



ORIGINAL

97

**LIST OF AUTHORIZED SIGNATORIES
(EXHIBIT B)**

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

	Name	Role within the Corporation
1	Mark L. Ehrman, M.D., J.D.	C.E.O. and President of the Board of Directors
2	Chee W. Kwong	Treasurer and Director
3		
4		
5		



APPLICATION RESPONSE FORM COVER PAGE

Make this the first page of your response

Corporation

The applicant corporation's legal name, trade name, and any other name under which the bidding entity does business (if any): [Commonwealth Therapeutic Centers, Inc.]

Website URL (if applicable): [http://www.CTCMass.org]

Address:

[11 Beacon Street]

[Suite 340]

City: [Boston] State: [MA] Zip: [02108]

CEO (Chief Executive Officer)/Executive Director (ED)

First Name: [Mark] Last Name: [Ehrman]

FEIN: [463447050]

Contact Person

First Name: [Mark] Last Name: [Ehrman]

Title: [President/CEO]

Telephone: (617) 262-6942 FAX: () - E-Mail: [DrEhrman@CTCMass.org]

Contact Person Address (if different):

[]

[]

City: [] State: [] Zip: []

Authorized Signature

This application must be signed by an authorized signatory of the non-profit corporation who is listed on the corporation's list of authorized signatories (complete and attach exhibit B). The original application must have an original or "wet" signature in blue ink.

Background Check Authorization

The Department will conduct a background check on:

1. Each member of the applicant's **Executive Management Team** (those persons listed in exhibit 2.1);
2. Each member of the **Board of Directors** (those persons listed in exhibit 1.4);
3. Each **Member** of the corporation. In the event a **Member** of the corporation is an organization, the

- 3. Each **Member** of the corporation. In the event a **Member** of the corporation is an organization, the CEO/ED and Board Officers of that entity will be checked (those persons listed in exhibit I.5);
- 4. The CEO/ED and Board Officers of any parent corporation, partially or wholly owned subsidiaries, or related organizations (those persons listed in exhibit 1.8);
- 5. And each person contributing 5% or more of the initial capital to operate the proposed RMD. In the event that a contributor is an entity, the CEO/ED and **Board Officers** of that entity will be checked (those persons listed in exhibit 4.2).

Each required individual must complete and sign the attached authorization forms (exhibits A1-A4), with a wet signature in blue ink.

Submit all original signed authorizations (no copies) and list of authorizations (exhibit A5) in one sealed envelope marked "authorization forms" and name of corporation? and include it with the original application.

Application Fee

Enclose a bank/cashier's check or money order made payable to the Commonwealth of Massachusetts in the amount of \$30,000. Personal checks will not be accepted. Failure to include a bank/cashier's check or money order will result in disqualification of the application.

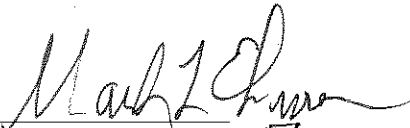
\$30,000 bank/cashier's check attached.

A selection committee established by the Department shall evaluate and score applications for the purpose of granting registrations. Decisions will be based on the thoroughness and quality of the applicants' responses to the required criteria, and the applicants' ability to meet the overall health needs of registered qualifying patients and the safety of the public.

Required Signatures

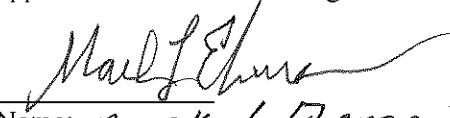
Failure to provide original "wet" signatures in blue ink will result in disqualification of the application.

Signed under the pains and penalties of perjury, the authorized signatory (as designated in exhibit B) agrees that all information included in this application is complete and accurate. The hard original application must have an original wet signature in blue ink.


 Name: MARK L. Ehrman
 Title: President / CEO

11/21/2013
 Date

I hereby attest that if the corporation is approved for a provisional RMD certificate of registration, the corporation is prepared to pay a non-refundable registration fee of \$50,000, as specified in 105 CMR 725.000, within two weeks of being notified that the RMD has been selected for a provisional registration. The hard original application must have an original wet signature in blue ink.


 Name: MARK L. Ehrman
 Title: President / CEO

11/21/2013
 Date

APPLICATION RESPONSE FORM

Enter your response in the gray shaded areas using Microsoft Word.

A note about the text boxes: Type or paste text into the gray areas. Text input is limited to a maximum number of characters. MS Word will not allow more than this limit. Spaces, commas, line breaks, etc. are counted as characters. The spell-check feature does not work in a text box.

- Example: text input limit 625 characters, 100 words, 1 paragraph
- limit 1,250 characters, approximately 200 words, 2 paragraphs
- limit 2,500 characters, approximately 400 words, 4 paragraphs
- limit 6,000 characters, approximately 1,000 words, one page

Enter text here: example text limit 1,250 characters

If a question includes a text box, a narrative response in the text box is required.

When a question indicates that an exhibit must be included, the response must be included as an attachment, as instructed. The provided exhibit forms are not optional and must not be left blank.

It is the applicant's responsibility to ensure that all responses are consistent with the requirements of 105 CMR 725.000.

Definitions

EXECUTIVE MANAGEMENT TEAM means the individuals who are responsible for the day-to-day operations of the RMD, including the chief executive officer (CEO) or executive director (ED), chief operations officer (COO) or director of operations, chief financial officer (CFO) or director of finance, director of human resources, chief medical officer and any other individuals involved in the oversight and business management of the RMD operations.

BOARD OF DIRECTORS means the directors of a corporation, including persons and officers having the powers of directors, with fiduciary responsibility for the RMD.

BOARD OFFICERS means the board president/chair, vice president/vice chair, treasurer, and clerk/secretary.

MEMBER means an individual having membership rights, whether or not designated as a member, in a corporation in accordance with the provisions of its articles of organization or bylaws.

Questions

1. Applicant's Corporate Background

1.1 Provide the legal name of the applicant's non-profit corporation/organization and date of incorporation.

[Legal name of non-profit corporation: Commonwealth Therapeutics Centers, Inc. Date of Incorporation: August 19, 2013]

1.2 Describe the organization's mission and vision.

[MISSION / VISION STATEMENT: Entirely locally based and funded, we will provide high-quality marijuana and related products (M-RP) in a secure and welcoming environment; support state and local firms for equipment, supplies, lab testing etc. where possible; cooperate proactively with police, health and



other official departments to respect all MA, local and DPH requirements; fastidiously validate card holders and verify each Certified Physician / Patient relationship; check quantities and frequencies for appropriate personal use only; diligently assure non-diversion of M-RP; produce M-RP using ecologically sensitive, renewable organic methods for local production with a minimal energy / toxicity footprint; advance standards of care with M-RP and knowledge of the chemistry, pharmacology, and clinical-pharmacologic interactions of M-RP; participate in double-blind clinical studies to advance clinical knowledge; educate our patients and the community at large about M-RP, and drug use and abuse; provide subsidized rates, or free M-RP, by need, per DPH guidelines; support community-centered charities with profits from our activities; and develop products with increased therapeutic to psycho-activity ratios]

1.3 Provide an organizational chart that clearly demonstrates the roles, responsibilities, and relationships of individuals within the organization. Clearly identify the **Executive Management Team** and any management consultants or contractors for the provision of services, and include title, name (if known at the time of submission), and function for each position.

Organizational chart attached as exhibit 1.3

1.4 Provide the name and contact information of each individual on the applicant's **Board of Directors**.

List of Board of Directors attached as exhibit 1.4

1.5 Provide the names and contact information for each **Member** having membership rights in the applicant corporation. In the event a **Member** of the corporation is an organization, provide the names and contact information of the CEO/ED and Board Officers of that entity. If there are no **Members** of the non-profit corporation, indicate N/A on the exhibit.

List of members of the applicant corporation attached as exhibit 1.5

1.6 Attach the corporation's bylaws.

Bylaws attached as exhibit 1.6

1.7 Attach any amendments to the corporation's articles of organization made since August 22, 2013, and explain in the text box the reason(s) for the amendments. If the articles have not been amended, indicate N/A in the text box and on the exhibit.

[Robert Gregory resigned for personal reasons, [REDACTED]]

Therefore on Nov 6 a meeting of the board of directors was held. Present were Geline W. Williams; Mark Ehrman; John W. Martin; Michael Chiu; and Robert Gregory. A vote was held to accept Mr. Gregory's regretted resignation and wish him well, and Chee W. Kwong was appointed director of the corporation. It was also voted that the bylaws be modified appropriately to reflect this change, removing Robert Gregory as Director and adding Chee W. Kwong as director; the thus modified bylaws were prepared and signed by the Clerk and President. A form of Certificate of Change of Directors or Officers of Non-Profit Corporations MA SOC Filing Number 20135603380 Date 11/13/2013 1:31 PM was duly filed with the Secretary of the Commonwealth, Corporations Division, and is attached hereto as part of Exhibit 1.7

The Articles of Incorporation were also restated MA SOC Filing Number 201356036510 Date: 11/13/2013 Time: 1:41:00 PM with the same office reflecting the same change in directors as mentioned above, and also further certifying that there are no changes to the Articles of Organization of the business entity ... except ... ARTICLE VI(A): Changed Address (of the principal office of the corporation in Massachusetts) to 11

Beacon St., Suite 340, Boston MA 02108) and ARTICLE VI(B): deleted one director and added another. A copy of these restated Articles of Incorporation is attached hereto as part of Exhibit 1.7

ORIGINAL

1

Amended articles of organization attached as exhibit 1.7

1.8 Provide a list of the names and addresses of any parent corporation, any partially or wholly owned subsidiaries, and any other organizations related to the applicant non-profit corporation, and explain the nature of each relationship.

List of parent corporation, partially or wholly owned subsidiaries, or related organizations attached as exhibit 1.8 (if not applicable indicate N/A on the exhibit)

1.9 Provide three professional references from among those entities with which the applicant's CEO/ED has had business or employment experience within the last three years. DPH may contact these references and any other individual or organization, whether or not identified by the applicant.

List of references attached as exhibit 1.9

2. Applicant's Evidence of Business Management Experience

2.1 Provide a list of the applicant's **Executive Management Team** (as defined above) including each person's name, business address, email, and role within the organization.

List of Executive Management Team attached as exhibit 2.1

2.2 Describe the **Executive Management Team's** experience with running a non-profit organization or other business, including the type of business and its performance. Please indicate how this experience will ensure the success of the proposed registered marijuana dispensary. Attach each Executive Team Member's current résumé.

[NP = non-profit O = other

Mark L Ehrman MD JD - Role: Executive Director of CTC Inc.

- Med school, started outreach clinic staffed by NYU students and MD's NP

- Director, Royal Victoria Hospital (RVH) Blood Bank, negotiated with unions, Québec government, Régie de l'assurance maladie du Québec (RAMQ: <http://www.ramq.gouv.qc.ca>), other officials to standardize lab methods, improve safety & trim budget. NP

- represented all English - speaking hematologists in Québec to Fédération des médecins-spécialistes du Québec (FMSQ: <http://www.fmsq.org>) re: pay, schedules, technician work loads, patient catchment and flow, health care rationalization and delivery. NP

- Used RAMQ data to successfully urge building a new hospital in underserved south shore Montréal; NP

-Director, hematology & oncology and related laboratories at the new hospital. Ran budgets for equipment purchase, supply and maintenance, personnel; NP

- urged & obtained improved clinical and diagnostic services in south shore over \$100 million. NP

- established, donated & programmed computers for lab data reporting in hospitals (1982-4) to force accurate count of work done & show need for more funding. Government increased lab budgets 7X, other hospitals 3X, overall south shore budgets by 2.5X 1982 - 1984. Services & programs are still basis of cancer and HIV care in area now over 970,000 population. NP

- 1984 started specialty practice in hematology and oncology in Florida. First year budget \$1.1 M up to \$7.8 million in 1989. Radical computerization held expenses to ultra low 40% of receipts allowing care for all patients without regard to ability to pay. NP / O

- Most chemotherapy and procedures done in office; over 30% of all care subsidized or free. Focus on patient education, counseling, and community service. NP / O
- Patient radius up to 300 miles for free or subsidized care. NP / O
- 1985-6 started Home Health Care of Okaloosa County Inc., (HHCO) for cancer / HIV patients at home. Sued for required Determinations of Need (D.O.N.). Did 105,000 annual visits by year 3 (all counties). Designed / built unix terminals in vans for better scheduling; all home care nurses were RN's, many ICU - trained ; RN's set own schedules using wireless terminals and were told to accomplish most possible for patient each visit, no time limitations. NP / O
- 1986 started Advanced Home Care of NW Florida Inc. (AHC) - 18 FL counties with respiratory therapy, home ventilator services and COPD care, IV antibiotics for urinary tract infection and pneumonitis in COPD, pain management, patient controlled analgesia (PCA), chemotherapy, and follow-up visits, all at home. First PCA / chemo at home. NP / O
- AHC HHCO hired by hospitals for discharge coordination to optimize transitions and utilization parameters, first in country. O
- 1987 AHC added 15 hi-tech pharmacies to provide IV meds to hospitals & nursing homes, including rarely used medications such as mithramycin and some infusible chemotherapy medications, less expensive than alternatives. Helped major teaching hospitals do the same without charge. NP / O
- 2006 - present owns / operates high quality, mid-to-large scale winery, Mendoza, Argentina, exports world-wide. Extensive investment in new building, equipment, personnel, education, and change of mission. O
- 2011 started wines and spirits importer in Massachusetts. O
- successfully developed over \$80,000,000 in real estate projects in Canada and USA O
- Board of Advisors for The Davis Companies Fund I and Fund II, over \$760,000,000 in real estate and other assets, yielding returns over 20%/year. www.TheDavisCompanies.com. O

Joseph F Rizzo III MD - role: CTC Inc. Medical Director

- Division Chief, Neuro-ophthalmology, MA Eye and Ear Hospital (MEEI) / MA General Hospital (MGH) and Director, Neuro-Ophthalmology, Harvard Medical School (HMS); NP
- co-founded multi-disciplinary research program MEEI / HMS and Massachusetts Institute of Technology (MIT) to develop microelectronic implant to restore damaged vision. Runs program & responsible for budget planning and compliance. NP/O
- founded Bionic Eye Technologies and Visus Technology, therapies for visually-impaired. O
- prior Director, Center for Innovative Visual Rehab at Boston VA Hospital for 10 years with full executive authority and oversight / management of a roughly \$20 million budget; NP
- Board of Directors, Schepens Eye Research Institute. NP

John W. Martin C.P.A. role: CTC Inc. Chief Financial Officer

- 2006 - Present: Strategic and tactical consulting to startup businesses / entrepreneurs, major financings and business transactions. NP / O
- 2007 - Present: Board of Directors "Think Through Learning" (Pittsburgh Area)
- K-12 adaptive personalized learning software, winner of 2012 Codie Award "Best Mathematics Instructional Solution" - "Think Through Math"; O <http://www.thinkthroughmath.com/about-think-through-math/board-of-directors/>
- 1999 - 2006 (through acquisition) Board of Directors MD Everywhere (formerly ClinEffect Solutions) <http://www.mdeverywhere.com> Duke University, Durham, NC
- Mobile device based scheduling, billing and coding software
- 1998 - 2005 VP Finance & Operations, CFO Groove Networks Beverly, MA: Formation, start up, financing and market development with Ray Ozzie, creator of Lotus Notes. CFO and VP Finance & Operations from inception. Actively involved in all major business transactions, financings, senior management recruiting, and dealings with major investors and the Board of Directors. Principal in strategic planning and sale of Groove

to Microsoft (MSFT) and Ozzie's appointment as successor to Bill Gates as Chief of Software Development at MSFT. O

1987 – 1994 VP Finance, VP Business Development, Lotus Development Corp. Cambridge, MA. Directed worldwide financial operations of Lotus during early days of PCs as revenues doubled \$400 - \$800 million. VP of Finance and Business Development in for Lotus' new Communications Product Division, development of the world's first PC –based email products, including Lotus Notes (new market leader). Principal in acquisition / integration of many products in Lotus product suite and Lotus' acquisition by IBM. O

1979 – 1987 Senior Vice President of Finance / CFO Courier Corporation Lowell MA Serially promoted through Controller to Treasurer, then VP- Finance, and Senior VP of Finance and CFO. Responsible for all financial, legal, tax and real estate related operations of this \$150 million public holding company of printing and publishing interests. Structured/coordinated significant acquisitions, divestitures, joint ventures of and major real estate transactions. Employee benefit plan design and administration. O

1971 – 1979 Audit Manager & Partner Arthur Andersen LLP Boston. Audit Manager, commercial audit division. Purchase investigations, major SEC financings, and multi-office audit engagements. Wide range of clients in manufacturing, retailing, & services sectors. O

1967 – 1971 Notre Dame Univ B.Sc., Bus. Admin.s (Accountancy), Magna cum laude

Geline Ednands J.D. - Role: Director of Security, Safety and Compliance, Commonwealth Therapeutics Centers, Inc.

- 2000 through 2012 Exec. Dir. Mass. District Attorneys Ass'n (MDAA - www.mass.gov/mdaa/) providing coordinated techn services and legal training to MA's eleven District Attorneys and combined staff of 1400 attorneys, advocates and support staff. NP

- directed staff (10 -18), annual MA budget about \$2M plus sizable yearly federal grants, requiring monthly / quarterly reporting and strict adherence to budget, federal grant performance / spending requirements. Grants stable despite shrinking budget environment, due to scrupulous adherence to budget and reporting, and perception of value. NP

Michael Chiu Ph.D., M.B.A.

Role - Chief Operations Officer, Commonwealth Therapeutics Centers, Inc

2001 - Engineering Manager, Teradyne; led development of applications and operations in US, far East; global custom products and services business unit grown to \$70 million / year. O

2008 - three startup corporations started, operated, funded, and sold. O

2013 - Director of Operations, Automation Engineering, Inc. Wilmington MA. design / build capital equipment for optics and photonics manufacturing shipped worldwide. Responsible for hiring, firing, budget and planning, project development. <http://www.aeiboston.com/> O

current - Board of Directors, LGL Group (NYSE: LGL) <http://www.lglgroup.com/> highly engineered electronics for internet communications, aerospace, defense other industries. O
<http://www.lglgroup.com/content/board-directors>

2010-2012 Trustee & Member, Hospital Board of Directors, Cambridge Health Alliance NP

2005 - current: Founder / officer Somerville Children's Network (501c3) early childhood education.

