

Instructions: All applicants are required to submit a detailed business plan for the operation of the ME or MTC. The plan should only include the official business name, doing-business-as name, and branding name of their products. Additionally, the plan should be tailored the types of license(s) the applicant is seeking from the Commission. Some information that could be included in the plan is revenue and cost projections, company overview, and operational plan.

**Curaleaf Processing, Inc.
Research & Development Facility
Business Plan**

Official Business Name – Curaleaf Processing, Inc.

Doing Business As – Curaleaf Processing

Branding Name of Products: N/A

Mission Statement

“Unlock the potential of cannabis to improve the quality of life.”

Curaleaf Processing, Inc. (hereafter “Curaleaf” or “Curaleaf Processing”) strives to operate the most innovative and trusted cannabis-based research facility by:

- Continuously improving product quality, packaging and formats in order to address the needs of our existing and potential consumers;
- Anticipating consumer needs as well as responding to feedback from patients and customers on product formats, flavors, delivery methods and efficacy
- Constantly improving the productivity and output of our processes;
- Monitoring industry developments in sectors such as biotechnology, agriculture, medicine and healthcare that are closely linked to our mission as a cannabis and cannabinoid producer; and
- Providing patients, consumers and health care professionals with effective ongoing education thereby allowing them to make the best recommendations and choices.

Our Commitment

Curaleaf is committed to making the world a better place by applying advancements in research and technology to the cannabis industry.

Curaleaf strives to serve customers by transforming the potential of the cannabis plant through science and biotechnology into products that have the power to improve lives. In everything we do, we aim to fulfill our mission to serve customers and create clarity around cannabis through education and transparency. As part of this mission, Curaleaf Processing, a subsidiary of Curaleaf Holdings, Inc. (hereafter “Curaleaf Holdings”) is seeking approval for a state-of-the art research and development facility in Newton, Massachusetts. Other subsidiaries of Curaleaf Holdings operate marijuana cultivation, manufacturing and retail dispensaries across the United States, including in Webster, Hanover, Oxford and Provincetown, Massachusetts.

Curaleaf Processing is seeking a Marijuana Research Facility Business License from the Cannabis Control Commission. A marijuana research facility may not sell marijuana or marijuana products and exists solely to focus on marijuana-related research and development. Despite unprecedented access to cannabis, over half a century of research restrictions and limited funding have contributed to a lack of scientific knowledge about cannabis, particularly with respect to potential therapeutic uses of cannabinoids. Recognizing that various strains and varieties have unique properties and effects on individuals, Curaleaf Processing is committed to understanding these properties and effects and developing products to maximize the medicinal impact.

Research Plan

Analytical Chemistry: We will use advanced analytical chemistry tools to explore and develop consumer safety testing methodology. Including testing for active ingredients and contaminants in new formulation matrices, establishing a correlation between vaporizer formulations and the inhaled vapor, extractables and leachable and a host of stability assays for formulated products. We will also look at establishing a correlation between sensory response and chemical analysis in a variety of cannabis product formats.

Food Science and Formulations: We will explore development of the next generation of cannabis products across a range of formats. This will include development of confections, infused beverages and beverage additives, oral dosage forms, topicals as well as a range of inhalable formulations and forms including electric vape carts and dried marijuana. We will study the effect cannabinoids have on product organoleptic quality, cannabinoid stability, food safety and manufactured consistency. We will perform a range of sensory evaluations of prototype products to gain a deeper understanding of organoleptic properties and product effect.

Process Development: We will optimize existing manufacturing practices and develop novel processing technologies. In support of continuous improvement we will look to develop key new manufacturing technologies and processes targeted towards improving throughput, decreasing waste, improving efficiency and ensuring product quality. We will optimize production lines for a variety of products. We will also use our research and development team and facility to assess contracted manufacturing services.

Biochemistry: We will study the biochemistry and pharmacology of cannabinoids and other cannabis derived compounds using a range of in-vitro assays. We will look to understand the interaction of various cannabinoids with the endocannabinoid system as well as other off-target receptor systems. We will also study how these interactions affect downstream signaling and the biological outcomes they lead to. We will study the pharmacokinetics of different delivery systems as well as the metabolites formed. We will study the interaction of cannabinoids with other natural bio-active compounds.

