properly, accurately, and completely entered in the SICPA inventory control system. The director of each operating unit will ensure that if the inventory control system is not functional for any reason that all entries are recorded manually entered into the system as soon as it is available. All records will be kept for at least five years after the batch has been distributed.

Data collection will be compliant with all Emerald Family policies and procedures, state and local laws and regulations, and will include for official and internal tracking purposes the names, initials, or employee identification numbers of the individuals who processed, extracted packaged, and labeled the medical cannabis.

Each batch of Emerald Family's cannabis flowers and extracts will go through a full spectrum analysis to ensure that the medicine is free of pesticides and does not contain a harmful level of microbiological mold spores. Each batch will also have a full terpene and potency analysis.

In order to assist with product tracking, Emerald Family will continue its work with the county and SICPA, which partnered with the State of California Board of Equalization to build a tax stamp platform for cigarettes. SICPA is currently considering Humboldt County as a pilot program for the cannabis industry.

g) Sales and Marketing

Emerald Family is privileged to be located in the world's most unique and ideal environment for cannabis cultivation, and the company's marketing materials will emphasize the Humboldt County brand alongside its own.

In the past, Emerald Family cultivators have developed entirely new cannabis cultivars, including Yeti and White Yeti, and have won awards that recognize their advanced cultivation and processing skills. With its current team of highly skilled farmers, Emerald Family is poised to be a leader in high quality cannabis cultivation and product development for years to come.

Product Development and Distribution

High quality product development is key to any brand, and cannabis products vary widely in their strength, taste, medical effectiveness and other properties. Cannabis extraction and edible products are becoming an important and lucrative part of the cannabis industry in California. Emerald Family will be diligent in researching the market for medical cannabis and will have ongoing dialogue with dispensaries throughout the state to evaluate market demands.

Emerald Family will be leasing out one of their small buildings to a licensed distributor yet to be identified.

Emerald Family will also partner with innovative lighting manufacturers, fertilizer formulations, and equipment designers to provide controlled facilities that will support advancements in cultivation technology. Emerald Family's innovative approach to cannabis cultivation will allow the organization to offer exceptional quality medical cannabis and extracts on a consistent, perpetual basis to its distributors and retail outlets. This will translate to overall cost savings for the California patient population, and will position Emerald Family for market success.

Targeted Cultivars and Therapies

Many California citizens suffer from debilitating medical conditions or experience severe side effects from conventional medical therapies. Due to evidence-based medical research, cannabis products are now widely accepted in the medical community as an optimal treatment option for many conditions that conventional medicine cannot treat effectively. Medical cannabis can be an effective form of alternative therapy for patients

suffering from a variety of debilitating conditions, from arthritis to glaucoma, and can improve quality of life for many of them.

In order to help patients, find new ways to make life with serious medical conditions livable through alternative therapies such as medical cannabis, physicians must be as informed about a patient's options as they would with traditional medication. To strengthen the knowledge base around medical cannabis treatment and provide effective, targeted care for patients, Emerald Family will communicate with physicians and dispensaries on effective treatment options for various chronic conditions. Emerald Family will support the medical community in California in supplying patients with the most effective medications. By soliciting feedback from the medical community about their patient populations, Emerald Family will be able to tailor cultivars to target specific illnesses and conditions.

Emerald Family will be able to supply a consistent and diverse range of high quality medical-grade cannabis to accommodate and target the qualifying conditions and symptoms of patients.

Emerald Family will crossbreed and cultivate proprietary cultivars of medical cannabis that may provide relief from the most popular conditions that qualify to receive treatment with medical cannabis.

Ryan McIntosh, Emerald Family's Director of Cultivation, has a thorough understanding of plant anatomy, physiology, and cannabinoid profiling and will direct Emerald Family's cannabis cultivation to meet the actual needs and demands of the patient population. He will also instruct employees in the science behind the company's cultivation model and the curative properties of the various cannabis cultivars that will be cultivated.

h) Management Team

Emerald Family has assembled a versatile and skilled management team that will provide a strong foundation for the company's success as it moves forward in a legal, regulated business environment. The company's directors are all Humboldt residents who have a deep appreciation for the natural environment in Humboldt County, and are dedicated to preserving and enhancing it for future generations.

Emerald Family will demonstrate its dedication to local communities by offering well-paid job opportunities and training in specialized skill areas that will help employees build careers in the cannabis industry. To consistently produce top quality cannabis flowers and concentrates for the medical market in California, Emerald Family expects to hire a maximum of 65 employees in the first year of operations.

With specialists in all areas of cultivation, processing, manufacturing, production, sales and marketing, Emerald Family will be able to effectively manage and train the staff in all facets of the company's operations.

In addition to the in-house management and staff, Emerald Family has relationships established with third-party organizations to provide specialized services and consulting in the areas of legal compliance, security, accounting, manufacturing, distribution, and technology support. These relationships will ensure that Emerald Family remains in compliance with local and state tax obligations, and new regulations and policies that pertain to the cannabis industry in California.

Patrick Murphy, Director of Operations

Patrick Murphy will serve as the Director of Operations of Emerald Family, and will handle the day-to-day operations of the business. As a longtime Willow Creek resident, Murphy spearheaded and organized meetings for Humboldt County farmers to discuss current and new policies regarding cannabis production in the area. His "Farmers for a Responsible Ordinance" meeting in 2015 was one such gathering, which featured local residents and representatives speaking on topics ranging from environmental impact to local and state regulations.

Isaiah O'Donnell, Director of Sales and Marketing

Isaiah O'Donnell is a 2nd generation Humboldt resident and farmer who grew up in Westhaven and Willow Creek and has worked a wide range of agricultural, construction, and tourism jobs in the county over the last 20 years. He is currently a co-owner and President of Northern Empire Organics and secured a national distribution deal for two large companies -- Vermitechnology and Southern Organic and Supply -- for high quality organic amendments and liquid concentrates. O'Donnell is a strong proponent and spokesperson for organic farming and environmental sustainability in Humboldt County. He is an executive board member of Humboldt Cannabis Business Alliance, a non-profit organization formed to promote the legal cannabis industry in Humboldt County and to promote businesses that benefit and rely on the cannabis community.

With Emerald Family, O'Donnell has led efforts to build relationships with medical dispensaries throughout the state, and has also secured a distribution agreement with River's Collective. Along with Patrick Murphy, O'Donnell has been a primary liaison with county and local officials involved in regulating the cannabis industry in Humboldt County. Isaiah O'Donnell served as a board member with California Cannabis Voice and was the policy co-chair with Patrick Murphy. Together they spearheaded the farmer compliance workshops throughout the county, including in Willow Creek, at a golf course owned by the group. He also created strong dialogue with state and local

agencies and helped open the doors for compliancy in the cannabis industry. He also facilitated some of the first meetings with the Department of Fish and Wildlife, Regional Water Board, and Cal Fire to discuss regulations in the cannabis industry.

Ryan McIntosh, Director of Cultivation

Ryan McIntosh is a master grower with more than a decade of experience cultivating indoor and outdoor cannabis crops. An outdoor horticultural specialist, he understands and is sensitive to the unique conditions presented by Humboldt County's climate, geography and wildlife, and at all times strives to promote the most sustainable, environmentally sound, and ecologically responsible farming practices. This requires adopting horticultural methods that are organic, salmon friendly, mindful of limited resources, and that contribute to fair-trade and labor practices.

McIntosh has been a licensed general and landscape contractor since 2004, and has expertise in water quality, pest management, erosion, irrigation, micro and macro biological diversity. He is well versed in crop management and yield optimization methodologies that are unique to cannabis sativa. Techniques such as super-cropping, topping, low-stress-training (LST), and proper pruning can increase the average yield of a single plant upwards of 15 percent. This efficiency translates directly to the natural environment, as less land, water, and resources are required to reach annual expectations for crop yield.

As a former indoor cultivation specialist, McIntosh is an expert in many types of hydroponic cultivation forms and continues to experiment with emerging methodologies. One of his primary roles at Emerald Family will be to assess the hydro-efficiency of various growing techniques to determine the most sustainable and ecologically friendly cultivation practices.

Don Hays, Director of Manufacturing

Don Hays will serve as the Director of Manufacturing for Emerald Family, and will be responsible for acquiring, building, and maintaining the equipment used in the processing and manufacturing operations. Hays has nearly 50 years of experience in construction, engineering, industrial science, and manufacturing, with an expertise in building and maintaining heavy machinery. He also has expertise in developing training materials and hands-on training techniques that will help Emerald Family maintain a safe and efficient production process.

Over the course of his career, Hays has custom-built homes, construction equipment and manufacturing machines, and his skills as a mechanic and tool & dye maker will be invaluable to the success of the company's operations. Some of his roles will include building custom machinery, testing and calibrating equipment, training the

manufacturing staff, and maintaining an efficient workflow between the cultivation and manufacturing realms.

Bill Keller (Omni Security Services), Director of Security

As the Director of Security, Bill Keller and Omni Security will design and manage security operations at Emerald Family's Willow Creek facility. He is currently in charge of transportation and site security for Emerald Family, and will continue to develop plans and strategies as needs arise. Mr. Keller has more than 20 years of experience in law enforcement as a Sheriff's deputy, where he led investigations, conducted SWAT raids, and regularly patrolled rural areas. He was a special operations agent in the military, and is a trained tactical paramedic and registered nurse. As a security agent, Mr. Keller has also directed security at major concerts and sporting events across the U.S. His skill sets and training capabilities include: firearms basics, techniques and safety; legal and responsible use of force; covert techniques of threat assessment and risk education.

Omni Security Services will provide additional support as needed for Emerald Family. The company specializes in fixed site security, transportation security, special event security, guard services, and executive protection. All of its agents are trained and managed by current law enforcement, and are rigorously screened and tested. The company's physical and educational requirements exceed those of most state, local and federal law enforcement agencies.

Lance Rogers, Director of Compliance

Lance Rogers is Senior Counsel for the Cannabis Business and Criminal Defense Divisions of Bremer Whyte Brown & O'Meara LLP. Admitted to the California State Bar in 2008, Mr. Rogers has quickly become one of the country's leading authorities on cannabis law. As a part of his unique practice area, he has handled a wide array of litigation matters including criminal defense, civil rights, asset forfeiture, land use, business disputes, unlawful detainment, and municipal zoning challenges. For those cases that cannot be resolved at the trial level, Mr. Rogers has handled appeals in both the state and federal appellate courts. In 2011, Mr. Rogers represented the first dispensary licensed by the County of San Diego. In 2014, he represented the first two licensed dispensaries in the City of San Diego.

Mr. Rogers has written extensively about the cannabis industry and is a frequent speaker at legal conferences across the United States. Mr. Rogers is a member of the San Diego County Bar Association, San Diego Criminal Defense Bar Association, Americans for Safe Access (ASA), National Organization for the Reform of Cannabis Laws (NORML), and Hemp Industries Association (HIA). From 2013-2014, Mr. Rogers served as

General Counsel for the California Cannabis Industry Association, a state industry group he helped to form.

Emerald Family will also employ professional advising and consulting services from third parties in Humboldt County and across the state. Access to the best and most well-rounded industry professionals can provide significant value to business operations.

Samuel Deyton, Soil Advisor

Samuel Deyton is a Certified Master Soil Consultant, with over 13 years of experience in the field. He is an expert in horticulture, arboriculture, irrigation systems, soil amendment practices, composting techniques and soil fertility management. Deyton is a Certified Soil Foodweb Advisor, and a member of the US Composting Council and holds a USCC Compost Operations Certificate.

Deyton founded Soilscape Solutions to provide farmers with the highest quality organic amendments and sustainable soil management resources. Soilscape Solutions is a Clean Green Certified business. Since 2012, Soilscape Solutions specializes in precision soil analysis, biological profile assessments, soil amendment formulation, soil amendment blending services, superior tea grade compost as well as biological inputs and processes to build healthy soil habitats. Deyton works with Emerald Family Farm to provide complete soil fertility management programs and employing amendment applications to ensure efficient uptake of nutrients.

Appendix B: Environmental Protection Plan

Emerald Family is dedicated to cultivating cannabis in a sustainable way that minimizes impact on the environment. Emerald Family's dedication to attaining Clean Green Certification is a measure of Emerald Family's environmental commitment.

Emerald Family's Environmental Protection Plan covers the following areas:

- Water usage
 - Source
 - Storage
 - Conservation and use
 - Irrigation plan
 - Projected use
 - Quality monitoring and maintenance
- Drainage, runoff and erosion control
- Watershed and habitat protection
 - Power consumption and noise pollution
 - Light pollution and spillage

In addition, Emerald Family commits to establishing carbon neutral practices. The Director of Cultivation will establish input-output plans for energy requirements. Emerald Family is prepared to purchase carbon offsets for power that is not derived from renewable sources. Energy-saving practices, buildings, and machinery will be implemented throughout the Willow Creek site, and the company will invest in solar technologies and explore the use of hydroelectric power at the site. Emerald Family will recycle organic wastes and inorganic material as allowed by law.

a) Clean Green Certification

Clean Green certification encompasses many of Emerald Family's commitments to minimizing environmental impact. The certification program was started by Chris Van Hook, a medical cannabis compliance attorney, at the request of many in the cannabis industry who wanted to have a shared standard for clean and safe cannabis. Clean Green certification is a way to distinguish quality farmers with a label that stands for legal compliance, consumer quality, and environmental stewardship.

Modeled on existing national and international agricultural standards, Clean Green Certified includes annual site inspections and third-party laboratory testing; standards

covering seed or clone selection, soil, nutrients, pesticides and mold treatments; dust control; source of electricity; and harvesting and processing methods. The program reduces the environmental impact of cannabis crops, ensures legality, and regulates the chemicals that go into a consumable product.

Clean Green certification includes:

1. Legal compliance: Applicants openly and confidentially speak with compliance attorneys.
2. Plant cultivation methods: Applicants describe all inputs and methods used in cultivation, which is then verified by an inspector.
3. Agricultural inspection: Inspectors inspect growing plants and their overall health, as well as the cleanliness of the processing and storage spaces. Inspectors send samples to qualified laboratories to test for pesticide residues and other contaminants.

b) Water usage

Per the North Coast Regional Water Quality Control Board Order No. 2015-0023 requirements (henceforth NCRWQCB), Emerald Family acknowledges responsibility for water resource and water quality impacts associated with the occupancy of and activities on the Willow Creek site.

Emerald Family will self-certify as a Tier 2 Discharger per NCRWQCB Order No. R1-2015-0023 Appendix C, indicating that the site meets Tier 2 characteristics and standard conditions, and both submit and retain a copy of the self-certification and the Order on-site. Emerald Family will facilitate any NCRWQCB inspections required to assess compliance with these conditions.

The Willow Creek site falls within the Tier 2 characteristics for the NCRWQCB, meaning the site has some risk to water quality and discharge based on the slope, proximity to water, and scale of the operation.

As a Tier 2 Discharger, EFF will use the existing water infrastructure through the Willow Creek Community Services District. They will purchase water for the 1st year to get a scope on our water usage before doing their storage pond build out. Phase 2- will be the pond build out to scale based on the data of the previous year.

Emerald Family will establish appropriate controls for the following activities:

- Maintenance of developed areas and drainage features.

- Stream crossing maintenance and improvement, including culvert sizing and installation, non-culverted stream crossing installation, culvert cleaning, culvert improvement and repair, and culvert and non-culverted stream crossing replacement.
- Activities within and adjacent to wetlands and riparian zones.
- Spoil storage and disposal.
- Water storage, and use.
- Irrigation runoff from cannabis cultivation and other similar growing operations.
- Fertilizer, soil amendments, petroleum products, biodiesel, and pesticide/herbicide/rodenticide storage, use, and waste disposal.
- Waste handling and disposal, including empty soil/soil amendment/fertilizer/pesticide bags and containers, empty plant pots or containers, dead or harvested plant waste, spent growth medium, and other cultivation-associated wastes.
- Household refuse, human waste and domestic wastewater.
- Site remediation/cleanup/restoration activities including, but not limited to removal of fill from watercourses, stream restoration, riparian vegetation planting and maintenance, soil stabilization, erosion control, upgrading stream crossings, road out sloping and rolling dip installation where safe and suitable, installing or maintaining water bars, ditch relief culverts and overside drains, removing berms, stabilizing unstable areas, reshaping cutbanks, and rocking native-surfaced roads.

In particular, Emerald Family commits to mitigate water quality impacts from these activities associated with erosion, sediment delivery, changes to the riverbank, and any chemical or pollutant discharges.

Per the NCRWQCB, Emerald Family will file any appropriate Reports of Water Discharge.

Overall, Emerald Family's water plan will:

- Implement Best Management Practices to avoid sediment and other waste discharges, as provided in NCRWQCB Appendix B
- Implement and monitor for effectiveness the BMPs and document the results
- Protect and maintain riparian (riverbank) conditions and shade
- Conserve water and implement measures to ensure water uses do not unreasonably impact beneficial uses
- Establish ongoing education and outreach for all personnel on-site

Emerald Family also commits to abide by any required enforcement response that may occur upon discovery of a water quality violation or impact. Emerald Family will update

the Environmental Protection Plan and any related standard operating procedures to ensure future compliance, and will fulfill any requirements, which may include: cleaning up conditions, restoring impacted watercourses, removing and properly disposing of waste earthen material or other wastes, repairing or removing stream crossings, upgrading roads, improving site drainage, and/or stabilizing bare/erodible soils.

Water source

All water used by Emerald Family to produce cannabis will be used, stored, and conserved in a manner that is compliant with the California Water Code and all local Humboldt County regulations.

Water storage

Per NCRWQCB, the size and scope of the water storage shall be such that the amount of water used shall not adversely impact water quality and/or beneficial uses.

Emerald Family will apply for appropriate permitting for any on-site water storage from the Humboldt County Building Inspection Division if required.

Water conservation and use

Emerald Family is committed to responsible water use, including providing ample water storage and utilizing water conservation techniques for irrigation. Working closely with the State Water Resources Control Board (SWRCB) and the Department of Fish and Wildlife (DFW), Emerald Family has developed (for phase II build out) a conceptual water diversion works and storage facilities plan that minimizes adverse effects to the watershed and wildlife habitat. Emerald Family will use best practices for water conservation, which will include a combination of the following practices:

Emerald Family will use best practices for water conservation. This will include a combination of the following practices:

- Drip irrigation
 - By delivering water directly to plant roots, Emerald Family reduces evaporation and water loss relative to spray watering systems.
- Irrigation scheduling
 - Emerald Family cultivation agents will monitor soil and plant moisture, and adapt the irrigation schedule to minimize overwatering.
- Capturing and storing water
 - Emerald Family will rely primarily on the on-site rainwater catchment pond, designed to capture and store rainfall for use throughout the year. However they will use city water as needed for peak periods.
- Growing organically

- Organic methods have been shown to help retain soil moisture, and even to recharge groundwater supplies.
- Growing in pots
 - Using indoor trays reduces cannabis plant water requirements by nearly half.

At no time will water be applied faster than agronomic rates, which are defined as the rate that a plant needs to enhance its productivity and provide the forage growth with nutrients for optimum health and growth, without having excess water beyond the root zone.

Water Rights and Diversion

All irrigation for cultivation and domestic water uses including the incidentals to the industrial uses, (i.e. drinking water, hand-washing, showers and toilets, for example) will be provided by the Willow Creek Community Services District. Imported water from an approved water distributor will only be used in emergencies, as defined by the CMMLOU §55.4.11(m).

Emerald Family will (in phase II) After the first year of cultivation and manufacturing operations will have the accurate data for the entire facility water uses and will at that time seek approval for the POD and water diversion works, including the storage pond, through a Lake or Streambed Alteration (LSA) Notification process.

Once all project approvals are in place, Emerald Family will register with the North Coast Regional Water Quality Control Board's Cannabis Cultivation Regulatory Discharge Program, Order No. R1-2015-0023 (Order) as Emerald Family is cultivating over 2,000 sqft of medical cannabis. The Order provides standard conditions to protect water quality in conjunction with best management practices to provide a framework for cultivators to assess their sites for appropriate tiers and determine what management measures are necessary to protect water quality. The Order requires IBFF implement a Water Resources Protection Plan (WRPP) that includes monitoring and reporting for the following activities associated with commercial medical cannabis production:

- Site maintenance, erosion control and drainage features
- Stream crossing maintenance and improvement
- Stream and wetland buffers
- Spoils management
- Water storage and use
- Irrigation runoff
- Fertilizers and soil amendments
- Pesticides

- Petroleum products and other chemicals
- Cultivation-related wastes
- Refuse and human waste, and remediation, cleanup, and restoration activities

Because the Project is located within the footprint of an existing heavy industrial site, no conversion of timber is necessary.

Projected use

- The Willow Creek facility will be home to Outdoor Cultivation: 3 acres
- 8 Mixed light greenhouses: 20,000 sq ft. each
- One 20,000 sq ft. Indoor Commercial Nursery (MCRSA Type 4)
- Processing facility: 23,000 sq. ft. (MCRSA Type 7 non-volatile)
- Manufacturing facility: 17,500 sq. ft. which will fall under (MCRSA Type 6) for volatile solvents.

Emerald Family estimates that the project will average a yield of 30,000 pounds of dried cannabis per year when fully operational.

Based on Emerald Grower Association cultivator estimates and Emerald Family experience, each pound of dried cannabis requires approximately 100 gallons of water to produce. Using this estimate, the annual water usage at the facility will be approximately 3,000,000 gallons.

Additional water will be required for supporting other on-site requirements, such as drinking water, restrooms and hand washing stations. Water quality monitoring and maintenance

All employees will be trained on the proper handling and storage of water with a focus on avoiding contamination. Water and nutrient solutions will not sit in the open environment for longer than four hours. If agitation and aeration pumps are used in holding containers it may sit in the open environment for no longer than 1 week.

All supplemental nutrients to be utilized will be in accordance with Salmon Safe, Clean Green, the local applicable laws and state regulations and in accordance with the manufacturer's recommendations.

All water equipment including nozzles and hoses will be sanitized regularly. Only highly trained employees will be responsible for irrigation. Cannabis has a low crop coefficient and will typically require approximately five gallons per 45 square feet.

Plants will be grouped by cultivars for watering efficiency.

Irrigation equipment will be professionally maintained per the manufacturer's recommendations. Any parts that may be a source of contamination or leakage will be cleaned and replaced as often as needed.

Employees will check for signs of water quality changes or water leakage daily.

All watering activities, including water source, water volume, which plants, and when will be documented daily.

Emerald Family will further maintain its Tier 2 Discharge responsibilities with the NCRWQCB, including re-certifying the Tier 2 characteristics and standard conditions on an annual basis.

c) Drainage, runoff and erosion control

Drainage, runoff and erosion control design and implementation measures will be designed to ensure minimal water quality impacts and long-term stability. Any grading and earthwork activities will be conducted by a licensed contractor in accordance with approved grading and drainage and WRPP.

Maintenance and repair strategies for site development and road improvements will utilize best management practices to maintain site integrity. Cultivation sites will be developed in accordance with NCRWQCB's best management practices for site development to ensure erosion control measures are effective to not allow discharges to streams.