NP

2008 - Revitalized Somerville Cub Scout Pack 3 and Boy Scout Troop 3, from 8 to over 50 today.
Scout leader: community support, fundraising NP]

Current résumé of each Executive Management Team member attached as exhibit 2.2--clearly labeled on each page with the individual's name and title within the applicant's organization

2.3 Describe the **Executive Management Team's** experience, by team member, with providing health care services or services providing marijuana for medical use.

[Mark L Ehrman MD JD

Role - CEO and Executive Director of Commonwealth Therapeutics Centers, Inc.

Dr. Ehrman, board-certified in internal medicine, hematology and oncology, trained in palliative care at the first Palliative Care Center in North America, and worked in the early hospice movement in Montreal, under Dr. Balfour Mount and others. He supervised home nursing and became expert in pain management. See, e.g., <http://en.wikipedia.org/wiki/Hospice> naming Dr. Mount and the RVH as founders. In this setting, marijuana was recommended in conjunction with other medications, and THC was prescribed.

Dr. Ehrman later urged improved cancer and HIV services for the south shore of Montréal, an underserved, largely French-speaking area. As first chief of hematology and oncology at the new Pierre Boucher hospital, he brought improved management of cancer and HIV to the region. He later sponsored rationalization and merger of services by integrating the larger Hôpital Charles-Lemoyne, where he was also appointed co-director of hematology and oncology, and co-director of laboratory services in blood banking, coagulation, immunofluorescence, routine hematology, and special hematology for the entire south shore, current population over 970,000. While working in these institutions Dr. Ehrman founded and worked in, among others, the largest breast cancer clinic in the area. [https://en.wikipedia.org/wiki/South_Shore_\(Montreal\)](https://en.wikipedia.org/wiki/South_Shore_(Montreal))

Participating in Southwest Oncology Group (SWOG; see, for example - <http://en.wikipedia.org/wiki/SWOG>; <http://www.swog.org/>), a cooperative clinical trial group in the US and Canada working through the National Cancer Institute (US); and the Eastern Cooperative Oncology Group (ECOG; http://en.wikipedia.org/wiki/Eastern_Cooperative_Oncology_Group), a privately funded clinical oncology research group based in Boston, Massachusetts and working with centers throughout US and Canada; and with the CALGB (Cancer and Leukemia Group B, a group founded to study leukemia, lymphoma, and other cancers), Dr. Ehrman joined trials of marijuana, then later trials of THC (delta-9-tetra hydro cannabinol, a major active ingredient in marijuana, hashish, and similar products) in the relief of cancer-associated symptoms such as nausea, vomiting, cachexia, refractory pain, inanition and depression, and suicidal ideation; then in trials for the relief and/or prevention of similar symptoms seen as toxicity of chemo agents and/or related to HIV. When Dr. Ehrman, a US citizen, returned to the USA in 1984, he maintained his associations with SWOG and ECOG and continued to participate in clinical trials with THC (later, marinol or dronabinol) shipped to his offices from NCI for registered patients.

Dr. Ehrman founded what became the largest private clinical practice in hematology and oncology, and HIV, in Florida, treating all patients regardless of ability to pay or insurance status. To avoid oppressive collection techniques, chemotherapy drugs were solicited from manufacturers and free services, laboratory tests, and radiological and other studies from the for-profit hospital chains. To better negotiate to serve all patients, Dr. Ehrman studied reimbursement analysis and obtained hard data.

For moral and economic reasons, and to preserve patient dignity, Dr. Ehrman urged home care for cancer and HIV patients. This required determinations of need (D.O.N.) from the state of Florida, eventually obtained through costly litigation. At first the State, 'captured' by a home-care agency monopoly interest group, held that such care was not possible or proper. The court disagreed and awarded (D.O.N.) in 18 Florida counties. After several years the resulting home care, medical equipment, and high-tech infusion agencies provided many hundreds of thousands of home care visits yearly, many tens of thousands of infusions of intravenous medications in the home, tens of thousands of respiratory treatments, and other intensive home nursing innovations, including use of patient-controlled-analgesia (PCA) in the home (beginning in 1985!) which otherwise would have required needless hospitalization, thus saving tens of millions of dollars annually.

Dr. Ehrman consulted gratis with large teaching hospitals in South Florida, including the Tampa General Hospital, to establish similar agencies, and spread the practice of intensive home care to cancer and HIV patients.

Dr. Ehrman views his current interest in advancing the use and knowledge of medical marijuana as an extension and continuation of his earlier involvement in these areas.

Joseph F Rizzo III MD -

Role - Medical Director, Commonwealth Therapeutics Centers, Inc.

Dr. Rizzo, a board certified Neurologist, Psychiatrist and Ophthalmologist, has provided health care services to patients throughout his career. Dr. Rizzo is Director of the Fellowship training program in Neuro-ophthalmology at the Massachusetts Eye and Ear Infirmary (MEEI), which performs over 6100 patient visits annually, and still provides direct patient care as well as supervising care delivered by medical students, rotating interns from the MGH, residents and fellows at the MGH and MEEI, and visiting physicians and trainees in special programs. He also serves as the Chairman of the Medical Records department, with oversight and supervision of patient care by other md's and health care professionals, and on the Board of the Schepens Eye Research Institute, recently merged with the MEEI, and is involved in training and supervision of clinical (patient care) and research (clinical and fundamental) there as well. He served for 10 years as the Director of the Center for Innovative Visual Rehabilitation at the Boston Veterans' Administration Hospital.

Dr. Rizzo co-founded a multi-disciplinary research program between the MEEI / Harvard Medical School and the Massachusetts Institute of Technology (MIT) to develop a microelectronic implant to assist the visually-impaired. Developing this device involves a great deal of patient contact, as well as fundamental and technological research, an ongoing process. In the course of this research Dr. Rizzo founded two companies: Bionic Eye Technologies, Inc., and Visus Technology, Inc., both of which are developing devices.

Dr. Rizzo has never provided or prescribed marijuana for medical use.

John W. Martin C.P.A. -

Role - Chief Financial Officer of Commonwealth Therapeutics Centers Inc.

Mr. Martin never delivered health care services to patients, nor provided marijuana for medical use. He has experience with medical services and care via involvement in business startups and management in this field. Martin served from 1995 until 2003 as an early advisor and Board director for MD Everywhere, Inc., a privately financed healthcare concern that developed and sold software for handheld mobile devices for use by physicians in scheduling, coding and billing for medical procedures performed in busy clinical environments and teaching hospitals. Formerly known as ClinEffect, Inc., the company was spawned from a research project at Duke University Medical Center. Mr. Martin assisted the founder and Duke University in separating company operations from the not-for-profit Duke University Health System and negotiated an even exchange of intellectual property rights to complete the transaction. Mr. Martin was also involved in several rounds of venture financing and in the eventual sale to multi-billion dollar healthcare firm McKesson Corporation, providing distribution services and technology solutions to a wide range of pharmaceuticals, hospitals and other healthcare concerns.

Geline Edmands J.D.

Role in CTC, Inc. - Chief of Security, Safety and Compliance for Commonwealth Therapeutics Centers, Inc.

Ms. Edmands, a former prosecutor and District Attorney, has extensive experience prosecuting drug violations, including but not limited to marijuana-related offenses. She has never delivered health care services, nor provided marijuana for medical use.

Michael Chiu Ph.D., M.B.A.

Role in CTC Inc: Chief Operating Officer, Commonwealth Therapeutics Centers, Inc.

Dr. Chiu has no personal experience in healthcare or providing medical marijuana. He is a member of the hospital board at Cambridge Health Alliance where he reviewed and approved issues related to the operation of a health care delivery system, and has participated in health care related startups regarding development of systems for improved medication delivery and compliance with dosage scheduling and frequency.

]

2.4 Describe the **Executive Management Team's** experience, by each individual team member, with running a financially sound organization/business (including budget size) and indicate which member of the team will be responsible for the financial management and oversight of the organization.

[John W. Martin C.P.A. - Role: C. F. O., Commonwealth Therapeutics Centers, Inc. ("CTC Inc.")

Mr. Martin will be responsible for the financial management and oversight of the organization.

Mr. Martin was partner and audit manager at Arthur Andersen LLP Boston from 1971 - 1979, and a senior corporate officer for 3 major corporations from 1979 through 2005. These were all substantial, financially sound businesses:

1979-1987 Courier Corp. (Lowell, MA). Senior VP Finance and CFO. Starting at 1979 as Controller he was promoted rapidly through Treasurer, VP-Finance, to Senior VP Finance and culminating in CFO. He was responsible for all of the financial, legal, tax and real estate related operations of this company which averaged about \$150 million per year during this interval. He was also active in design and administration of the employee benefit plan at Courier;

1987-1994 Lotus Development Corporation (Cambridge, MA) - VP Finance and VP Business Development. Lotus doubled from sales of about \$400 million to \$800 million annually. His division (the newly formed Communications Product Division) had revenues of approximately \$500 million per year when he engineered the sale of Lotus to IBM corporation. Chief among their products were the Lotus product suite and Lotus Notes;

1998 - 2005 Groove Networks (Beverly, MA) - CFO and VP of Finance and Operations from inception through the eventual sale of the company to Microsoft Corporation. Mr. Martin participated in the formation, start up, financing and market development of this \$30 million business, founded by Ray Ozzie, the creator of Lotus Notes. Martin was actively involved in all major business transactions, financings, senior management recruiting, and dealings with major investors as well as the Board of Directors. He was also central to strategic planning and to Mr. Ozzie's appointment as successor to Bill Gates as the Chief Software Architect of Microsoft, and structured and negotiated the sale of Groove in 2005 to Microsoft.

Mark L Ehrman M.D., J.D. - Role: C.E.O., CTC, Inc.

Dr. Ehrman has run many organizations in the academic and hospital community, and started various private corporations, and operated them successfully. Among these are:

1982-1984 Division of Hematology and Oncology, Pierre Boucher Hospital, Montreal Canada, including hematology laboratory, special hematology laboratory, immunofluorescence laboratory, coagulation laboratory, and blood bank. Directed a team of 18 technicians (outset) up to over 200 technicians (1984, at departure), budget C\$3,200,000 (Canadian dollars) (approximately) 1982 growing to over C\$11,000,000 in 1984 at departure. In 1983-4 Dr. Ehrman led the merger and rationalization of laboratories on south shore of Montreal between hospitals Pierre Boucher and Charles Le Moyne, resulting in combined budget of over C\$ 70,000,000 and improvement of services. Dr. Ehrman jointly ran the combined laboratory with his business partner, Dr. Ferland.

October 1984 - started Hematology Oncology Associates of NorthWest Florida, Inc. Budget first year approximately \$1.1 million. Grew to \$7.8 million in 1989.

1985 -Started Home Health Care of Okaloosa County Inc. Obtained certificates of need from State of Florida in 18 counties throughout Northern Florida. Performed 105,000 visits per year by year 3. Pioneered home administration of cancer chemotherapy, pain medication, full respiratory care at home for COPD patients, intravenous antibiotics and patient controlled analgesia (PCA) in the home setting.

1985-6 Started Advanced Home Care of NW Florida Inc. 15 locations in Florida. Provided intravenous medications for hospitals and nursing homes in 18 counties in Florida, prepared under sterile conditions using laminar flow hoods and other techniques. Employed 48 pharmacists, registered nurses and other medical professionals by 1991. Specialized in chemotherapy medications; hyperalimentation both via nasogastric tube and intravenous administration; IV antibiotics; PCA; specialty medications for hospital pharmacies.

2006 - present: owns and operates a high quality winery in Mendoza, Argentina and a licensed wine and spirits importer based in Massachusetts and selling throughout US which he started in 2011 and operates. Both entities are privately held and profitable. Winery volume is approximately \$3.8 million per year and increasing about 20 percent annually. The wine import business bills currently about \$400,000.00 per year and is doubling annually, in round figures.

Developed over \$80,000,000 in real estate projects in Canada and USA.

Member of the Board of Advisors for The Davis Companies Fund I and Fund II, totaling over \$760,000,000 in investments in real estate and other assets, and yielding a rate of return in excess of 20 percent per annum. www.TheDavisCompanies.com.

Geline Williams, J.D. - Role: Director of Security, Safety and Compliance, CTC, Inc.

2000 - 2012 Ms. Williams, a former District Attorney, was the Executive Director of the MA District Attorneys Association (MDAA), which provides coordinated technology services and legal training to the Commonwealth's eleven elected District Attorneys and their combined staff of 1400 attorneys, advocates and support staff. She directed a staff of 10 to 18 persons and an annual state budget of \$2M +/- as well as hundreds of thousands of dollars annually in federal grants. This required monthly or quarterly reporting and a strict adherence to the state spending plan or federal grant performance and spending requirements. During her nearly 13-year tenure at MDAA, grants remained stable despite an increasingly demanding

budget environment, both because her organization delivered value for money, and due to scrupulous adherence to budgetary spending and reporting requirements.

Michael Chiu, Ph.D., M.B.A. - Role: C.O.O., CTC, Inc.

2010-2012 Member of hospital board at Cambridge Health Alliance where Dr. Chiu reviewed and approved issues related to the operation of a health care delivery system, and reviewed financial performance and stability.

Dr. Chiu was a business unit manager at Teradyne, Inc., responsible for a \$70 million P&L unit with 40 direct reports that included engineering, operations, marketing and service. Dr. Chiu lead the organization through a transition from a product manufacturing - based business to a sale of service model built on intellectual property ("IP") and value-chain partnerships. The decision to engage in this transition was based on reviews of performance, together with projections of industry and global trends. It was a successful exercise in adaptation for survival.

From 2008- 2010 Dr. Chiu founded Trophos energy, established to develop and commercialize a Harvard-developed technology called "microbial fuel cell" which could generate electrical energy from biological activity in organic wastes such as sewage, sediment, or soil. Dr. Chiu raised \$2 million in seed money from venture capital sources, built a project team and developed technology as well as establishing multiple partnerships and demonstration projects. Trophos was awarded a further grant of approximately \$3 million dollars from the Department of Homeland Security. Dr. Chiu had complete responsibility for budgeting, hiring, R&D, marketing and partnerships. He eventually decided that the time frame and capital investment required exceeded the return potential, and therefore reversed course and sold the project together with the intellectual property (IP) to one of the grant partners. All capital was returned to initial investors apart from the acquiring partner. The decision to wrap and sell the project, together with the newly developed intellectual property, resulting in return of all capital to investors, was based on financial investigation and analysis combined with projection of global trends, together with adapting to changing circumstances and technical basis of the company

2013 - current: Director of Operations, Automation Engineering, Inc. Wilmington MA. (<http://www.aeiboston.com/>) Dr. Chiu manages a staff of 30 with responsibility for engineering, manufacturing, service and applications. This capital equipment company is also transforming from a custom-solutions maker of one-off equipment to a manufacturer of a standard but adaptable capital product line while tightly managing cash flow, payment terms and shipment backlog.

2009-2013 Board of Directors, LGL Corp (NYSE: LGL) <http://www.lglgroup.com/content/board-directors> Former chairman of strategic planning (in charge of shifting business model and M&A); Former chairman of the compensation committee where he set up a new compensation plan. Served one year on the Audit Committee. Board meets at least quarterly and reviews financial performance and mandates corrective actions, as well as reviewing annual budgets set by management.

]

2.5 Describe the **Executive Management Team's** experience, by team member, with managing financial corrective action measures that they had to undertake as the result of an operational review.

- created & ran health care & other companies as CEO. Frequent financial reviews in-house - auditors, executives, consultants - and others - lenders, payers and government (medically-related enterprises) each yielding information acted on to improve processes.

- Audits by payers including Medicare, Medicaid, and by private insurers including Blue Cross / Blue Shield, Aetna, Cigna, Humana, United Healthcare and others, sometimes requiring process modifications.

- Home care, medical equipment and pharmacy ventures sold to large healthcare entities (e.g. Johnson & Johnson, HCA / Columbia, HealthSouth; others) entailing intensive financial audit and reviews of operations, and some modifications to financial and other aspects of workflow and recording.

- Analyzing financial data & modifying processes and choices is a central management function, done frequently both periodically and ad hoc (sometimes weekly; usually monthly; always at least quarterly; ad hoc as needed). Always listen to the data.

Some examples of reviews leading to corrections and changes in direction:

1. 2004-2009 Boston: Commercial real estate project changed from office to residential after review of market forecasts, delaying the project for 10 months, and increasing costs by \$550,000 but allowing an eventual net profit of \$1.6 million (value \$4.735 million, basis \$3.1 million).

2. 2006-2010 Mendoza, Argentina: winery modified to produce 3.2 million l. of very high quality, instead of 6.5 million l. of lower quality wine, changing a net negative IRR to profit margins of 32 %, using additional capital \$2.3 million. Project is now successful and growing.

3. 1986-1989 Florida: analysis of 34 staffing centers for home care in 18 counties in Florida led to consolidation of three staffing centers, and opening five new relocated centers in same counties, to reduce travel time and increase productivity, with improved margins.

John W. Martin C.P.A.: Role - C.F.O., CTC Inc.

1979-2005 - Sr. financial exec of major MA corps, all substantial and financially sound - Lotus corporation, sold to IBM 1995; Groove Networks, sold to Microsoft 2005; Courier Corp.; Annual budgets approx. - Lotus - \$500 to \$800 million; Courier Corp. - \$200 million; Groove - \$30 million.

1971-1979 - CPA & audit manager at Arthur Andersen & Co.