Chemistry: We will study the chemical properties of cannabinoids and other natural components within the cannabis plant. We will study the interaction of cannabinoids with other molecules and the process by which molecular changes occur within cannabinoids and similar natural compounds. We will study chemical methods featuring potential to alter the physical and biochemical properties of cannabinoids.

Cannabinoid research: We will support partnerships with external universities to conduct pre-clinical and clinical studies on cannabis-based dosage forms. We will conduct research to provide a baseline of understanding of current and historic scientific findings and then work to address the largest gaps in cannabis research by coordinating and conducting studies with our clinical partners.

Security

Curaleaf is committed to public safety, to implementing a sufficient plan for controlling access to areas with marijuana, to preventing sales to underage populations, and to other similar factors. We have extensive experience implementing best-in-class security procedures throughout the company's ~~due to our~~ operational footprint in 12-23 states. ~~which includes 52 dispensaries, 14 cultivation facilities and 14 processing sites.~~

Our commitment to public safety and security includes full compliance with 935 CRM 500.110, including, but not limited to: securing access points; perimeter alarms; exterior and interior video monitoring; a restrictive RFID card/badge system; and, continuous agent security and safety training. Curaleaf will meet or exceed regulations imposed by the City of Newton and will complete the following:

- Submit a state approved security plan to the Newton Police Department for review and approval;
- Submit a state approved emergency response plan to Newton Police & Fire Departments for review and approval; and
- Submit a state approved Operation and Management Plan to the Inspectional Services Department and the Department of Planning and Development for review and approval.

Per 935 CMR 500.050, and Newton's Revised Ordinances, Sec. 6.10.3.E.18, a Marijuana Research Facility will not sell marijuana cultivated under the marijuana research facility license. Additionally, all research will be conducted by agents ages 21 and older. All marijuana produced or used by the facility will be disposed of as waste in accordance with local and state mandated waste disposal regulations. No products will be sold or transferred from the facility into the marketplace.

The exterior of the facility will be well-lit and trees, bushes and other foliage outside of the facility will be maintained to prevent a person or persons from concealing themselves from sight. All entrances will be secured to prevent unauthorized access and the facility will be equipped with security alarms and video surveillance cameras. A perimeter alarm will be installed at building entry and exit points and also at perimeter windows. A failure notification system will provide an alert to designated agents and a back-up alarm system will be installed. Duress alarms will be strategically located throughout the facility, which will be directly connected to local law enforcement. Agents will be trained in using these duress alarms in appropriate circumstances.

No odor from marijuana will be detected or recognizable by a person with a normal sense of smell at the exterior of the building or at any adjoining use or property.

Video cameras will be installed in all areas where marijuana is stored, received, weighed and handled, at all points of entry and exit, and in the parking lot. The video recording equipment will be securely stored in a security closet that only authorized agents can access and will remain operational in the event of a power outage. Feeds from multiple exterior and interior viewing angles will appear on video screens for simultaneous monitoring. Video surveillance recordings will be available for immediate retrieval and retained for at least 90 calendar days.

All marijuana and marijuana products will be kept out of plain sight, and thus not visible from a public place. Marijuana and marijuana products will be stored in a secure, locked, vault which will be maintained in good working order. Disposal of marijuana and marijuana products will comply fully with 935 CMR 500.105(12), including, but not limited to:

- a. Secure storage of recyclables and waste prior to disposal;
- b. Liquid waste containing marijuana or by-products of marijuana processing will be disposed of in compliance with all applicable state and federal requirements for discharge of pollutants into surface or groundwater;
- c. Redirect of organic and/or recyclable material to the greatest extent feasible; and
- d. rendering all remaining marijuana waste as unusable and either composted or bringing it to a state-licensed solid waste transfer facility.

RFID access cards will be used to control movement throughout the facility, including to Limited Access Areas. All agents will be assigned an ID/access card consistent with their security level and access permissions. The access control systems will record all access events and produce reports specific to each employee, card used, location accessed, time, and date. Limited Access Areas shall be accessible to only those agents for which it is essential for operation efficiency. ID/access cards will be used as the agent identification card and will be printed with the employee's name, title, picture, access level, and agent number. ID/access cards must be visibly worn by every agent at all times and will be pre-programmed with appropriate access level permissions. Keys will not be issued to agents and will only be used as a backup for emergency purposes. All building keys and card activation devices will be kept in a limited access location requiring the highest security level to access.