Emerald Family's environmental consulting agency, Streamline Consulting, will develop a detailed drainage, runoff and erosion control plan. Emerald Family has selected a site where erosion control requirements should be minimal as the parcel is relatively flat.

In addition, Emerald Family will implement the above water conservation measures, as well as irrigating and applying fertilizers at agronomic rates, limiting chemical applications to label specifications, and maintaining stable soil and growth media. These practices should serve to minimize the amount of runoff as well as the concentration of chemicals in the water.

Emerald Family will work with Manhard and Streamline Consulting to establish permaculture measures to treat/control/contain the runoff to minimize the pollutant loads in any irrigation discharge. No fertilizers, fine sediment, or other related materials, will be discharged to nearby watercourses.

Per the NCRWQCB, Emerald Family will acquire appropriate permitting for any discharges of waste associated with the development of the Willow Creek site. This

includes coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

To the extent that the site includes characteristics such as steep slopes, highly erodible soils, or unstable areas, Emerald Family commits to working with an appropriate California-licensed individual during construction to ensure constructed features on the site are stable and do not represent a threat to the beneficial uses of water or public health and safety.

d) Watershed and habitat protection

The Willow Creek site is located next to the Trinity River, which is recognized as part of the National Wild and Scenic River System. As such, Emerald Family is particularly sensitive to potential ecological impacts. Emerald Family will pay special attention to avoid causing any disturbance to local surface water habitats or the natural wild life. In particular, provisions will be taken to ensure the viability of the local habitat to ensure the future livelihood and sustainability of:

- The Spotted Owl
- The Pacific Fisher
- California King & Coho Salmon
- California steelhead

Power consumption and noise compliance

Emerald Family will draw power from a generator only when power from the grid is unavailable. When in operation, the generator(s) will not produce noise that is audible to humans from a neighboring residence and will at all times remain below 60 decibels of volume. Because the Trinity River is recognized as National Wild and Scenic River, Emerald Family will at no times engage in any production activities that result in an increase of 25-decibels of volume over the natural, ambient nesting sound level.

This is in particular intended to prevent harassment of Marbled Murrelet or Spotted Owl species.

Emerald Family will work with environmental consultants to evaluate the auditory disturbance and ensure compliance with guidance prepared by the United States Fish and Wildlife Service, and will consult with them as required to protect this important habitat.

Light Pollution and Spillage

Mixed-light greenhouses used by Emerald Family for the cultivation of cannabis will be built to specifications that comply with Humboldt County 313-55.4.11 (t) and (u).

This includes ensuring that very little, if any, light escapes, minimizing any impact to the surrounding habitat. No light emitted by any of Emerald Family's mixed-light greenhouses will be visible from any neighboring property between sunset and sunrise.

All light sources used in the production of cannabis in Emerald Family's mixed-light greenhouses will comply with International Dark Sky Association standards for Lighting Zone 0 and Lighting Zone 1, and will be designed to regulate light spillage onto neighboring properties resulting from backlight, uplight, or glare. Emerald Family acknowledges and understands that all complaints regarding light spillage must be addressed within 10 working days of receiving written notification of such a violation.

Appendix C: Hazardous Materials Plan

As an agricultural operation, Emerald Family will need to use some hazardous materials, including fertilizers, pesticides, and other regulated products.

Emerald Family acknowledges that the Humboldt County Environmental Health Division, which administers the Hazardous Materials program as one of the Certified Unified Program Agencies (CUPA), regulates hazardous materials and wastes from agricultural businesses. Emerald Family will follow all appropriate requirements under the Hazardous Materials program.

This includes the application, inspection, enforcement, and reporting under the program requirements and standards set by the California Environmental Protection Agency (CalEPA).

When using pesticide products, Emerald Family shall be in compliance with State pesticide laws, and regulations enforced by the County Agricultural Commissioner's Office and the California Department of Pesticide Regulation.

Emerald Family has established protocols governing the use and storage of these hazardous materials.

e) Using hazardous materials

While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

While transferring, treating, storing or disposing of ignitable or reactive waste or fuels, Emerald Family employees shall take precautions to prevent reactions which:

- Generate extreme heat or pressure, fire or explosions, or violent reactions
- Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment
- Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions
- Damage the structural integrity of the device or facility
- Through other similar means threaten human health or the environment

Emerald Family shall document standard operating procedures for these materials and enforce compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests, and case note documentation.

Fertilizers and soil amendments shall be applied and used per packaging instructions and/or at proper agronomic rates (the rates of fertilizer and irrigation water that a plant needs to enhance soil productivity and provide the crop or forage growth with needed nutrients for optimum health and growth, without having any excess water or nutrient percolate beyond the root zone).

Chemical clean up

Each employee involved in any chemical process will be specifically trained on handling practices, as well as required responses in the event of a spill or mishap. A designated supervisor will be responsible for ensuring any chemical cleanup follows protocol, and recording all steps taken. A log of any cleanup, scheduled or unscheduled, is kept at all times on record. The chemical cleanup procedure includes:

- Use of hazard grade Personal Protection Equipment according to the specific requirements of the hazardous material including:
 - Rubber gloves
 - Rubber boots
 - Glasses or eye protectant
 - Ear protectant
 - Apron or skin protector
 - Air filter face mask, chemical spill UL grade filter
 - Proper wash and storage are of PPE materials
- Disposal of all chemical and cleanup material will be conducted in compliance with materials safety data sheets and local and state regulations. Chemical bins and storage will be separate from all other material and handled accordingly.

f) Storing hazardous materials

All hazardous materials will be stored in locked storage areas designated solely for this purpose, built on a concrete slab foundation, and appropriately rated by the National Fire Protection Association. All such areas will be spark proof with proper ventilation systems to ensure safe handling of any potential leaks or build-up of gas.

Emerald Family shall maintain these areas so as to pose no threat of safety or quality to the facility, product, or employees. The temperature and humidity of the storage spaces shall be maintained at an appropriate level for the contents, and shall be monitored to ensure ranges are always within acceptable limits.

All storage areas will be restricted to logged and identified products. A documented logging system will ensure all materials are accounted for and properly stored in designated areas. Emerald Family will ensure periodic inspections, at least monthly, to ensure all materials are properly stored. All such inspections shall be documented. All records pertaining to hazardous materials shall be maintained for at least five years.

A separate designated area constructed to the same requirements will hold any rejected hazardous materials to ensure there will be no cross contamination or misuse.

Fertilizers, potting soils, compost, and other soils and soil amendments shall be stored in locations and in a manner in which they cannot enter or be transported into surface waters and such that nutrients or other pollutants cannot be leached into groundwater.

Petroleum products and other liquid chemicals, including but not limited to diesel, biodiesel, gasoline, and oils shall be stored so as to prevent their spillage, discharge, or seepage into receiving waters. Storage tanks and containers must be of suitable material and construction to be compatible with the substance(s) stored and conditions of storage such as pressure and temperature.

There will be a designated area specifically designated for volatile solvents such as the Butane volatile gas required for proposed manufacturing extraction. Emerald Family will maintain the correct amount of butane per sq ft to ensure compliance with state and local regulations.

There will also be a designated area specifically designed for CO₂ storage, including the following requirements:

- All compressed gas cylinders will be secured to a wall by sturdy chains and/or a cylinder stand, shall be legibly marked with at least the chemical name or commonly accepted name of contents, shall be grouped by type of gas and segregated by full and empty cylinders.
- Flammable gases shall be separated from nonflammable gases.
- Cylinders shall be stored out of direct sunlight and within the temperature range specified by the manufacturer.
- Cylinder valves shall be kept closed when not in use.
- Removable caps shall be kept on cylinders at all times, except when cylinders are in use.
- Cylinders shall be protected against tampering and damage.
- Safety glasses must be worn for all work involving compressed gas cylinders.

Each storage room shall be maintained with the materials safety data sheets (MSDS) appropriate to the contents of the room. All employees shall be trained for competency on how to read and understand these documents, which detail:

- Name of chemical
- Manufacturer's information
- Hazardous ingredients/identity information
- Physical/chemical characteristics
- Fire and explosion hazard data
- Reactivity data
- Health hazard data
- Precautions for safe handling and use
- Control measures

Duplicate copies of the MSDS shall be maintained in a separate location on-site, along with records of the locations of volatile or restricted substances.

Segregating ignitable or reactive materials

Emerald Family shall take precautions to prevent accidental ignition or reaction of ignitable or reactive stored fuels or waste. This waste shall be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat.

Appendix D: Cultivation Plan

a) Overview

Humboldt County Code 313-55.4.10 (d)

A cultivation and operations plan that meets or exceeds minimum legal standards for water storage, conservation and use; drainage, runoff and erosion control; watershed and habitat protection; and proper use and storage of fertilizers, pesticides, and other regulated products to be used on the parcel, and a description of cultivation activities (outdoor, indoor, mixed light), the approximate date(s) cannabis cultivation activities have been conducted on the parcel prior to the effective date of this ordinance, if applicable; and schedule of activities during each month of the growing and harvesting season. The operations plan shall also include a security plan describing measures to be taken to ensure the security of the medical cannabis and to safeguard against the diversion of medical cannabis for non-medical purposes, or access by minors.

Humboldt County is poised to be the epicenter of the cannabis farming industry, and Emerald Family intends to be at the forefront of setting the standards that will justify Humboldt's reputation for producing the world's finest cannabis.

Emerald Family will further the education, horticultural science, and medical relief of cannabis using organic methods, recyclable materials, and efficient energy and water usage.

The Emerald Family Director of Cultivation will be Ryan McIntosh, a master grower with more than a decade of experience crossbreeding and cultivating medical cannabis.

Description of cultivation activities

Humboldt county code does not set a cultivation limit for zoning MH/AG for this site.

Emerald Family will establish a Willow Creek location featuring 3-acre outdoor cultivation, eight 20,000 sq ft. mixed light greenhouses and one 4 story 100,000 sq ft. indoor facility with 1 floor of 20,000 sq ft dedicated to commercial nursery operations for EFLLC with the intent to lease out the separate floors for other licensees applying for state MMRSA licenses. This site will also feature a large processing and manufacturing facility, and additional buildings for support and ancillary services.

Emerald Family, Willow Creek site overview:

- Outdoor Cultivation: 3 acres

- 8 Mixed light greenhouses: 20,000 sq ft. each
- Indoor facility with 20,000 sq ft. Indoor Nursery (MMRSA Type 4)
- Processing and manufacturing facility 23,000 sq ft and 17,500 sq ft (MMRSA Type 6, and Type 7 using volatile solvents)
- Facilities for distribution, administration, training, parking, and security.

Emerald Family will use proprietary methods to enable a perpetual harvest, in order to mass-produce the highest quality cannabis plants with selected genetic profiles.

Emerald Family estimates the greenhouse will average a yield of 30,000 pounds of dried cannabis per year when fully operational.

Prior cannabis cultivation dates

The Willow Creek site has not previously been used for commercial cannabis cultivation.

Schedule of activities by month

Emerald Family will have several growing chambers within the greenhouse. This will enable Emerald Family to operate with a perpetual harvesting cycle. For that reason, within the greenhouse all cultivation activities as described in this plan may take place on an ongoing basis.

A single cultivar in a single indoor or mixed light growing chamber will follow a 3-4 month cycle, with 3-4 weeks of vegetation and 8-10 weeks of flowering, depending on cultivar characteristics and batch growth.

Outdoor annual cultivation starts in February and finishes in October.

Cannabis recordkeeping In order to assist with product tracking, Emerald Family will continue its work with the county and SICPA, which partnered with the State of California Board of Equalization to build a tax stamp platform for cigarettes. SICPA has been running a track and trace pilot program in Humboldt County designed specifically for the cannabis industry. Emerald Family's relationship with SICPA goes back to the summer of 2015 when owners Patrick Murphy, Isaiah O'Donnell, and Ryan McIntosh were instrumental in bringing up members of the SICPA team and Board of Equalization for first-of-their-kind tours of Emerald Family working cannabis farms. Following these tours and further consultations from Emerald Family in regards to specific issues to the cannabis industry that would affect a county-wide track and trace program, Emerald Family helped connect SICPA with the Humboldt County Agricultural Commissioner, the Humboldt County Medical Marijuana Ad-Hoc Committee, and the Humboldt County Board of Supervisors themselves. This eventually led to the County authorizing the Agricultural Commissioner to conduct a track and trace pilot program with SICPA which would begin in March of 2016 and was later extended to end in February 2017. Emerald

Family sites were some of the first participants included in the County's track and trace program in 2016. Farms owned by Patrick Murphy and Ryan McIntosh are currently two of the farms still registered with the pilot program, and Emerald Family's processing facility is one of two processors/manufacturers enrolled in the pilot program as well. To date, of the roughly 22,000 trackable products that have moved through the County's track and trace program, Emerald Family's processing facility is responsible for 19,412 of those trackable products that are now all over the State of California as the first medical cannabis products to be in compliance with a county's tracking requirements to prevent diversion of product into the black market. With the State getting ready to come up with their own tracking and non-diversionary guidelines for cannabis, Humboldt County -- partnering with SICPA and companies like Emerald Family-- is setting the bar for the future of compliance-based tracking of cannabis product.

Description of Cultivation Plan components

The remainder of this Cultivation Plan adds considerable detail to the planned cultivation activities, including the following components:

- Cultivation Facilities: the planned features of the outdoor sites and greenhouse and indoor nursery facilities
- Cultivation Cycle: the processes that make up the cultivation lifecycle of the cannabis plant
- Cultivation Inputs: the required additives for optimal harvest
- Cannabis Disposal: the protocols for tracking and disposing of cannabis waste
- Cultivation Quality Assurance: the steps and sampling involved in cannabis cultivation quality checks
- Cultivation Monitoring and Recordkeeping: the minimum on-site records pertaining to cultivation
- Cultivation Training and Certification: the minimum training and certification employees and the facility intend to attain

b) Cultivation Facilities

Emerald Family's Willow Creek location will be home to 3 acres of outdoor cultivation, eight 20K mixed light greenhouses, and one 20,000 sq ft indoor nursery and additional facilities. This section will describe the features of the cultivation-specific areas: outdoor, greenhouse, indoor nursery cultivation and cannabis storage.

Outdoor features

Emerald Family plans to establish 2 acres of outdoor cultivation. Emerald Family's outdoor cultivation areas will follow industry standard best practices. With *top feed agronomic irrigation* that will not create any discharge or wasted water.

Emerald Family will follow a Smart Pot-based system as follows:

Using 100-200 gallon fabric 'smart pots'

- Filled with preferred live soils
- Top feed irrigation lines to root zone

The field will have two water tanks linked to the TOP FEED irrigation lines. The first larger tank will supply water to the lines. The second smaller tank will be used to mix nutrients for the plants. Cultivation agents will follow best practices developed by Emerald Family's master cultivators for specific cannabis cultivars to determine the correct ratio of nutrients at each plant stage.

Greenhouse features

As described below, Emerald Family's greenhouse will be state of the art, designed to facilitate consistent, controllable and efficient cultivation. This greenhouse will feature:

- A closed-growing environment (CGE), isolating the interior from outside weather influence and minimizing energy expenditures
- Independent grow environments, sealing each grow chamber from each other to prevent transference of problems
- A central control system, monitoring the plant environment and nutrient supply and automating their adjustment for optimum growth
- A multi-feed irrigation system, controlled by the central system to deliver the optimal nutrient regime at any given time
- Co2 enrichment

Emerald Family's goal is a standardized zero-waste system integrating reusable eco/bio friendly inputs, supported by energy-efficient innovations.

CGE (Closed Growing Environment)

CGE refers to a closed loop system that keeps all environmental conditions contained within the greenhouse facility. By integrating this setup into the facility, Emerald Family has the ability to control the environment and replicate and intensify the high demands of reproducing and balancing nature indoors.

Because there are no air vents pushing air to the outside or vents pulling air into the monitored and designated rooms the chances of smell leaks or pest infestation are significantly reduced. The interior environment becomes more easily controlled from all environmental facets. As such, environmental conditions outside will have a limited effect, if any, on the interior of the facility. To achieve such a complete environmental control, all the airflows through a room where it is conditioned, filtered, and otherwise adjusted to meet strict air qualifications and requirements.

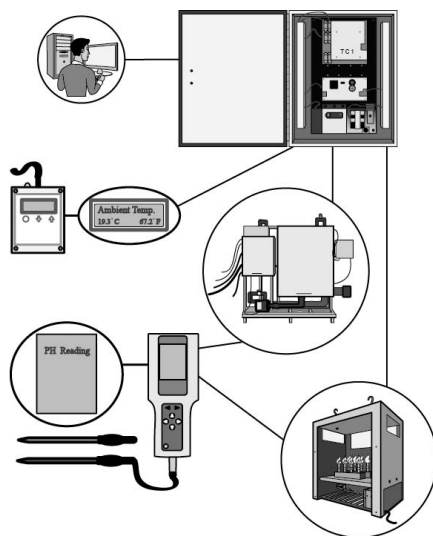
Independent Grow Environments

Emerald Family's **indoor** cultivation facility is divided into several sections designated for different stages in the cultivation. Each growing chamber of the facility is hermetically sealed from the other cultivation zone in the different cannabis plant cycles to maintain independent grow environments and protect each sector from any problems that can occur in an adjacent zone.

Central Control System

A central control system will be a core component of Emerald Family's production strategy. The central control system will provide complete management of the greenhouse and the production process and will be a core component of Emerald Family's production strategy. This technology will allow Emerald Family to maintain

automated management of the environmental conditions within the cultivation facility.



Trained cultivation agents will monitor the central control system 24 hours a day. It will have a back-up system in place ensuring that it remains operational everyday regardless of any computer failures or temporary power outages that may occasionally occur.

The Central control system can interface with almost any industrial or scientific measurement sensor, which will give Emerald Family the freedom to modify and expand control system functions as necessary.

The features and monitoring capabilities of the central control system will include:

- Advanced Climate Features
 - Define multiple climate set points throughout a (24) twenty-four hour period
 - Create multi-day schedules to manage time-critical activities throughout an entire crop cycle such as: Stratification; Germination; Dormancy; Flower breakage
- Precision Climate Monitoring
 - Full environmental control systems measurement
 - In-zone display of current climate conditions including temperature, humidity, PAR light, CO2
- Comprehensive control options for CO2 enrichment
 - Automatic operation of burners, liquid CO2 sources, and boiler stack recovery from central heating systems
 - CO2 has shown a 30-60 percent increase in yield
- Light and Photoperiod features
 - Complete control over supplementary lighting during propagation and for production under low light conditions
 - Lights can be operated by: Time, ambient conditions, or accumulated values (such as daily light integrals)
- Shade/Curtain Controls
 - Extensive shade and thermal curtain controls help save energy while managing temperatures, light, and humidity levels
 - Closing and reopening strategies are provided to deal with a range of external conditions based on light, time, temperature, or any other measurable parameters
 - Curtain operations are fully integrated with other activities such as heating, ventilation, snow load protection, and lighting
- Advanced Irrigation features
 - Unprecedented operator control and fine-tuning adjustments for managing substrate moisture during every phase of production
 - Watering rates will be at precise agronomic rates and can be influenced and varied by time of day, leachate volumes, weight scales, EC, accumulated light, and any other measurable criteria
 - Irrigation water temperatures can be controlled and control strategies are available for recapture, treatment, and recirculation
- Comprehensive Nutrient Control features

- Multi-Feed Nutrient Irrigation Systems are the most advanced fertilizer systems commercially available
- Nutrient levels can be adjusted throughout the day in response to changing conditions. All nutrient dosing is integrated with irrigation schedules and fully managed and monitored by the central control system
- Air and Root Zone Temperature Monitoring
 - Monitor and control critical air and root zone temperatures in propagation zones and holding areas. Temperatures can be recorded, summed and averaged over time for tracking chilling requirements, and dormancy
 - Recorded values can also be exported to tracking software
- Time-Weighted Control Influences features
 - Advanced time-weighted features such as DLI (daily light integrals) and ADT (average daily temperatures) to track and control the factors that influence crop health, stress, growth and moisture status
- Hot Water Features
 - Superior heat distribution and pipe temperature management for hot water heating systems, crop activation pipe temperatures, heat buffering, return temperature limiting, and more.
- Humidity and Vapor Pressure Deficit (VPD)
 - Provides precision monitoring of humidity and VPD and provides highly effective control strategies for reducing plant stress, aiding in nutrient transport and avoiding disease promoting condensation of trichomes on developing fruit and plant parts.
 - For example, if the central control system detects that the temperature of the greenhouse is less than the ideal operating temperature of (75) seventy-five degrees fahrenheit, it will direct the natural gas furnace supplying the radiant floor heating to turn on. The sensors will trigger to heat the grow area until the temperature of the Cultivation Center has been restored to ideal conditions.

Multi-feed Irrigation System

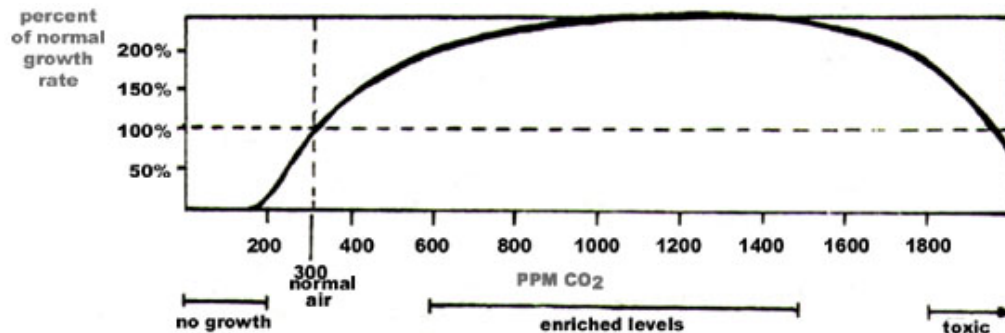
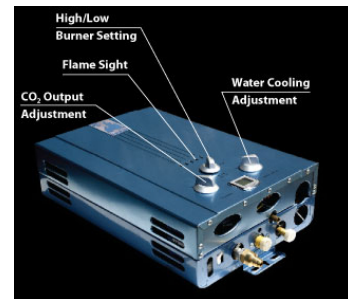
The greenhouse design will be optimized for required conduits and plumbing, in particular, the layout will be designed around irrigation lines that supply water and nutrients to the cannabis plants for optimum production. The array and layout of irrigation tubing will vary between the cultivation rooms and areas for each different stage of the plants' development.

Emerald Family will use an integrated nutrient multi-feed irrigation system to deliver the optimal nutrient regime for the growing cannabis plants. The system will be controlled using the central control system. Emerald Family master cultivators will pre-program this system with the ideal nutrient ratios at agronomic rates needed for each cannabis cultivar at each stage in its growth cycle. The control system will administer nutrients in these ratios, minimizing human error and time required.

This system will be equipped with tanks containing the essential macro and micronutrients needed throughout the cannabis plants' growth cycle.

CO2 Enrichment

Emerald Family will use CO2 generators to provide all plants within the cultivation rooms the appropriate amount of CO2. The hermetic seals on each room minimizes CO2 loss and enables accurate control and monitoring of the CO2 levels. Effectively controlling the burning of fuels is the most common and efficient method of CO2 enrichment for commercial buildings and greenhouses that are larger structures.