-Financial corrective measures included: 1. If internal controls show budget variance, check all reporting, pro-active adjustments to assure cash flow and compliance; 2. M&A negotiations, business divestitures, joint venture (JV), often motivated by distress or adverse review of one or more parties. 3. Find, negotiate, tax plan and due diligence review, purchase and/or sale of at least 30 business concerns, national and international. All required urgent or important changes, adjustments, modifications, within accounting standards, and modification or adjustment of business plans, employment and/or targeted goals; 4. Fundraising response: design /negotiate legal structure of related debt/equity financing. 5. Active participation in negotiation re real estate - siting, lease, sale, leasebacks, divestitures & related property, casualty and liability insurance programs. All with specific review and modifications of offers, prices, terms, conditions, and other aspects of each business and each 'deal' often pursuant to counterparty review, and sometimes "look-back" review after completion, with adjustment of payments, terms, etc; 6. As

Controller (Courier) reviewed spending vs. budgets and corrected variances by reducing spending authority, tighter internal controls, or replacing manager(s). 7. Budget overruns if justified by changed economic conditions or corporate priorities: solution - budget reformulation, improved efficiency, or modified performance metrics. 8. As corp. Treasurer - (Courier, Lotus) - operational reviews at higher executive level, during annual financial and strategic planning 9. In rapid growth (Lotus) could require expansion i.e. real estate - lease or build new R&D space. 10. Slow growth implied trimming and/or financial restructuring 11. As Financial VP or CFO (Courier, Lotus, Groove Networks) operations reviews with senior management monthly or quarterly and frequent operations adjustments. 12. Ad hoc reviews if serious problem or shortfall with sharper, more strategic corrections, i.e. divisional re-organization and/or termination of management, personnel layoffs, spending freezes or targeted cutbacks, or changed performance metrics and incentive programs. 13. Highlights reviewed with the Board of Directors, sometimes management changes; 14. Formulate follow up plans & projections, with Board and senior execs. 15. Due diligence & operational and strategic reviews of M&A, JV and business sales, to aid negotiations and final go/no go decision. 16. M&A; JV; divestiture often intended to fix a business problem, competitive issue, or respond to an opportunity problems identified during operational review.

EXAMPLES: 1. A requested report showed inefficient operating facilities: solution - relocate selected operations sell the vacated plant (Courier); 2. Review showed a strategic threat from larger / more efficient competitor; solution - JV with larger and more aggressive corporate partner in a related industry (Courier Corporation). 3. Review of market prospects showed poor strategic fit with rest of the business; solution - first, cut costs and improve operations per review; then, sold several business units (Courier, Lotus) 4. Annual planning review showed a growth opportunity (networking business) but also weakness in customer support: solution - acquire several smaller, geographically dispersed service businesses, strengthen customer support, focus the related major product offering on business networking (Lotus). 5. Operational reviews showed sales weakness and discord: solution - built consensus in management team during to meetings, created a position for a sales-oriented C.O.O. and then identified / recruited / hired the best-qualified executive (Groove) 6. Review showed a long-term capital need not well suited for venture capital funding: solution - develop a strategic relationship with Microsoft, fund the business over several years. (Groove) 8. Board reviews showed "weak founder syndrome:" solution - replaced CEO/Founder, modified Board of Directors, appointed interim / acting CEO and recruited better - qualified long-term CEO. (Think Through Learning).

Geline Williams, J.D.: Role - Chief of Compliance, Security, & Safety, CTC Inc.

- 2000 - August 2012 Exec. Director, MA District Attorneys Association, coordinated technology services and legal training to MA's eleven elected DAs and their combined staff of 1400 attorneys, advocates and support staff. Directed staff of 10 - 18, annual state budget about \$2 M plus substantial federal grants, requiring monthly & quarterly reporting, periodic reviews and adjustments, and strict state and federal budget compliance. Grants remained stable despite shrinking MA / federal budgets, due to strict budget and reporting controls and perceived value for money.

Michael Chiu, Ph.D., MBA Role - C.O.O., CTC, Inc.

Teradyne - market cycles forced hiring and laying-off employees and adapting budgets to economic externals. As Business Unit Manager at Teradyne, analysis of a group with about \$70M in revenue of very low-margin products and services led to restructuring staffing by shifting many roles from factory to field, standardizing product and service offerings, and codifying prices and terms and conditions; together with adopting an I.P. licensing strategy that shifted the cost of inventory and service to the supply chain yielded increased revenues and lower costs, greater employee satisfaction and growth. A formerly losing division became profitable.

- At Trophos and 2 subsequent startups, built P&L / Balance-Sheet / Cashflow models used in securing funding and managed business using these tools;

2013 - Automation Engineering: Operations Director, \$6M operating budget, 25 staff to design, build, deliver capital equipment abroad. Managed business through extreme cash sflow restrictions causing prioritizing payments to employees, facilities, suppliers and debt. Worked directly with customers to address invoicing, payment terms and revenue recognition issues.

Cash cycles > 6 months on products with huge material and labor costs, requiring constant management of cash flow. Changed contractual terms, increased cash to start custom equipment development, added licensed I. P., added a financial controller for this issue, implemented stricter controls on A/P and A/R, secured more loans and capital investments. Cash flow cycles have stabilized, net returns improved, and growth increased, resulting in a better emotional and intellectual environment as well.]

3. Applicant's Evidence of Suitability

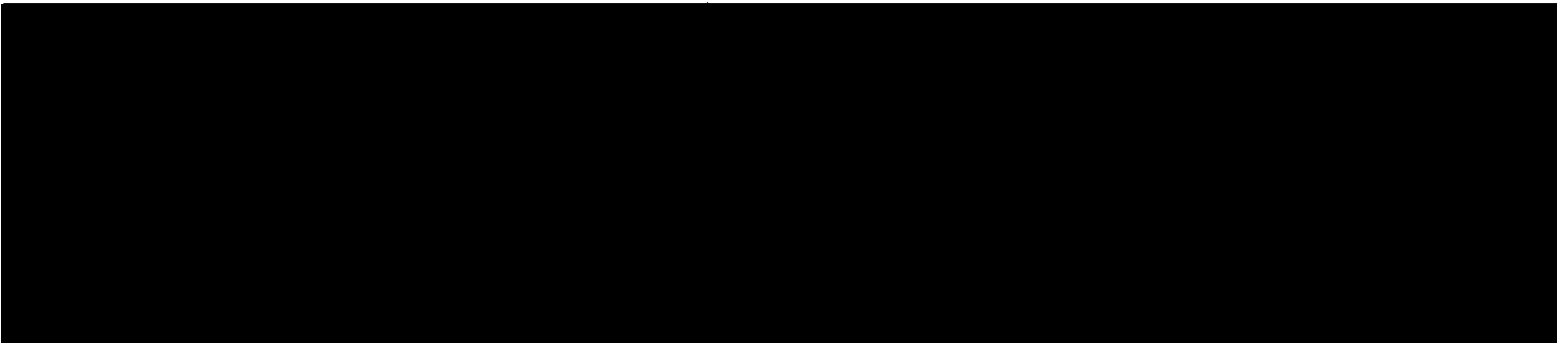
3.1 Indicate whether is/has been in compliance with all laws of the Commonwealth relating to taxes, child support, and workers' compensation with regard to any business in which the individual has been involved. In cases in which an Executive Management Team member is not in compliance with such a law, indicate which team member is non-compliant and describe the circumstances surrounding that situation. Indicate N/A for each individual with no history of non-compliance.



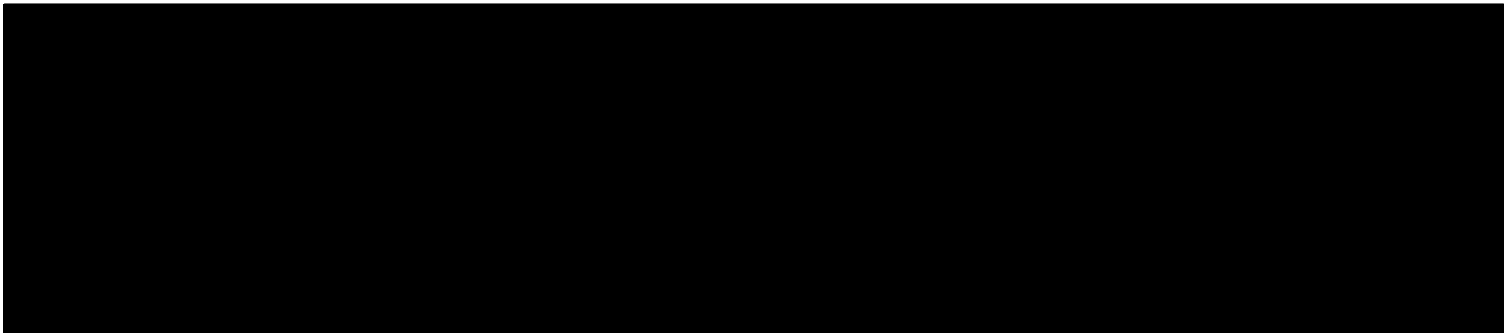
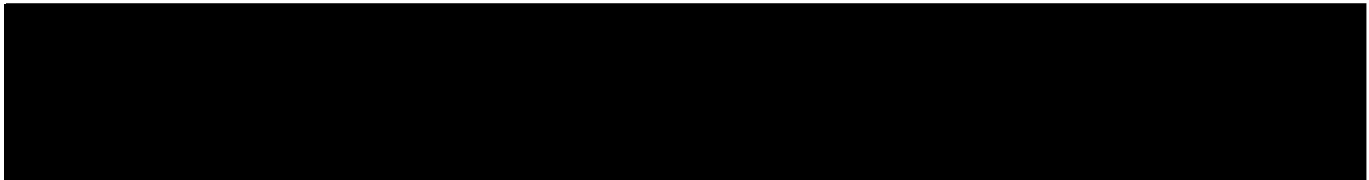
3.2 List and describe any criminal action under the laws of the Commonwealth, or another state, the United States, or a military, territorial, or Indian tribal authority, whether for a felony or misdemeanor, against any member of the **Executive Management Team and Board of Directors, including Board Officers**, including but not limited to action against any health care facility or facility for providing marijuana for medical purposes in which those individuals either owned shares of stock or served as executives, and which resulted in conviction, guilty plea, plea of nolo contendere, or admission of sufficient facts. If no history of such criminal action, indicate N/A.



3.3 List and describe any civil or administrative action under the laws of the Commonwealth, another state, the United States, or a military, territorial, or Indian tribal authority against any member of the **Executive Management Team and Board of Directors, including Board Officers**, including but not limited to actions related to fraudulent billing practices and any attempt to obtain a registration, license, or approval to operate a business by fraud, misrepresentation, or submission of false information. If no history of such civil or administrative action, indicate N/A.



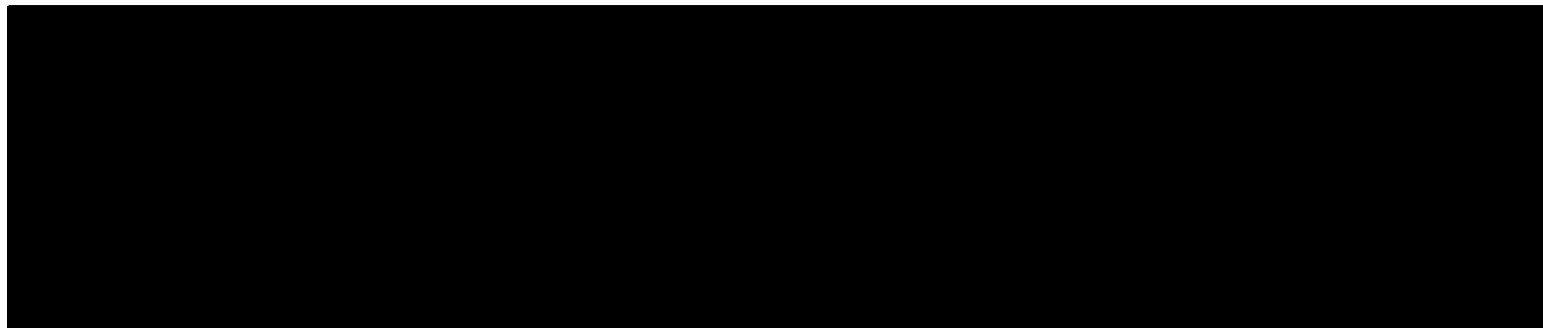
3.4 Indicate and describe whether any member of the **Executive Management Team or Board of Directors, including Board Officers**, has been the subject of any past discipline, or a pending disciplinary action or unresolved complaint, by the Commonwealth, or a like action or complaint by another state, the United States, or a military, territorial, or Indian tribal authority, with regard to any professional license or registration.



3.5 Indicate and describe whether any member of the **Executive Management Team or Board of Directors**, including **Board Officers**, with respect to any business, has filed (or had filed against it) any bankruptcy or insolvency proceeding, whether voluntary or involuntary, or undergone the appointment of a receiver, trustee, or assignee for the benefit of creditors. If no such history, indicate N/A.

ORIGINAL

[Response:



4. Applicant's Evidence of Financial Condition

4.1 Provide a one-page statement in the name of the applicant's non-profit corporation, or in the name of the Corporation's CEO/Executive Director or President of the Board of Directors, from an insured financial institution documenting the available liquid cash balance in a single account (\$500,000 for the first application and \$400,000 for each subsequent application, if invited to submit more than one), dated no earlier than 14 days prior to the response deadline (November 7, 2013). If the Corporation has the required funds in an individual account in the name of the Corporation's CEO/Executive Director or President of the Board of Directors, said individual must provide a completed and signed a notarized Letter of Commitment (in exhibit 4.1).

Proof of liquid funds in an account in the name of the corporation or, if applicable, in an account in the name of the Corporation's CEO/Executive Director or President of the Board of Directors, plus the Letter of Commitment attached as exhibit 4.1

4.2 If applicable, provide the names and addresses of all persons or entities contributing 5% or more of the initial capital to operate the proposed RMD, by application, and specify the actual percentage contributed by each person or entity. Indicate whether the contribution is cash, in-kind, or land or building. When the contributor is an entity include the names and addresses of its CEO/ED and **Board Officers**.

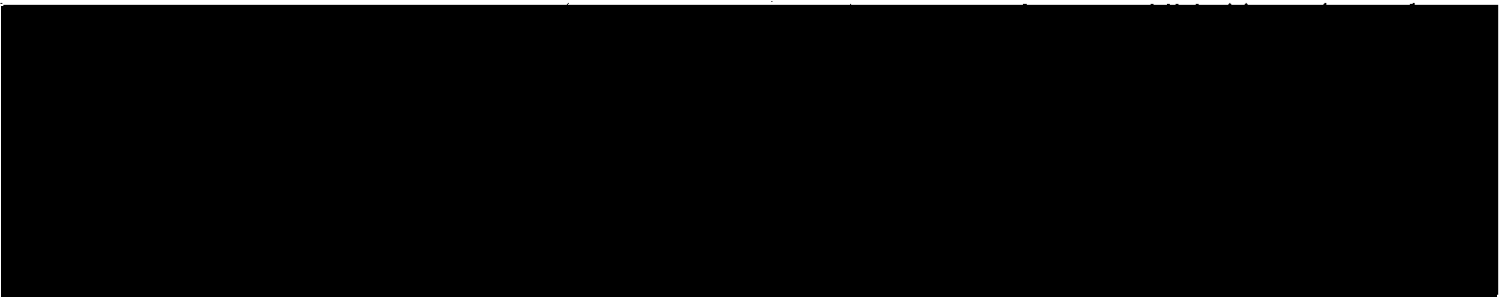
List of persons/entities/creditors contributing more than 5% and what form that capital takes attached as exhibit 4.2

4.3 Provide a narrative summary of projected capital expenses to build out both the proposed dispensary and cultivation or processing facilities, and attach a copy of the proposed capital budget.

[
MC#1

Commonwealth Therapeutics Centers, Inc. (CTC) leased two contiguous spaces within a single clean, renovated, contemporary light industrial building in an industrial park, with 20 foot ceilings, conducive to a staged building plan. ("A") " 4050 sq. ft. 1/2 for dispensary and office; 1/2 for growing; ("B"). 11,000 sq ft for cultivating, processing, preparing MIPS, packaging.

See 7.1 Timeline - 2000 sq ft of A for office and plant initiation space while 2050 sq ft of A is modified together with all of B to add security, entryway modifications, and plant growing requirements.



We will also train and hire our first dispensary agents during the waiting period prior to announcement of award of certificates by DPH. We have already hired our Production Manager, who has a degree in agronomy from U.Mass Amherst, and extensive experience with organic marijuana farming on the largest such facility in Israel, and a grower with experience in organic agriculture, a degree in agronomy from the University of Maine, and experience marijuana farming in Maine. We will hire and train an additional grower or assistant prior to February 1 2014 so that we can start seedlings as soon as the security system can be fully installed and monitored / recorded, and we receive zoning and other permission from all relevant authorities including DPH. To some extent we can compensate for delays in permitting, approvals etc. by using faster growing strains, or a modified "sea of green" growing technique for our early batches, but prolonged delays in permitting and approval could cause delays in opening. This can slightly affect our capital expenditures, since we may capitalize all of our startup costs including some or all salaries before we open for business.

All executive management team members will contribute their time and energy without charge as long as the business is not earning adequate revenues to support them economically. Only new hires will require pay, thus saving startup capital.

We have thoroughly inventoried the two rented spaces, done engineering analyses and take-off drawings in CAD/CAM, and will have preliminary plans available for informal review at ISD and Boston Fire department by November 26, and will have working drawings available for all work by Dec 10 so that we can price with GC and subs, and review all systems ourselves and with various city departments prior to applying formally for permits after DPH awards or denies certification.

Because we have a good working relationship with the building owners, and have good credit of long standing, landlord is willing to amortize all building improvements over the first five year term of our lease by increasing our base rent several dollars extra per square foot per year. This would convert our lease to a turn-key with landlord full buildout, and eliminate the estimated \$182,993.22 on line 1 "Construction expenses" - build-out costs, the \$3,500 for exterior lighting front and rear line 8 Equipment costs; the \$8,600 for high bay led lighting system, the \$8,780 for ADA bathrooms, \$14,300 for paint and finishes,. We would still be responsible for the special man-trap acrylic entry (\$10,800, line 6 under "build out costs"), the special security system (\$48,400, line 3 under "build out costs"); automation controls \$3850; all other equipment, the CO2 system \$2,200; the \$91,500 in fees to DPH plus \$1,594.01 in architectural review fees to DPH at \$8.25 / 1000. We would save about \$218,173.22 in cash layout and pay an additional \$3,600 per month in rent over the first five year term. Exact costs (for rent in lieu of cash for the buildout; price for our doing the construction - using a project manager and quantity surveyor team that we have used many times before, likewise GC and trades - available only after working drawings are issued. We have ample available cash (above the \$1,300,000.00 shown in Exhibit 4.1 Evidence of Capital) if we choose not to finance or pay additional rent. Exhibit 4.3 attached assumes that we pay cash for all buildout work and equipment instead of financing or choosing to let landlord amortize improvements. Since the landlord is in the process of finishing rehab of the space anyway,

and has possession of new adequate HVAC equipment on site, he is willing to start the work generically, including our particular requirement for caulking, tyvek inside application, and extra insulation, before we receive notice of certification. If we opt for increased rent and saving the \$218,173 then our build out, equipment, cultivation facilities, laboratory and MIPS kitchen outfitting costs will decrease to \$416,619.94. Further cash can be saved by timing acquisitions, leasing the laboratory and kitchen equipment etc., but most likely we will pay cash. Completion date (May 15) is well before anticipated opening date of June 9. Both require prompt BRA action and coordination with Boston Public Health, DPH, BRA and possibly neighborhood committee, although in discussions to date it's not certain that this is necessary.