All authorized vendors, contractors, and visitors will first obtain a visitor ID badge upon entering and will be escorted at all times by an authorized agent. The visitor identification badge must be visibly displayed at all times. All visitors must be logged in and out, and that log will be available for inspection by the Cannabis Control Commission at any time. All visitor ID badges will be returned to the Curaleaf facility upon exit.

Agents will be trained in security and safety awareness, and additional scenario-specific conduct during both their orientation and continuously via ongoing safety training.

Inventory Management—Track & Trace

The Inventory Management Program is designed to prohibit diversion or other unlawful activity. As this facility will be solely for research and development, ~~cultivation and manufacturing will be limited to the minimum number of plants necessary to carry out research. This means that~~ no excess marijuana or marijuana products will be ~~cultivated or manufactured on site~~. Inventory management will track all marijuana or marijuana containing reagents at the facility using BioTrack and Metrc ensuring clear chain of custody and accountability for all aspects of our inventory. All marijuana and marijuana containing reagents will be tracked in real-time using an electronic system to capture all movement, usage and storage. In addition, the process will track marijuana as it is processed and used to prepare research reagents, use for research, and disposal. The system will chronicle every step, ingredient, activity, and use; along with the name of all agents who handle marijuana or marijuana reagents. BioTrack, our inventory management system, is fully integrated and includes tracking, managing, and reporting features. All

components of the software maintain strict batch tracking through all operations.

Agents will be required to read and sign our zero-tolerance anti-diversion policy as part of their onboarding process. Attempts to divert will be reported to the appropriate authorities and those responsible will be terminated immediately.

Public Health

Curaleaf is committed to helping monitor and mitigate health impacts to the neighborhood and to Newton's youth and adult populations; assist with local substance abuse prevention programming, and other similar factors.

As a research and development facility, Curaleaf Processing is not producing or distributing any marijuana or marijuana products. The direct effect of the facility and its operations on the health of the neighborhood and its residents will be non-existent. In fact, the research conducted at the facility may indirectly improve the health of the community by helping to better understand any link between marijuana use and substance abuse.

Curaleaf Processing is committed to working with Newton's Health and Human Services Department to monitor and mitigate any health impacts resulting from marijuana use by Newton residents and surrounding cities, and to assist with local substance abuse prevention programming, by offering to:

1. Assist in the underwriting of a community-based cannabis research programs specifically measuring the impact of cannabis sale and use within Newton;
2. Volunteer (time/resources) to City of Newton PATH program; and
3. Work with school resource officers, local officials, and other interested parties as requested.

Community Relations

Curaleaf Processing is committed to establishing and maintaining lines of communication with City officials, and neighborhood and community members. Robert Winnicki, Senior Vice President of Research & Development, will serve as our Community Relations Officer. Mr. Winnicki, along with other executives in the organization including Katrina Yolen, Senior Vice President of Marketing, and Kyle Crossley, Assistant General Counsel & Corporate Secretary, are also Newton residents.

Plans for community outreach include the following:

- Assigning a dedicated phone line for concerned parties;
- Attending city and neighborhood meetings with City staff, residents, elected officials and other stakeholders, as requested;
- Actively participating and supporting the Newton-Needham Regional Chamber and its programs by, hosting, and attending Chamber events.
- Annual donations to local Newton-based charities, such as the Newton Food Pantry and the Newton Senior Center.
- Partnering with the Veterans Cannabis Project and Mass Fallen Heroes to provide

educational information for Newton's veterans if desired

Experience

Robert S. Winnicki, Senior Vice President, Research & Development

Robert Winnicki is a biotechnology researcher and entrepreneur, with over 20 years of expertise in pharmaceutical manufacturing, process development, product formulation, and drug discovery. While a Ph. D. candidate at Worcester Polytechnic Institute (WPI), Mr. Winnicki founded his first company, Capsule Technologies, which was acquired in 2002 by a leading pharmaceutical firm. Robert has spent the last 10 years focusing on the cannabis industry. While attending Medical School at the University of Colorado, he founded the state's first cannabis testing laboratory, "Full Spectrum Laboratories" in 2009. The company grew into a standalone cannabis research and development company, and developed technology and intellectual property related to cannabinoid biosynthesis that is now licensed to Teewinot Life Sciences.