Emerald Family will burn propane or natural gas (see the Hazardous Materials Plan). These fuels burn with a blue, white or colorless flame that produces carbon dioxide. Studies demonstrate that CO2 enhancement can augment a harvest by 30 to 40%.

Cannabis storage

Emerald Family policies and procedures for product storage ensure all cannabis and cannabis products are stored in such a way as to maintain the safety and potency of the cannabis, through appropriate lighting, ventilation, temperature, humidity, and space. Emerald Family will appoint an Inventory Control Manager who is responsible for enforcing all protocols pertaining to storage, including the management of climate

control. Where appropriate or possible, this may be done through the central control system in the greenhouse buildings.

Emerald Family will maintain separate areas for storage of medical cannabis products that are outdated, damaged, deteriorated, mislabeled, or contaminated, or whose containers or packaging have been opened or breached, are identified and described.

Note that the security of cannabis storage is addressed separately in the Emerald Family Security Plan. Briefly, all areas, safes, or vaults storing cannabis or cannabis products shall be Limited Access Areas, at all times kept securely locked. Surveillance camera(s) will be pointed directly at storage areas with an unobstructed field of view.

Product Storage Environmental Control

Storage facilities will be designed and maintained to be dry, well-ventilated, and have sufficient insulation or other temperature-control features to avoid extreme temperature fluctuations. Emerald Family may incorporate a humidifier or de-humidifier, if needed. Storage areas will utilize and maintain carbon filtration or other means of odor control. Emerald Family will use large freezers to store fresh-frozen cannabis.

c) Cultivation Cycle

Emerald Family's cultivation process is described in two parts:

- Propagation
- Growing

All harvest and post-harvest procedures are covered separately in Emerald Family's Processing and Manufacturing Plan.

During all phases of cultivation, Emerald Family will keep meticulous records using a perpetual inventory management system. Emerald Family will thoroughly train all cultivation agents on Emerald Family's selected inventory management system. Records will accurately identify and record the seeds or vegetative planting stock as to genus and species, and to subspecies, variety, cultivar, and/or hybrid if applicable. Records will also track plants individually as they progress through phases of cultivation.

Emerald Family will designate a Director of Cultivation who will determine the mix of cultivars to be propagated and cultivated. The following items will be considered when determining cultivar selection:

- The availability of the cultivar
- Medicinal benefits
- Other cultivars currently in production
- Average yield
- Length of cultivation cycle
- Market demand
- Amount of plant material and quality available for extraction
- Difficulty of processing

Overview

Cultivation: Each growing space will be operated year-round, producing 5-6 annual harvests. Growing schedules, however, will be staggered by approximately 4-6 weeks creating a perpetual grow.

Propagation: Propagation of clones will occur in the Emerald Family nursery facility, which is in a separate space from the individual grow areas. The nursery will house various cultivars as "mother plants," from which cuttings will be taken, rooted, then planted into a Rockwool cube until ready to be placed into vegetation.

Irrigation: Each clone or cutting will be planted in a three-gallon "airpot" and grown in a PH inert, soilless medium that consists of coco-core fiber and perlite. Plants will be organized in trays, each one measuring 4' x 8' and containing a total of 16-18 plants each (depending on cultivar). Light for each tray will be provided by two double-ended, 1000-watt HPS light systems (1000 watts of light per 16 square feet). Plants will be irrigated by a gravity fed, "drip and drain-to-waste" system, which consists of a one-inch main drip line that feeds several quarter-inch drip lines, each one capped with a 2-GPH, pressure-compensating drip emitter. Each plant will receive its own dedicated drip feed line, ensuring proper agronomic efficiency. Each tray will have a t-valve fitting allowing any excess water or nutrients to be drained immediately.

Topping: To increase productivity and maximize yield, Emerald Family will practice proper topping and Screen of Green (Scrog) techniques. Each plant will be topped at the beginning of week three of its vegetation cycle, and will be grown under a Scrog net.

Yield: Each 4' x 8' tray will be capable of producing 2-3 pounds of dried cannabis flower per harvest. This does not include excess plant matter that will additionally be used to manufacture cannabis concentrates.

Example of Month-by-Month Cultivation Schedule

	Grow Space A	Grow Space B
January	Week 1-4: Vegetative Phase	
February	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
March	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
April	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
May	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
June	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
July	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
August	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
September	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
October	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
November	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
December	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
January	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
February	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
March	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
April	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
May	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
June	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
July	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
August	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
September	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
October	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
November	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
December	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
January		Week 13-14: Flower Phase III ; Week 15: Harvest
February	Grow Space C	Grow Space D
March	Week 1-4: Vegetative Phase	
April	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
May	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
June	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
July	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
August	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
September	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
October	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
November	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
December	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
January	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
February	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
March	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
April	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
May	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I

June	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
July	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
August	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
September	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
October	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
November	Week 1-4: Vegetative Phase	Week 13-14: Flower Phase III ; Week 15: Harvest
December	Week 5-8: Flower Phase I	Week 1-4: Vegetative Phase
January	Week 9-12: Flower Phase II	Week 5-8: Flower Phase I
February	Week 13-14: Flower Phase III ; Week 15: Harvest	Week 9-12: Flower Phase II
		Week 13-14: Flower Phase III ; Week 15: Harvest

Nursery: 20,000 sq ft Indoor Facility

Humboldt County Code ordinance 314.55.4.8.7 nurseries defined here in, producing commercial cannabis nursery products for bulk wholesale sale or to supply a retail nursery outlets shall be a conditionally permitted use inside AE zoning district, or RA zoning district on parcels of 5 acres or more, subject to a special use permit and the conditions and limitations set forth in this section.

Definitions

- **Cloning Mother:** Parent plant with strong genetics, grown to produce several hundred cuttings of a specific cultivar, and receiving a Vegetative nutrient regimen to grow vigorously and support large amounts of cuttings
- **Father/Breeding Mother:** Parent plants with the strongest and most desired genetics, mated through pollination to produce seeds
- **Male/Female:** Plant sex determines whether plants may become Cloning Mothers, Breeding parents, or recycled
- **Nursery:** Dedicated space containing Cloning Mothers and Clones
- **Teen Adult:** Plant grown to the desired height, pruned to maximize output, and mature enough to be ready for flowering
- **Seeds:** Genetic experiments from Breeding Parents to generate potential new Cloning Mothers or cannabis cultivars

Propagation

There are three pieces to propagation:

1. Developing strong genetics by breeding parents to generate seeds

2. Germinating seeds and determining plant sex to grow new cloning mothers
3. Replicating strong genetics through cuttings of a single cloning mother

Emerald Family will focus on propagation through taking cuttings, or "clones" from mother plants. Cuttings will be taken from mother plants in the vegetative stage only. Cannabis is an annual plant that has a life cycle of one year, however if kept in a vegetative state can live for many years. By breeding in or out specific cannabis genetic profiles, Emerald Family will be able to create precise plant medications with the appropriate cannabinoid content for the relief of clinical conditions plaguing all medical cannabis patients.

Employees responsible for cutting and transferring clones will be thoroughly trained on how to assess mother plants as well as cut and transfer clones using methods outlined by Emerald Family.

Training will include, but is not limited to, the following items:

- Assessing and selecting mother plants
- Preparation for cutting clones
- Procedure for cutting clones, including root hormone applications
- Transplanting clones
- Clone care, organization, and tracking

Breeding to generate seeds

In order to create and maintain a suitable Seed Stock, Emerald Family will establish a breeding program. Emerald Family will designate a Breeding Officer to operate all breeding procedures. Emerald Family's master cultivators will provide direction as to the prospective breeding plants, but the Breeding Officer will be in charge of the operations and administration of the program.

Each selected breed stock plant will be uniquely identified and coded both for breeding record keeping purposes, and to allow for the identification and removal of any plant with offspring that quality assurance shows as inferior. The Breeding Officer will visually inspect the seeds for ripeness.

In order to produce a Seed, Emerald Family start with one Breeding Mother and one Breeding Father placed in a sealed and sterile growing environment. All pollen-bearing plants will be strictly isolated with sterilization procedures and minimization of physical traffic deterring contamination potential.

The Breeding Officer will grow the Breeding Mother and Breeding Father until they are quite large, and then flower them by changing the light photoperiod hours according to Emerald Family's breeding standard operating procedures.

The Breeding Mother produces resin glands and flowers. The Breeding Father releases pollen into the air that sticks to the resin on the Breeding Mother. The resin then helps facilitate the pollen to enter the pistil for reproduction. The result is offspring in the form of Seeds that can be grown from a Baby plant into another Breeding Mother, Breeding Father, or Cloning Mother.

Breeding Program

Emerald Family intends to establish a research and development group to develop stable breeds with specific characteristics. Emerald Family Director Ryan McIntosh will lead the genetic research activities, harnessing his unique combination of expertise in chemical genetics and plant biology.

When the Willow Creek facilities are fully operational, Emerald Family's team will have the capacity to perform tissue culture analysis and retain a large catalog of cultivars without maintaining energy-intensive mother stock. Tissue culture can also be effective in eradicating plant disease.

Emerald Family hopes to use these methods to develop a unique seed bank from which to create cultivars that are disease-resistant, original genetics, and acclaimed cup winners.

Germination and Sex Determination

Germination is a process that causes the Seed to sprout a root and so it is ready to be planted. The germination percentages and rates will be tested before growing into a cloning mother or selling as seed.

After germination, baby plants grow large enough to allow for cuttings. The Breeding Officer uses cuttings to determine sex by proxy through a vegetative process. Plants proven to be Male will be removed from the general population, evaluated as Breeding Fathers, and otherwise disposed of.



Female plants will be evaluated for desirable traits, such as potency, yield, or pest/disease immunities. In order to refine these desired traits, the Breeding Process must be performed multiple times using the same variety before it is "stable," the point at which traits are at their strongest points genetically.

Selected Female plants will be selected as prospective Cloning Mothers. The first set of cuttings from these prospective Cloning Mothers will be flowered and evaluated for genetic, cannabinoid, and terpene profiles. If the desired characteristics are present, the Female will become a Cloning Mother.

Replicating strong genetics through cloning

Cuttings are new areas of growth on a mature Cloning Mother, which can be cut and grown into new plants that retain the same genetic makeup of the Cloning Mother.

In the Cloning Process, a sterile razor will cut several of the new branches that have potential flower sites. Several of these cuttings are taken at once, promoting even growth of the Cloning Mother while taking care not to kill the Mother plant. This process cuts off the growth hormones in these sites, signaling the Cloning Mother to develop more hormones, branches, and flower sites in new areas.



Cuttings are placed immediately in water, preventing a possible air bubble from forming in the stem that might block fluid uptake. The cutting is then placed in the preferred medium. For Emerald Family, this is a one and a half inch Rockwool grow cube that has been soaked for 24 hours in a special pH balanced solution. Rockwool is a type of hydroponic medium, an organic substrate designed for rooting or growing plants.

The cutting is then placed in a humidity dome, a plastic tray with a dome-like lid that has vents on it. Once the tray is filled up with cuttings to the required amount, the dome is placed over top of it. The dome is placed on a special waterproof heating mat that heats up, increasing biological activity under the tray, which will promote vigorous root growth.

Cultivation agents monitor the cuttings, identifying any problems and culling any cuttings that do not survive. As the Cloning Mothers continue to grow, cultivation agents add new cuttings. Cultivation agents specifically identify “damping off,” a fungus that makes the stem rot at the soil line, killing the cutting and keeping it from rooting. These cuttings are culled.

When cuttings establish roots, they become Clones with the exact genetic makeup of the Cloning Mother. These Clones then enter the Growing phase of cannabis cultivation.

Growing

There are three important pieces to growing mature cannabis plants:

1. Light management and photo periods, which control plant growth
2. Vegetative phase, during which the cannabis plant grows

3. Flowering phase, during which the cannabis plant produces harvestable flowers

Light management and photo periods

Like all living things, cannabis plants depend on the sun's cycles to trigger different life changes during one yearly season. Since cannabis is an annual plant, the changing of the sun from spring to summer to fall has different hours of daylight and darkness. A cannabis plant will be signaled that it is spring or summer by having either 24 hours or 18 hours of daylight a day to remain in a vegetative state. If the daylight hours go below 18 hours to 12 hours, it signals to the plant that it is fall and the end of the season, causing the hormones to change in the cannabis plant and produce flowers, much like any seasonal vegetable.

Controlling the amount of light that each plant has enables accelerated harvests for Emerald Family's mixed-light greenhouses.

Vegetative phase

In Vegetation, the new Clone is ready to be planted in the required area of the Vegetation Room. The Clone is transplanted into a nine-inch Rockwool grow cube to be grown in four-foot by eight-foot trays. These Clones grow into teen plants.

Any Teen plants in this stage that become sick or fail the QC/QA test will be moved to the Mitigation Room, which is dedicated for either revival or recycling of the plants in various stages.

The teen is shaped correctly through many techniques such as topping, fimming, pruning, or bending.

- Topping involves cutting where the branches come out to make two branches come up, then top those two to make four, and so on.
- Fimming is ripping off half of a growing top, to force hormones below the damaged area that makes four, sometimes five new potential flowering sites.
- Pruning is required when the plant is about one to one and a half feet high. It is stripped of the lower area of all leaves and smaller branches, which are sent to recycling. This will make the other tops to promote healthy upward growth while increasing the most concentration in the upper portion of the Teen plant to get the best quality yield and giving more energy to that area. Depending on cannabis variety they will be pruned more or less and grown larger or less.
- Bending the Teen towards a specific area of concentrated light will cause the Teen's main top to turn towards the light and illuminating the rest of the branch to open up areas shaded by large sun leaves. The excess trim in this part of the process gets delivered to recycling because it has minimal cannabinoids in it.

The average mixed-light vegetative time is three to four weeks, depending on cannabis varieties and size of the Clones.

After the plants grow to the required height of one and a half to two feet and they are pruned, the plants get moved over to the flowering room.

Flowering

During the Flowering Process, the pruned teen plant is placed in the flowering room. The flowering cycle of the teen will vary by variety. In order to induce flowering, the light cycle needs to change from 18 hours of daylight and 6 hours of darkness to 12 hours of daylight and 12 hours of darkness. The flowering cycle will range from eight to ten weeks, depending on cultivar characteristics.

In the flowering process, the teen will be monitored and any organic nutrients will be adjusted as needed. As the teen matures into a Flowering Adult the grow lights are adjusted accordingly to avoid burning. The Flowering Adult stops concentrating on making more branches and starts to produce pre-flowers, which then changes to a full flowering physical change. Once mature, the Flowering Adult will hit a peak, stop producing flowers, and will be coated with THC resin via trichomes, which is the psychoactive element in cannabis.



The Flowering Process continues. Through Emerald Family's research and the previous study of extensive cannabis research that has been scientifically proven in numerous horticultural documentations, Emerald Family has developed an integrated organic nutrient calendar regimen that is designed for growing cannabis plants. The Flowering Adult needs more of different types of a variation of organic nutrients according to its weeks in flowering.



In addition to specific nutrient feeding, the Flowering Adult must also be strung in netting to keep the plants from falling down because of its own weight. This netting will be incorporated to each tray in the flowering room.

During the last two weeks of flowering, cultivation agents will flush any excess nutrients out of the Flowering Adult and perform one last inspection to finalize the process. The Flowering Adult is then harvested, as described in the Processing and Manufacturing Plan.

d) Cultivation Inputs

Emerald Family strives to attain the highest standards of cultivation inputs. By following rigorous protocols and restrictions, Emerald Family maintains the high quality of cannabis produced and mitigates the risk of wasted production.

Part of this commitment to quality is Emerald Family's intent to attain Clean Green Certification, which indicates that:

- The product has been grown to standards that meet or exceed the standards used by the USDA in awarding organic certification, and is thus "organic" in nature
- No synthetic pesticides have been used at any point of the production/cultivation process
- Production methods are salmon-safe
- All practices adhere to the standards of fair-trade
- That all processes involved during the growing and cultivation of cannabis are in full compliance with local and state jurisdictions

Emerald Family has established standards for:

- Nutrients
- Growing medium
- Pesticides
- Disease and pest management procedures

Nutrients

There are three main macronutrients that a plant needs: Nitrogen, Phosphorus, and Potassium. In addition to these nutrients there are also many micronutrients and vitamin supplements that can amend a growing medium or feed a plant to help with its growing processes. Nutrients break down through a natural bacterial enzyme process, which helps facilitate the uptake of nutrients into a plant's roots, thus feeding the plant. This process happens in nature with the decay of organic matter on the ground.

Emerald Family will use primarily organic nutrient regimens with the highest quality nutrients available, from select manufacturers sourced locally.

Emerald Family will maintain a list of each substance to be used as a production or handling input, indicating its composition, source, location(s) where it will be used, and documentation of commercial availability, as applicable. The Director of Cultivation will maintain this list electronically in the crop management system.

Growing Medium

Emerald Family has enforced a strict gardening policy of using and reusing of organic substances to create sustainable resources, reduce consumption of those resources, and prevent any type of harmful environmental impact. This includes the cannabis plant growing medium.

Emerald Family will use custom mix of Coco-Coir, a broken down organic material made from coconut husk and mixed with other soil like amendments to create a soil-less mixture. It very much resembles soil, but has more favorable characteristics. Coco-coir is pH perfect, which means it comes from the manufacturer with an ideal pH of 6.0. A 100% organic substance, once this medium has been used it will be repurposed and reprocessed back into use or recycled.

Coco-coir custom mixture will be used with planting pots for the Breeding Mothers, Breeding Fathers, and Cloning Mothers as a primary medium to grow in.

Mychorrizae will be added to the growing medium, increasing its mass through a blend of symbiotic organisms. This additive is a mixture of organic beneficial microbes to help break down old root material and provide nutrition. The microbes provide aeration so oxygen can reach further to penetrate more into the plants roots. They also capture nitrogen and help make phosphorus more available, facilitating plant growth. Mychorrizae will be used throughout the entire plant cultivation cycle.

Pesticides

Use only organic Salmon Safe and Clean Green certified pesticides and herbicides for pests and or diseases.

Pesticides include rodenticides, insecticides, bacteria/fungi (beneficial), herbicides, arachnicides, miticides, molluscicides, nematocides, growth regulators and others.

Currently, Emerald Family proposes to use two pesticides, Actinovate and PyGanic. Both are organic, Clean Green certified products.

Disease and Pest Management Procedures

The Director of Cultivation will use resistant cultivars and maximize biological prevention of pests and diseases.

Integrated Pest Management (IPM)

The goal of IPM is to apply a combination of control methods to prevent, reduce, or maintain pest populations at non-damaging levels.

The Director of Cultivation will implement and monitor IPM practices to predict potential levels of crop damage, mitigate risk, and control pests.

A variety of mechanical, physical, and biological controls will be implemented. The Director of Cultivation may implement the use of appropriate biological controls including predatory wasps and mites and nematodes, lacewings, ladybugs, pirate bugs, and others for preventative or mitigation purposes. The use of biodynamics will be limited to recognized and effective applications. The Director of Cultivation may implement any practice allowed by the USDA Organic Standards.

Regular IPM practices include, but are not limited to:

- Daily monitoring of pest populations
- Removal of pest habitat, food sources, and breeding areas
- Utilization of verified “pest-free” supplies
- Prevention of access to handling facilities
- Management of environmental factors, such as temperature, light, humidity, atmosphere, and air circulation, to prevent pest reproduction
- Disposition of infected crops
- Evaluation of the cost or prevention in relation to yield and quality improvements
- Use of organic pesticides as a last resort

Early identification of pest infections is crucial. Each cultivation employee will be trained on and responsible for plant inspection and identification.

Should a pest infestation occur, the Emerald Family Director of Cultivation will develop IPM programs on an as-needed basis for the Willow Creek facility, considering at a minimum:

- Current status of infestation
- Regulatory considerations
- Public perception
- Pest and crop life-cycle stages
- Location, size, density of infestation
- Potential to spread
- Environmental impacts
- Clean Green Certification
- Previous results of measures.

Pesticide spraying protocols

The Director of Cultivation will establish spraying protocols and will maintain records of any pesticide use in the cultivation records for at least 36 months.

Records must include:

- Reason for application
- Method of application
- Frequency of application
- Next scheduled date of application
- Employee responsible for next application
- Status of lights, HVAC, and air circulation during application (i.e., lights on, HVAC off, and fans off)
- PPE required for application (i.e., mask required, Tyvex suit optional)
- Restrictions preventing application (i.e., do not apply within four hours of any foliar application)
- Life Cycle Stage restrictions - (i.e., apply in vegetative state only or may be applied in all stages)
- Re-entry intervals
- Posting requirement
- Other precautions (i.e. cover medium)

Disease Management

The Director of Cultivation will determine acceptable methods of disease management. The scope for disease management will include, but is not limited to:

- Soil, media, and crop nutrient management practices
- Sanitation measures to remove disease vectors and habitat for pest organisms
- Cultural practices that enhance crop health, including selection of plant species and varieties with regard to suitability to site-specific conditions and resistance to prevalent pests, weeds, and diseases
- Practices which suppress the spread of disease organisms
- Application of biological, botanical, or mineral inputs

Signs of Pest Infestations or Disease

The Director of Cultivation will also oversee at least weekly surveillance or inspection of plant material, identifying:

- Changes in biological colonies
- Mold and mildew
- Leaf and tip burn, discoloration, and spotting
- Changes in appearance of the media
- Changes in stalk density and branch elasticity

All crops are to be inspected by two or more trained employees for all visible foreign matter and sub-standard material to be removed. These employees will also perform a

visual microscopic and naked-eye inspection of each crop processed to determine:

- Organoleptic characteristics (color, texture and odor)
- Presentation of the material (raw, cut, crushed, compressed)
- The presence of admixtures, foreign matter (sand, glass particles, dirt), mold, or signs of decay
- The presence of insects
- The presence of foreign material originating from poor or degraded containers

The Director of Cultivation will schedule regular in-house testing based on current operational needs and recorded in the crop management system. Tests that will be performed include:

- Soil pH
- Nutrient pH
- Total Dissolved Solids (TDS)
- Electro-Conductivity (EC)
- Soil EC/pH testing using a saturated media extraction (1 part soil to 2 parts filtered water)
- The leachate pour-through method

e) Cannabis Disposal, Soils and Waste Management

When producing cannabis on a large scale for the qualifying patient community, utilizing true organic agricultural practices is crucial. Through building soil with sustainably harvested and certified materials while introducing biological inputs, we are able to achieve maximum genetic potential in our crops while creating a symbiotic relationship with the soils we farm. With compost teas, full of microorganisms to aid in healing the soil, we no longer have toxic run off. We have what is now known as beneficial run off. We will not be using any PGRs or heavy metals and salt based fertilizers. We will instead focus on building tilth in our soil and bioremediation the land we steward. Utilizing Korean Natural Farming technology, we are able to accelerate important composting processes using indigenous microorganisms to turn our left over plant material into food for our plants. As a certified permaculture designer and student of organic agriculture it is my aim to build in high standards for this industry and building our soils and our lands fertility while respecting our watershed is key.