1

Capital expenses attached as exhibit 4.3

4.4 Provide a narrative summary of the proposed year-one RMD operating budget, including projected revenues by sales type, line item operating expenses, and budget assumptions, and include the budget as an attachment.

[CTS assumes that the intent is to start with the outset of operations to the public, ie after the opening of Marijuana Center #1 Dispensary. To simplify, we assume that the opening will occur on July 1, and we will capitalize expenses prior to opening, at least for the purposes of this discussion. CTC has ample capital beyond the \$1.3 million shown deposited in Exhibit 4.1 (an additional \$6 million has been committed by the CEO of CTC Inc, vastly in excess of anticipated 3 or 5 year need) and has arranged financing to the Corporation for another \$6 million. We may choose to draw down some of the financing for tax and other purposes, and thus show some interest expenses on line 8 under "other expenses".

Marijuana Center #1 is located in a freshly rehabbed industrial building in an Industrial Park in Charlestown, MA, and requires all new interior construction, including sealing, caulking, insulation, HVAC installation, floor drains, some interior divisions, electrical interior wiring, commercial lighting ("standard tenant fitout") and all of the custom work necessary for our particular application ("custom fitout"). Pursuant to our understanding, landlord will commence "standard fitout" immediately, since even if CTC were not awarded certification by DPH and permitted by Boston for the requested use, this work or some variant will be necessary anyway, for any tenant.

CTC has already caused CAD plans to be drafted for the elements of its "custom fitout", all designed specifically to comply both with our actual needs, and with 105CMR725.000 et seq. Ordinarily we would review these plans with Boston officials prior to proceeding further, but this step appears to be blocked within the city, as is documented elsewhere. Nevertheless, we will proceed to working drawings within 2 weeks, prior to notice from DPH, in order to avoid subsequent excessive delays. During the interval we will engage construction supervision consultant, hire a GC, and put the project out to bid with subcontractors. Contracts with subs will not be signed until DPH issues certification, and we can sign the lease. We have already started hiring employees, and will continue to do so during the interim, especially those employees who express indifference to their locus of work. Employees who would rather live and work in Boston may choose to await determination of DPH award. This will impact our budget prior to July 1 opening, and thus our ramp-up capital, but won't substantially affect the year one budget as defined above.

Upon receipt of notice of award of certification by DPH, and execution of final lease, Landlord will commence construction of "custom work" and CTC will order equipment, sign sub contracts and GC contract, During appropriate stages of the buildout, custom equipment belonging to and paid for by CTC will be incorporated into the spaces defined for this submission. There are two spaces, 4050 square foot space intended for the dispensary and , in part, seedling and clone growth; and a 15000 foot space for vegetative growth, flowering, harvest, drying, packaging etc etc. Changes in deadlines will affect net rent allocated to capital or to cost, before or after July 1. For this and other reasons cost projections are estimated, as are revenues.

Revenues

Client accrual, patient incidence, and revenues have been estimated using techniques explained elsewhere in this Application. We project a gradual ramp up in revenues starting at 60,000 in the first month of service, and ending the first year at 130,000 revenues per month. We estimate that over 90 percent of sales will be for marijuana buds in various forms, and under 10% as MIPS (MIPS products will not be available until at least the second quarter; or later, due to longer startup for the kitchen and more concern about quality control and testing). About 1/2 percent of sales will be for "other" allowed products, such as vaporizers, even though we will promote their use.

We anticipate total revenues in the first year of approximately \$1.4 million, as shown in Exhibit 4.4

Expenses:

We will capitalize build out and equipment costs, as described, and therefore don't discuss most of them in this narrative. They are addressed elsewhere. Rent is the biggest component of cost at \$285,000. Loan principal amortization payments account for another \$106,000; consultants, community outreach, attorneys, tax professionals and tax lawyer, estimated at \$80,000. Utilities are projected at \$74,000, but this assumes that we can negotiate a discounted industrial rate for electricity and also can be affected by precise choice of lighting equipment, strains, lighting schedules etc. Office expenses at 75,000 in the first year are fairly standard in my experience. We have priced insurance as described elsewhere and the number should be accurate, as should internet and telephone expense estimation. Supplies at 115,000 largely reflects cultivation, and processing; these numbers are derived from industry standards but are subject to variation based on our choices of techniques (hydro or soil); of nutrients, supports and so on, and will have to be recalibrated over time.

Salaries are clearly outlined in Exhibit 4.4, and are shown attributed across three RMD's. Obviously this is both dependent on certification, completion dates, and other variables, but reflects a serious attempt to get it right.

For further information, we are working on more detailed budgets and projections
s]

Year-one operating budget attached as exhibit 4.4

- 4.5 Provide a detailed summary of a three-year business plan for the proposed RMD, including strategic planning assumptions, utilization projections, growth projections, and projected revenue and expenses. Note that the complete business plan will be reviewed as a component of the provisional inspection process. Include projected revenue and expenses as an attachment.

[
CTS assumes that the intent is to start with the outset of operations to the public, ie after the opening of Marijuana Center #1 Dispensary. To simplify, we assume that the opening will occur on July 1, and we will capitalize expenses prior to opening, at least for the purposes of this discussion. CTC has ample capital beyond the \$1.3 million shown deposited in Exhibit 4.1 (an additional \$6 million has been committed by the CEO of CTC Inc, vastly in excess of anticipated 3 or 5 year need) and has arranged financing to the Corporation for another \$6 million. We may choose to draw done some of the financing for tax and other purposes, and thus show some interest expenses on line 8 under "other expenses".

Marijuana Center #1 is located in a freshly rehabbed industrial building in an Industrial Park in Charlestown, MA, and requires all new interior construction, including sealing, caulking, insulation, HVAC installation, floor drains, some interior divisions, electrical interior wiring, commercial lighting ("standard tenant fitout") and all of the custom work necessary for our particular application ("custom fitout"). Pursuant to our understanding, landlord will commence "standard fitout" immediately, since even if CTC were not awarded certification by DPH and permitted by Boston for the requested use, this work or some variant will be necessary anyway, for any tenant.

CTC has already caused CAD plans to be drafted for the elements of its "custom fitout", all designed specifically to comply both with our actual needs, and with 105CMR725.000 et seq. Ordinarily we would review these plans with Boston officials prior to proceeding further, but this step appears to be blocked within the city, as is documented elsewhere. Nevertheless, we will proceed to working drawings within 2 weeks, prior to notice from DPH, in order to avoid subsequent excessive delays. During the interval we will engage construction supervision consultant, hire a GC, and put the project out to bid with subcontractors. Contracts with subs will not be signed until DPH issues certification, and we can sign the lease. We have already started hiring employees, and will continue to do so during the interim, especially those employees who express indifference to their locus of work. Employees who would rather live and work in Boston may choose to await determination of DPH award. This will impact our budget prior to July 1 opening, and thus our ramp-up capital, but won't substantially affect the year one budget as defined above.

Upon receipt of notice of award of certification by DPH, and execution of final lease, Landlord will commence construction of "custom work" and CTC will order equipment, sign sub contracts and GC contract, During appropriate stages of the buildout, custom equipment belonging to and paid for by CTC will be incorporated into the spaces defined for this submission. There are two spaces, 4050 square foot space intended for the dispensary and , in part, seedling and clone growth; and a 15000 foot space for vegetative growth, flowering, harvest, drying, packaging etc etc. Changes in deadlines will affect net rent allocated to capital or to cost, before or after July 1. For this and other reasons cost projections are estimated, as are revenues.

Revenues

Client accrual, patient incidence, and revenues have been estimated using techniques explained elsewhere in this Application. We project a gradual ramp up in revenues starting at 60,000 in the first month of service, and ending the first year at 130,000 revenues per month. We estimate that over 90 percent of sales will be for marijuana buds in various forms, and under 10% as MIPS (MIPS products will not be available until at least the second quarter, or later, due to longer startup for the kitchen and more concern about quality control and testing). About 1/2 percent of sales will be for "other" allowed products, such as vaporizers, even though we will promote their use.

We anticipate total revenues in the first year of approximately \$1.4 million, as shown in Exhibit 4.4

Expenses:

We will capitalize build out and equipment costs, as described, and therefore don't discuss most of them in this narrative. They are addressed elsewhere. Rent is the biggest component of cost at \$285,000. Loan principal amortization payments account for another \$106,000; consultants, community outreach, attorneys, tax professionals and tax lawyer, estimated at \$80,000. Utilities are projected at \$74000, but this assumes that we can negotiate a discounted industrial rate for electricity and also can be affected by precise choice of lighting equipment, strains, lighting schedules etc. Office expenses at 75,000 in the first year are fairly standard in my experience. We have priced insurance as described elsewhere and the number should be accurate, as should

internet and telephone expense estimation. Supplies at 115,000 largely reflects cultivation, and processing; these numbers are derived from industry standards but are subject to variation based on our choices of techniques (hydro or soil); of nutrients, supports and so on, and will have to be recalibrated over time.

Salaries are clearly outlined in Exhibit 4.4, and are shown attributed across three RMD's. Obviously this is both dependent on certification, completion dates, and other variables, but reflects a serious attempt to get it right.

After year one our net revenues become positive, as outlined below:

Strategic planning assumptions, growth projections, projected revenues and expenses are detailed in the attachment. The detailed business plan is in preparation.

The year one component is attached herein. We did mathematical modeling to project use, and data from other states which legalized medical marijuana were analyzed to project accrual, we estimate (adjusted for factors explained elsewhere in this application) at approximately 2 patients per 1000 per year over an effective population base equivalent of 515,000, with a penetration (our percentage of patients of all those in our catchment area) of 30% initially, dropping to 25% over 3 years. The weakest component of our model is average price demand elasticity, which is regionally variable and has quality, service, and style inputs as well.

Our projections show revenues more than tripling to over \$350,000 per month during Q4 of year 3, while expenses (largely inputs such as electricity, nutrients, labor, delivery etc) increase much more modestly, approximately by 50 - 70%. We should achieve profitability by Q4 of operating year 1, and increase margins thereafter. Whether or not we will decrease prices thereafter largely depends on DPH, as does our subsidization schedule, which we are very open to adjusting liberally, but worry about diversion.

]

Three-year projections attached as exhibit 4.5

4.6 Provide a description of the proposed RMD's plan to obtain a liability insurance policy or otherwise meet the requirements of 105 CMR 725.105(Q).

[4.6 Insurance Coverage Plan

In accordance with 105 CMR 725.105(Q) Commonwealth Therapeutics Centers, Inc. (CTC Inc.) will obtain and maintain general liability insurance coverage for no less than \$1,000,000 per occurrence and \$2,000,000 in aggregate, annually and product liability insurance coverage for no less than \$1,000,000 per occurrence and \$2,000,000 in aggregate, annually. The deductible for our liability policy will be no higher than \$5,000 per occurrence

We have already arranged with WT Phelan Insurance Agency, 645R Massachusetts Ave, Arlington MA one of the largest-held independent insurance agencies in Massachusetts, a fourth generation family-owned and operated Massachusetts business, for this coverage. The CEO of CTC, Inc., Dr. Ehrman, has been for more than 10 years, and is currently, a client of WT Phelan Insurance Agency. Mr. Kevin Kehoe of Phelan has verified that this policy is available to us, but it will not issue until we are approved by DPH for the certificate, and authorized by the city of Boston to license the business. We will utilize only A.M. Best A or A+ rated carrier(s) for placement of coverage's. There are several insurance carriers that are currently writing policies for state licensed medical marijuana businesses, including: Beacon Mutual, Lloyd's of London, Scottsdale Insurance and Atain Insurance Company. If for any reason Phelan is unable to obtain this policy and the coverage listed below, we have verified availability with another commercial agency that we use.

We will also carry the following coverage, either as riders within one policy or as separately insured coverage:

- Directors and officers
- Property
- Builder's risk
- Automobile
- Casualty
- Business interruption
- Workers' Compensation
- EDP or Data Processing Coverage

Our Liability Coverage will include:

- Medical injury
- Product liability
- Pharmacy Management Liability

Our Property Coverage will include:

- Stock and Inventory Coverage
- Crop Coverage
- Equipment Failure
- Business Personal Property
- Business Income Coverage
- Cargo Inventory Coverage

Commonwealth Therapeutics Centers, Inc. and WT Phelan Insurance Agency have reviewed the aforementioned coverage options with the program underwriters and the policies will be put in force upon the awarding of a Registered Marijuana Dispensary license by the MA Department of Public Health.

The CFO will be responsible for determining that all policies are more than adequate for protecting assets and managing liabilities. In the unlikely event that CTC is unable timely to obtain all coverage as required by 105 CMR (Q)(1) then CTC will promptly place in escrow a sum of no less than \$250,000, to be expended for coverage of liabilities. The escrow account, pursuant to 105 CMR 725.105(Q)(2) will be replenished within 10 business days after any expenditure. Reports documenting compliance with 105 CMR 725.105(Q) shall be made in a manner and form determined by the Department pursuant to 105 CM

]

5. Location and Physical Structure

5.1 Provide the physical address of the proposed RMD dispensary site if a location has been secured. If a location has not been secured, indicate N/A in the text box and exhibit. Attach supporting documents as evidence of interest in the property by location. Interest may be demonstrated by (a) a clear legal title to the proposed site; (b) an option to purchase the proposed site; (c) a lease; (d) a legally enforceable agreement to give such title under (a) or (b), or such lease under (c), in the event the Department determines that the applicant qualifies for registration as a RMD; or (e) evidence of binding permission to use the premises.

[440 - 460 Rutherford St., Charlestown MA 02129]

Evidence of interest attached as exhibit 5.1

5.2 Provide the physical address of the proposed RMD cultivation site if a location has been secured (the response must be the same as the location indicated in the response to 5.1 or 5.3). If a location has not been secured,

indicate N/A in the text box and exhibit. Attach supporting documents as evidence of interest in the property by location (see examples of evidence in 5.1).

[440 - 460 Rutherford Ave, Bunker Hill Industrial Park, Charlestown MA 02129]

Evidence of interest attached as exhibit 5.2

5.3 Provide the physical address of the proposed RMD processing site if a location has been secured (the response must be the same as the location indicated in the response to 5.1 or 5.2). If a location has not been secured, indicate N/A in the text box and exhibit. Attach supporting documents as evidence of interest in the property by location (see examples of evidence in 5.1).

[440 -460 Rutherford Ave, Bunker Hill Industrial Park, Charlestown MA 02129]

Evidence of interest attached as exhibit 5.3

5.4 Describe efforts to obtain assurances of support or non-opposition from the local municipality(ies) in which the applicant intends to locate a dispensary, cultivation site, and/or processing site and indicate whether the municipality expressed any opposition. If the sites are in different municipalities, provide information related to each community. If available, include a demonstration of support or non-opposition furnished by the local municipality, by attaching one or more of the following:

- A letter from the Chief Administrative Officer, as appropriate, for the desired municipality, indicating support or non-opposition;¹
- A letter indicating support or non-opposition by the City Council, Board of Aldermen, or Board of Selectmen for the desired municipality; or
- A letter indicating support or non-opposition by the Board of Health in the desired municipality.

[We identified sites for Dispensaries and Cultivation Facilities in all proposed communities. In each community, other than Boston (for reasons set forth below) sites were appropriately screened in cooperation with responsible city or town officials and published zoning codes, ordinances, bylaws, guidelines, and municipal preferences, to be

- a) allowed under the local zoning by-law with either Site Plan Approval or by Special Permit, and
- b) congruent with the actual needs and desires of the local community and administration.

We advanced sites only after careful evaluation for its suitability within the established requirements by Mass DPH for use as Dispensary or Cultivation facility. This has been done other than in Boston in close consultation and coordination with the Planning Director or equivalent, and other municipal officials in the host city or town.

In the City of Boston, a Medical Marijuana Dispensary use is considered a “medical office use” which is an allowed use within certain defined Districts. In addition, the Boston Public Health Commission has proposed Guidelines requiring that any proposed Registered Marijuana Dispensary (“RMD”) obtain an Operating Permit to be issued by the Office of Environmental Health of the Boston Public Health Commission. Upon receipt of notice of approval by the Mass Department of Public Health, CTC, Inc. intends to immediately submit plans that are in compliance with all state and local regulations and ordinances, including the Boston Public Health Commission’s Guidelines.

CTC, Inc. has repeatedly attempted to consult with BRA, ISD, and various neighborhood commission officials to review preliminary plans and to define the current interests and preferences of the city of

¹ Chief Administrative Officer is the Mayor, Town Manager, Town Administrator, or other municipal office designated to be the chief administrative officer under the provisions of a local charter.

Boston, and will further attempt to consult with them, in advance of their submission. However, to date, such meetings have been impossible, despite months of many attempts to call, contact officials, and visit personally. We have been unable to achieve any clarification on zoning and permissions despite repeated attempts at great expense in money and time. This has adversely impacted our site selection process, and has had other adverse effects.

We have appended a letter from Lisa Conley Esq., Director of Intergovernmental Relations, which clarify the position of BPHC with respect to letters of non-opposition. We append this letter (which we could NOT obtain in the form requested by DPH, signed in blue ink etc despite repeated attempts) as said letter of non-opposition, despite the facial content of the letter, due to the circumstantial context.

we note that in emails to consultants Ms. Conley has stated:

From: Conley, Lisa <LConley@bphc.org>
Date: Fri, Nov 15, 2013 at 4:10 PM
Subject: RMD applicants Boston
To (REDACTED)

Hi Jim,

Good to talk with you just now. Attached is the statement that we've provided to others for the DPH application. We've made it clear to DPH that Boston welcomes RMDs and we look forward to going through our own approval process once applicants have made it through Phase II.

Let me know if I can be of further assistance.

Lisa

Emphasis added. Italics to distinguish this email from surrounding letter. Other similar emails and communications documented.