Since joining Curaleaf in 2015, he has been instrumental in all aspects of manufacturing technology and product offerings.

~~Andrew Lux, Manager, Process Research & Development~~

~~Andrew Lux has been working in Process Research & Development since 2015. He has a B.Sc. in Plant Biology from Rutgers University with a concentration in Medicinal and Economic Botany and is enrolled in graduate level coursework in Biotechnology. Mr. Lux has nearly 10 years of research extension in the Biological Sciences, along with analytical bioprocessing including LC, SFE, & SFC purification as well as plant tissue culture.~~

Jessie Kater, Senior Vice President, Manufacturing

Jessie Kater has over 15 years of experience in product development and commercialization across defense, pharmaceutical, and cannabis markets. Mr. Kater worked at Waters Corporation where he led sales and business development in the cannabis market throughout the Western United States and Canada. Additionally, he was the co-founder of c3 Labs, the first cannabis contract research organization on the West Coast.

Medical Advisory Board

Curaleaf Processing has access to a Medical Advisory Board that is well positioned to provide strategic guidance in areas related to new product development, medical safety, and regulatory issues. Advisors include:

Dr. Steven Patierno, Ph.D., Chair

Dr. Steven Patierno is the Deputy Director Duke Cancer Institute and a former director of Curaleaf Holdings, Inc. Dr. Patierno holds titles in the scientific community including Deputy Director, Duke Cancer Institute, Professor of Medicine, Professor of Pharmacology and Cancer Biology, and Professor of Community and Family Medicine, Duke University School of Medicine. As Deputy Director of the Duke Cancer Institute, Dr. Patierno helps lead a top-ranked NCI-designated Comprehensive Cancer Center dedicated to providing compassionate care from diagnosis to treatment to survivorship, advancing multi- and transdisciplinary cancer research and engaging in prevention and community health programming. One of the original eight NCI-designated comprehensive cancer centers, the Duke Cancer Institute is one of only 41 such centers in the U.S., with more than 65,000 patient visits and 6,500 new cancer diagnoses annually and nearly 1,000 active clinical trials. The Duke Cancer Institute includes

more than 360 investigators with more than \$225 million in annual cancer research funding. Prior to joining the Duke Cancer Institute, Dr. Patierno served as Executive Director of the George Washington University Cancer Center, Vivian Gill Distinguished Professor of Oncology, and Professor of Pharmacology and Physiology, Genetics and Urology in the George Washington University School of Medicine and Health Sciences. Dr. Patierno has a B.S. from The University of Connecticut and a Ph.D. from The University of Texas Health Science Center in Houston.

Dr. Robert Schnoll, Ph.D.

Dr. Robert Schnoll serves as Program Co-Leader at the Abramson Cancer Center of the University of Pennsylvania. He is an Associate Professor of Psychiatry and an internationally recognized expert in risk prevention and intervention, epidemiology, patient education and counseling, tobacco addiction, nicotine dependence and treatment, and national health policy and ethics.

Dr. Brian F. Thomas

Dr. Brian F. Thomas has over 25 years of experience in analytical chemistry and pharmacology, servicing as principal investigator on various research mandates at the only federally approved cannabis research center in the U.S., the National Institute of Drug Abuse (NIDA) in Mississippi. Dr. Thomas has provided expertise in pharmacology and analytical chemistry to a diverse group of organizations including the Food and Drug Administration (FDA), the National Institute of Environmental Health Services (NIEHS) and the Drug Enforcement Administration (DEA).

Dr. David Casarett

Nationally recognized for his work in palliative care and end-of-life medicine, Dr. Casarett is Chief of Palliative Care Services for Duke University's Health System, and Chief of the section of Palliative Care within the Division of General Internal Medicine. Formerly, Dr. Casarett was a Professor of Medicine at the University of Pennsylvania Perelman School of Medicine, and Director of Hospice and Palliative Care at the University of Pennsylvania Health System.