We can also work towards no till low input farming. Any run off from our operation should be 100% beneficial and no salts or heavy metals like they are used to seeing us use. Director of Cultivation has a permaculture design certificate also so we can build in some permaculture principles to help with bioremediation and responsible waste management. EFF will purchase base material the first year of cultivation. After the first year EFF will use a combination of re-amending the soil with organic nutrients and using a fermentation farming technique known as Korean Farming. This will ensure a decreased cost of fertilizers every year and a reduction in the amount of waste that the cultivation site produces. The soil will be treated like a living organism, and the biology in the soil will be kept alive by planting cover crops in the off-season. This will keep the beneficial bacteria and mycorrhiza alive during non-growing times. These specific techniques have been shown to eliminate nutrient runoff, decrease the amount of water used, and decrease cost year after year. In fact the site will have a bio-remediation runoff instead of a nutrient runoff which over time will help break down any contaminants from past uses on the site. (mill junkyard). Other green waste and plant material that has been used in the manufacturing side of the business will be composted on site. These compost sites will be sprayed with compost teas to increase the decomposition rate and then fed back into the plants during amending as organic matter. The goal of the site is to have zero waste for all the plant matter. Stalks and stems will be collected and sold to Restalk Company, who specializes in producing hemp cardboard. As Restalk refines their techniques we plan to use them to purchase hemp packaging for our products from our plants.

All waste, including waste composed of or containing medical cannabis products, will be stored, secured, and managed in accordance with applicable state and local laws and regulations. Additional waste disposal provisions include detailed plans for excess product disposal, liquid, and solid waste disposal based on guidelines from the Department of Environmental Conservation, composting practices, and the disposal of expired, contaminated, or otherwise unusable medical cannabis products.

In order to reduce the potential to misuse the disposal procedures for diversion, the cannabis waste disposal plan is a four-step system:

1. Collect compostable waste cannabis.
2. Record compostable waste cannabis.
3. Verify compostable waste cannabis.
4. Compost waste cannabis.

These steps will take place on cultivation premises under surveillance camera.

Record waste cannabis

Before waste cannabis is composted, RFID of each plant will be logged in the inventory system. This will be sufficient to identify the source of the compost material, from the plant number of a clone that dies to the weight of wasted leaves or flower from a particular plant. The reason for the disposal/composting and the person disposing of the cannabis will also be noted.

All employees will be trained to handle the proper procedures for compost disposal, and to record all details of a composting disposal in the inventory control system.

Segregating compostable cannabis

The same person who records the compostable cannabis details will put the compostable waste into a container numbered according to the inventory control system disposal item, and set that container clearly designated for compost disposal and covered by a dedicated surveillance camera.

Cultivation-related wastes including, but not limited to, empty soil/soil amendment/bags and containers, empty plant pots or containers, dead or damaged plant waste shall, for as long as they remain on the site, be stored at locations where they will not enter or be blown into surface waters, and in a manner that ensures that any organic contaminants within those materials do not migrate or leach into surface water or groundwater.

Verify compostable cannabis

As part of a daily physical inventory, a supervisor will review and verify that all compostable waste materials are accounted for and correctly filed in the inventory control system. This review will be logged in the inventory control system and a separate tamper-proof hardcopy compost disposal log.

These materials will either be composted immediately, or the supervisor will move the compostable waste cannabis to a clearly designated locked and secured compost container segregated from all usable cannabis within the cultivation area. Before the materials are composted, they will need to be re-verified and entered into the track and trace system by an authorized team member.

Compost waste cannabis

Cannabis flowers, undesirable buds, stems, leaves or unsanitary or spoiled product (such as that dropped on the floor) will be rendered unusable and unrecognizable by adding and mixing with other ground materials such as soil or other compostable material. These materials will be stored in a secured area only accessible by the authorized team

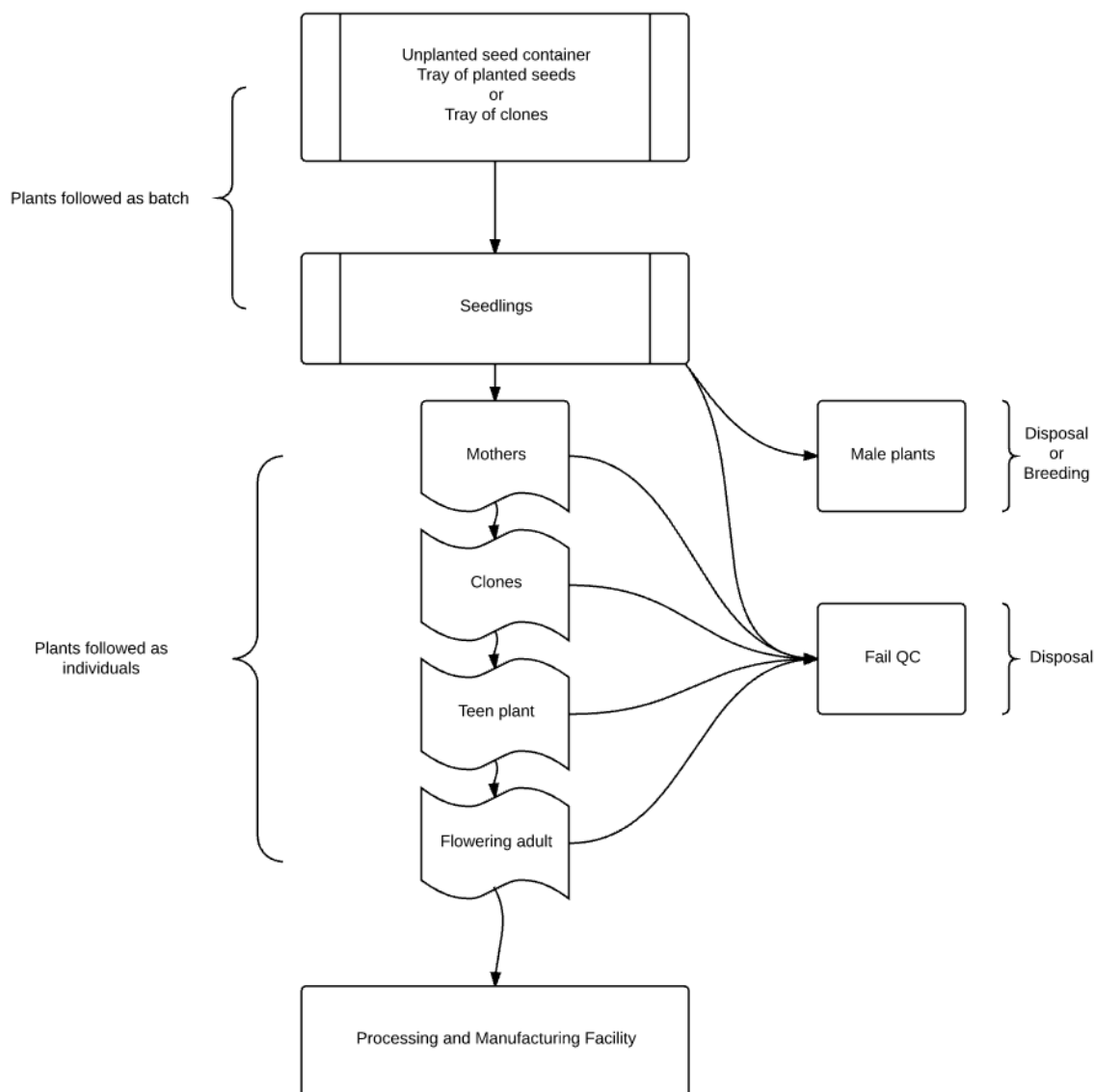
members until it is time to transport the waste to Emerald Family's composting bin or container.

f) Cultivation Quality Assurance

Cultivation of safe and effective crops encompasses a wide variety of holistic management practices. The Director of Cultivation will implement and maintain Emerald Family's Integrated Crop Management plan ensuring healthy crops and yields.

Emerald Family will designate a Quality Assurance Officer (QAO). The QAO will be responsible for verifying the quality of the plants at each stage of cultivation.

Note that plant handling and hygienic protocols are covered separately in Emerald Family's Quality Assurance Plan. Water and energy standards are covered in Emerald Family's Environmental Protection Plan.



During each quality verification stage, the QAO will record in the inventory control system steps taken and results found.

When plants fail quality checks, the QAO will determine whether or not the plant must be disposed of immediately, or if it may be recoverable with procedures such as additional Integrated Pest Management protocols.

In all cases, when plants fail quality checks the QAO will review with the Director of Cultivation to determine if any standard operating procedures may be improved upon, or if the central control system needs adjusting. All such decisions will be documented.

Sample selection procedures

All sampling done for the purposes of quality assurance will follow standard operating procedures designed to ensure representative samples.

Consistent and appropriate sampling is a critical component of accurate lab testing. Emerald Family recognizes that once MMRSA is implemented sampling will be under the control of distributors and will follow the appropriate regulations that are promulgated. By establishing scientifically appropriate sampling procedures now, Emerald Family intends to preemptively achieve similar levels of quality assurance.

A batch of cannabis is considered a family of plants of a single cultivar, usually clones from a single mother that began growing at the same time. A lot of cannabis is a subset of a batch. Each lot must be sampled and tested. The purpose of the sample and lot size is to determine the smallest possible sample that could estimate characteristics of the whole. The size of a lot depends on the type of product and its likelihood of homogeneity. Cannabis plants are often relatively heterogeneous, meaning that different parts of the same plant and different plants of the same cultivar/clone will vary in potency, and different cultivars have different levels of heterogeneity. For example, THC is generally believed to vary by proximity to the light source, or from the top to the bottom of the plant.

With intact flowers, homogenizing the product is not practical, meaning that the sample sizes will need to be larger or lot sizes smaller. Flower lots will not be larger than five pounds.

g) Cultivation Monitoring and Recordkeeping

Cultivation records will at a minimum:

- Fully disclose all activities and transactions of the cultivation operation in sufficient detail as to be readily understood and audited, including but not limited to:
 - Planting and propagation
 - Material applications including formulas and quantities
 - Pruning
 - Pest monitoring and actions taken
 - Harvest records and yields
 - Crop destruction
 - Procedure variances
 - Storage and record transfers
 - Any unusual activities

- Be maintained for no less than five years
- Be sufficient to demonstrate compliance with applicable regulations; and be made available for inspection and copying during normal business hours by authorized representatives of the business, law enforcement, and any other officials with appropriate documentation or authorization
- Include the quantity of cannabis at the cultivation facility including the number of plants being cultivated on a daily basis
- Include the disposal method used for any cannabis that was cultivated but not transferred to the manufacturing unit for use in the production of medical cannabis products, including evidence of the disposal of the cannabis in accordance with waste disposal policies and procedures
- Document the date, location, and identity of all materials applied in the facility, and as appropriate per specific plant, during the past five years, including fertilizers, pest-management materials, and other media
- Record the date, equipment description, materials used, description of the cleaning or maintenance performed, and the responsible employee in the crop management system
- Prior to MMRSA, records will be up-to-date at all times demonstrating that the inventory of approved medical cannabis products reflects the projected needs of certified patients

The Director of Cultivation will assign data entry tasks to qualified and trained employees. Paper logs maintained by cultivation employees will be retained for five years.

h) Cultivation Training and Certification

All cultivation employees are responsible for management plant health care factors as directed by the Director of Cultivation, including but not limited to:

- Plant selection and genetic diversity
- Environmental control and air quality
- Pest management
- Water application and quality
- Sanitation and hygiene
- Equipment maintenance
- Cleaners or Chemical applications
- Nutritional balance

All cultivation employees will receive training on these topics, and all methods and products used in the operation. The Director of Cultivation will ensure that prior to beginning work in the cultivation facility, employees receive full training on:

- The methods of propagation, fertilization, and cultivation used in the Emerald Family greenhouses and outdoor sites
- Methods for recognizing the signs of insect infestation, pathogens and disease in cannabis plants and the procedures for eradication and the safe disposal of plants so affected
- The nutritional requirements of cannabis plants at various growth stages, including but not limited to, proper mixing and dispersal of fertilizer, flushing procedures and procedures for postharvest trimming, drying and curing
- The safe handling of equipment including but not limited to, high-intensity lamps, electrical ballasts, pumps, fans, scissors and other equipment for cultivation
- Inventory control and security protocols designed to minimize or prevent diversion and track on-site cannabis

Employee training on advanced topics will be ongoing.

The Director of Cultivation in cooperation with management will approve third-party training and certifications for cultivation staff. Food safety protocols are adopted wherever applicable.

Training and audit programs and standards authorized for use by management at this time include but are not limited to:

- International Food Protection Training Institute:
 - FDA Pest Control in Food Establishments
 - Plumbing Controls for Commercial Food Establishments
- California safe food handling certification
- Hazard Analysis Critical Control Point (HACCP) training
- Clean Green Certification
- Salmon Safe
- Best Management Practice (BMP), Good Agricultural Practice (GAP), Good Cultivation Practice (GCP), Good Handling Practice (GHP): Emerald Family has adopted or adapted the use of following publications on BMP/GAP/GCP/GHP:
 - An introduction to on-farm food safety practices, Canadian Federation of Agriculture
 - HACCP principles and application guidelines, National Advisory Committee on Microbiological Criteria for Foods

- Guide to minimize microbial food safety hazards for fresh fruits and vegetables, Center for Food Safety and Applied Nutrition
 - Cannabis Cultivation Operations, American Herbal Products Association
- American Herbal Pharmacopeia
- American Herbal Products Association
- cGMP for dietary supplements
- USDA Organic Standards

Appendix E: Processing and Manufacturing Plan

To complement the company's cultivation, Emerald Family will construct a processing and manufacturing facility on the Willow Creek site. Emerald Family will initially use this 20,000 sq. ft. facility for post-harvest processing of cannabis (manicuring, drying and curing). Emerald Family will also build additional areas for the manufacturing of cannabis concentrates using both volatile and non-volatile solvent extraction methods.

Emerald Family commits to complying with all applicable state and local laws. To that end, Emerald Family has developed the following materials to explain the proposed processing and manufacturing activities. These materials also satisfy the requirements of Humboldt Code 313-55.4.11 (u).

- Summary of Processing Practices
- Summary of Manufacturing Processes
- Description of location where processing will occur
- Estimated number of employees
- Summary of Employee Safety Practices
- Description of toilet and handwashing facilities
- Description of plumbing and/or septic system and whether or not the system is capable of handling increased usage
- Description of source of drinking water for employees
- Description of increased road use resulting from processing and a plan to minimize that impact
- Description of on-site housing

Emerald Family in addition has prepared the following supplementary content:

- Manufacturing safety overview
- Manufacturing equipment and standards
- Product Safety Plan or HACCP
- Employee training and competency
- Lab standards
- Quality assurance and batch monitoring

To ensure that all cannabis products manufactured at the processing facility are done so in a manner that is compliant with local and state ordinances, Emerald Family has designed and will implement standard operating procedures (SOPs) for the operation of closed-loop extractors using volatile agents such as butane; and additionally, for non-

volatile agents such as supercritical carbon dioxide (liquid CO₂). All processing and manufacturing conducted at the facility will be done so in adherence with the company's SOPs, which have adopted food and pharmaceutical grade production standards as a benchmark of quality.

Emerald Family will collaborate with Manhard Consulting and various local construction companies to ensure that the processing and manufacturing facility is built in compliance with all appropriate local and state level ordinances. Emerald Family will attain approvals from the Department of Fish and Wildlife and the Humboldt County Regional Water Boards before commencing any operations, and will take measures to negate any impact to the natural habitat, local wildlife, or surface water activities. All current and future Emerald Family activities of cultivation, processing and manufacturing are to be covered under the CUP/SUP.

All Emerald Family employees will receive detailed instruction manuals and training prior to being permitted to begin operating and will be required to have a working knowledge of all Emerald Family standards and operations. Emerald Family supervisors will be responsible for ensuring that each employee has received, read, and has acknowledged his or her understanding of the material covered in the employee manual. No employee will be allowed to work on-site prior to receiving orientation training or when any required critical training is past due. This employee manual will include pertinent State and local medical cannabis laws and regulations. Copies of all State medical cannabis laws and regulations will be kept on the premises at all times, in both print and electronic forms.

Don Hays, Director of Manufacturing

Don Hayes will serve as the Director of Manufacturing for Emerald Family, and will be responsible for acquiring, building, and maintaining the equipment used in the processing and manufacturing operations. Hayes has nearly 50 years of experience in construction, engineering, industrial science, and manufacturing, with an expertise in building and maintaining heavy machinery. He also has an expertise in developing training materials and hands-on training techniques that will help Emerald Family maintain a safe and efficient production process.

Over the course of his career, Hayes has custom-built homes, construction equipment and manufacturing machines, and his skills as a mechanic and tool & dye maker will be invaluable to the success of the company's operations. Some of his roles will include building custom machinery, testing and calibrating equipment, training the manufacturing staff, and maintaining an efficient workflow between the cultivation and manufacturing realms.

a) Summary of Processing Practices

Humboldt County 313-55.4 implies that processing is the acts by which “medical cannabis is dried, cured, graded, trimmed, and/or packaged by or under the control of one or more licensed cultivators.”

This section provides an overview of the processing practices that will take place at the Willow Creek site:

- Preparation
- Harvesting
- Drying and curing
- Trimming
- Packaging, labeling and storing
- Quality assurance

Preparation

Before processing or handling any raw plant material, all equipment—clippers, hand scissors, scales, bins, pans, trays, etc.—will be sterilized as per Emerald Family’s SOPs. All equipment will, additionally, be sterilized after each use. All hand processing (trimming) of cannabis will be performed in a well-ventilated and well-lit room separate from any other production areas. A “clean room” with lockers and personal storage will be built adjacent to the trim room, allowing employees to change into the approved protective clothing, gloves and hair covering. Bathrooms and hand washing stations will also be included in the clean room. The trimming room will have large tables with adequate room for each trim team member. Trim room chairs will be ergonomically designed to allow trimmers best possible position allowing for increased productivity and longevity.

For more details regarding Emerald Family’s sanitation and quality control standards, please refer to the Quality Assurance Plan.

Harvesting

Plants will be monitored continuously throughout the cultivation process. During the flowering stage of plant development, Director of Cultivation Ryan McIntosh and Director of Manufacturing Don Hayes will begin monitoring trichome development and maturity. Depending on the cultivar, the Directors will determine—based on trichome maturity—the point at which a crop is ready to be harvested.

Mature plants that are ready to be harvested will be identified by Directors of Cultivation and Manufacturing and logged into Emerald Family’s inventory management system, adhering to any seed-to-sale tracking regulations that have been promulgated

by the state. During the harvest, plants will be chopped at the stalk and individually weighed. Plants will again be weighed after the drying and curing has been completed. Information will be tracked and entered into the inventory management system at each stage in the process.

Drying and Curing

The Director of Cultivation is responsible for implementing and maintaining drying and curing practices to protect crops from contamination and maintain the quality of all cannabis flower and concentrates produced by the company.

All drying/curing operations will be performed in limited access areas with full surveillance camera coverage in accordance with security policies and procedures. The drying and curing room will be maintained to ensure that there is sufficient ventilation for airborne moisture to escape providing adequate air circulation throughout the drying area and sufficient odor mitigation.

Harvested plant material will be placed on racks and hung upside down in the drying and curing room. The drying and curing room will feature an independent climate control and HVAC to ensure that optimal and sanitary conditions are maintained at all times throughout the drying and curing process. Maintaining a biologically clean space is crucial to the overall production of pharmaceutical grade cannabis flower and cannabis concentrate. Emerald Family takes seriously its commitment to current GMP, and will implement strict operating procedures to ensure that only pharmaceutical grade cannabis products are produced on-site.

Before processing or handling any raw plant material, all equipment—clippers, hand scissors, scales, bins, pans, trays, etc.—will be sterilized as per Emerald Family’s SOPs. All equipment will, additionally, be sterilized after each use.

For more details regarding Emerald Family’s sanitation and quality control standards, please refer to the Quality Assurance Plan.

Trimming and Trim Machines

Emerald Family’s SOPs will outline sanitation requirements for employees, workstations, and clean rooms. These standards will be adhered to throughout all points of the processing and manufacturing process at Emerald Family’s facility. Agents will wear protective outerwear, gloves, and hair covering at all times while running trim machines or trimming cannabis to prevent any potential contamination.

Emerald Family takes seriously the health and wellbeing of its employees, and as such, will provide ergonomic seating, workstations, and hand equipment to all processing

team members. Each processing team member will also receive the proper safety and operational training as pertaining to their job description.

At this stage, plant-level tracking will transition to batch-level tracking. Emerald Family will establish standard operating procedures for determining batches. As flowers are processed, the plant history will be tracked in the inventory control system with the specific batch containing its finished bud material.

All finished bud material will be collected by the Processing Room Manager and weighed. The finished product will be placed either in glass jar for storage or in container/bag ready for transportation, as described below.

As the remaining material trimmed from the cannabis plants contains active medicinal compounds, this excess plant matter will be collected and used in the extraction process to create concentrates used in a variety of cannabis-infused products. As with finished flower, the trimmed contents of will be tracked as a batch in the inventory control system, and associated with the history of the source plants.

For more details regarding Emerald Family's sanitation and quality control standards, please refer to the Quality Assurance Plan.

Packaging, Labeling and Storing

The Director of Cultivation and Director of Manufacturing will together develop, implement, and maintain packaging, labeling, and storage practices that prevent crop contamination, protect the quality of the cannabis, and properly identify all batches. The Directors will establish protocols to accurately identify and label all cannabis transferred to bulk storage containers. Packaging of bulk cannabis will be in food safe bags or containers that have been approved by the Director of Manufacturing. Labeling and packaging will comply with all applicable laws and regulations.

The Director of Manufacturing will approve and witness the transfer of cannabis from the drying/curing area to storage. Storage areas will have full surveillance camera coverage in accordance with security policies and procedures. Bulk-packaged crops are to be stored in cool, dry areas away from direct sunlight and exterior walls and off the ground in containers that protect against excessive exposure to air, light, and moisture. Crops will not be stored in the same area with any non-crop items (i.e. cleaning supplies, nutrients, etc). The Director of Manufacturing will verify the weights of all harvested crop prior to storage. Packaging and labeling of bulk-stored cannabis for distribution to the manufacturing unit will take place under camera surveillance.

Quality Assurance

Emerald Family has standard operating procedure (SOPs) and policies to ensure that all cannabis and cannabis concentrates pass quality control testing for consistency and dosage, and meet the appropriate standards of the Consumer Product Safety Division.

These SOPs are reviewed in more detail in the Quality Assurance Plan.

However, quality assurance is critical to safely processing cannabis. For this reason, it is important to note the following key objectives of the Quality Assurance Plan:

- Determine if appropriate sources of product and quality problems have been identified
- Confirm that data from these sources are analyzed to identify existing product and quality problems that may require corrective action
- Determine if unfavorable trends have been identified
- Confirm any data and analyze to identify potential product and quality problems that may require preventive action
- Verify that the data received by the CAPA system are complete, accurate and timely
- Verify that appropriate statistical methods are employed (where necessary) to detect recurring quality problems
- Determine if results of analyses are compared across different data sources to identify and develop the extent of product and quality problems
- Determine if failure investigation procedures are followed
- Determine the degree to which a quality problem or nonconforming product is investigated and whether this investigation is commensurate with the significance and risk of the nonconformity
- Determine if failure investigations are conducted to determine root cause (where possible)
- Verify that there is control for preventing distribution of nonconforming product
- Determine if appropriate actions have been taken for significant product and quality problems identified from data sources
- Verify that CAPA system procedure(s) have been defined and documented
- Determine if corrective and preventive actions were effective and verified or validated prior to implementation
- Confirm that corrective and preventive actions do not adversely affect the finished product
- Verify that corrective and preventive actions for product and quality problems were implemented and documented.