CTC hereby formally request that full credit be awarded for providing this letter, and regret that coordination between the organs of State and local government have not been better. In the event that full credit is not awarded, CTC worries that its interests may be irrevocably harmed by the lack of coordination and integration of policy.

While we recognize and respect the formal submission requirements of DPH, in this circumstance, evidently not anticipated by DPH or others, we feel that these constraints must be relaxed in order to permit a fair determination that accurately reflects both the merits of the candidates, and the interests of the citizens of Suffolk County, who (according to Martha Coakley's March 13th memo regarding another community's action with respect to 105CMR725.000 et seq.) deserve to have their wishes, as expressed in referendum, consequent law approved by the legislature of the Commonwealth and signed by the Governor, and attendant regulations, respected.

very truly yours,

Mark L Ehrman, MD JD
CEO
Commonwealth Therapeutics Centers, Inc.

Attachments and letters appended as an integral part of this entry, including letter from Lisa Conley, Statement of City of Boston Policy, and Boston Public Health Commission, Regulation to Ensure Safe Access to Medical Marijuana in the City of Boston, Requirements and Prohibitions § 3 (Draft, Sept. 21, 2013)

]

Letter(s), if any, attached as exhibit 5.4

5.5 Provide a summary chart reflecting answers to questions 5.1 -5.4 indicating evidence of local support or non-opposition for cultivation, processing or dispensing activities of the proposed RMD.

Summary chart attached as exhibit 5.5

5.6 Provide a description of the applicant’s plans to ensure that the proposed RMD is or will be compliant with local codes, ordinances, zoning, and bylaws, as well as state requirements for the physical address of the proposed RMD dispensing site and for the physical address of the additional location, if any, where marijuana will be cultivated or processed.

[The submitted sites for RMD's - including alternates - correspond to all elements of the zoning laws and state requirements including without limitation distance from schools parks playgrounds day care centers etc to be over 500 feet. We have done everything possible without City assistance, which has not been forthcoming, to verify our compliance.

In the City of Boston, a Medical Marijuana Dispensary use is considered a “medical office use” which is an allowed use within the submitted districts. In addition, the Boston Public Health Commission has proposed Guidelines requiring that any proposed Registered Marijuana Dispensary (“RMD”) obtain an Operating Permit to be issued by the Office of Environmental Health of the Boston Public Health Commission. Upon receipt of notice of approval by the Mass Department of Public Health, CTC, Inc. intends to immediately submit plans that are in compliance with all state and local regulations and ordinances, including the Boston Public Health Commission’s Guidelines. In addition, CTC, Inc. has attempted to consult with BRA and ISD officials to review preliminary plans and will further consult as permitted with them in advance of their submission. In addition, CTC, Inc. will meet with representatives of the Mayor’s office of Neighborhood Services and the local citizens advisory committee to review plans prior to their submission and to answer questions regarding the proposed CTC, Inc. facility. In addition, CTC, Inc. will meet with Boston Police to review safety and security measures at the selected location.

We identified sites for Dispensaries and Cultivation Facilities in all proposed communities. In each community, other than Boston (for reasons set forth below) sites were appropriately screened in cooperation with responsible city or town officials and published zoning codes, ordinances, bylaws, guidelines, and municipal preferences, to be

- a) allowed under the local zoning by-law with either Site Plan Approval or by Special Permit, and
- b) congruent with the actual needs and desires of the local community and administration.

We advanced sites only after careful evaluation for its suitability within the established requirements by Mass DPH for use as Dispensary or Cultivation facility. This has been done other than in Boston in close consultation and coordination with the Planning Director or equivalent, and other municipal officials in the host city or town.

In the City of Boston, a Medical Marijuana Dispensary use is considered a “medical office use” which is an allowed use within certain defined Districts. In addition, the Boston Public Health Commission has proposed

ORIGINAL

Guidelines requiring that any proposed Registered Marijuana Dispensary (“RMD”) obtain an Operating Permit to be issued by the Office of Environmental Health of the Boston Public Health Commission. Upon receipt of notice of approval by the Mass Department of Public Health, CTC, Inc. intends to immediately submit plans that are in compliance with all state and local regulations and ordinances, including the Boston Public Health Commission’s Guidelines.

CTC, Inc. has repeatedly attempted to consult with BRA, ISD, and various neighborhood commission officials to review preliminary plans and to define the current interests and preferences of the city of Boston, and will further attempt to consult with them, in advance of their submission. However, to date, such meetings have been impossible, despite months of many attempts to call, contact officials, and visit personally. We have been unable to achieve any clarification on zoning and permissions despite repeated attempts at great expense in money and time. This has adversely impacted our site selection process, and has had other adverse effects.

We have appended a letter from Lisa Conley Esq., Director of Intergovernmental Relations, which clarify the position of BPHC with respect to letters of non-opposition. We append this letter (which we could NOT obtain in the form requested by DPH, signed in blue ink etc despite repeated attempts) as said letter of non-opposition, despite the facial content of the letter, due to the circumstantial context.

we note that in emails to consultants Ms. Conley has stated:

From: Conley, Lisa <LConley@bphc.org>
Date: Fri, Nov 15, 2013 at 4:10 PM
Subject: RMD applicants Boston
To (REDACTED)

Hi Jim,

Good to talk with you just now. Attached is the statement that we’ve provided to others for the DPH application. We’ve made it clear to DPH that Boston welcomes RMDs and we look forward to going through our own approval process once applicants have made it through Phase II.

Let me know if I can be of further assistance.

Lisa

Emphasis added. Italics to distinguish this email from surrounding letter. Other similar emails and communications documented.

CTC hereby formally request that full credit be awarded for providing this letter, and regret that coordination between the organs of State and local government have not been better. In the event that full credit is not awarded, CTC worries that its interests may be irrevocably harmed by the lack of coordination and integration of policy.

While we recognize and respect the formal submission requirements of DPH, in this circumstance, evidently not anticipated by DPH or others, we feel that these constraints must be relaxed in order to permit a fair determination that accurately reflects both the merits of the candidates, and the interests of the citizens of Suffolk County, who (according to Martha Coakley's March 13th memo regarding another community's action with respect to 105CMR725.000 et seq.) deserve to have their wishes, as expressed in referendum, consequent law approved by the legislature of the Commonwealth and signed by the Governor, and attendant regulations, respected.

very truly yours,



Mark L Ehrman, MD JD
CEO
Commonwealth Therapeutics Centers, Inc.
Attachments are an integral part of this content]

5.7 Describe the applicant's plan to continue to develop and maintain a positive relationship in each community in which the RMD is/will be located.

[1. Contact with police, law enforcement, and administrators. We are fortunate to have on our senior team two former long-term MA District Attorneys, and prosecutors, one with experience in Military Intelligence and and work with the MA Attorney General, in senior positions in our Compliance, Security, and Diversion Prevention department. They are both well known to many senior state and local police and administration officials, and are able and willing to establish dialogs with all interested parties to permit ongoing communication, promote understanding, accept feedback and modify aspects of our programs and services that relevant officials may feel require change. We will proactively initiate and maintain such contacts, and use our website www.CTCMass.org to post information, analysis, and to receive comment and feedback from law enforcement and other officials, and from the community at large.

2. Two of our Executive Management Officers are respected senior physicians and scientists, both multiply board-certified, one a full professor at Harvard Medical School and Director of a division at the M.E.E.I. Our COO holds a Ph.D. and MBA from MIT. This combination will at least provide entree into discussions in the academic world, medical and otherwise, and in the scientific community. We have reached out to teaching hospitals, community hospitals, health centers, research and clinical centers etc in multiple communities, and to state-wide charitable organizations as well. We have contacted a broad range of charitable institutions with the intent of starting conversations, and making contributions, to alleviate needs, especially among children requiring educational or other assistance in our state. We will continue and expand all of these types of contacts, and make it a serious focus of our interaction with all categories of people whose lives we may impact. We will be available for conferences, department meetings, clinical presentations, grand rounds, in-service presentations, educational seminars, and other formats for purposes either directly or indirectly related to CTCs mission, or unrelated.

3. Our website will provide periodic updates on our functions and progress, and offer a portal for questions and feedback. We have hired a prominent agency to assist with these efforts, and are currently hiring both a Patient Advocate and an Education Manager, who will both be involved in this arena, among others.

4. We will provide a quarterly informational update to the municipality, with focus determined on particular events and circumstances, and on overall trends, as they develop. Our website will also be involved.

5. We will request an opportunity to address town or city administrators, boards of selectmen or other groups after being awarded a provisional license to inform them of our progress and answer any questions. We will maintain open contacts with their offices.

6. We will speak with and schedule interviews with reporters for press and media to answer questions and provide information, as relevant.

7. We will make significant changes to security protocols, disaster and emergency plans, delivery plans, building and real-estate plans, changes in the Executive Management Team and other essential aspects of our operations, only in consultation and cooperation with municipal authorities and planners, and do so transparently and interactively, except only where security concerns demand privacy.

8. We will provide contact numbers for the Executive Management Team and security personnel for police, fire, administrative, planning and other officials, and respond promptly to requests for information and/or changes to our operations.

9. Resident and Community Outreach. Residents of our community should have an opportunity to engage us in meaningful communication. After we receive our provisional license we will host educational forums at the local public library or other venues to discuss all aspects of our program and introduce our team. We will open the forum to questions, to address concerns and determine how we can best address the specific needs of the community. In addition, we anticipate opportunities to support the community in the following ways: direct giving including, food and clothing drives; partnering with local grassroots organizations via charitable giving; contributing time to local social service organizations; donating to scholarship funds; helping with event staffing. Most of our employees will be drawn from our communities, and will both assist our efforts, participate in them, and suggest options.

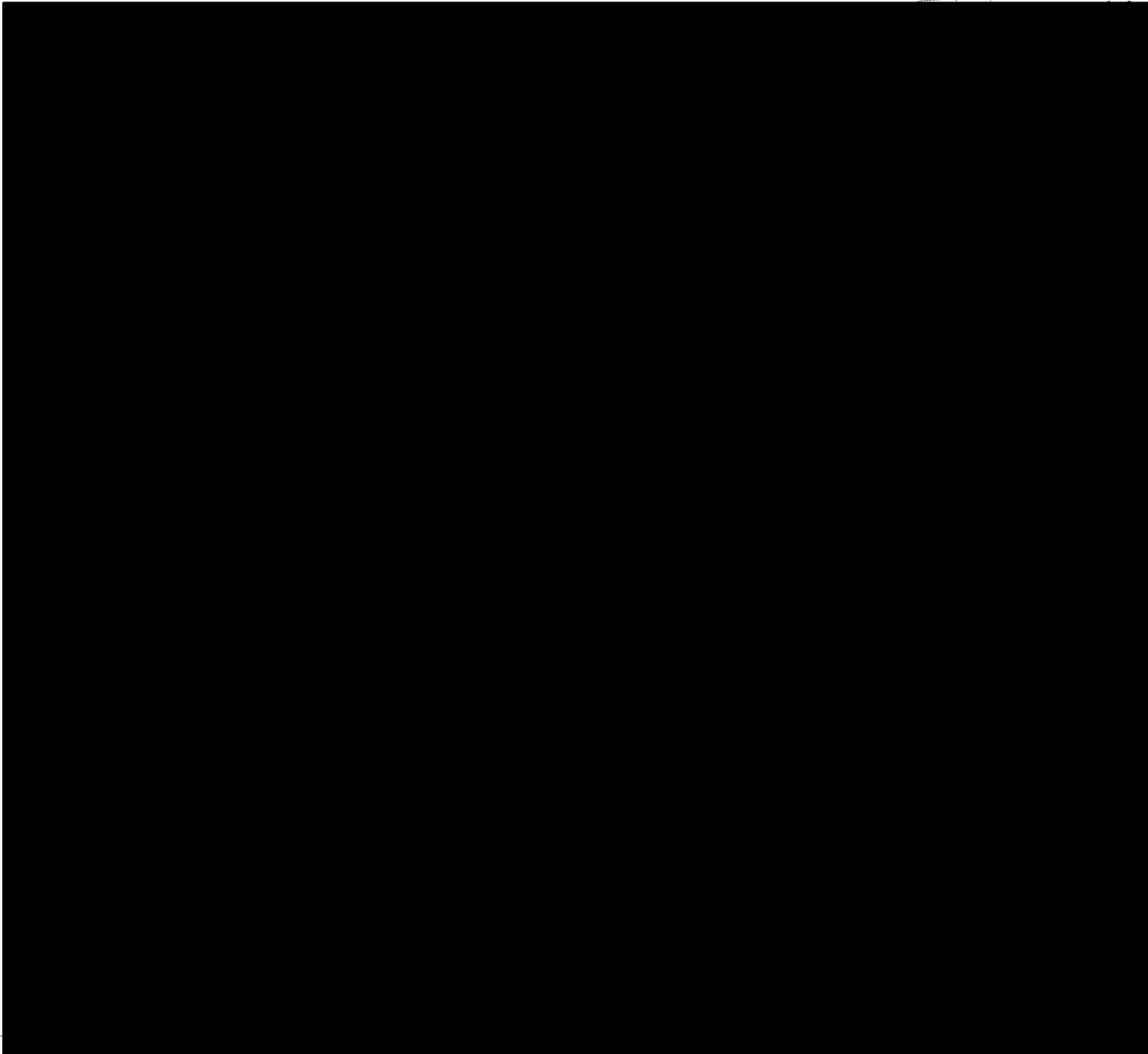
10. Patient and non-patient Outreach: Patients in our regions should have access to up-to-date information about medical marijuana, program rules and regulations, and other aspects of concern to them. The information should be neutral in perspective (not puffery or promotional, but accurate and supported by factual evidence) and should reflect both sides of any legitimate debate in the scientific or medical community. We will try to help, both in person, at meetings, by interviews with media or otherwise, and through our website. We may also fund visits by respected experts (not by promoters and hacks) to discuss the scientific, medical and therapeutic investigations going on elsewhere in the world, both showing progress being made as well as problems that have been encountered. Our cardholders will also have access to web-based forums, in-house educational materials and counseling, and other formats. Public forums will be offered for those who aren't our patients

11. Complaint Resolution: all complaints whether from the municipality, state, patients or residents will be referred to our Education Director and Patient Advocate, who will confer with the Executive Management Team and Board of Directors to understand and respond quickly and transparently, and give prompt, accurate and unbiased feedback.

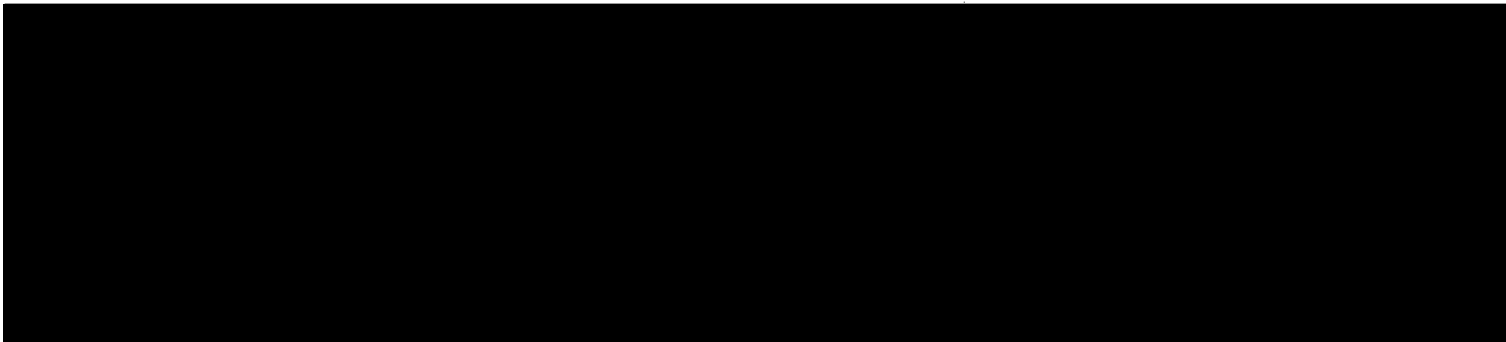
1

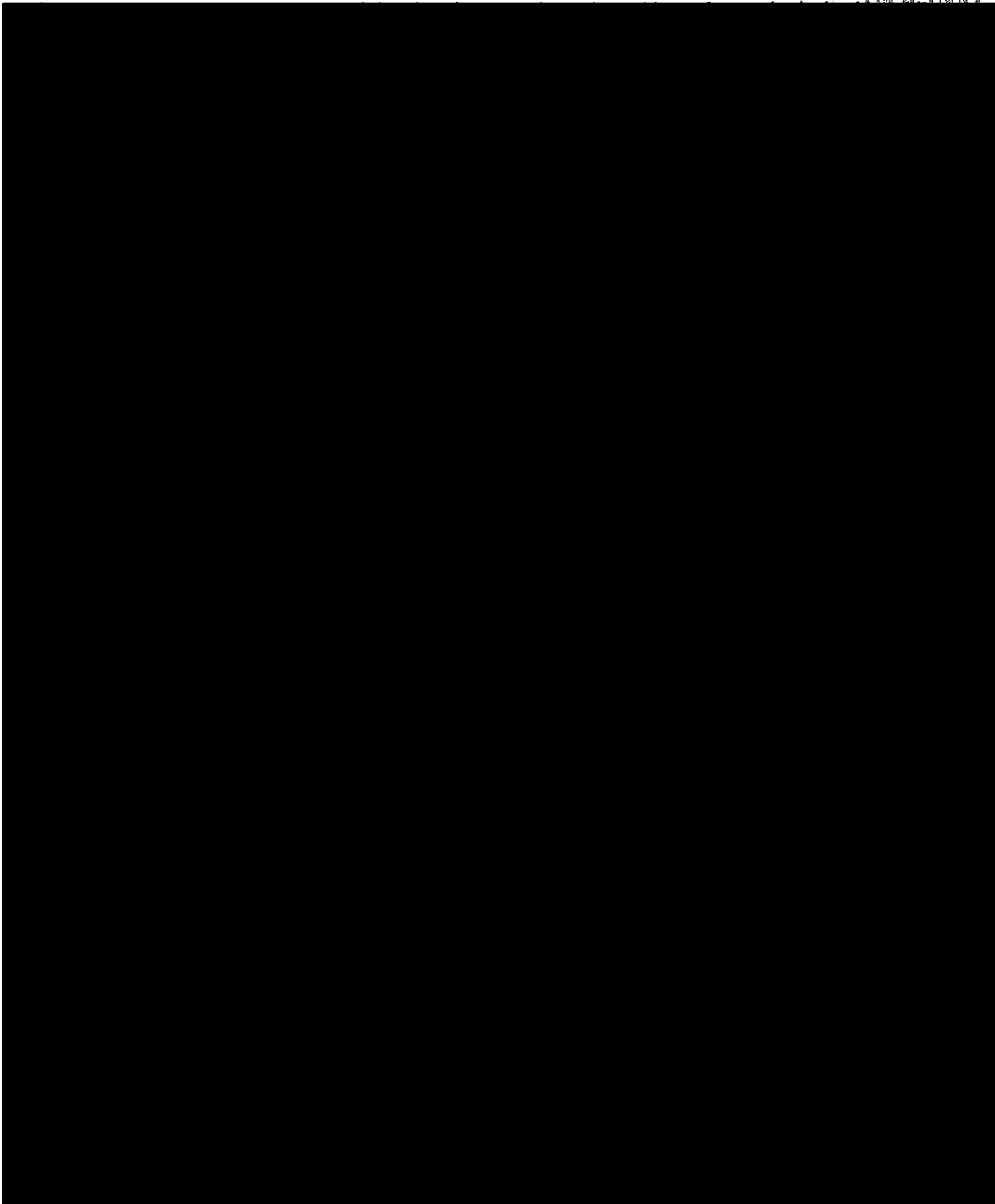
5.8 Provide a description of the proposed enclosed, locked facility that would be used for the cultivation and/or processing of marijuana, including steps to ensure that marijuana production is not visible from the street or other public areas. Note that the security plan will be reviewed as a component of the provisional inspection process.