Sustainability – Curaleaf's proposed sustainable and renewable energy practices, and other similar factors.

~~Only cultivation activities for research and development will be conducted. Therefore, the number of plants located on site will be minimal. Energy usage will be monitored, recorded, and offset as needed through the purchase of Massachusetts Renewable Energy Certificates ("RECs"). Energy auditing and certificate purchasing will be conducted on a quarterly basis with proof of purchase submitted to the Newton Town Council or sooner upon request.~~

In accordance with Newton Revised Ordinances, Sec. 6.10.3.E.17, the facility will be upgraded to include Class II and III fume hoods for working with chemical contaminants and wastewater neutralization and filtration tanks to ensure no chemical contaminants exit the facility through the water or air. ~~In addition, the research dedicated cultivation area will be self-contained. Air will also be filtered to remove odor.~~

~~In addition to offsetting our cultivation activities,~~ MassSave will perform an audit of the building to ensure energy efficiency. Suggested changes and upgrades will be undertaken to improve efficiency and to ensure that sustainable and renewable energy practices are consistent with buildings used for similar purposes. Our in-house recycling initiative means that all paper and plastic waste is recycled. Along with seeking a “Green Certification” from a third-party energy auditor such as My Green Lab, Curaleaf Processing will work with an energy and recycling monitor in order to stay current with sustainable and renewable energy practices.

Equity.

Curaleaf Processing is committed to achieving diversity, inclusion and equity in all aspects of operations. While not qualified under Economic Empowerment or Social Equity programs, Curaleaf is committed to ensuring that all persons are accorded equal opportunity in employment and that all persons are given the proper support to ensure a level playing field and ongoing success while pursuing employment and expanding their career and/or education.

Curaleaf Processing is committed to participating in diversity-oriented outreach programs and will participate in sponsored events and with community organizations in areas of disproportionate impact to improve opportunities for employment. We are committed to developing workplace equity by mentoring historically underrepresented populations through:

- Networking with underrepresented groups in areas of disproportionate impact to better understand what implicit barriers might exist to prevent equality in the workplace;
 - Developing and leading unconscious bias trainings for all agents;
 - Recruiting qualified diverse individuals and providing business to minority owned suppliers and vendors;
 - Advertising open employment positions in areas of disproportionate impact;
 - Providing internships and other learning opportunities for individuals interested in research & development in the cannabis industry; and
 - Giving talks on plant science and Research and Development to local community colleges that are developing cannabis educational programming
- **Economic Value** – The amount of additional economic value the business would bring to Newton (e.g. new jobs, additional local tax revenue, increased property value, commitment to diverse and local hiring, commitment to use of local businesses for construction, supplies, product, and other business needs, openness to long-term community impact fees, and other similar factors).

Curaleaf Processing will employ approximately 13 full-time agents in research and development in a setting centric to education and scientific research. Full-time agents will be eligible for medical insurance, dental insurance, and other benefit programs. In addition, agents will be encouraged to contribute to the community through corporate giving efforts, volunteering, and by utilizing local businesses and services.

Proposed Location

Curaleaf Processing has selected and leased a 20,000 square foot permanent stand-alone building at 241 Riverview Avenue, located in Auburndale, a village of Newton.

Hours of operation will be set by the City Council as a condition of the Special Permit; however, normal business hours are expected to be 7:30am to 7:30pm, Monday through Friday.

There will be no signage, as the proposed location is not a retail location.

The proposed site is located in a Manufacturing Zone, where a Marijuana Research Facility is a permitted use subject to a Special Permit. The proposed site is minutes from I-95 and the Masspike, approximately one mile from the Auburndale MBTA commuter rail stop, and a short walk to the 558 and 505 bus routes. The site is convenient, safe, and allows secure access and egress for agents, whether driving, bicycling, walking or using public transportation. Marijuana Research Facilities must comply with the parking requirements for Research, Laboratory in Article 5.1.4 of the Newton Zoning Ordinances, which require a minimum number of parking stalls of 1 per 1,000 square feet of building space, and 1 stall per 4 employees. The proposed site offers forty-five (45) off street parking spots in the adjacent parking lot, far exceeding the requirements of Article 5.1.4. of the Zoning Ordinance. Loading, refuse and service areas will be secure and shielded from abutting uses, eliminating any adverse impacts on abutters. A lighting plan showing the proposed location of lights on the building and the lot along with a photometric plan showing the lighting levels will be provided.