- Determine if information regarding nonconforming product and quality problems and corrective and preventive actions has been properly disseminated, including for management review

b) Summary of Manufacturing Processes

Humboldt County 313-55.4 implies that manufacturing is the acts by which “raw agricultural product is transformed into a concentrate, an edible product, or a topical product, and the production, preparation, propagation, or compounding of medical cannabis or medical cannabis products, directly or indirectly, by extraction methods, independently by means of chemical synthesis, or by a combination of extraction and chemical synthesis.”

Emerald Family intends to manufacture cannabis concentrates using both volatile and non-volatile solvent-based extraction methods. Emerald Family may also use chemical synthesis to develop specific products.

To ensure that all cannabis products manufactured at the processing facility are done so in a manner that is compliant with local and state ordinances, Emerald Family has designed and will implement standard operating procedures for the operation of closed-loop extractors using volatile agents such as butane; and additionally, for non-volatile agents such as supercritical carbon dioxide (liquid CO₂).

This section provides an overview of the manufacturing-type practices that will take place at the Willow Creek site:

- Extraction equipment
- Preparing raw plant matter
- Extraction
- Final inspection and packaging
- Proper storage of cannabis concentrate products, raw materials, and waste
- Proposed initial cannabis product forms

Extraction equipment

Emerald Family has selected the Waters Corporation and Tamisium Extractors Incorporated as their chosen extraction equipment providers.

The Waters Corporation, manufacturers of the Waters Bio-Botanical Extraction System, specializes in the production of extraction machines utilizing the latest and most advanced supercritical and subcritical CO₂ procedures and proprietary technologies. To meet the diverse requirements of today’s ever-expanding cannabis industry, Emerald Family has chosen the Waters MV-10 System as its supercritical CO₂ (non-volatile) processor of choice. The MV-10 is a multi-vessel extractor that can process multiple

batches of concentrates, from multiple plant matter sources, at the same time. The MV-10 is equipped with Chromscope technology, a proprietary system designed by the Waters Corporation to allow the live monitoring, real-time testing, and post-production analytics of bio-botanical concentrates.

For the purpose of preemptive compatibility with future processing equipment standards—e.g., the certification requirements for manufacturing equipment as promulgated by states such as Colorado, Washington and Oregon—Emerald Family has chosen Tamisium Extractor's TE-1200 butane extractor. The TE-1200 has been certified by the American Society of Mechanical Engineers for the production of cannabis concentrates, and therefore, does not require additional certification from the Electronic Testing Laboratories (ETL) or the Underwriters Laboratory (UL), which currently refuses to certify cannabis production equipment.

Preparing Raw Plant Matter

All incoming goods, such as plant raw material, shall be inspected for any visible issues, as well as any foreign materials or damage, of mislabeling issues. The facility is laid out in a manner that ensures there is a safe, clear separation of all incoming raw ingredients and materials from all outgoing finished goods and materials.

All incoming products will be certified, tested, or validated for potency, quality, and content. Records are maintained for all materials both incoming and outgoing.



Standard protocol for all incoming material:

1. Numbering of incoming product

2. Batch number of product
3. Identification of supplier through internal number system
4. Origin of product identification: cultivator/farm
5. Date of delivery, method and time

All material will then be moved into properly sanitized containers or food or medical grade. The use of protective liners may be incorporated and all materials are of food or medical grade. All additional processing steps, such as trimming, sorting, cutting, or inspection will be taken as to not contaminant any other processes or products in the production area.

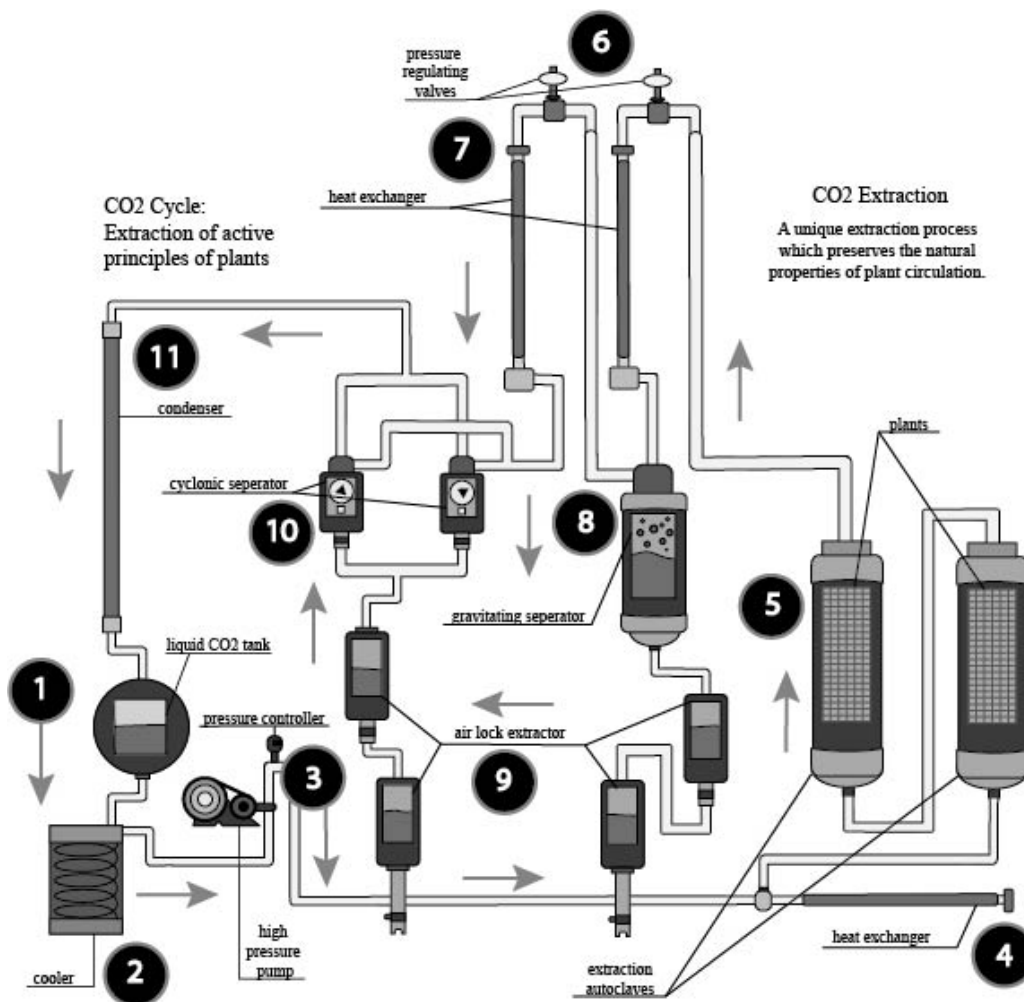
All factors affecting the raw material will be logged including:

- Storage conditions
- Temperature
- Humidity
- Storage Time
- Proper identification

The facility will keep an accurate daily log of all cannabis and cannabis derived products on the premise. A mass balance calculation will be performed weekly with a reconciliation record and quantity of all raw product. The mass balance should take into consideration loss due to waste, manufacturing mistakes, nonconforming product or other variances.

Extraction

The Processor Supervisor is responsible for ensuring that all training procedures, documentation, and employee training manuals are current and include adequate instruction to consistently reproduce all extraction, processing, manufacturing and methods in accordance with the validation procedures and standards of quality determined by Emerald Family.



Operating the Waters MV-10 Extraction System

- All Processor Agents shall wear appropriate protective clothing including a lab coat, nitrile gloves, and protective eyewear.
- The Processor Agent for Extractions shall procure ground, raw plant material from a limited access area and document any amounts taken in the supply transfer log as well as in the electronic file.
- The Processor Agent for Extractions shall confirm and/or document any changes in weight of material used as it is loaded into the extraction vessel.
- The Processor Agent for Extractions shall inspect the extraction machine and vessels for any unusual signs or wear or damage and notify management immediately if said conditions exist. The extraction will not begin until the issues are resolved.

- The Processor Agent for Extractions shall begin the extraction method appropriate for the plant material.
- The Processor Agent for Extractions shall supervise the extraction method to ensure that the machine is running properly and make any necessary adjustments.
- The Processor Agent for Extractions shall cycle to prepare for collection out of the three collection vessels. The Processor Agent for Extractions shall document final weights of all raw oils collected.
- The Processor Agent for Extractions shall label raw oils and prepare for processing.

When receiving the medical cannabis raw material, Emerald Family will then follow the extraction process to create the essential oils which will form the base foundation for all medical cannabis finished products. There is little to no organic plant material in concentrated forms of medical cannabis when using CO2 extraction processes. Emerald Family will then fractionate the oil-based concentrated form. These fractionated materials will be sorted according to the following criteria:

- Medical Cannabis variety
- Certificate of analysis from an independent testing lab
- Fixed cannabinoid ratios
- Viscosity and visual profile
- Terpene content and smell

Operating the Tamisium TE-1200 Open-Loop Volatile Extraction System:

To ensure the safety of any extraction that uses a flammable solvent, including but not limited to butane gas, then the following protocols must be followed:

1. Establishment of a safety storage area, including non-flammable, spark-free storage locker inside of designated area for all flammable materials (see Hazardous Materials Plan)
2. Identification of electrical equipment requirements for system and extraction room.
3. Installation of gas monitoring system for determining safe levels of gases in extraction room.
4. Fire suppression system or action plan with fire determinant in place.
5. Inside the extraction room will be an emergency eye wash station

Final inspection and Packaging

In order to maintain the medical cannabis free of contamination, Emerald Family employees will be required to comply with Emerald Family's standard operating procedures. Emerald Family's standard operating procedures have been designed to preemptively address the arrival of California state regulations, and have been drawn from current best practices:

- All personnel involved with the handling and packaging of medical cannabis will wear proper lab coats, latex gloves, and hairnets.
- Personnel will also be required to wash hands and exposed areas of the arm before beginning work, before and between glove use, and after using a toilet facility.
- Gloves will be replaced after each pound of medical cannabis has been packaged, when beginning to package a different variety or shipment of product (to prevent cross-contamination), and every two-hours.
- Prior to entering the packaging room, personnel must report any illness or personal health condition that might compromise the cleanliness or quality of handled medical cannabis.
- The Packing and Labeling Agent will maintain a sanitation log with records retained for five years.

All medical cannabis that has been determined unfit for consumption, has been recalled, is expired or out of date, or that has been contaminated, will be rendered unusable by the standards outlined in Emerald Family's employee handbook/training manual, which includes provisions to have medical cannabis rendered unusable by composting.

Processing Agents employed by Emerald Family will be responsible for rendering designated cannabis or cannabis concentrate unusable and will, according to operating procedure:

- Grind up and then mix all unusable cannabis and cannabis concentrate with a combination of compostable materials that does not include any of the following as to avoid pests and other unsanitary conditions:
 - Meat, fish, bones;
 - Dairy products;
 - Fats, oils, or grease.
- The resulting mixture will be at least 50 percent non-cannabis waste by volume.
- All rendering of cannabis and cannabis concentrate unusable will be conducted under video surveillance in the clean room of the processing facility.
- The resulting mix will be weighed and cataloged by a Processing Agent, and all information will be recorded in the inventory management system.
- The final mixture will be sent out to a local facility for organic composting.

Emerald Family will develop standard packaging, labeling, and verification procedures to preemptively ensure future compliance with upcoming California state regulations. Emerald Family will revise packaging as required to ensure continued compliance.

All packaging used during the distribution of medical cannabis concentrate will be plain, unmarked, and in no way indicate or signify the presence of cannabis. This includes batch packaging used for large-scale transportation to a licensed distributor, as well as, the unique packaging of individual cannabis products. Additionally:

- Individual packaging will in no contain any imagery, logos, or artwork that is designed to in any way mislead the public as to the contents of the package
- Bright colors, cartoons, and other imagery that is found to be appealing to children under the age of 18 will be prohibited.
- Each product will be accompanied by a label that includes:
 - The contact information for the producer of the product
 - The potency of the product
 - A unique tracking number that has been logged into an inventory control system
 - Expiration dates
 - Recommended dosage
 - Contact information for emergency services
 - A statement indicating to the patient that cannabis is still federally illegal

Proper storage of cannabis concentrate products, raw materials, and waste

Cannabis (raw material) and cannabis concentrates will be stored separately in a stainless steel bin located in the secure room of the processing facility. Bins used for the storage of acceptable cannabis or cannabis concentrate will bare no marking, but will feature tamper-evident seals and be under constant video surveillance.

Cannabis and cannabis concentrate products that have been designated to be rendered unusable will be stored in separate stainless steel bins, also located in the secure room. Bins used for the storing of cannabis or cannabis concentrates that have been designated to be rendered unusable will clearly marked with the language, “CONTENT MARKED FOR DISPOSAL.” These bins will also have tamper-evident seals and remain under constant video surveillance.

Before being placed in either bin, each item will be placed in a plastic bag and then sealed using zip-ties that have been uniquely numbered—this will allow processing agents to access a seed-to-sale history for any product, at any time using Emerald Family’s chosen inventory control system.

Proposed initial cannabis product forms

Emerald Family will create and offer dispensaries and patients various forms of medical cannabis concentrates. Emerald Family will be offering at least the following varieties of high CBD medical cannabis products to licensed dispensaries within the first year:



Medical Cannabis Oil

Medical cannabis oil is the first form of concentrate extracted from the raw material, and is very pure. Depending on the cannabis variety can have test results of up to 95% concentrated CBD. Emerald Family will offer this medical cannabis finished product to licensed dispensaries in the form of a topical application, tincture, metered dosing via vaporizer units, or vaporizer cartridges.



Medical Cannabis Shatter

Shatter is a shelf-stable form of hash oil with a glass-like texture and breaks into pieces rather than bending. Shatter is a pure form of concentrate which, depending on the cannabis variety, can have test results of up to 95% concentrated CBD. This product requires very little post-processing after the initial Waters CO2 extraction.



Medical Cannabis Wax

Medical Cannabis Wax is a form of concentrate resembling peanut butter, and, depending on the cannabis variety of the source material, can have test results of up to 95% concentrated CBD. Emerald Family will offer this medical cannabis finished product to licensed dispensaries in both vaporizer cartridges and smokeable form with related administering tools.

c) Description of location where processing will occur

The Emerald Family Cultivation facility is located on Flower McNeal Road in Willow Creek, California. The facility rests on a plot of land that is hidden from street view, and includes a rainwater catchment pond for irrigation. Lush vegetation surrounds the property on all sides, providing additional security and camouflage from public view.

The processing and manufacturing facility will be located on this complex as shown in the Site Plan. Emerald Family will work with Manhard Consulting to develop both 23,000 and 17,500 sq. ft. buildings and ensure they meets all applicable state and local laws, including the County Building Code.

Processing rooms

The processing facility will include, but will not be limited to, the following rooms:

Drying and Curing Chamber: the DCC will house all cannabis that has been harvested, manicured and that is ready to be dried and cured. The DCC will have its own climate control and HVAC in order to maintain optimal conditions and to prevent the generation of mold or mildew

Trim Room: all plant matter, whether it is to be used for the manufacturing of concentrates; or to be processed as dried flower, will be prepared in the trim room. The trim room will have its own independent, enclosed HVAC system to prevent cross-contamination from airborne particulates.

Clean Room: employees will change, wash hands, and adhere to all sanitization-operating procedures inside the clean room before entering either the Trim Room or the Drying and Curing Chamber. Additionally, the cleanroom will have a restroom, and storage spaces for employees' personal belongings.

Storage rooms designated for materials relating to processing and coded as appropriate. If any such materials may be considered hazardous, they will be stored in appropriate spaces, as described in the Hazardous Materials Plan.

Manufacturing

Extract production room: Emerald Family will use carbon dioxide gas (CO₂) extraction as a means to create the raw materials for the topical solution finishing process. Emerald Family has adopted Standard operating procedure for the use and handling of the hazardous chemicals safely, including the amount and concentration used, special handling procedures, engineering controls and personal protective equipment. This room will be maintained under positive pressure with respect to the adjacent anteroom and supplied with HEPA-filtered air to meet the ISO Class 7 standard for flow and particle count under static conditions.

Other than the extraction machine and ancillary hardware, no other equipment, supplies or materials will be stored in this room. The use of particle-shedding materials (i.e. paper, cardboard or non-linen rags) will be prohibited in this area. This room will have a carbon dioxide air monitor with audible alarm for the notification of workers of a potential risk associated with the extreme pressure used during extraction and oxygen displacement in the unlikely event of a leak.

Inspection, packaging and labeling room: Inspection (visual and quality), packaging and labeling of the final product will be conducted in this area.

Anteroom(s): One or more of these rooms will be at the plant to serve as passage(s) between the extract production room and the topical solution laboratory(s) and the gowning area/room. The air pressure will be positive to the adjacent rooms and negative to the extract production room and the topical solution laboratory(s). The air will be HEPA-filtered air to meet the ISO Class 8 standard for flow and particle count under static conditions. No equipment, supplies or materials will be stored or used in this area. The entrance and exit doors will be interlocked to prevent both from being opened at the same time. An override system will be in place for safe egress in an emergency.

Shipping and receiving: All incoming and outbound shipments will be managed through this area. Any delivery of raw material that is contaminated or unusable for any reason that is not immediately rejected or returned shall be “quarantined” in the secure area/room (see below) until it can be returned or disposed of.

Secure area/room: This area/room will be designated and segregated for the acceptance of incoming raw materials and the warehousing of finished goods awaiting approval for release. Should raw materials or supplies need to be “quarantined,” this room/area shall have a place for such products to be destroyed and/or returned if not refused/rejected on initial delivery.

Storage area for raw materials and consumable supplies: As described in the Hazardous Materials Plan, this area will be secure and sufficiently constructed to meet the requirements for supplies stored in this area, which will include an NFPA-rated flammable storage cabinet for holding ethanol that has been accepted for the manufacturing process. Secure storage of unprocessed plant material and consumable products will also be housed here. Cleaning products that may be flammable will also be stored in the flammable storage facility. No corrosive Agents or oxidizers will be used or stored at this facility.

Compressed gas storage area/room: Because CO₂ itself is nonflammable and nontoxic, the main risk is associated with the extreme pressure used during extraction and oxygen

displacement in the unlikely event of a leak. All compressed gases will be stored in a secure room with ventilation to the outside. This room will have a carbon dioxide air monitor with audible alarm for the notification of workers in the event of a leak.

As described in the Hazardous Materials Plan, this storage will meet specific requirements for safely and securely storing CO₂.

Butane gas storage room: As described in the Hazardous Materials Plan, this room will be NFPA rated, spark-proof, and contain appropriate MSDS, along with additional hazardous materials storage precautions.

Emergency wash station

General use

Restrooms: the processing facility will feature several restrooms and changing room facilities. Fresh water will be provided for sanitation and hand washing purposes, and will be sourced directly from Emerald Family's well. Restrooms will also feature emergency eye washing stations.

Several non-operational rooms, including:

Offices for administration

Storage room for records

Break room for employees, potentially including lockers and kitchen space

d) Estimated number of employees

The number of employees will vary depending on the specific activities taking place at any given time.

Emerald Family estimates that for the proposed 10,000 sq. ft. mixed-light greenhouse, Emerald Family will need a trim crew of around 10-15 employees.

Including the manufacturing activities, Emerald Family estimates that there will be a total of 40-50 employees operating on site at full-scale operation.

Below are descriptions of some of the different roles and responsibilities of on-site staff:

Quality Assurance Manager

The Quality Assurance Manager or QA Manager will be the lead person in charge of the overall quality management and safety of the Willow Creek Manufacturing facility. The QA manager will be competent in the fields of general safety and best practices (GMP's/cGMP's), HACCP and food safety programs, training and management of personnel, and general business acumen in order to perform the requirements of

ensuring the manufacturing plants safety. The QA manager reports directly to the CEO and manages the quality assurance department, as well as works closely with the plant manager and line employees to ensure a daily threshold of quality.

Lead Extraction Technician

The lead extraction technician will be responsible for the overall operation and safety of the cannabis extraction process including; the maintenance and functionality of all equipment related to extraction, the input of all products and output of all finished goods in the processing area, any assistant or personnel needed in the processing operations. The lead extraction technician should be an engineer by trade with experience in running high-pressure machines and or working with volatile compounds. Experience in running a cannabis extraction facility greatly recommended; extensive training and safety awareness required regardless of experience. Development of internal SOP's and training programs customized to Emerald Family will be utilized to ensure product and employee safety.

Processing Manager

Similar to a plant manager the processing manager will be responsible for the overall scope of manufacturing and processing at the Emerald Family Willow Creek facility. The processing manager will ensure all operations are running efficiently and forecaster correctly; working closely with all suppliers, internal & external, as well as production to ensure Emerald Family is capable of efficiently operating at all times and running without errors or significant lag time. The line employees and entry level employees report to the processing manager and the Quality Assurance Manager works closely with the Processing Manager to ensure a cohesive system exists.

Facility Safety Manager

The safety manager is responsible for the overall safety of employees in the Willow Creek Facility. The safety manager ensures all OHSA, State, Federal, and Agricultural oversight requirements are met and all employees are properly informed of the requirements. The Safety manager ensures a workplace of integrity exists and all best practices are properly followed.

Packaging / Labeling Lead

The packaging and labeling lead is responsible for the labeling and packaging of the final product; this critical function will ensure Emerald Family ability to provide a consistent, accurately dosed, identifiable, and traceable product. The labeling department will follow all quality assurance protocols strictly with the Lead manager overseeing the operations to ensure an accurate label is placed on each product.

e) Summary of Employee Safety Practices

Emerald Family will foster a safety-conscious workplace to encourage employees to identify potential hazards and to prevent safety breaches. All of Emerald Family's internal processes, equipment/facilities and standard operating procedure will be designed to eliminate serious hazards and follow all relevant safety and health standards published by the Occupational Safety & Health Administration (OSHA).

All employees will undertake a two-week training program prior to receiving authorization to work on-site at the facility. Emerald Family will update this training program if required to meet state or local requirements.

At a minimum, the complex will train and drill all authorized personnel, including employees and security guards, on the following, which meets the requirements of Humboldt County 313-55.4.11 (t) (v):

- Emergency action response planning as necessary
- Employee accident reporting and investigation policies
- Fire prevention
- Hazard communication policies, including maintenance of material safety data sheets (MSDS)
- Materials handling policies per the Hazardous Materials Plan
- Job Hazard Analysis
- Personal protective equipment policies, including respiratory protection
- Security procedures, including prevention of crimes and diversion
- Safety procedures, including medical emergencies, fire response, chemical spills, threatening events including armed robberies and invasion, and raids
- Visitor protocols
- Secure electronic recordkeeping
- Inventory control system
- Cannabis laws and regulations (local, state, federal)
- On-site behavior (see below)

In addition to training and periodic drills, all employees shall receive official Emerald Family reference material, written in plain English and presented in an easy-to-use outline format, explaining all operational, safety, and security policies and protocols.