5.9 Describe how the facility's security plan will help deter and prevent unauthorized entrance into areas containing marijuana and/or MIPs and theft of marijuana and/or MIPs at the proposed RMD and the alternate location, if any. Note that the security plan will be reviewed as a component of the provisional inspection process.





6. Staffing Plan and Development

6.1 Provide a narrative description of the proposed RMD staffing plan including position description, full time equivalency, and reporting structure. Attach an organizational chart in which you identify all staff and all reporting relationships. If this level of detail is already included in exhibit 1.3, include the same organizational chart in exhibit 6.1.

[6.1 Strategic Staffing Plan

Goals: 1. Find / hire energetic, committed employees; teach our objectives; help them grow in their own directions, to aspire and achieve the goals best suited for them; 2. Benchmark positions to provide clear objectives; develop criteria for evaluating performance; incentives for cooperation; 3 . Staff optimally, small enough for efficiency, large enough for high quality service, employee satisfaction, and room for corporate growth; 4. Assure adequate preliminary and ongoing training, at minimum in confidentiality, HIPAA, DPH and 105CMR725.000, job safety, tracking compliance, RMD basic procedure (no less than 8 hours prior to start, another 8 hours during the first and second months each, and 16 hours each year for the first 2 years, then per periodic review; but not less than 8 hours per year.

Organization Structure

We are divided into Operations, which combines production and quality control; and distribution (dispensaries)); Compliance and Security, which includes Tracking and Diversion Prevention; Financial controls and reports; and the Medical Department, which does not treat patients medically, but coordinates, supervises, plans and implements programs related to teaching, and communicating medical knowledge.

We intend to utilize the following Full-time Equivalent (FTE) ratio: hours required per quarter divided by 480 hours per quarter. FTE calculations shown here are based on the projected first half-year of operation, and will be adjusted periodically as CTC grows and adapts.

Our Executive Management Team (EMT) is comprised of the following Officers:

Chief Executive Officer (CEO) (1 FTE). reports to the Board of Directors (BOD) and: implements the strategic goals and objectives of the company. Together with the BOD, he helps the Board to fulfill its governance function. The CEO guides CTC to achieve its mission, using its vision and values. The CEO will lead CTC to meet the communities it serves, introduce its ideas to the medical and scientific communities, establish a dialogue and develop new avenues of cooperation.

Chief Operations Officer (COO) (.50 FTE) reports to the CEO and: oversees the production and distribution operations of the company; Our COO will seek out ways to use his engineering and scientific skills to help us accomplish our mission.

Chief Financial Officer (CFO) (.50 FTE) reports to the CEO. He coordinates and manages all financial and fiscal aspects of company operations and charitable giving; coordinates business planning; and supervises accounting and budgeting. Our CFO's experience in interactive education will help us develop apps, kiosks, and our website education platform. His proven long range vision is a great asset.

Chief Compliance, Security and Safety Officer (CCSSO) (1 FTE) reports to the CEO. She ensures full compliance with all local, state and federal laws, codes, regulations; has strategic oversight of tracking and diversion prevention; and coordinates all DPH reporting obligations of the company. She will maintain regular contact with law enforcement and governments and oversee our plans to provide effective safety and security training to all employees. The Security, Tracking, and Diversion Prevention Manager reports to her.

Chief Medical Officer (CMO) (.25 FTE) reports to the CEO. He examines all aspects of our work environment related to the health and wellbeing of our patients and staff. He oversees our Nursing Manager (1FTE), our Patient Advocate (1FTE) and our Education Manager (.5 FTE) with the goal of supporting our patients through training, education, information and advocacy, and training employees to understand medical issues that affect the patients they deal with daily.

Non- Executive Management Team:

Treasurer: (1FTE) Reports to the CFO and manages accounts payable and receivable, maintains all financial records, and produces required information for tax and other requirements. She prepares budget reports and supervises general purchasing. Oversees a bookkeeper (1FTE) and Assistant Office Administrator (1FTE).

Human Resources Manager (HRM) (1FTE) reports to the CFO. Performs all Human Resources functions: recruitment, training, compensation, employee relations, staff development, compliance, benefits, etc. Develops and implements CTC policies, procedures, and practices on all HR related matters.

Security, Tracking, and Diversion Prevention Manager: (1FTE). Reports to the CCSSO. Examines all aspects of CTC process and performance to detect and prevent theft and product diversion. Understands and improves all database aspects of our seed-to-sale tracking software, and improves it. Analyzes, coordinates, and suggests changes in the security videocamera and recording systems. Coordinates with law enforcement, civic administration. He coordinates the Security Team Leader (1FTE), and the Security Guards (8FTE). The Compliance Manager (1FTE) and Client Records Manager (1FTE) report to him. He develops programs and systems to train employees to use the tracking /POS system; in the law and regulations controlling our work; in methods to deter theft and diversion, and minimize risk to patients and employees.

Operations Team reports to the Chief Operations Officer. Dispensaries Manager (1FTE) who manages (6FTE) Dispensary Customer Service Agents, and (4FTE) transportation team; Production and Cultivation Manager (1FTE), who manages the Production and Cultivation Lead and MIPS lead. Cultivation Assistant (1FTE), Flowering and Harvest Assistant and Clone and Vegetative Assistant. The Quality Control Manager (1FTE) manages the Maintenance Lead (1 FTE). All cultivation, harvesting, testing, curing, drying, packaging, and entering into inventory reports to PCM. He also coordinates all tracking, diversion prevention, and reporting obligations under 105CFR725.000.

Organizational chart attached as exhibit 6.1

6.2 Explain the hiring plan for the RMD staff by role, including qualifications and experience by position description. Include a description of the applicant's process to complete a Criminal Offender Record Information (CORI) check on each staff member working at the RMD at hire and on an ongoing basis.

[6.2 Hiring Plan HRM sits on team meetings gets reports of anticipated vacancies / personnel needs. Position Creation: 1. needs assessment; 2. job description 3. Qualifications list; 4. post position; in CTC / outside; 5. review (application; references);

Drug / Alcohol / Smoke Free Workplace.

EEOC: hiring, personnel policies & procedures - all EEOC non-discrim. guidelines: race, color, religion, sex (including pregnancy), sexual preference, national origin, age (>40), disability, genetic information, etc.

CORI per .030 & 100(A)(5) each employee; criminal background status. iCORI checks on all employees every 6-months or other frequency per DPH.

Homeland Security (I-9) Form I-9 OMB No1615-0047 each employee; verification of identity and employment authorization (of citizen and noncitizen) to work in the United States. Documentation recorded / stored within Human Resources Department.

Qualifications & Experience by Position Description:

Chief Executive Officer: previous experience managing a successful company; healthcare or medical marijuana dispensary management experience; understands regulatory compliance; successful executive management.

Chief Financial Officer: managing finances of successful company; success in business strategy; drive business ops through effective financial practices; understands financial risks & effectively communicate them to CEO. CPA preferred.

Chief Operations Officer: successfully overseeing day-to-day operations business; healthcare, tech, other relevant management experience; strong compliance / reporting skills; maintain balance in multi-department operation.

Chief Compliance Security and Safety Officer: analytic ability; ensure compliance with 725.000; track changes in state/ federal legislation; ability to proactively search for compliance issues and ability to effectively communicate them. Ample technical skills. Understanding of process issues.

Chief Medical Officer: medical degree; can integrate new & existing cannabis research into improving patient care; experience as a medical director; ability to communicate effectively to the local and regional medical and healthcare community.

Treasurer: experience in financial business management; Min. BS business / accounting; managing books, producing required information for all tax reporting obligations.

Dispensaries Manager: experience managing inventories; managing complex regulatory and reporting requirements; manage software systems, maintain accurate record keeping.

Security, Tracking and Diversion Prevention Manager: law enforcement; managerial experience; can oversee implementation of security plan & safety and emergency policies and procedures. Systems / tech skills.

Nursing Manager: RN; expert assessment of full scope of patient needs. Providing a safe environment for patients, visitors, employees by identifying / correcting / reporting health & safety hazards. Experience - cancer, HIV, pain management, patients w debilitating illnesses Communication skills.

HR Manager: broad professional experience in HR - compliance, training, hiring, legal, compensation, benefits, policies and procedures.

Production & Cultivation Manager: Experience / knowledge all aspects of marijuana growth, maintenance, quality control, testing and reporting, production operations - processing, packaging, distribution, tracking. Planning, scheduling, coordinating activities to fulfill orders, meet inventory requirements, and deliver packaged products. coordinate work of a large, diverse group.

Patient Advocate: 5 plus years' experience working with patients providing patient advocacy and other related support activities as directed by a Nursing Manager and /or a Chief Medical Officer.

Compliance Manager: BA / BS min; MS / MA preferred; min 10 years' health care organization; broad knowledge healthcare laws, regulations, standards; risk management, performance improvement, HIPAA

Quality Control Manager: internal audits. addressed non-conformities from previous internal and external audits; conducted management reviews of relevant quality systems. Implemented organizational systems / training.

Client Records Manager: 10 plus years managing and maintaining patient records; extremely detail oriented with adherence to all HIPPA and PHI guidelines.

Education Manager: non-profit / healthcare; producing effective outreach / education materials, press releases; make effective presentations.

Bookkeeper: AR/AP trial balance, P/L. Level II electronic bookkeeping or equivalent.

Security Team Lead: managing supporting team > 10 security guards; all protocols & procedures to support overall safety of employees, facilities and customers.

Dispensary Customer Service Agents: excellence in customer service; experience in healthcare or medical marijuana field; manage time effectively; handle incidents and emergencies responsibly; point-of-sale systems / patient rights / HIPAA

Transportation Service Lead: coordinate transportation staff / system - ensure tracking / safety / timely / accurate deliveries;

Production and Cultivation Lead; experience managing floricultural, horticultural, botanical operations; integrative pest management; indoor cultivation; manage staff to achieve production goals using organic methods; hydroponics

MIPS Lead: food code certification; baked goods, confectionaries, oil infusions, packaging; calculate dosage, ordering / inanging kitchen.

Maintenance Lead: maintenance for multiple facilities, vendors / handling all sustainability & preventative measures / ensure safety and cleanliness.

Cultivation Assistant experience in horticulture, floriculture or botanical; follow rigorous protocols.

Flowering and Harvest Assistant adhere to strict planting & harvesting protocols and maintain all relevant records.

Clone and Vegetation assistant; indoor botanicals;

Transportation Aide: clean MA DVM report, prompt / adhere to all goods transport protocols. Security Guards: ability to ensure full implementation of]

Proof of enrollment with Department of Criminal Justice Information Systems (DCJIS) to complete CORI checks attached as exhibit 6.2

6.3 Provide a detailed summary of the RMD's personnel policies, including proposed wages, opportunities for advancement, the benefits package, and any employment provision required by law that will be offered to employees. Note that the Department will review the RMD's personnel policies as a component of the provisional inspection process.

[CTC will create a respectful work environment that rewards communication, excellence, skill development, personal responsibility and teamwork. We honor and respect racial, cultural, linguistic, and gender differences, and personal choice in private matters. We value the ADA and will extend, not resist, its progress. We will not discriminate directly or indirectly against "non-traditional" families, and will extend all benefits and considerations offered to any family to all families.

1) Personnel Policies: Most employees' work week = 40 hours. Hours: 10:00AM – 9:00 PM or per patient needs. Non-exempt employees under federal and state wage and hour restrictions will receive overtime for all hours worked over 40 per week at 1.5 x regular hourly rate. Holidays, leaves of absence, personal time off, sick time and vacation days do not constitute 'hours worked' when calculating overtime compensation.

Holidays for all non-agricultural employees are: New Year's Day, Thanksgiving Day, Labor Day, Christmas Day, Patriot's Day, and MLK day. Agricultural staff will schedule coverage for holidays, weekends, and other employees' vacations in a fair manner. Customer service employees will have a rotation schedule to serve patients with critical needs. Safety, security, diversion prevention, plant wellbeing can't be compromised by holiday coverage.

Employees will be granted time off for jury duty, sick leave, military leave and maternity leave without penalty, and return to their same positions and hourly wage or salary (proper documentation).

COBRA, and/or Massachusetts State Continuation Coverage will be granted to qualifying employees, spouses and dependent children. Income tax, FICA and Medicare withholding and matching contributions will be deducted from employees' pay as required by law.

2) Advancement Opportunities: evaluations for transfer or advancement based on performance, dedication, efficiency, attitude and initiative. Our long term interests of CTC is helped by employees gaining

knowledge and experience in various aspects of our mission, and we invest in our long term interests, and our employees.

3) Compensation: paid bi-weekly. No cash. Hourly employees record time on company time-clock.

4) Proposed Wages: CEO, COO, CFO, CCSO, CMO \$1.00 until profitability. Other management positions salaried from \$85,000 to \$250,000 per annum. All other employees will be hourly with rates between \$14 to \$75 per hour, exclusive of overtime and holiday pay. [29 U.S.C. §§ 206 (a)(1), (d) §207, §541.100 et. seq.; G.L. c. 149, § 148 and G.L. c. 151, §1A].

5) Benefits Eligibility: all employees with CTC > 3 months: (probation period). Medical coverage through BC / BS Preferred Blue PPO. Co-pays reimbursed Carrier: HR Concepts; HRA Reimbursement over \$500 / year. Dental insurance MetLife Dental PPO Life, AD&D and disability. 401(k) following 1st quarter, company match, vesting 20% per year to 100% at 5 years [29 U.S.C. § 1001].

6) Training: mandatory, all employees re sexual harassment, discrimination, disabilities, drug/alcohol abuse, company security policies, safety policies, Family Medical Leave Act, Massachusetts Small Necessity Act, workplace violence, client/patient confidentiality, ADA, equal opportunity, and HIPAA (www.myhipaatraining.com plus in house training.) Also mandatory training specific to 105 CMR 725.000 tailored to employee responsibility and to include all areas, delineated in 725.000.

7) Advancement & pay review: promotional opportunities in each department. Participation in training will be critical for any promotions and pay increases. Performance evaluations semi-annually on an employee's anniversary date, and will influence promotions and compensation adjustments.

8) Written Policies: to address Family Medical Leave Act, Consolidated Omnibus Budget Reconciliation Act (COBRA), Equal Employment Opportunity, Code of Conduct, Cultural Competence, Harassment, Employee Retirement Income Security Act (ERISA), disabilities, maintenance of personnel files, privacy, e-mail policy, 105 CMR 725.000, holidays, hours, sick time, personal time, overtime, performance reviews, disciplinary procedures, working hours, pay rates, overtime, bonuses, veteran preferences, drug testing, personnel policies, military leave of absences, bereavement leave, jury duty, CORI checks, smoking, HIPPA, patient confidentiality, and compliance hotline. [G.L. c. § 52C]. Other concerns to be addressed promptly include without limitation: fitness for duty; military leave; drugs, alcohol, and tobacco; maternity and paternity leave; leaves of absences; corrective action; jury and witness duty; time off policies; appropriate use of equipment/resources; bereavement leave. CTC

9) Drug Testing, Drug, Alcohol, Smoke Free Environment: This includes marijuana consumption. All are conditions of employment at time of hire and thereafter during term of employment. [Webster v. Motorola, Inc., 418 Mass. 425 (1994)]

10) Postings: comply with both the Commonwealth of Massachusetts and Federal requirements for workplace postings in accordance with M.G.L.c. 151 § 16; M.G.L.c. 151B § 7; M.G.L.c. 149 § 105D; M.G.L.c. 151B § 3Ac; M.G.L.c. 151A § 62A; M.G.L.c. 152 § 22; M.G.L.c. 111F § 22; M.G.L.c. 111F § 11; M.G.L.c. 270 § 22; FMLA section 109 (29 U.S.C. § 2619); Fair Labor Standards Act (FLSA); OSH Act of 1970; Equal Employment Opportunity Act; and Employee Polygraph Protection Act (EPPA).

11) Investigations: policies and procedures to be established to investigate complaints or concerns per 105 CMR 725.000

12) Designated Outside Counsel: counsel specializing in employment law on retainer

]

6.4 If known at the time of submission, provide the name and the role/title of each dispensary agent that the proposed RMD intends to employ. If the identity of dispensary agents is unknown at the time of application, indicate N/A.

Completed list of known RMD staff attached as exhibit 6.4

6.5 Describe the applicant's staff development plan, including a detailed description of all proposed training(s) for dispensary agents.

[CTC will train each new agent with a crash course of essentials to prepare them procedurally, legally and psychologically for their new work. Our first training sessions will start two months before we open in June 2014 (executives and Board Members have already started to outline the programs). We will meet frequently to assure that all areas - legal, procedural, technical, medical, psychological, pharmacological, and moral - are addressed. Specialists among us will receive specialty-specific training to ensure compliance with all applicable codes and laws.