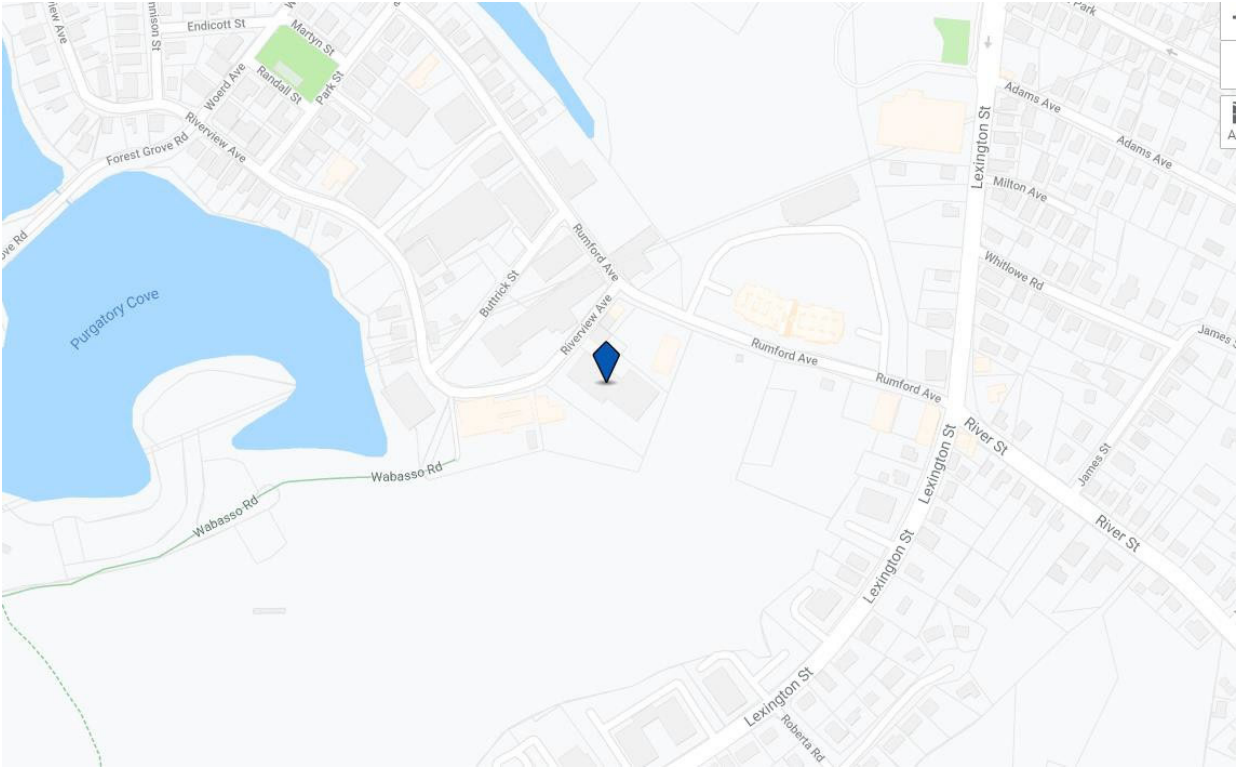
The site previously was used as the centralized repair and calibration laboratory for Olympus Life Sciences, thus is configured as dry laboratory and office space. Curaleaf Processing plans to expand the facilities capabilities to include 6,000 sq ft of wet laboratory space, a food science laboratory, a tissue culture and fermentation suite, and a 3,000 sq. ft. herbarium. The facility will be ventilated in such a manner that no ~~pesticides, insecticides, or other~~ chemicals ~~or products in cultivation or processing~~ are dispersed into the outside atmosphere. Further, no odor from marijuana will be detected or recognizable by a person with a normal sense of smell at the exterior of the building or at any adjoining use or property.

Only research and development will occur at the proposed location – thus, the increase in traffic will be negligible.

Zoning Map of Proposed Site



Map of Proposed Site



Arial View of Proposed Site