Preparedness means all staff members know how to assess emerging situations to determine the type and level of threat they may post; they know how to respond to different kinds of security threats; they know which types of situations warrant the

activation of panic buttons; and they know how to proceed when a security alarm goes off or a panic button has been activated.

f) Description of toilet and handwashing facilities

Emerald Family will work with local contractors to ensure that the construction of all employee toilet and hand-washing facilities is compliant with the appropriate local and state level regulations. Emerald Family will at all times maintain an adequate amount of toilet and hand-washing facilities as pertaining to the number of individuals employed. All employees will be trained in Emerald Family's standard operating procedures pertaining to the safe and sanitary handling of cannabis flower and cannabis concentrate.

g) Description of plumbing and/or septic system and whether or not the system is capable of handling increased usage

Emerald Family will be working with Manhard Consulting to develop and install new commercial-grade plumbing and septic systems at the Willow Creek site. Proposed systems will be sufficient to handle at least 50 on-site employees with built-in capacity or plans for handling increased usage.

Emerald Family will consult Manhard Consulting to ensure that all plumbing and septic systems installed on-site are capable of handling increased usage, and are built in compliance with the appropriate local and state level regulations. This includes the water waste management facility that will be built at the Emerald Family Facility on Flower McNeal Road.

h) Description of source of drinking water for employees

Drinking water for employees will be sourced directly from the Willow Creek's on-site aquifer-fed well. Emerald Family will consult with Manhard Consulting to design and implement a water filtration and softener system that is capable of processing 1000-gallons of water each day. Processed water will be stored on-site, in a water storage system used exclusively for human/employee use.

i) Description of increased road use resulting from processing and a plan to minimize that impact

Emerald Family understands that the increased usage of roads that can result from the initial construction of the cultivation facility and subsequent increase in traffic due to employee numbers may lead to additional required maintenance. In order to not be a burden on the local community or ecosystem that may be affected, Emerald Family will

consult with local contractors and Manhard Consulting to develop plans to maintain the affected roads. Emerald Family's goal is to minimize any disturbances or environmental concerns, and to maintain the roads.

Emerald Family acknowledges that increased road usage will be an on-going and continual condition once operations commence at the Willow Creek facility. Emerald Family will take measures to minimize public road usage by employees of the company. Measures taken will include:

- Construction of an employee parking lot
- Construction of separate access roads when needed
- Construction of security fences and installation of surveillance equipment
- Consideration of shuttle services to minimize traffic

j) Description of on-site housing

At this time, Emerald Family will not have on-site housing. Emerald Family does not anticipate requiring additional housing, as the priority will be to hire locals. Given Emerald Family's intention of having a perpetual harvest cycle, hiring temporary workers in need of temporary housing at specific times of year does not make sense.

In future, Emerald Family intends to work with the County to develop an on-site hostel in order to help mitigate housing needs related to the cannabis industry in the area more broadly.

k) Manufacturing safety overview

Emerald Family has a well-defined risk assessment plan for all hazards and risks associated with the manufacturing operations. This assessment details specific risks to the production such as: machinery usage, toxic or hazardous materials, exposure to gas, electricity or explosion, etc. The facility will have warning signage and proper signage where all worker health and safety risks have been identified.

Emerald Family has a detailed procedure for the health and safety plan, including standard operating procedures and identification of all processing activities with a risk assessment for each one. There is also a detailed emergency plan that has been well thought out and provided to all employees with information such as: emergency contacts, utilities, hospitals, fire department, security, etc.

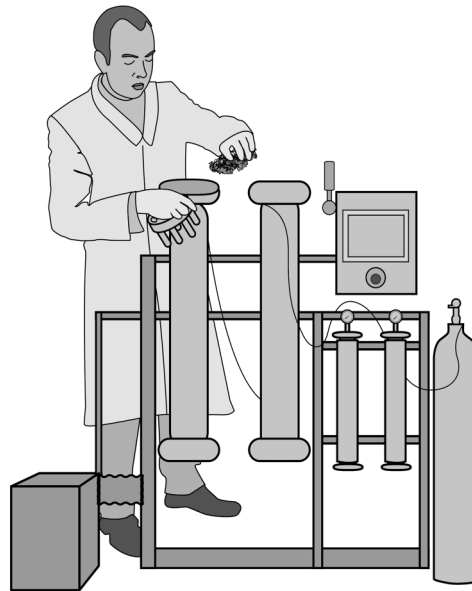
A designated health and safety manager is responsible for the overall health and safety of the employees and facility. The health and safety manager is responsible for ensuring all employees are aware of all risks, well trained, and the safety of the plant is sustainable.

1) Manufacturing equipment and standards

In line with its effort to maintain the global standards of “Good Pharmaceutical Manufacturing Operations,” Emerald Family is committed to the practice of adopting only the best management practices and standard operating procedures.

Because the UL currently refuses to inspect and certify any form of machinery that has been designed to process cannabis, the quality of both open and closed-loop extraction systems has varied greatly.

Many manufacturers build their extraction machines from parts bearing the UL Certification stamp, believing that this will produce a safe and secure extraction system but, unfortunately, this is absolutely not the case. Extraction systems built by Tamisium have been designed and certified by a mechanical engineer that is recognized by the American Mechanical Engineering Society. As such, extraction systems built by Tamisium are certified for operation in all fifty states and do not require additional certification from the UL or EFL. This provides additional future compliance in the event that California elects to adopt processing regulations that are similar to Colorado and Washington. The TE-1200, Emerald Family’s chosen volatile processor, is an open-loop butane based system that is capable of safely processing four kilos of raw plant matter in as little as two hours.



The Waters Corporation will provide additional training to all Processor Agents in the operation of supercritical fluid extraction systems of their design, and standard operating procedure pertaining to the SFE Bio-Botanical Extraction System.

Solvent

All solvent used in the open loop extraction system will be of food grade, meaning at least 99.999% pure. A copy of the material data sheet will be maintained on file for all solvents in use and during the prior 12 months. Any solvent used will go through a distillation process for purity that will be well documented and kept on file.

Inspection

Emerald Family will utilize checklists to ensure all process areas are up to safety & quality standards daily. A pre-production inspection will occur daily as well as weekly,

monthly, semiannual, and annual audits for quality and safety. The facility will also maintain a log of any incidents, operational failures, or non-conformances identified internally.

m) Product Safety Plan

Emerald Family has a rigorous safety plan that identifies hazards and the critical control points in the manufacturing process that may affect the safety and quality of the product. There is also a written hazard communication plan (HCP) at the Cannabis Cultivation Complex central processing center.

The management has identified a group of employees to identify, implement and maintain the overall safety plan to ensure that all departments and levels of management have adequate input in the safety plan decision making process.

A process flow chart identifies each step in the manufacturing process so any step-by-step analysis can be easily conducted. The process flow chart will identify critical areas such as holding times, temperature controls, process regimens, coding thresholds, and rejection processes.

All safety plans will be documented and available on site at all times. The records of safety including checklists, audit plans, audit results, documented incidents or other pertinent documents will be maintained on record.

n) Employee training and competency

All employees will be extensively trained and validation techniques will be utilized for ensuring continued competency. Employees are required to follow all safety signage, regulatory guidance and GMP's to ensure a safe, clean and sustainable working environment.

All Employees will be trained in General Manufacturing Practices such as:

- ServSafe, cGMP's, FDA CFR's, ISO, GFSI, or globally recognized medical or food safety grade standards.
- Quarterly Safety, Best Practices, or Continued education material will be required for all Employees, Management, & Board Members
- Training records and logs must be accessible on-site for all employees of the past 12 months.

o) Lab standards

Internal monitoring of quality control will ensure a top grade product is produced every time. All product batches will be tested for potency and quality internally utilizing both gas and a high pressure liquid chromatography systems and a metals testing kit.

All outside testing will be conducted by a third party lab. A strict diligence process will be conducted to identify the best laboratory for testing, preferably identifying an ISO 17025 or equivalent facility. All state mandated testing will be conducted and followed accordingly, but Emerald Family's dedication to quality will meet and exceed such requirements.

p) Quality assurance and batch monitoring

Please review the separate Quality Assurance Plan for details on quality assurance protocols.

A specific batch will be given to each unit of cannabis brought into production. The specific quantity will be consistent amongst all batches as well as selection methodology for testing. When selecting from batches a selection from the top, middle and bottom will be utilized to minimize bias and variability. Batches should be as close in identity, strength, purity, composition and size as possible. The storage, labeling and time stamping of all batches will be documented and recorded.

A reconciliation record shall be in place with narrow limits based on previous operational data. If any labeling or batch records fall outside this record traceability will be utilized and batches will be identified accordingly. Any non-conforming labeling or untraceable product will be destroyed.

All batch records and labels will be signed by the quality control manager to ensure compliance and accountability. Management will ensure destruction of all non-conforming product and recording of all activities pertaining to destruction.

Appendix F: Quality Assurance Plan

Emerald Family Farm's QA Plan describes the standards, processes and procedures used to support the consistent creation of high-quality cannabis and cannabis products.

The QA Plan builds on a Corrective and Preventive Action (CAPA) approach. The intent is first to establish standard operating procedures to prevent problems from occurring, second to monitor and identify problems that do arise, and third to institute procedures to prevent problems from recurring (ISO 9000:2015).

Emerald Family personnel will implement Quality Assurance and Quality Control protocols to ensure that all Emerald Family cannabis and cannabis products meet the standards that have been outlined in Code of Federal Regulation 211-Good Manufacturing Practices (GMP). The Quality Assurance Plan is intended to be compliant with ISO 9001:2015, the requirements for quality management systems.

Quality Assurance and Control Agents will receive job-specific training and will adhere to standard operating procedures that are current GMP compliant.

Emerald Family's QA Plan includes the following:

- Overview of CAPA approach
- Employee roles
- Standards of cleanliness, including sanitation and personal hygiene
- Standards for equipment maintenance
- Quality control testing: standards for purity, integrity, and potency
- Cannabis recall protocol

a) Overview of CAPA approach

Emerald Family intends to develop a mature quality assurance system that detects problems before they occur, and then prevents the problems. Emerald Family's QA Plan is also intended to be compliant with ISO 9001:2015, the requirements for quality management systems. The overarching requirement is to demonstrate the organization's ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements.

By implementing a Corrective and Preventive Action (CAPA) system, Emerald Family commits to continual revision of the QA Plan in order to improve as knowledge arises and circumstances change. It involves three types of procedures:

1. Establish SOPs to prevent problems based on known risks
2. Monitor processes and products to identify new problems
3. Revise SOPs

The remainder of the QA Plan provides an overview of the already-instituted SOPs and the methodology used to test the effectiveness of these practices.

b) Employee roles

Quality Assurance Agents: QA Agents are responsible for developing—and when needed, updating—all testing and analytical processes carried out by Quality Control Agents. Quality Assurance Agents will receive job-specific and GMP training, and will:

- Ensure that all Quality Control Agents are trained and up-to-date in their knowledge of current GMP
- Ensure that Emerald Family's testing and quality standards are compliant with current GMP
- Maintain a current knowledge of ISO calibration standards
- Coordinate the maintenance and calibration of all equipment used during the quality control process
- Keep accurate logs of all testing conducted on-site
- Continued training will be provided to ensure that employees remain proficient in their operational functions and in their understanding of the standards set forth by Good Laboratory Practices (GLP)

Quality Control Agents: QC Agents implement the quality checks required by the Quality Assurance Plan. QC Agents typically have other roles, such cultivation or processing duties, and perform quality checks related to their workstation.

Processing Agents: Employees who perform processing or manufacturing activities as described in the Processing and Manufacturing Plan.

Supervisors will ensure the following:

- Enforce accurate implementation of SOPs
- Track, report, and analyze sources of quality problems
- Ensure nonconforming products are segregated and analyzed
- Work with Directors to revise SOPs in response to quality concerns

Directors will monitor their operational groups to:

- Enforce accurate implementation of SOPs
- Train and retrain employees on SOPs as appropriate
- Verify that data reports are complete, accurate and timely
- Determine if failure investigation procedures are followed
- Monitor quality trends over time and analyze when problems are not resolved by proposed solutions

- Compare the results of analyses across different data sources to identify and develop the extent of product and quality problems
- Assign additional resources to use advanced analytical methods, when appropriate
- Determine if corrective and preventive actions were effective and verified or validated prior to implementation
- Confirm that corrective and preventive actions do not adversely affect the finished product
- Verify that corrective and preventive actions for product and quality problems were implemented and documented
- Determine if information regarding nonconforming product and quality problems and corrective and preventive actions has been properly disseminated, including for management review

c) Standards of cleanliness

Personal hygiene

All personnel will be explicitly trained to report to their direct supervisor any personal health condition that might compromise the cleanliness or quality of the medical cannabis the employee might handle. Supervisors will emphasize this point as part of ensuring the employees share the vision of a cannabis business that places patient health first. Emerald Family will back this policy up by ensuring that all employees are allowed to call in sick without penalty on an unlimited basis. Emerald Family will also establish generous paid sick leave.

Emerald Family will include a Personal Health, Hygiene, and Cleanliness handout in the employee handbook that will describe all of the symptoms and health conditions that may compromise the cleanliness or quality of any medical cannabis handled by an employee. Before beginning employment, each employee will be asked to sign a document that acknowledges that the individual has read, and is aware of, the conditions described in the Personal Health, Hygiene, and Cleanliness document.

During cold and flu season, or when contagious sickness seems frequent in the community, supervisors will be particularly diligent about meeting with and evaluating the health of each employee before he or she begins working directly with patients or medical cannabis.

Employees will also be trained, as per Emerald Family's standard operating procedures, to report any fellow agent that is demonstrating any of the symptoms or conditions identified in the Personal Health, Hygiene, and Cleanliness handout directly to the shift supervisor. The aforementioned document will also include emergency contact

information for all local and state emergency service providers as well as the contact information for the Directors of Cultivation and Manufacturing.

Employees demonstrating the symptoms for certain illnesses will be required to seek medical attention and will not be allowed to return to work without documentation from a physician indicating that the individual has been cleared to return to work.

To maintain the integrity of all cannabis concentrates produced at the facility, Emerald Family will provide sanitization and cleanroom preparation training to all processing agents. Standard operating procedures will be made available in digital and print forms, and will be included in Emerald Family's employee handbook/training manual.

Emerald Family's employee handbook will include a stipulation for employees allowing them to call in sick without penalty on an unlimited basis. This will prevent any contamination from reaching any finished medical cannabis product.

Sanitation and handling protocols

Emerald Family will establish, maintain and follow standard cleaning procedures for all buildings and equipment used to store medical cannabis. The Director of Manufacturing will ensure all employees involved are trained to properly clean assigned equipment and document the process. In compliance with FDA and cGMP and GLP requirements, one or more trained supervisors will be assigned to supervise overall sanitation. Emerald Family will adopt sanitation procedures from the AHP monograph. Each of these supervisors will be qualified by education, training, or experience to develop and supervise sanitation procedures.

The Director of Manufacturing will assign specific personnel for the cleaning of all production equipment and oversee the proper performance of cleaning and sanitation standard operating procedures. To ensure sanitary production equipment, Emerald Family will maintain standard operating procedures addressing written procedures to be implemented for the cleaning of equipment, including utensils, used in the manufacture, processing, packing or holding of all products. These written procedures, schedules, and logbooks will include:

- Assignment of responsibility for cleaning equipment
- Controlling airborne contamination
- Using sanitary handling procedures
- Using safe water in all operations
- Performing chemical, microbiological, or other testing, as necessary to prevent the use of contaminated ingredients in processing operations

- Storing packaging materials, in-process medical cannabis raw material, and medical cannabis finished products appropriately to prevent contamination and adulteration
- Preventing cross-contamination and mix-ups between contaminated or adulterated medical cannabis raw material or medical cannabis finished products and non-tainted medical cannabis
- Washing or cleaning containers and packaging components that contain contaminants
- Using effective measures to protect cannabis products against adulteration by other foreign materials when at risk due to processing equipment or instruments
- A description in sufficient detail of the methods and materials used for cleaning and the methods of disassembling and reassembling equipment to ensure proper cleaning
- Measures for the protection of clean equipment from contamination prior to use
-
- Required inspection of equipment for cleanliness immediately before use
- Based upon the individual equipment design, the following sequence of cleaning operations will be performed upon the completion of each batch of product:
 - If applicable, a reduced disassemble and cleaning procedure may be utilized between sequential batches of the identical product brand, strength, and dosage form
 - Upon the completion of a manufacturing or packaging operation, equipment will be disassembled and all moveable parts removed so that the equipment can be properly cleaned
 - All exterior surfaces will be sanitized and the interior cleaned with an approved detergent mixed with water and then rinsed thoroughly with tap water
 - Finally, all surfaces that come in contact with components will be sanitized with denatured alcohol and allowed to air dry
 - Upon completion, the employee will fill in the cleaning log and inform their immediate supervisor the equipment is ready for inspection

An audit or check will be performed on the equipment cleaning and its documentation on a random basis several times a week. These reviews will include an inspection of the actual equipment cleanliness and the accuracy of all cleaning documentation. All cleaning records required by this procedure will be retained for at least five (5) years after distribution of the last batch of product manufactured, processed or packaged utilizing that equipment.

When developing the above protocols, the Directors of Cultivation and Manufacturing will also incorporate the following elements:

- Defining responsibility and frequency for cleaning and disinfecting each piece of equipment or item that comes in contact with medical cannabis
- Monitoring compliance
- Training employees to ensure they are able at all times to answer the question “How do you know that this item has been cleaned and/or disinfected?”
- Cleaned/disinfected items should be labeled (date/time)

All areas will maintain a general cleanliness and go through routine maintenance. The facility will be of food production quality at all times, with frequent inspections and internal audits to ensure safety in production. Sanitation units or wash stations should be utilized throughout the facility where they are placed. Employees are encouraged to wash frequently and always between handling products.

Restrooms and toilets will be located separately from all production and manufacturing areas. Restrooms will have a self-closing door and be completely enclosed with proper, individual ventilation unit. Wash hands signs will be placed above all sinks. Training on best practices will be given annually and documented. Restrooms will be cleaned daily and maintained in a clean manner.

Equipment sanitation

In general, surfaces and equipment within the processing and manufacturing facility would be classified by the CDC guidelines under Spaulding’s Classification as Non-Critical (i.e., items that might come in contact with intact skin, but not mucous membranes or non-intact skin) and in general most are environmental surfaces, which must be regularly disinfected to a low level. Cleaning protocols will include limits on how long reusable cleaning clothes and mop heads can be used before laundering, and on how frequently the water disinfectant mixture (using an appropriate and approved disinfectant, with preference for naturally-based options) is changed (at a minimum per every three rooms). The facility will have single-use disposable towels impregnated with a disinfectant (such as Clorox wipes) for spot cleaning as necessary during the day. All employees will be trained on these duties and procedures and cleaning procedures will be carefully overseen at the beginning and end of each business day.

In addition, for all surfaces, equipment, or materials that will touch medical cannabis or individually packaged containers of medical cannabis, the Directors of Cultivation and Manufacturing will develop and oversee the implementation of more rigorous cleaning protocols. These will be to the standard required by the CDC guidelines for Spaulding’s Classification of Critical, because medical cannabis can come into contact with mucous membranes. These items require either sterilization or a cleaning process followed by high-level disinfection. Additional handling protocols will meet or exceed California requirements for safe and sanitary food handling and packaging.

Contamination prevention

In order to maintain the medical cannabis free of contamination, Emerald Family employees will be required to comply with Emerald Family's standard operating procedures. All employees will be trained to ensure absolute sanitary conditions in areas that have been designated for packaging and handling, including all equipment, utensils, and accessories used during the packaging process. Emerald Family's standard operating procedures have been designed to meet or exceed the high sanitary standards of the California state regulations pertaining to the handling of food-grade products:

- All agents involved with the handling and packaging of medical cannabis will wear proper lab coats, latex gloves, and hairnets.
- Personnel will also be required to wash hands and exposed areas of the arm before beginning work, before and between glove use, and after using a toilet facility.
- Gloves will be replaced after each pound of medical cannabis has been packaged, or, when beginning to package a different variety or shipment of product (to prevent cross-contamination), and additionally every two-hours.
- Prior to entering the packaging room, employees must report to the shift supervisor any illness or personal health condition that might compromise the cleanliness or quality of the medical cannabis the Processing Agent might handle.
- Maintain a sanitation log with records retained for five years.

The employee handbook will include a stipulation for Processing Agents that allows them to call-in sick without penalty on an unlimited basis. This will prevent any contamination from reaching any medical cannabis product.

d) Standards for equipment maintenance

Manufacturing equipment

Emerald Family (Emerald Family) intends to manufacture cannabis concentrates using both volatile and non-volatile solvent-based extraction methods. These processes, described in the Processing and Manufacturing Plan, require advanced extraction equipment.

The selected equipment will be calibrated, sanitized and otherwise maintained according to the instructions provided by the manufacturer, or to a higher standard as required by pharmaceutical manufacturing standards or applicable laws.

Proper calibration of equipment

Emerald Family will require that any scale, balance, or other device used to process and manufacture cannabis concentrates is routinely calibrated and periodically checked to

ensure the accuracy of production. This will enable Emerald Family to ensure that each batch of concentrate produced by the manufacturing facility meets the standards that have been promulgated by Humboldt County and the state of California.

All scales/balances/other measurement devices will be registered with, and calibration techniques shall conform to, the standards developed by the California State Department of Agriculture.

Emerald Family will maintain a log of maintenance and calibration procedures performed for the previous five years for all scales/balances/other measurement devices. If and when discrepancies arise, any product processed between the two calibration periods in question will be evaluated for accuracy and quality and possibly destroyed. Any medical cannabis that is destroyed will be documented in the inventory control system.

e) Quality Control Testing

Proper standard operating procedures are a critical prerequisite for GMP and Good Laboratory Practice (GLP) compliance. Emerald Family takes its commitments to these standards seriously, and will provide the appropriate training to all personnel employed by Emerald Family. By instituting GMP and GLP compliant SOPs and providing proper employee training, Emerald Family will operationalize its commitment to produce only the highest quality, pharmaceutical grade cannabis flower and cannabis concentrates.

Standards for purity, integrity and potency

Processing agents that have received the proper training will be responsible for identifying all useable and non-useable plant parts and matter. Useable by-product plant matter created during the manicuring and trimming phase of processing will be inspected, logged—and if appropriate—manufactured into cannabis concentrate. All unusable plant matter will be disposed of properly and in accordance with Emerald Family's SOPs (Disposal procedures are described in the Cultivation Plan). Raw plant matter will be inspected via methods that include, but are not limited to, organoleptic, macroscopic and microscopic examination.

Processing agents will:

- Provide a qualitative description of each batch of raw plant matter or dried cannabis flower that includes:
 - Name of the plant cultivar
 - Description of initial quality of plant matter
 - An organoleptic review

- Provide a quantitative description of each batch of raw plant matter or dried cannabis flower that includes:
 - Cannabinoid profile
 - Potency level
 - Batch size by weight
 - For concentrates, a description of the manufacturing process

Each batch of cannabis flower and cannabis concentrate produced on-site at the facility will be monitored throughout each stage of cultivation, processing and manufacturing. Each batch of cannabis flower or concentrate will undergo an intensive post-extraction analysis, identifying the cannabinoid profile of each product processed or manufactured at the facility. This profile will then be cross-referenced against the appropriate cultivar profile monograph as provided by the American Herbal Pharmacopeia to ensure cultivar accuracy and consistency.