In this new, rapidly evolving industry, continuing education must be a top priority. All staff will be required to complete 16 hours of continuing education per year.

a. Health Insurance Portability and Accounting Act (HIPAA): Our HR Manager will coordinate educational programs to ensure that staff understand the rules, and intent of HIPAA, and to guarantee compliance. All agents must take the on-line course at www.myhipaatraining.com. Tests will be reviewed by the compliance officer for passing scores, deficiencies and retesting requirements. The web team will coordinate development of informative materials on our website, including HIPAA elements and pointers.

b. Security: Our Security, Tracking and Diversion Prevention Manager, (a former Military Intelligence officer, District Attorney, Courts Program Specialist and more), will introduce new employees to the issues, the regulations, and the systems that assist us to comply with the letter and intent of the new law. Entry procedures, tracking procedures, diversion prevention techniques and protocols, theft, elements of the delivery system, and other issues will be covered in a crash course, and then in periodic security training sessions given to ALL agents of the company. Our security protocols will be provided to local and state law enforcement for comment and modification, to ensure that all involved parties understand our approved protocols and safety infrastructure. The Security, Tracking and Diversion Prevention Manager will conduct random and regular testing of all agents to insure on-going awareness and preparedness for staff. Security Training is the basis of our zero-tolerance policy.

c. Harassment, Discrimination, Cultural Awareness etc: The first day on the job is the right time to start. The Human Resource Manager will conduct mandatory programs for all employees on harassment prevention, discrimination, cultural competency, patient and employee confidentiality, patient and employee rights, etc.

d. Local, State and Federal marijuana laws: All agents will be trained by our CCSSO, and the Security, Tracking and Diversion Prevention Manager (both of whom have had long careers as Assistant District Attorneys and prosecutors) during Orientation, about all applicable law(s). Agents will be tested, and will acknowledge their awareness of marijuana's legal status. 105 CMR 725.000 will be read, outlined, and analyzed as it is an essential core competency to work at CTC.

e. Patient contact management: Our Patient Advocate will organize transition training for new employees, and ongoing obligatory sessions for all employees at all levels, in proper patient communication and service, and in maintaining the privacy and dignity of patients. All staff-to-patient communication should be focused on providing compassionate, friendly, positive, private and educational content. We are aware that for many patients the use of medical marijuana requires transcending traditional cultural and medical norms.

f. Clinical education program: Our Chief Medical Officer and CEO, both physicians, together with our Patient Advocate and Education Manager, will organize training sessions, at first ad hoc, later organized and systematic, for every new employee and subsequently on a periodic basis for the entire staff. We will promptly develop educational materials, interactive programming, and reading lists to help patients learn necessary aspects of dealing with marijuana. Periodic staff meetings will be held to discuss patient issues (without names) so that we can learn, and improve our service. The insights we develop will be assembled and codified, and used for employee education.

g. Tracking and Point of Sale: All staff will be trained in proper data entry and record keeping, a legal requirement and practical necessity for the safe and successful operation of our Centers. Our comprehensive record keeping policies and procedures as well as technologies and storage units will ensure full compliance will all local, state and federal law.

h. Conferences and Continuing Medical Education(CME) requirements: No staff will engage in the practice of medicine in the context of participation in our centers, regardless of their medical licensure. Nonetheless, all healthcare providers on our staff will be encouraged to participate in Continuing Medical Education, and other similar educational activities, and to maintain contact with their professional associations and scientific and industry conferences.

i. Horticultural Training: We will engage horticulture and other specialists to provide advanced training, to improve quality, safety, sanitary, productivity, efficiency and regulatory compliance. Staff will be encouraged to attend and will be provided resources to obtain continuing education in Horticultural Best Practices.

Our Production and Cultivation Manager, Quality Control Manager, and MIPS Manager will each schedule 15 to 30 minute update and information sessions, usually in the coffee room, so that staff working in other areas can learn from their expertise and appreciate the issues they deal with daily.

l. Staff suggestions: all employees are encouraged to recommend topics for education or discussion in areas that could contribute to the advancement of our knowledge or our methods.

]

7. Operations and Programmatic Response Requirements

7.1 Explain the RMD start-up timeline, including evidence that the RMD will be ready to dispense within that proposed timeline if the RMD receives a provisional certificate of registration by the Department. The timeline must detail, by location, the start up period, including key benchmarks, leading up to the Department's final inspection.

[Nov 21 2013: CAD prelim plans. General contractors ("GCs") & sub-contractors ("subs") prepare budgets. Working drawings due end Nov - Dec 10. Full plans to GCs / subs and meet building & fire inspectors at Boston Inspectional Services Department ("ISD"); revisit w. ISD / FD by Dec. 15, 2013 to verify all issues are addressed. Plans again modified & cycle repeated until re-visit is clean, so "in principle" approval. CTC execs meet security, architects, horticulturists (Dec 16 - 20) check plan mods & review reports re water supply, air, contamination, etc., test or remediate as needed. Last revision cycle ends Dec 20, responsive plans for 23 Dec 2013; holidays until Jan 6 2014. Begin hiring guards, growers, MIPS manager & begin training. Exec Management Team & Senior Execs prepare operations & personnel manuals, review methods & procedures. Horticulture & lab teams may take field trips and/or attend meetings to improve expertise and recruit. Meet with neighborhood committees, B.R.A., develop issues and "cycle" informal discussions, modify approaches, build rapport, incorporate reasonable / lawful suggestions. DPH meetings as desired. Cultivation mgr hires grower & assistant early Jan. Two - three cycles of comments / questions, responsive mods both to plans & objectives with neighbors and BRA, revisit with authorities often needed. Complete Jan. 10, 2014. Notice of Provisional approval / denial from DPH Jan 31 2014 - buy MJ Freeway "GramTracker Elite" and "GrowTrackerElite" & use offsite for training personnel. Project manager / quantity surveyor hired; formal filing at Boston Redevelopment Authority ("BRA") and Neighborhood Committee ("NC") if necessary (Feb 3 2014). Feb 10 2014, BRA approval, file full plans ISD and Fire Department. On receipt of stamped, signed drawings and construction permits (Feb 12 2014) start cleaning, sealing and caulking, installing tyvek & insulation (cultivation); order furniture, custom cabinetry & millwork, security equipment (for both sites, mostly dispensary); order equipment and supplies for cultivation & production. Week of Feb 10-14 Security guards start, all areas. Divide ~500 square feet "temp grow site" near front with full floor to ceiling secure dividers &

entry and install temporary security cameras / alarms w. remote monitoring in three locations. Continue construction in rear space. Prelim security complete in new small grow area contiguous to front side "temp grow area" for Feb 14. Clean / prepare temp growing area for pots for first seeds. Planted Feb 17 2014. Use portable HVAC, humidifier, grow lights (in grow tents) during construction rest of building. Hire Dispensary Agent #1 and begin training, and additional security guards. Complete cleaning, sealing, tyvek wrap, additional insulation, Feb 21 metal studs for walls, security prewiring, floor drain installations (cultivation facility; HVAC, humidification; cabinetry drawings finalized and begin automated production. Cleaning, sealing, tyvek and insulation work complete (cultivation); rough construction finished (dispensary.) March 3 2014: plant second wave seedlings in more grow tents, lights, pots etc. Continue planting new seedling batches or clones every two weeks thereafter. Shift to clones ASAP. March 7: Finish ADA front door, ramp, toilets, office area, HVAC ducts to front side (cultivation); finish interior partitions, rough plumbing and electricity, install cabinetry in waiting area, display area. Most construction is complete with only "punch list" remaining. (Dispensary)

March 17: Most construction complete (Cultivation facility; drying and curing area; packaging area; MIPS kitchen). Move plants from temp growth area to permanent vegetative area (still grow tents / portable lights) in rear side (cultivation). March 21: First wave of seedlings to flowering growth area. New seed batch and cloning started. Successive seedling batches moved to flowering area every two weeks, new batch of seeds or clones planted / start veg growth. Hire / train additional dispensary agents, growing assistants, bookkeeper, security guards for Marijuana Center #1 cultivation / dispensary.

March 31 2014: Complete buildout (cultivation). 1st Provisional Inspection DPH; CTC Inc submits written Plan of Correction per 105CMR725.310 (A) and (B) w/in 10 days for all violations; for each deficiency CTC Inc states specific corrective steps to be taken, timetable for each such step, and a date by which compliance with 105CMR725.000 will be achieved, consistent with achievement of compliance in the most expeditious manner possible. April 10 2014. May 2 2014: First harvest first batch after 6-8 weeks of flowering growth. Moved to drying area. Temp, airflow, humidity adjusted. May 9 drying completed - first batch, residual humidity measured, inventory entered etc and batch moved to curing / decarboxylation. First waste delivery for incineration after grinding with organic residues. May 16 second batch harvested, moved to drying area. Analytic samples sent if any questions of purity, infestation etc. Microscopy for fungal and bacterial infestations begin on site. May 26 second provisional Inspection by DPH if necessary. Deficiencies from 1st inspection checked and remediation corroborated. Again a written Plan of Correction submitted to DPH within 10 days citing each deficiency and stating for each the specific corrective steps, timetable, & date for expected full compliance with 105CMR725.000 in the most expeditious manner possible.

May 30 2014 license to operate; curing / decarboxylation complete, first batch. Samples to lab. Results June 5 - discard failed; dry, vacuum pack / nitrogen wash, label & inventory passed samples - ready for sale. MIPS produced, samples sent to lab for testing June 5. MIPS lab analyses returned June 7. Passed batches and lots entered inventory for sale, failed discarded. Passed MIPS batches vacuum packed / N2, inventoried, labeled, ready for sale. June 9 2014 Grand opening

Start-up timeline with clear benchmarks and dates attached as exhibit 7.1

7.2 Provide a detailed summary of the year-one operating plan, including key business check-in points over the year that will inform business practice improvements.

[CTS assumes that the intent is to start with the outset of operations to the public, ie after the opening of Marijuana Center #1 Dispensary. To simplify, we assume that the opening will occur on July 1, and we will capitalize expenses prior to opening, at least for the purposes of this discussion. CTC has ample capital beyond the \$1.3 million shown deposited in Exhibit 4.1 (an additional \$6 million has been committed by the CEO of CTC Inc, vastly in excess of anticipated 3 or 5 year need) and has arranged financing to the Corporation for

another \$6 million. We may choose to draw down some of the financing for tax and other purposes, and thus show some interest expenses on line 8 under "other expenses".

Marijuana Center #1 is located in a freshly rehabbed industrial building in an Industrial Park in Charlestown, MA, and requires all new interior construction, including sealing, caulking, insulation, HVAC installation, floor drains, some interior divisions, electrical interior wiring, commercial lighting ("standard tenant fitout") and all of the custom work necessary for our particular application ("custom fitout"). Pursuant to our understanding, landlord will commence "standard fitout" immediately, since even if CTC were not awarded certification by DPH and permitted by Boston for the requested use, this work or some variant will be necessary anyway, for any tenant.

CTC has already caused CAD plans to be drafted for the elements of its "custom fitout", all designed specifically to comply both with our actual needs, and with 105CMR725.000 et seq. Ordinarily we would review these plans with Boston officials prior to proceeding further, but this step appears to be blocked within the city, as is documented elsewhere. Nevertheless, we will proceed to working drawings within 2 weeks, prior to notice from DPH, in order to avoid subsequent excessive delays. During the interval we will engage construction supervision consultant, hire a GC, and put the project out to bid with subcontractors. Contracts with subs will not be signed until DPH issues certification, and we can sign the lease. We have already started hiring employees, and will continue to do so during the interim, especially those employees who express indifference to their locus of work. Employees who would rather live and work in Boston may choose to await determination of DPH award. This will impact our budget prior to July 1 opening, and thus our ramp-up capital, but won't substantially affect the year one budget as defined above.

Upon receipt of notice of award of certification by DPH, and execution of final lease, Landlord will commence construction of "custom work" and CTC will order equipment, sign sub contracts and GC contract. During appropriate stages of the buildout, custom equipment belonging to and paid for by CTC will be incorporated into the spaces defined for this submission. There are two spaces, 4050 square foot space intended for the dispensary and, in part, seedling and clone growth; and a 15000 foot space for vegetative growth, flowering, harvest, drying, packaging etc etc. Changes in deadlines will affect net rent allocated to capital or to cost, before or after July 1. For this and other reasons cost projections are estimated, as are revenues.

Revenues

Client accrual, patient incidence, and revenues have been estimated using techniques explained elsewhere in this Application. We project a gradual ramp up in revenues starting at 60,000 in the first month of service, and ending the first year at 130,000 revenues per month. We estimate that over 90 percent of sales will be for marijuana buds in various forms, and under 10% as MIPS (MIPS products will not be available until at least the second quarter, or later, due to longer startup for the kitchen and more concern about quality control and testing). About 1/2 percent of sales will be for "other" allowed products, such as vaporizers, even though we will promote their use.

We anticipate t]

7.3 Describe the applicant's knowledge of (and experience with) growing methods to be used in the cultivation of medical marijuana. Note that a copy of the marijuana cultivation and management plan will be reviewed as a component of the provisional inspection process.

[Moshe S. Arazi - Cultivation Manager. 2006 Newton North High School (Newton, MA); B.Sc. Cum Laude Univ. of MA, Amherst 2011, majored in Sustainable Agriculture in Dept. of Plant, Soil & Insect

Sciences. Co-managed student farm 2010. 2009-2011 volunteer work on farms in the USA and Israel. In 2011-12 managed databases for Israel's largest organic inspection company, "Agrior", & worked at ItroLab Ltd (Israel) helping manage the national pesticide databases, to help establish MRL's (maximum residue limits) and PHI's (preharvest intervals) for Israeli food crops. July 2012 started as agronomist and quality control manager at "Tikun-Olam," Israel's largest medical cannabis facility (3 acres cultivated); extensive experience with climate-controlled greenhouses, post-harvest production. Implemented ISO 2008:9001 and HACCP standards per Standards Institution of Israel (SII), 2012-2013.

Moshe now designs our operations and coordinates with our site development team, architects, engineers to be ready for construction when we receive provisional certificate Jan 2014, and will run our grow facility thereafter.

We will: 1. Follow ALL organic agriculture norms. Organic Agriculture Overview, USDA, Cooperative State Research, Education, and Extension Service (CSREES), 2007.

<http://www.csrees.usda.gov/ProgViewOverview.cfm?prnum=6861>

- The Organic Foods Production Act (OFPA), enacted under Title 21 of the 1990 Farm Bill; USDA National Organic Standards Board (NOSB) definition, April 1995

& all of 7 CFR 205 et seq.; EPA- CFR Title 40- Protection of the Environment - via the Federal EPA; OMRI- the Organic Materials Review Institute; and NOP- the National Organic Programs (the Organic Foods Production Act of 1990); all relevant MA rules and regulations

<http://www.mass.gov/eohhs/gov/departments/dph/programs/environmental-health/food-safety/>



HVAC in propagation, mother, vegetative, flowering zones will have multi-zoned, internet-reporting / recording (password protected) temperature, humidity & CO2 sensors, and internet-controlled secure HVAC systems, dehumidifiers, intake and exhaust fans with screens and shutters, circulation fans, and CO2 generators, benching. Also used will be pressure-formed potting containers, irrigation systems, and distinct lighting for human vision, for veg growth, & for flowering growth, each optimal for its respective tasks.

HVAC Heating/Cooling systems (along with automated thermostat controls) will be custom outfitted by Cotti-Johnson HVAC, Taunton, MA to meet our temperature and humidity requirements as described in our operations manual. Industrial dehumidifiers will be used in the flowering and drying rooms in conjunction with HVAC systems to control plant pests and diseases and limit microbiological pathogens. ATS Equipment Inc, Boston. To maintain adequate ventilation and air exchange, exhaust fans with shutters will be installed in our flowering room and drying room. Griffins Greenhouse Supply, Tewksbury, MA. To ensure adequate air-flow, and as part of our plant disease and pest management program, circulating fans will be installed in all areas of cultivation: ATS Boston. CO2 generators will be used as needed in our veg and flowering rooms, following all proper health and safety precautions including: NFPA 12, Standard on Carbon Dioxide Extinguishing Systems, 2000; NFPA 70E, Standard for Electrical Safety in the Workplace, 2004; ISO Standard 6183, 1990, Fire Protection Equipment, Carbon Dioxide Systems for Use on Premises, Design and Installation; FIST Vol. 5-12, Personnel Safety with CO2 Discharge, 1992 Type, installation, location, maintenance, and inspection of carbon monoxide alarms per 527 CMR 31: Carbon Monoxide Alarms from GYOstuff, Cambridge, MA, and all OSHA standards strictly adhered to including: 29 CFR 1910.94, Ventilation. 29 CFR 1910.1000 - Air Contaminants. Cultivation benches in hot-dipped galvanized steel, capillary mat system (vegetative room), spaghetti irrigation system (flowering room), and pressure formed potting containers from Griffins Greenhouse Supply, Tewksbury, MA. Organic soil (Northeast Organic Farming Association of MA (NOFA) bulk order program). Each shipment will be analyzed to ensure it meets the U.S. Agency for Toxic Substances and Disease Registry's Environmental Media Evaluation Guidelines for residential soil levels. Product Description:

http://vermontcompost.com/product/) together with the 'Biocanna' line of fertilizers, organically cert. by Control Union World Group. Liquid Sun – CANNA Authorized Dealer, Worcester, MA. No fertilizer or composted plant and animal material that contain a synthetic substance not included on the National List of synthetic substances will be used. per 7 CFR § 205.601

Manual harvesting, trimming, and manicuring on FDA approved stainless steel counters.

We will build our own hanging system for drying using hemp twine but buy a state of the art vacuum-sealing machine for packing under nitrogen injection. Packaging will be in FDA/USDA compliant transparent polyester/nylon vacuum pouches or polyethylene, sealed and labeled per 105CFR725.105(E)(I), (2), and (3) depending on product type.

Full standards and specs for cloning and cultivation, temperatures by hours during veg and flowering growth, humidity duration, intensity, type, proximity, nutrient selections, training items for new staff, biological controls, pest prevention, checklists, and other technical details are currently available in our operations manual, entering final draft form. There is insufficient room to include it in thi]

7.4 Describe steps that will be taken to ensure the quality of the medical marijuana, including purity and consistency of dose and the presence of potential contaminants. Include a description of the testing process and frequency, quality standards, and plans to engage with a lab to conduct the testing. Note that a copy of the RMD's quality control plan will be reviewed as a component of the provisional inspection process.