Combinations of the following compounds will be measured:

- CBD (Cannabidiol)
- CBDA (Cannabidiolic Acid)
- CBN (Cannabinol)
- Terpenes described in the current version of the cannabis inflorescence monograph published by the American Herbal Pharmacopeia (AHP)
- D9-THC (Delta-9 Tetrahydrocannabinol)
- D8-THC (Delta-8 Tetrahydrocannabinol)
- THCA (Tetrahydrocannabivarin Acid)
- THCV (Tetrahydrocannabivarin)
- THCVA (Tetrahydrocannabivarin – Acid)
- CBC (Cannabichromene)
- CBDV (Cannabidivarin)
- CBDVA (Cannabidivarin - Acid)
- CBG (Cannabigerol)
- CBGA (Cannabigerol – Acid)
- CBGV (Cannabigerovarin)
- CBNV (Cannabinovarin)
- Any further compounds added by the AHP

Each batch of cannabis flower and cannabis concentrate produced on-site at the facility must additionally pass quality control tests for purity and integrity. Batches of flower or concentrate that contain any substance that has been banned by the California Department of Food of Agriculture, or that has amounts of regulated chemicals, fertilizers, or pesticides that exceed the levels allowed by the Department of Food and Agriculture, will be destroyed. All raw plant matter will be tested for mold and mildew.

Testing

All finished products will be sent to a licensed third-party laboratory to be tested and certified for purity, potency and quality. Additionally, Emerald Family will maintain its own in-house testing schedule to ensure that all cannabis concentrates are produced to pharmaceutical standards, and that manufacturing protocol continues to adhere to current GMP and GLP.

Emerald Family will test all cannabis concentrates to confirm the presence or absence of residual solvents, contaminants, and foreign matter. Emerald Family will ensure that the amount of residual levels of any volatile organic compounds will meet the specifications set by the United States Pharmacopeia. Independent lab testing will be used to certify that all raw materials and concentrates produced are well within acceptable ranges in regards to the presence of:

- Total aerobic microbial count
- Total yeast mold count
- P. Aeruginisa
- Aspergillus spp
- S. aureus
- Aflatoxin B1, B2, G1 and G2
- Ochratoxin A

Live monitoring and real-time analytics for concentrates

By monitoring the fluctuation of cannabinoid compounds as they occur in real-time during the extraction process, processing agents can determine and fine-tune a method that is best suited for each cannabis cultivar and/or cannabinoid profile or product.

All cannabis concentrates being produced at the processing facility will be subject to in-house liquid chromatographic testing. Testing will occur at various stages of the manufacturing process, and will include:

- An initial testing of raw plant material to be used in the production of cannabis concentrate
- Live monitoring, tracking, and real-time analytics of the extraction process
- A post extraction analysis revealing optimal processing conditions

- Final batch testing

Ensuring Accuracy of Testing

In order to accurately test all consumer products manufactured in the processing facility, Emerald Family will engage a third party testing laboratory (state-licensed once MMRSA is implemented) that has adopted standard operating procedures to test medical cannabis and medical cannabis concentrates.

f) Cannabis recall protocol

Emerald Family is committed to patient and product safety, and will institute an exhaustive product recall plan into Emerald Family's operational manual. Once a product has been labeled for recall, Processing Agents will immediately begin an in-house investigation into the batch and lot number of the products in question. This investigation will be conducted with the purposes of:

- Identifying the appropriate products, via batch and lot numbers, that will need to be recalled
- Identifying the distributors that have procured and transported the products in question
- Contacting the aforementioned parties, informing them of the product recall
- Identify and dispose of any remaining product in question in storage at the Emerald Family facility
- Prevent the further distribution of any product in question

Any cannabis waste disposal will follow the protocols explained in the Cultivation Plan.

Appendix G: Security Plan

Emerald Family intends to establish a safe and secure facility for the cultivation, processing and manufacturing of cannabis. The standards and procedures established here provide a safe working environment while protecting against diversion, theft, and access by minors. For the safety of staff, visitors and the general public, all individuals at the Willow Creek site shall abide by the protocols in this section.

Emerald Family's multi-layered security strategy begins with physical facility security, including perimeter fencing and reinforced entry-points for the secure on-site buildings. The site will also feature on-site security personnel, comprehensive electronic surveillance and alarm coverage, and clear protocols and training intended to prevent or effectively respond to incidents.

Emerald Family's security plan will take into consideration requirements and recommendations from Humboldt County. This includes identifying specific protocols to:

- Protect the safety of medical cannabis
- Safeguard against diversion of medical cannabis
- Safeguard against access by minors

The Security Plan also responds to requirements in Humboldt County Code 313-55.4.11 (t), supporting the compliance of Emerald Family employees with Employee Safety Practices.

a) Overview

At a high level, Emerald Family's security plan details the following components:

- Facility Security, including perimeter fencing and entrance/exit protocols, access controls for each building, and heightened security for high-value areas
- Prevention and Detection of Diversion and Theft, which summarizes the procedures that deter and catch diversion, including the use of sophisticated seed-to-sale tracking software and regular inspections
- Incident Management and Emergency Response, which outlines the response and reporting process personnel will follow during incidents
- Personnel, which explains the training and background checks that ensure all personnel contribute to the facility's security
- Shipping and Transportation, which outlines how security agents will keep these vulnerable procedures as secure as possible

- Video Surveillance and Lighting, which ensure all movement on-site at any time will be captured
- Alarm Systems, including passive alarms and buttons staff can activate on an independent channel
- Power Failure Response, switching to auxiliary power and alerting both security guards and monitoring companies of the circumstances
- Cyber Security, which outlines how Emerald Family will keep valuable records safe and secure

In order for these components to effectively operate as a unit to ensure the security of the facility, Emerald Family has adopted two guiding strategies:

First, where possible, limit access. Identification must be shown, and a copy kept on file, for all individuals accessing the site, and under no circumstances will anyone under the age of 18 be permitted access. Records of who is permitted to access the premises and any given area will be kept, along with records of actual access. This ensures all access is tracked and traceable, minimizing diversion, theft, and suspicion. In addition, Emerald Family will designate specific areas (Limited Access Areas, or LAA) with heightened security measures.

Second, always use double verification procedures. Setting up these standard operating procedures ensures at least two people, along with commercial-grade surveillance equipment, will oversee all transactions and transportation arrangements. Together these two strategies establish a security system that both deters and catches problems.

The entire facility is a secure zone. The back will have two security fences, managing the flow of delivery trucks. All shipping and receiving will take place inside security gates and will not be visible off-site. Employee parking will be at the back, but inside the fence line. The back will only be accessible during anticipated arrival or departure times. The front will be more open, but will be continuously monitored by surveillance cameras and consistently patrolled by a security guard. Parking for visitors will be in this area. All entrants will need to verify credentials on camera with the entry-point guard, who will record the date, time, and license plate of all entrants. Visitors will require an escort at all times. Buildings and grow areas within the perimeter will be secured with electronic locks and unique codes that log the entry times of all accesses and access attempts.

Other high-level requirements in Emerald Family's security protocols include:

- Detailed security protocol knowledge will be restricted to security personnel.
- Compliance with security protocols is a mandatory job requirement.

Bill Keller (Omni Security Services), Director of Security

As the Director of Security, Bill Keller and Omni Security will design and manage security operations at Emerald Family's Willow Creek facility. He is currently in charge of transportation and site security for Emerald Family, and will continue to develop plans and strategies as needs arise. Mr. Keller has more than 20 years of experience in law enforcement as a Sheriff's deputy, where he led investigations, conducted SWAT raids, and regularly patrolled rural areas. He was a special operations agent in the military, and is a trained tactical paramedic and registered nurse. As a security agent, Mr. Keller has also directed security at major concerts and sporting events across the U.S. His skill sets and training capabilities include: firearms basics, techniques and safety; legal and responsible use of force; covert techniques of threat assessment and risk education.

Summary of responsibilities:

- Liaison to the executive staff and Board
- Security Plan review, update, and implementation
- Compliance with local and state security regulations
- Oversight of third-party security vendors
- Oversight of security training and reporting
- Liaison with emergency services and law enforcement

Omni Security Services will provide additional support as needed for Emerald Family. The company specializes in fixed site security, transportation security, special event security, guard services, and executive protection. All of its agents are trained and managed by current law enforcement, and are rigorously screened and tested. The company's physical and educational requirements exceed those of most state, local and federal law enforcement agencies.

Hiring Certified Security Guards

Emerald Family will hire security guards through a security guard company that offers training and support services. Per California standards, security guards must have completed 40 hours of required training, and an annual 8-hour refresher training course.

The security guards' role shall be to protect the people and property on the site. Their responsibility before any incident occurs will be to prevent any incidents. During or after incidents their role will be to observe and report.

Updating and Annual Review

Emerald Family recognizes that required security measures may change over time. The Director of Security, with the authorization and approval of Emerald Family owners and management, may update the standards and procedures of the Security Plan.

The Director of Security will review the entire Security Plan at least annually, and will present to the owners and management findings as to its sufficiency and appropriateness.

Following any substantive updates, the Director of Security will oversee appropriate training.

Physical Copy of Security Plan and SOPs

Emerald Family will maintain on-site at all times a physical copy of the most up-to-date version of the Security Plan and all related standard operating procedures.

Emergency Contacts

Per Humboldt County 313-55.4.11 (t) (vi), Emerald Family will at all times maintain at all cultivation, processing, and manufacturing locations, as well as at security stations, emergency contact numbers for the following:

- Emerald Family operation manager
- Emerald Family Director of Security
- Fire Department (both emergency and non-emergency)
- Police Department
- Department of Health contact
- 9-1-1
- Poison control center
- Alarm and surveillance companies
- Security guard company

The Director of Security is responsible for ensuring the listed numbers are up to date and will ensure they are reviewed and updated at a minimum quarterly.

Proactive Engagement with Emergency Services and Law Enforcement

The Director of Security will develop and maintain appropriate lines of communication and ensure appropriate authorities are aware of substantive changes in security procedures. The Director of Security will seek to develop collaborative opportunities to improve site security, such as through training opportunities and observation patrols.

b) Facility Security

The facility security is designed to deter security breaches from the outside in. The facility will feature overlapping physical security measures and procedures that control access to cultivating and processing areas, enhance security at vulnerable times and locations, and enable rapid response in the event of an incident.

Emerald Family's site plan shows the entire complex of processing and cultivating buildings, including the nearby streets, parking lot, and any other entities that physically border the site.

Cannabis and associated products will not be visible from any public property or property controlled by the cultivation center.

Perimeter Security

This section describes the measures designed to prevent unauthorized access to the complex.

Fencing

The back will have two security fences, managing the flow of delivery trucks. All shipping and receiving will take place inside security gates and will not be visible off-site.

Employee parking will be at the back, but inside the fence line. The back will only be accessible during anticipated arrival or departure times. The front will be more open, but will be continuously monitored by surveillance cameras and consistently patrolled by a security guard. Parking for visitors will be in this area.

As described in the section on Alarms, the perimeter will be alarmed.

Entrance and exit protocols

Entrance and exit protocols are designed to restrict entrance only to those with sufficient reason to be on the premises, and to ensure that at all times security is aware of all people on the premises and the areas they are authorized to be present in.

The complex has a single entrance through the perimeter fencing, with a guard stationed there at all times.

Upon seeking entrance, prospective entrants will submit their identification to the guard, who will categorize them into one of four types:

1. Authorized personnel: employees of Emerald Family, and contracted security personnel.
 - a. Must show: Emerald Family-issued ID and government-issued ID.
2. Visitors, such as third-party vendors or potential clients.
 - a. Must show: Government-issued ID.
 - b. Must be present on an appointment or delivery list.
3. Official visitors, including regulatory officials, law enforcement, or other persons as determined by Emerald Family.
 - a. Must show government-issued ID.
 - b. Must show appropriate documentation for an unscheduled inspection or must be present on an appointment list.

4. Unauthorized persons, such as former employees or prospective visitors without valid appointment documentation.
 - a. Must show government-issued ID for verification procedures.
 - b. Management and the Director of Security will be notified, as appropriate.
 - c. Will not be permitted onto the premises.

Identification must contain a picture, date of birth, be currently valid and not have expired. If the entry guard suspects ID fraud, the entry guard will deny the prospective visitor access, and will notify the authorities.

All visitors and official visitors shall sign the visitor log on camera, and will be escorted (within line of sight) at all times. Prior to letting these individuals onto the premises, the security guard will contact the authorized personnel who will be responsible for their conduct. Authorized personnel may escort a maximum of five visitors or official visitors.

Each person permitted to enter the complex shall display a color-coded badge at all times. They shall appear above the waist on the front part of the person's body. This will ensure that any unescorted visitors are easily identified.

Prior to exit, all persons shall check in with the security guard and present the same identification as required for entrance.

All vehicles will be visually inspected before entering and leaving the premises to ensure no unauthorized persons or material is entering or leaving. This may include visual inspection of the interior, including trunks. All entrants or attempted entrants, including copies of ID, time of arrival or departure, and vehicle make, model and license plate number will be logged by the guard.

Visitor protocols

Summary of visitor protocols:

- All vendors, contractors, state or local government representatives, and all others without permanent Emerald Family-issued ID, are considered visitors.
- Before being permitted to enter the premises, all visitors shall provide proof of age and ID, already be included on an expected list of visitors or show official documentation of an unscheduled inspection or authority to perform such inspection, and sign the visitor log on camera. The entry guard will verify that the name on the identification matches the name in the visitor log.
 - Identification must contain a picture, date of birth, valid and not expired.
 - Under no circumstances will anyone under the age of 18 be permitted access to the site. If the guard suspects identification fraud, he will report it to law enforcement and management immediately, and record such in the incident log.
- All visitors or official visitors shall be escorted at all times.
- Escorting means within reasonable line of sight.

- A single employee may escort no more than five visitors.
- The escorting employee shall log all access by visitors to Limited Access Areas at the time of the access.
- Compensation may not be used as leverage for allowing visitors on-site.

Interior Security

This section describes the measures designed to prevent unauthorized access within the complex, to monitor personnel and valuables on the grounds, and to respond to situations or alarms.

Access controls and locks

Buildings within the perimeter will be secured with electronic locks and codes unique to each authorized employee that log the entry times of all accesses and access attempts. The Director of Security has the authority to allow or disallow employee access to any of these locks, and will maintain records detailing all allowances. The Director of Security will investigate all attempts at access to areas where employees are not authorized.

Building construction and materials

All buildings on the property will be constructed of materials that resist unlawful entry and protect from outside intrusion. The integrity of structures will be maintained by periodic inspection and repair.

Security guards: Area monitoring and loitering response

The area to the front of the facility will be open and inviting to the public. However, it is not open for loitering or suspicious activity. At all times there will be two security guards on-site. As part of their patrol pattern, these guards will be trained to monitor the area surrounding the facility, including the public area in the front. Loiterers will be warned, with warnings recorded in the facility incident log, and will be reported to law enforcement as warranted.

Limited Access Areas

Emerald Family's Director of Security may designate areas of the premises as Limited Access Areas (LAA). Typically an LAA will be an area of the premises containing cannabis plants or product, business records, security or surveillance equipment, or cash. However, the Director of Security may designate additional areas as LAA at his or her discretion.

All LAAs are considered heightened security areas. The Director of Security will specifically review access authorization to these areas at least on a monthly basis, and will strive to limit access authorization only to personnel who require that access. No visitors will be permitted into an LAA without advance documentation and

authorization. Official visitors present for purposes of inspection will be permitted as required, but shall be accompanied by the Director of Security or other senior employee.

All access to LAAs will be recorded through the lock's electronic log and by video surveillance. The Director of Security will review these records at least monthly.

Greenhouse opening and closing protocols

Emerald Family will designate supervisor-level staff. In order to open a greenhouse or other Limited Access Area building from a secured situation, one of these supervisors must enter his unique entrance code. Standard operating protocol will be for one of the on-site security guards to accompany the supervisor for the first entrance of the day and for a quick review of the facility's status. This ensures that two authorized personnel are on-hand each time a facility is opened. Both will confirm in a written log that the facility status is normal before admitting additional personnel to the facility.

The last person to leave the Limited Access Area building (including greenhouses) must be a supervisor. Standard operating protocol will be for one of the on-site security guards to accompany the supervisor for a final walk-through of the facility, and for both to confirm in a written log that the facility status is normal. The supervisor must enter his unique code in order to secure the facility.

A supervisor must follow this exit protocol to secure the facility each time the Limit Access Area building (including greenhouse) is left unattended.

Security will always monitor personnel leaving the facility.

Product Security

All areas where cannabis clones, culture, plants, or products are stored, processed, manufactured, shipped or received shall be defined as LAA.

These areas will include large climate-controlled vaults for finished products, large climate-controlled storage containers for intake, and a separate climate-controlled storage intake for products that have passed testing.

Record Security

All areas where business records, including employee files and surveillance footage, are stored shall be defined as LAA. Records shall be stored as digital files on access-limited computers. Documents will also be printed and stored in locked filing cabinets within areas defined as LAA.

Records stored on-site include 60 days of surveillance footage and business and incident records dating back five years.

The Director of Security will at least weekly verify the integrity of the records, and review the logs to ensure there has been no unauthorized access. In the event of a records security breach, the Director of Security will work with the executive staff to review all recordkeeping and security policies to identify deficiencies, corrective measures, and to rectify any compromised information. The Director of Security will also report such incidents to law enforcement if appropriate.

c) Prevention and Detection of Diversion and Theft

Prevention of diversion and theft is the priority of the security plan. It is top of mind for Emerald Family management, for state and local oversight, and for law enforcement. Once the complex's perimeter is secure, approaches to risk mitigation affect all areas of Emerald Family's operations.

Most of these protocols are detailed in other areas of Standard Operating Procedures.

Zero tolerance for diversion

Any person that is part of or aware of any theft or diversion of cannabis will result in immediate termination and reporting the incident to the proper authorities. All personnel will sign documents agreeing to this clause before being permitted to enter the facility for the first time, and these documents will be stored with the employee's file.

Individuals who are not authorized to be on the premises will not be permitted to enter. Visitors will be escorted at all times, and at no time will there be more than five visitors per single escort.

Inventory Management

Although use of the perpetual inventory tracking software is detailed in the inventory control plan, this software and related physical inventory checks are the primary means for detecting diversion and theft. Security protocols support the perpetual inventory tracking software by deterring deliberate inaccuracies, and by setting out how Emerald Family responds to problems in reconciliation.

Daily inventory verification

Two authorized persons, including at least one supervisor will perform physical inventory checks every day, to verify the accuracy of the computerized inventory management system.

Protocols while using the inventory tracking software

Emerald Family will use perpetual inventory tracking software.

While gathering and entering information into the perpetual inventory tracking software, employees will face a working surveillance camera and ensure that the camera captures all data in its original form. For example, while weighing cannabis, the scale must face a video surveillance camera with high enough resolution to capture the weight on video. The camera shall be set up such that the employee's identification, face, and the relevant details will all be visible on the record.

Responding to inventory discrepancies

All inventory discrepancies will be noted in the incident log, along with any resolution or explanation that is determined.

All inventory discrepancies will be reported to the Director of Security, who will assign security staff to investigate and review relevant surveillance footage. The staff will report at least daily to the Director of Security on the steps and findings of the investigation. All investigations shall be resolved within five business days with a written report.

The Director of Security will establish a threshold of discrepancies above which all incidents must be reported to law enforcement. As soon as any such discrepancy appears, the Director of Security will initiate a review of all security protocols and inventory control checks.

Cannabis storage

All cannabis shall be maintained in a secure and locked room that is accessible only to authorized persons. All cannabis that has been processed or manufactured but remains on-site will be stored in a climate-controlled vault or secure storage container.

Cannabis waste disposal

As detailed in the waste disposal plan, all cannabis waste products will be rendered unusable and unrecognizable prior to being composted on-site or sent to an off-site composting partner.

Prior to rendering the Medical Cannabis unusable, an Emerald Family employee will enter weight, quantity, cultivar, variety, batch number, and disposal reason information about the medical cannabis into the inventory system. At least two authorized personnel, including a supervisor-level employee and a security guard or the Director of Security, must be present during the disposal process, and all parts of the disposal process must take place under video surveillance that has been confirmed by a security guard or the Director of Security to be operational. The documentation of this event will be maintained for at least 5 years.

No on-site consumption

These facilities shall not permit the consumption of cannabis at the registered premises in any form. Any cannabis paraphernalia that shows evidence of the cannabis having been consumed or partially consumed shall be reported to the proper authorities. The owner will need to place smoke detectors around premises and routinely monitor surveillance to prevent the use of cannabis on the registered premises. This is a major offense and it is pertinent that this rule be strictly adhered to.

The exception is that patients with medical recommendations for cannabis will be permitted to use their medication as appropriate in a designated area of the facility.

d) Incident Management and Emergency Response

The emergency response plan and measure for incident management will be updated in response to any applicable local, county, and state regulations. Provisions include safety procedures for natural disaster, unauthorized access, theft, or disclosure of confidential information.

These protocols should not become public knowledge, as this would constitute a security risk.

Incident management protocol and emergency response plans will be designed to effectively ensure:

- The safety and security of our employees
- The immediate safety and security of the surrounding area and community
- The facility's return to a safe, secure, and normally operating condition
- Quick, expedient notifications for all product and/or safety recalls

As described in the section on Personnel, all on-site personnel shall undertake mandatory training on incident management and emergency response.

For the purposes of incident management and emergency response, all on-site personnel fall into one of the following categories:

- Security guards: primary responsibility to responding to and reporting incidents
- Supervisors: primary responsibility for investigating or recording incident details
- Personnel: responsible for reporting incidents if witnessed, and responding to incidents in their area of expertise, if appropriate
- Visitors: responsible for reporting incidents if witnessed, otherwise only responsible for following the directions of their escort or security guards

If emergency services are involved in an incident response, to the extent possible Emerald Family security guards will accompany them on-site.

Incident Assessment

The following describes the main types of incidents and patterns of responses.

Inventory discrepancy or diversion risk

Examples of this incident type:

- Plant Count Discrepancy
- Gram Count Discrepancy

These incidents will typically be noted during a physical inventory verification procedure, or when inventory is being processed/modified from one form to another. The person noting the discrepancy will report to the supervisor, who will record the discrepancy in the incident log and monitor a repeat of the inventory procedure and initial the discrepancy in the incident log or provide an explanation of the discrepancy if it was a mistake.

If the discrepancy is not immediately resolved, the supervisor will initiate an inventory investigation. The Director of Security will oversee an investigation into determining the cause of the discrepancy, with daily reports to the supervisor and management, wrapping up the investigation within a week of the initial report.

Infrastructure risks

Examples of this incident type:

- Loss of power
- Loss of internet connection
- Technology failure (printers, label printers, computer, hard drive)
- Structural failure (roof, plumbing, HVAC)

In the event of power failure, the security system will immediately alert security guards and the Director of Security, and transition to auxiliary power. See the section of the security plan titled “Power Failure Response.”

These incidents will typically be noted during regular operating procedures. Security guards will be required to verify that security equipment is operational and functioning each shift, while personnel will notice other equipment when it comes time to use that equipment.

The person noting the infrastructure risk will inform the supervisor, who will make a note in the incident log, and notify the appropriate administrator to ensure maintenance takes place. The supervisor will be responsible for following up in a timely manner.

If the Director of Security has classified the equipment as security-critical, the supervisor will initiate the operational shutdown response detailed below.

If there are repeated issues, the supervisor may initiate maintenance policy revisions, or if the circumstances seem suspicious, a security breach investigation. The Director of Security will oversee this investigation and will keep both management and law enforcement informed at least on a daily basis. This investigation will wrap up within two weeks of the investigation launch.

Security protocol breach

Examples of this incident type:

- Doors to Limited Access Area left open
- Product left exposed/unattended
- Surveillance camera footage left unsecure

All such incidents will trigger the Director of Security to review the relevant security protocols and seek to identify means to prevent additional breaches.

As soon as this type of incident is discovered, it will be reported to the supervisor, who will record it in the incident log and report it to the Director of Security. The Director of Security will investigate to determine the cause of the incident. The Director of Security will also work with the supervisor to verify that no inventory discrepancy or other security breach has taken place as a result of the incident.

Any breach of security protocols is grounds for dismissal; however, at the Director of Security's discretion, the employee may receive additional training instead. This decision must be recorded in writing and entered into the employee's file. If the employee has breached security three times within six months, the employee will be terminated. If more than one employee in one area of the facility has breached security within six months, the Director of Security will oversee refresher security training to all personnel and supervisors in that area of the facility.

Fire, accident, or natural disaster

Examples of this incident type:

- Fire
- Earthquake
- Chemical spill

Personnel will receive detailed on-site instructions and drills in person and in writing on how to respond to these incidents in an appropriate and orderly fashion. Emergency procedures and emergency contact numbers will also be posted prominently in all areas

of the facility. The intent is to prevent non-security-related emergencies from becoming aggravated security emergencies as well.

Steps may include triggering the fire alarm, alerting security guards of the location, contacting emergency services, or otherwise responding as appropriate to the emergency situation. If the alarm is triggered, personnel will be expected to follow the operational shutdown protocol below.

From a security standpoint, the response procedures are intended to ensure that all personnel remain safe and that there is no threat of diversion during or following the incident.

Security threat

Examples of this incident type:

- Alarm
- Suspicious activity (internal, external, or suspected ID fraud)
- Hostile activity (confrontation with people or animals that compromises physical safety)
- Robbery or burglary

A third-party monitoring company will help deter, detect, and document these sorts of security events. The alarm company will monitor for fire as well as for security breach of doors and windows. Trained professionals from the monitoring center will be able to access the security surveillance system for video certification purposes, and will report and document any suspicious activity.

Personnel will receive detailed on-site instructions and drills on how to respond to these incidents. The response protocols prioritize the safety of all personnel. Panic and duress alarms may be used as appropriate according to personnel training protocols.

In the event of a strong-arm robbery, all personnel will know to cooperate with demands.

Notify authorities, security, and supervisors after the threat has left the premises, or when safe to do so.

Security guards are trained to prevent these incidents, where possible, and to mitigate risks as much as possible. During incidents, security guards will observe and report. They may also institute operational shutdown or facility lockdown procedures, but only to the extent that doing so will not put personnel at risk.

All such incidents, even false alarms, must be reported to a security guard and to a supervisor. The supervisor will record the incident in the incident log and will notify the

Director of Security, who will, as appropriate, notify law enforcement. If appropriate, the Director of Security will update the security protocols.

Official visit/inspection

Examples of this incident include:

- Federal officials
- Police/Sheriff
- Fish and Game, Fire, Building, or Health and Safety visit/inspection

Personnel will receive instructions on how to respond to these incidents. Compliance with official visitors will be paramount. However, official visitors remain visitors, and must be accompanied at all times on-site. Supervisor-level staff will be the escorts for official visitors, although in the event that there are more than five official visitors, non-supervisors may assist as escorts to ensure that the ratio of at least one authorized personnel per five visitors is preserved.

Incident Response

Facility lockdown

During heightened security due to suspicious or dangerous activity occur, security personnel may lock down the facility and parking lot. This lock down would cause lockdown-specific alarms, either by sound or visually depending on the circumstances, which all on-site personnel are trained to understand and respond to appropriately. Under these circumstances, security guards have the responsibility of preventing access to or from the facility and of remaining in communication with emergency responders.

If possible, supervisors will securely lock their own buildings in order to prevent intrusion.

The lockdown will remain in effect until police have arrived and investigated the incident.

For all such incidents, the Director of Security shall write a detailed incident report for the log. This report may include input from any or all on-site supervisors, security guards, and relevant personnel or visitors. The report will be prepared within a week of the incident and the Director of Security will present this report to management together with any recommended changes to the facility's security plan or standard operating procedures.

Operational shutdown

Operational shutdown is required in the event that the site needs to be evacuated. This may occur because of an emergency, such as fire or chemical spill, or a security risk limiting the efficacy of facility security systems.

There will be a designated evacuation area on-site and designated monitors who will be required to check-in all on-site personnel (cross-checked with the on-site personnel log) at the evacuation area. Supervisors should secure their Limited Access Areas in the event of an evacuation.

Personnel will not be permitted to leave the evacuation area or the facility without the usual exit search by Emerald Family security guards.

Incident Reporting and Incident Log

Incident records will be stored on-site for at least five years, and will be available in digital form to facilitate finding patterns in the incidents. Logs may be recorded in tamper-proof written logs during shifts but must be digitized daily.

Only supervisor-level staff will have access to incident logs.

All incidents must include at least the following information: date, time, supervisor recording data, person or people reporting the incident, type of incident, incident summary, preliminary impression of cause, required response, person responsible for next steps.

These reports will be made available to authorities during any inspection of the facility.

Post-incident Review

Supervisors will review incident logs every shift. The Director of Security will review incident logs daily. In the event of incident patterns, the Director of Security will consider updating the security protocols or offering additional training in order to prevent such problems.

e) Personnel

All personnel on the complex have a part to play in implementing the security plan. Making sure that personnel accurately implement security procedures is as important as physically securing each facility and having emergency response procedures in place. Consistent, proactive security training and enforcement greatly reduce the likelihood that emergencies will arise.

Security guards

Emerald Family will have two security guards on-site at all times. During times when deliveries are expected or staff is anticipated to be arriving or departing, a security guard will be actively manning the rear entrance to the facility. Otherwise this entrance will be secured and monitored during guard patrols.

Security guards are also responsible for:

- Patrolling the facility at all times
- Monitoring and deterring loitering, unauthorized on-site consumption of medical cannabis, and other suspicious activity
- Supporting supervisors during opening and closing of on-site limited access areas
- Securing transfers of cannabis to or from vehicles for off-site transportation
- Deterring problems
- Observing and reporting problems when they occur
- Verify all security equipment is functioning correctly and identify required cases of preventive maintenance for security equipment
- Other duties as required

Background checks

Background checks will be performed on all employees, volunteers, principals, directors, and board members. Background checks are also required for any contractors or vendors who regularly work within the facility or will be employed there for an extended time. Copies of any public records obtained through the background check process will be provided to the individual concerned. To ensure transparency, a third party will conduct the entire background checking process.

Emerald Family will follow state and local requirements for limiting the hiring of staff with records. Unless required to do so by law, Emerald Family will not refuse to hire an individual solely because of minor cannabis-related offenses.

Personnel Records

Personnel records for each employee, agent, or volunteer shall be maintained from the employee start date and for at least 5 years thereafter.

Training and drills

All employees will undertake a two-week training program prior to receiving authorization to work on-site at the facility. Emerald Family will update this training program if required to meet state or local requirements.

At a minimum, the complex will train and drill all authorized personnel, including employees and security guards, on the following, which meets the requirements of Humboldt County 313-55.4.11 (t) (v):

- Emergency action response planning as necessary
- Employee accident reporting and investigation policies
- Fire prevention
- Hazard communication policies, including maintenance of material safety data sheets (MSDS)
- Materials handling policies per the Hazardous Materials Plan
- Job Hazard Analysis
- Personal protective equipment policies, including respiratory protection
- Security procedures, including prevention of crimes and diversion
- Safety procedures, including medical emergencies, fire response, chemical spills, threatening events including armed robberies and invasion, and raids
- Visitor protocols
- Secure electronic recordkeeping
- Inventory control system
- Cannabis laws and regulations (local, state, federal)
- On-site behavior (see below)

In addition to training and periodic drills, all employees shall receive official Emerald Family reference material, written in plain English and presented in an easy-to-use outline format, explaining all operational, safety, and security policies and protocols.

Preparedness means all staff members know how to assess emerging situations to determine the type and level of threat they may post; they know how to respond to different kinds of security threats; they know which types of situations warrant the activation of panic buttons; and they know how to proceed when a security alarm goes off or a panic button has been activated.

On-site behavior

All personnel will receive training pertaining to on-site behavior. This follows the “see something, say something” philosophy to encourage all personnel to be a part of the facility’s security protocols.

Key points of this protocol include:

- All individuals on site must keep their face un-obscured and recognizable
- All individuals on site are expected to remain aware of their surroundings, to engage other people with pleasantries, and to make eye contact. This minimizes the potential for anonymity that may be the precursor to crimes such as robberies or theft.

All personnel will also be trained on security protocols and that they are expected to report any breaches of security, such as an open door on a limited access area.

Personnel will also be given clear direction as to where cannabis or cannabis products may be consumed by patients with medical recommendations. Other than the designated areas for this consumption, on-site consumption is strictly prohibited and may result in immediate termination.

f) Shipping and Transportation

Transportation schedule

At no time will an unscheduled delivery or transportation be permitted. All shipments shall be accompanied by an appropriate manifest linked to the inventory control software.

Shipping and receiving

All deliveries from suppliers and vendors will only be received at the designated shipping and receiving location, which shall not be visible from off-site. Each delivery will have a scheduled time, and vendors (including those picking up materials for off-site shipment) will have to strictly observe the vendor security protocols as follows:

1. Upon arrival at the main gate, security personnel will verify the vehicle against the vendor manifest provided by the appropriate supervisor.
2. If the vendor is not arriving close to a prescheduled delivery time, the security personnel will not permit the vendor to enter. The security personnel will record the time, date, vendor name, on-site contact, vehicle information, and require the vendor to leave. Otherwise:
3. Security personnel will notify the appropriate supervisor that the vendor is on-site.
4. Security personnel at the main gate will perform standard entry verification procedures:
 - a. Record the time and date.
 - b. Vendor personnel, including driver, must present government-issued identification. The security personnel will photocopy this and visually verify that the vendor matches the image on the ID card. The ID card will be scanned by security personnel and checked against a manifest of vendor drivers for that vendor. If any of these fail, the security personnel will not allow the vendor to enter.
 - c. Record the vendor vehicle's information including vendor name, license plate number, and vehicle registration.
5. Security personnel will notify facility staff directly responsible for receiving operations that the vendor vehicle has arrived and is on its way to the receiving area.

6. Security personnel and the appropriate Emerald Family escort will direct each vendor vehicle through the facility grounds to the receiving bay.
7. Only one vendor will be permitted in the shipping and receiving area at a time.
8. Emerald Family staff directly responsible for the shipment will meet the vehicle at the receiving bay, verify delivery manifest, and sign the appropriate documents to verify that the delivery manifest meets expectations.
9. Goods will be unloaded (or loaded, in the case of delivery drivers picking up product) onto the designated receiving dock or area by facility personnel.
10. Emerald Family staff will update the inventory control system as appropriate.
11. Only after the vehicle has left the shipping and receiving area will the goods be transported to their designated on-site location.

During the shipment receiving process, there will be at least one security guard present, and at least two representatives of Emerald Family, including at least one supervisor.

In addition, all such shipment procedures will take place in areas fully covered by video surveillance. During the manifest verification process, to the extent possible, all products will be verified on camera.

g) Video Surveillance and Lighting

One of the primary tools for the security team is video surveillance, which shall be supported by appropriate lighting. The entire facility shall be covered by video surveillance, which will monitor every room at all times.

Footage shall be recorded and stored for at least 60 days. The Director of Security shall verify this at least weekly.

The recording system includes a failure notification protocol whereby if any camera ceases to function, the Director of Security and surveillance monitoring company will be immediately notified. This will prompt an incident report. In addition, security guards will verify that security equipment is functioning properly at least once per shift.

In the event of power failure, the video surveillance system has at least four hours of back-up power.

Access to surveillance footage

Only supervisor-level staff and security guards have access to security surveillance footage. At all times someone on-site shall have the ability and authority to access the security surveillance footage in the event that authorities require the footage. Persons with access to this footage shall receive training in pulling high-resolution still images from the footage, in case the authorities request such an image. All such requests must be recorded in the incident log and reported to and reviewed by the Director of Security.

Access to security surveillance footage shall require password or keycard access creating an electronic trail. The Director of Security shall verify at least weekly that there have been no unauthorized accesses to the security footage.

h) Alarm Systems

The alarm system supports the security team with passive monitoring. At a minimum, the alarm system shall provide coverage of the complex perimeter, all facility entrances and exits, rooms with exterior windows, rooms with exterior walls, roof hatches, skylights, and rooms identified for product or record storage.

When the alarm goes off, it will alert on-site security guards, management, and a third-party monitoring company with access to the complex's video surveillance. On-site security guards will respond immediately, and remain in constant communication with the third-party monitoring company who shall have access to on-site video surveillance. If appropriate, management or the third-party monitoring company will alert the authorities. In these events, an Emerald Family representative will immediately head to the facility to work with the authorities as required.

Any instance of the alarm going off, even if determined to be a false alarm, shall be recorded in the incident log. Incidents shall be kept on file for at least five years.

In the event of power failure, the alarm system has at least four hours of back-up power.

Alarm system description

The control panel shall be a UL listed burglar alarm control panel. The system shall report to a UL listed central monitoring station. A test signal shall be transmitted to the central station every twenty-four hours. At a minimum, the system shall provide coverage of all facility entrances and exits, rooms with exterior windows, rooms with exterior walls, roof hatches, skylights, storage rooms that contain a safe or safes, and all fences. The system shall include at least one holdup alarm for staff use, and the system shall be inspected and all devices tested annually by a qualified alarm vendor. Panic buttons may also be provided for personnel in sensitive locations.

i) Power Failure Response

Many of the security team's state-of-the-art equipment require power to operate. Emerald Family has provided four hours of back-up power for this equipment.

The security system will include a failure notification system to provide an audible, visual, and text notification of any failure in the surveillance or alarm systems. The audible and visual notifications will be on-site at the equipment monitoring station. A

text alert will go out to the security guards, Director of Security, and management within five minutes after the failure. These notifications will be by both text message and email. The message will include the time of failure, type of failure if known, cause of failure if known, extent of systems malfunctioning, and contact information for the security company. This will allow Emerald Family to make informed decisions regarding whether it is possible to keep the facility open while the failure is corrected, if police action is warranted, and how to go about correcting the failure. The facility will not operate or allow personnel on-site if the surveillance equipment is not functioning.

j) Cyber Security

Facility data and information are as valuable as the products that are sold at these facilities due to the extreme scrutiny they are under. It is advised that extreme measures be taken to back-up data and pertinent information as well as the below recommendations:

- Using proper virus protection and firewalls
- Keeping software and OS updated
- Using passwords and changing them frequently
- Using secured wireless networks
- Restricting web browsing
- Initiating frequent and secure data backups
- Limited access to the internal network by using unique user passwords
- Maintaining cloud service of facility information for recordkeeping and security purposes

Emerald Family will use video cameras in the IT rooms as well as inside the designated security headquarter command center to provide evidentiary video of unauthorized personnel tampering with the servers or the actual security system (recorder) itself. A camera will be pointed directly at the security recorder that not only records directly onto the NVR, but also is sent off-site and recorded by an outside IT security firm.

All data and information from the security system and from the perpetual inventory control system will be secured, encrypted, and backed up automatically every night, not only to a private server on site, but also to a secure, off-site server location. Should there be an emergency, natural disaster, or criminal breach at the facility, all data will remain safe and remotely accessible on the remote backup server. Back up to a secured data “cloud” is another service that will be used.

All client records will be stored per HIPAA and applicable California privacy laws.

Appendix H: Compliance Plan

Emerald Family commits to complying with all applicable state and county laws. This application is intended to comply with all requirements and to demonstrate Emerald Family's commitment to continued compliance, safety, and quality standards. In the event of additional requests for information, Emerald Family shall provide documentation or responses quickly.

This compliance begins with, but is not limited to, the following:

- Humboldt County Ordinance No. 2544, creating Humboldt County Code 313-55.4 of Chapter 4 of Division 1 of Title III
- North Coast Regional Water Quality Control Board Order No. 2015-0023 and all other status, regulations and requirements of the California State Water Resources Control Board, Division of Water Rights
- California Medical Cannabis Regulation and Safety Act, comprised of Assembly Bill No. 266, Assembly Bill No. 243, and Senate Bill No. 643, and future regulations authorized by MMRSA
- All applicable federal, state, and local laws governing California Agricultural Employers, which may include: federal and state wage and hour laws, CAL/OSHA, OSHA, California Agricultural Labor Relations Act, and the Humboldt County Code (including the Building Code)

Emerald Family commits to updating all appropriate plans, documents, and standard operating procedures to ensure continued compliance even in the context of regulatory changes.

In addition to this general commitment to compliance, and to the specific commitments made throughout this application, Emerald Family reiterates its intent to implement the following compliance-related measures:

Operating under appropriate permits

- Emerald Family will not begin cultivating cannabis without appropriate authorization from Humboldt County, and will comply with all special conditions required by that permit
- Prior to the implementation of MMRSA, Emerald Family will operate under the auspices of Prop 215, SB420, and the California Attorney General's guidelines of 2008, with appropriate non-profit and collective paperwork

- Emerald Family will abide by requirements of the MMRSA license applications and any applicable regulations promulgated according to MMRSA and related legislation
- Emerald Family shall pay all applicable application, permit, and inspection fees

Acknowledgements

- Per 55.4.5, Emerald Family shall indemnify and hold harmless the County of Humboldt and its agents, officers, elected officials, and employees for any claims, damages, or injuries brought by affected property owners or other third parties due to the commercial cultivation, processing, manufacture, or distribution of cannabis for medical use and for any claims brought by any person for problems, injuries, damages, or liabilities of any kind that may arise out of the commercial cultivation, processing, manufacture, or distribution of cannabis for medical use
- Per 55.4.10 (k) and 55.4.11 (i), Emerald Family consents to onsite inspection of the parcel by County officials prior to issuance of any clearance or permit, and once annually thereafter. Such inspections shall take place at a prearranged date and time, during regular business hours, with at least 24 hours prior notice, with timing determined in consultation with the applicant.
- Per 55.4.10 (n), Emerald Family acknowledges that the County reserves the right to reduce the size of the area allowed for cultivation under any clearance or permit issued in the event that environmental conditions, such as a sustained drought or low flows in the watershed in which the cultivation area is located, will not support diversions for irrigation.
- Per 55.4.10 (o), Emerald Family acknowledges that the County reserves the right to engage with local Tribes before consenting to the issuance of any clearance or permit, if cultivation operations occur within an Area of Traditional Tribal Cultural Affiliation
- Per 55.4.11 (q) and MMRSA Health and Safety Code 19322(a)(9), Emerald Family shall provide a statement declaring Emerald Family to be an “agricultural employer”

Responding to inspections or violations

Emerald Family commits to complying with all applicable laws at all times.

If, during the inspection for the initial application, the inspector should identify violations of any building or other health, safety, or other state or county statute, ordinance, or regulation, Emerald Family will work with the inspector and any relevant enforcement agencies to establish a compliance agreement to abate or cure violations

at the earliest feasible date, which shall in no event be more than two (2) years of date of issuance of a provisional clearance or permit.

Emerald Family shall provide plans for curing such violations to the Planning & Building Department within one (1) year of issuance of the provisional clearance or permit.

These violations may include:

- Land conversions
- On-site grading
- Electricity usage
- Water usage
- Agricultural discharges
- Other similar matters limited to those improvements, facilities, buildings and sites that are used for commercial cannabis activity

If Emerald Family desires to appeal the terms of the compliance agreement, or of a later annual inspection, within ten (10) days after delivery of the statement of non-compliance, Emerald Family will appeal to the Planning Commission or Zoning Administrator, acting as Hearing Officer, and pay the appropriate fee, per 55.4.11 (a) and 55.4.13.

Site setbacks

Per 55.4.11 (d):

- All cannabis cultivation, processing, manufacture or distribution shall be located as shown on the application site plan
- All such activities shall be set back at least 30 feet from any property line, and 600 feet from any school, school bus stop, Church, or other place of religious worship, public park, or tribal cultural resources, unless there is express consent of the adjacent property owner and occupant
- Cultivation areas and associated facilities shall observe all required setbacks from watercourses, wetlands and Environmentally Sensitive Habitat Areas, as described within sections 313-33 and 313-38 of the code, as well as applicable resource protection policies and standards of the Local Coastal Plan

Water compliance

- Per 55.4.11 (e) and (f), Emerald Family shall maintain enrollment and certification in the appropriate Tier 1, at least complying with Tier 1 standard conditions, per North Coast Regional Water Quality Control Board Order No. 2015-0023

- Per 55.4.11 (g), Emerald Family shall comply with the terms of any applicable Streambed Alteration Permit obtained from the Department of Fish & Wildlife
- Per 55.4.11 (m), Emerald Family will source water on-site and will not use trucked water except for emergencies.

Emerald Family does not intend to divert surface water. Should this change, Emerald Family will abide by:

- Per 55.4.11 (l), one of the following:
 - Consent to forebear from any such diversion during the period from May 15th to October 31st of each year and establish on-site water storage for retention of wet season flows sufficient to provide adequate irrigation water for the size of the area to be cultivated
 - Submit a water management plan prepared by a qualified person such as a licensed engineer, hydrologist, or similar qualified professional, that establishes minimum water storage and forbearance period, if required, based upon local site conditions
 - Obtain approval from the RWQCB through enrollment pursuant to NCRWQB Order No. 2015-0023 and/or preparation of a Water Resources Protection Plan

Hazardous materials and waste

As described in the Hazardous Materials Plan, Emerald Family shall comply with all appropriate requirements for hazardous materials.

- Per 55.4.11 (j), Emerald Family shall refrain from the improper storage or use of any fuels, fertilizer, pesticide, fungicide, rodenticide, or herbicide
- Per 55.4.11 (p), Emerald Family shall appropriately store and handle fuel

Additional site compliance

- Per 55.4.11 (h), if applicable, Emerald Family shall Comply with the terms of a less-than-3-acre conversion exemption or timberland conversion permit, approved by the California Department of Forestry and Fire Protection (CAL-FIRE)
- Per 55.4.11 (o) and as described in the Environmental Protection Plan, Emerald Family shall comply with limits to the decibel levels for any generators used on-site