[EXCLUDE: Toxins, people, pests. Caulk, Tyvek. New closed-pore floor. No items on OSHA Hazardous Chemicals List (1926.64 App A). Pesticide residues; Heavy Metals, copper, etc. All USDA Organic per US 7 CFR§205 & 206 esp. §205.206. Limit microbes & toxins w. thorough drying. ENVIRONMENT: Air: filter HEPA / electrostatic; temp < 24°C rh < 60%; ample flow impedes toxin production. DRYING ROOM dryer & cooler. Wireless temp & humidity sensors log / report. email / sms, fans & HVAC remote adjust. WATER: filtered, rev osmosis; RESIDUAL HUMIDITY test w. H2O activity meters then VACUUM SEAL-food-grade polyethylene / nitrogen. NO TOXIC SOLVENT RESIDUES, use only edible food-grade solvents (water; ethanol; organic oils). PURE ORGANIC NUTRIENTS ETC.; we TEST for mold, mildew, heavy metals, plant growth reglrs ("PGR"), disallowed pesticides. CONSISTENCY: contract w. ind. lab qual. per 105(C)(2)(d); for testing per(C)(2)(e); agents registered as disp agents of CTC Inc per (2)(f); per prohibitions & directions in (C)(2)(g),(h),(i),(j),(k). Probably ProVerde.

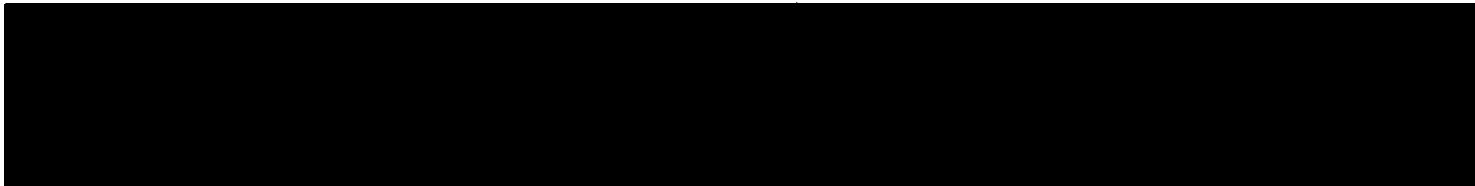
SANITATION: clean room: wash, coveralls, foot & hair covers, disposable caps & gloves daily. Valuables, phones, keys in lockers. Food eating areas only. No drugs ,smoke, alcohol. Visitors: per 725.110(A)(1) & (C)(4) badge, escort, log. INTENSE CLEANING area-specific protocols. Cleaned daily, no dust, puddles, smoke, hazardous debris. Floor smooth, no cracks, washed each end shift. well aerated. Light bulbs / glass checked re breakage. Nothing within 25 cm of walls. No glass / breakables, small parts etc except maintenance w. manager supervision. Drains cleaned, inspections etc per 7 CFR 205 etc.

PRODUCT ANALYSIS: CANNABINOIDS; TERPENES: advanced chromatography - cannabinoid profile HPLC, UHPLC, UPLC, SFC or CC for terpenes, terpenoids, & flavonoids in each product; levels of THC, CBD, CBN, CBG, CBC + acid forms (THCA, CBDA, CBNA, CBGA, CBCA etc.) & terpenoids - myrcene, limonene, linalool, alpha-pinene etc. Goal: improve products, clinical pharmacologic knowledge, treatment. PESTICIDES & PGR'S: even organic pesticides can be toxic / harmful; pesticide contaminated products destroyed. HEAVY METALS assay w. X-ray Fluorescence (XRF), per American Herbal Products Assn (AHPA). MICROBES (mold and fungus: Aspergillus, Penicillium, Cladosporium, etc.) tested often by us (microscopy) to ID & estimate amounts; quant. by real-time PCR (qPCR); mycotoxins etc by mono-clonal immuno-Affinity (IA) assays. Chromatography ID / quantify PGRs. MOISTURE, SOLVENTS: quantify residual moisture & solvents in flowers (buds) and extracts. PROCESS, FREQUENCY, SENSITIVITY, SAMPLE SIZE: Verify random samples thru stats; designate batch / lot per FDA 21 CFR 210.3. Batch = all

plants same room & growth stage. Lot = each strain or variety per batch. Unique identifier for each cutting & plant in each lot & batch to track movement - seed / cutting to sale. Samples sent to lab during processing or earlier if needed. After drying & curing, five (5) samples of four (4) grams each from every one-pound lot in each batch; labeled "cannabinoid," "microbiological," "pesticide," "heavy metal," and "reference." First 4 to lab < 24 hours & recorded (inventory: product name, batch#, lot#, delivery date, delivery #. lab results later posted). Each lot either marked "QA passed" w. test scores; or "failed" & destroyed. CANNABINOIDS: 1st 4-gram sample each batch / lot; batches / lots stored cold under N2, (entered in inventory: "in process.") REFERENCE SAMPLES: for each batch lot, last 4-gram sample archived, labeled & stored > one year for reference, later incinerated. Data stored in secure, redundant databases. All products & retained samples clearly labeled w. Certificate of analysis for each lot & batch with ID (date; lot & batch #; results). QUALITY STANDARDS: per DPH, USDA Organic & U.S. ATSDR (atsdr.cdc.gov/). Frequency: new clone batches every 2 weeks, so probably testing including MIPS at least weekly. Per DPH decision.]

7.5 Describe the applicant's plan to dispose of excess or damaged plants or products, including security and plans to avoid diversion. Note that a copy of the RMD's marijuana disposal plan will be reviewed as a component of the provisional inspection process.

[Dispose of excess / damaged plants etc .105(J)(1) All waste, including waste composed of or containing finished marijuana(MJ) and MIPS, damaged plants, trimmings etc will be stored, secured, and managed per state & local statutes, ordinances, & regulations using Best Practices including:a. collection: plant waste separated from potting soil and secured, along with excess or damaged products and byproducts containing marijuana in bag-lined disposal bins labeled "plant waste". b. mixing with organic materials and grinding: all waste together with other organic wastes - vegetative, food, agricultural materials; biodegradable products, biodegradable paper, clean wood, or yard waste per 310CMR16.02 will be subjected to grinding and incorporation to render any residual medical marijuana waste unusable. c. videorecordings / signed logs will be maintained as described below; d. secure locked storage of ground, unusable waste in secured, recorded and logged area as described below for pickup and destruction under observation.



f). Liquid waste containing marijuana or by-products of marijuana processing will be disposed of in compliance with requirements for discharge into surface water (314 CMR 3.00), groundwater (314 CMR 5.00), and sewers (314 CMR 7.00), or in an industrial wastewater holding tank in accordance with 314 CMR 18.00. g). Unused, excess, or contaminated marijuana / MIPS etc from a registered qualifying patient or personal caregiver will be accepted without charge for storage, mixing, grinding and destruction and shall destroy it as provided in 105 CMR 725.105(J) and maintain a written record of such disposal, which shall include the name of the supplying registered qualifying patient or personal caregiver if applicable.

2. Security a. All waste products requiring transport to municipal or commercial facilities will be transported and disposed of in accordance with 105CMR725.110(E) by at least two dispensary agents in compliance with all provisions of the statute and regulations as stated above. b. All waste products that will be destroyed or composted on-site will be inventoried as waste and stored in secure and locked holding containers in areas designated for storage and under 24-hour surveillance. c. The management and disposal of all waste products will be carried out in accordance with our security policies and procedures, a log signed by two agents maintained, and videorecorded with files securely / redundantly maintained for at least two years. 3. Anti-Diversion Our Total-Accountability Protocol will be implemented for waste management and disposal of marijuana plants and products. a. When marijuana, plant materials or MIPS are disposed of, we will create and maintain a written record of the date, the type and quantity disposed of, the manner of disposal, and the persons

present during the disposal, with their signatures. At least two agents will be present, and will sign and attest to the destruction or other disposal, and the process within our facility will be video-recorded using our secure system, and those records maintained in secure, redundant systems for at least two years. We shall keep written disposal records also for at least two years. All waste marijuana and marijuana products will be removed from usable marijuana inventory logs. b. All marijuana will be rendered unusable prior to transport to prevent off-site diversion, as described above, by grinding.

s]

7.6 If the proposed RMD intends to produce MIPs, describe the types and forms of MIPs that the RMD intends to produce, the methods of production (including sanitation and food protection processes), and procedures for labeling, storing, disposing, dispensing, and tracking MIPs. Note that a copy of the MIPs production plan will be reviewed as a component of the provisional inspection process. If the RMD does not plan to produce MIPs, indicate N/A.

[I. Types and forms: "Types" = effects, strains; "Forms" = format, i.e. cookie, oil, SL tab. All formats come in many types. Format alters pharmacokinetics (ie, sublingual tinctures - rapid onset - good for rapid pain relief / sedation).

A. Types: cannabinoid profiles (THC; CBD; others) differ by strain. Needs vary: a. chemo patients: appetite stimulation, nausea suppression, but little psychoactive effect (no "high"); b. cancer pain: "day" type (low sedation, more pain relief, no high); & night (more sedation); c. Some w. nausea & vomiting prefer nausea suppression without appetite stimulation; may want appetite stimulation later; d. anorexia/cachexia: benefit from appetite stim., mild euphoria may help; e. diabetes: avoid appetite stimulation, sugar, carbs; f. sedative + antidepressive formulation for terminal care.

B. "forms":

1. Oils and butters: cook; drizzle on tomatoes, cheese, salads. MJ dose easy to calculate (per ml / oil); adjust taste (home cooking);

2. Nutrition bars: convenient, long shelf-life. Nutrition per patient goals.

3. Health-Conscious Desserts - Varied "form" and "style; many varieties, all types.

4. Cannabis Oil Capsules. stable, easy to ingest. often for Pain management, (proven effective); Seizure, rigidity (studies needed);

5. Sublingual Tincture & Tablets. fast dose-response-time. ? good choice for episodic pain relief, esp. terminal care.

6. Brownies, cookies: sometimes easier for patients with cachexia.

II. Production: MIPs 725.105(C).

A. Sanitation: "clean room": 1. changing rooms (M & F): leave street clothes, shoes in lockers, valuables in lockboxes. 2. fresh clean scrubs, hair nets, masks per task; inside work shoes don't leave RMD; 3. frequent handwashing: stainless steel sinks, warm water, many locations, bacteriostatic soap, tough rules; 4. HEPA & electrostatically cleaned / air; filtered, RO water; 5. stringent best kitchen practices enforced; 6. cold storage; 7. product testing

B. Food Protection: 1. test staff for contra-indicated conditions, often asymptomatic (staph carrier; Hep B, C, D; etc) - reassigned if needed 105CMR300.000. Can HIPAA, privacy laws, other federal and state laws affect?. 2. test MIPS: 105(C)(2). 1. by ISO 17025 - accredited (by 3rd party body A2LA or ACLASS) - per 105(C)(2)(d) independent lab, at frequency per DPH (C)(2)(e) - and with contractual agents registered as dispensary agents for CTC (C)(2)(f); & 725.030; for cannabinoid profile; contaminants (mold, mildew, heavy metals, plant-growth regulators, non-organic pesticides; others). store > 1 year (database).

3. Strict drug, smoke, alcohol - free environment:

C. Food Production: 1. General: precise preparation, weighing; Clean MIPS "kitchen": a. limited access, b. ultra-clean all restaurant grade stainless steel surfaces and equipment, c. fussy daily cleaning / maintenance,; Purity: all organic inputs (dirt; water purified filtered, reverse osmosis; organic nutrients; no non-organic pesticides or other products; use of predator species, co-cultivation);

2. Extraction & preparation: a. cannabinoids from flowers: (1) infuse in organic food oils; (2) decarboxylate w. heat: convert acid forms (THCA; CBDA) into decarboxy forms (THC; CBD). (3) quantify oil content & profile (4) cook MIPS carefully, professionally, cleanly; (5) package: sterile, automated vacuum under nitrogen displacement, wrap with certified materials, (6) label per (E)(3); (7) store cold in locked secure room.

III. Procedures:

A. Labeling: 105(E)(3) (a) - (k) labelling full compliance including exact statement cited in (k); .105(E)(1) Plain opaque tamper and child proof containers without depictions of product, cartoons etc except CTC logo; will not resemble in any way commercial candy or other similar product; not child attractive: designed to not be overtly appealing to, nor promote MIP access by, children.

2. Packed in nylon or polyethylene sealed tamper / child-proof containers under nitrogen injection with best automatic equipment. a. Every MIP individually labeled per .105(D)(3). b. labels produced and tracked MJFS inventory software / barcode system.

B. Storing: 1. secure locked MIPS storage per 725.110. 2. separate area: 105(D)(2): store outdated, damaged, deteriorated, mislabeled, contaminated, or returned product; 105(K)(8) ; 105(J); Opened or breached MIPS stored in separate locked, secure storage area until destroyed. 3. walk-in cold rooms, one with MMP / MIPS safe bolted to floor, in high security room. cash safe elsewhere. refrigerated dehumidified locked second cold room, refrigerator or freezer. Storage areas to comply with sanitation policy and procedure manuals & kept infestation free.

C. Disposing: compliance w all state / local statutes etc., details in our Waste Management and Disposal Policies and Procedures manual. All best practices re environmentally friendly disposal + measures to prevent diversion. Meet all provisions of .105(J) and (I)(6). See Question 7.5

D. Dispensing: MIPS dispensed per .105(F) 1. verification of identity and certification (F)(1) & admission; 2. (F)(2) verification of unexpired certification period; pro-rata dosage limits; 3. (F)(3) translators available; 4. (F)(4) apply if necessary;

E. Tracking: 1. AV monitoring described elsewhere.; 2. MJFS tracks each step such as sale or delivery. Supervision: three path process - audited by 1. Security, Tracking and Diversion Prevention Manager (STDPM); and 2. Production and Cultivation Manager (PCM); and 3. cloud based MJFS audited remotely by security-cleared accountant, real time, every two weeks. 3. measure demand, calculate cloning, progression, harvesting to avoid excess production. Excess flower / trim inventoried / labeled for MIPS production to prevent diversion, theft, loss. 4. Label-specific identifiers, (bar code), inventoried by tracking software; each sold unit recorded w. unique transaction # with time / date, batch, lot linked to all events from seed to sale

]

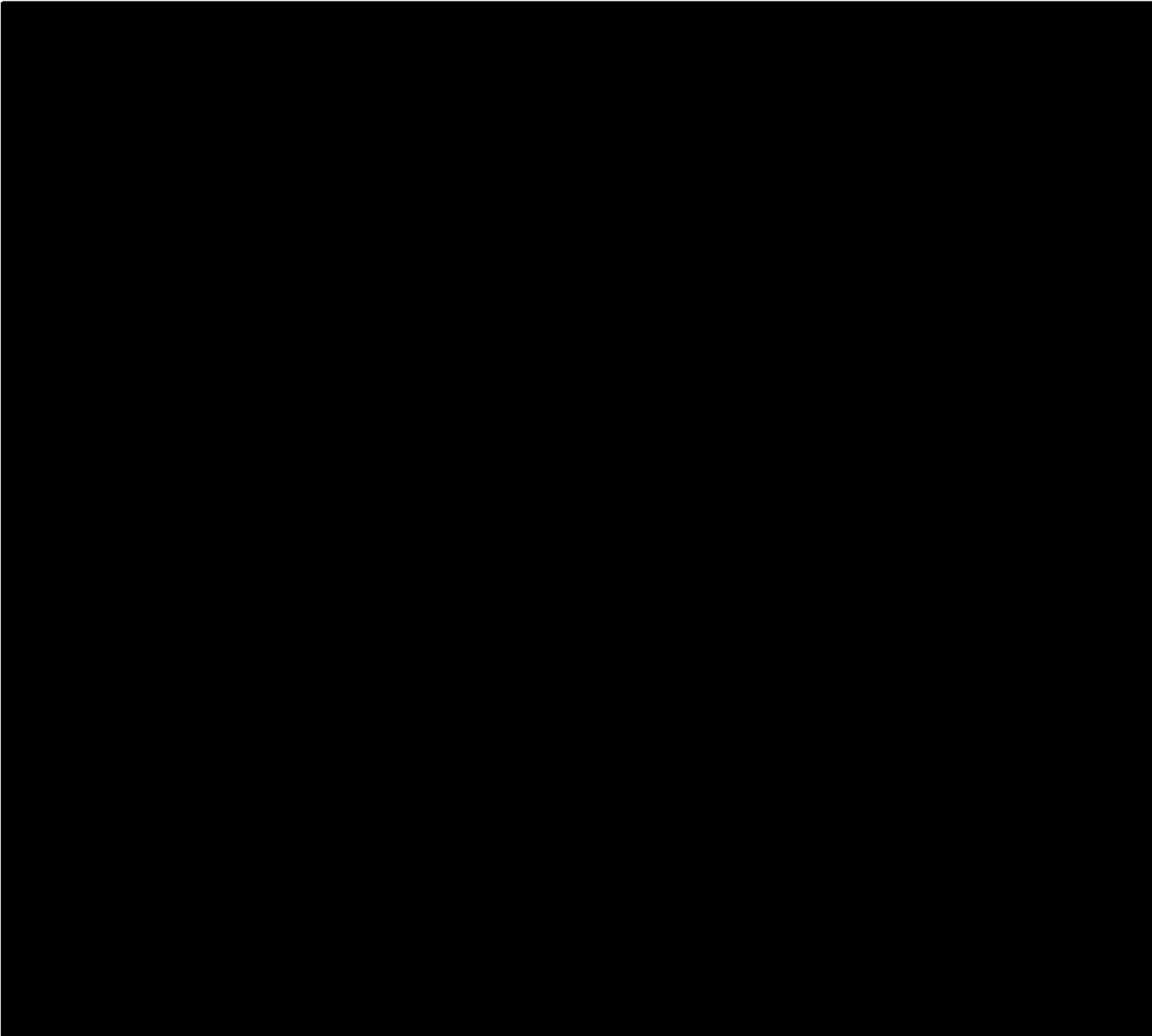
7.7 Describe the applicant's inventory management program, including seed-to-sale tracking procedures, prevention of diversion, and storage of marijuana products. Note that a copy of the inventory management program policies and procedures will be reviewed as a component of the provisional inspection process.

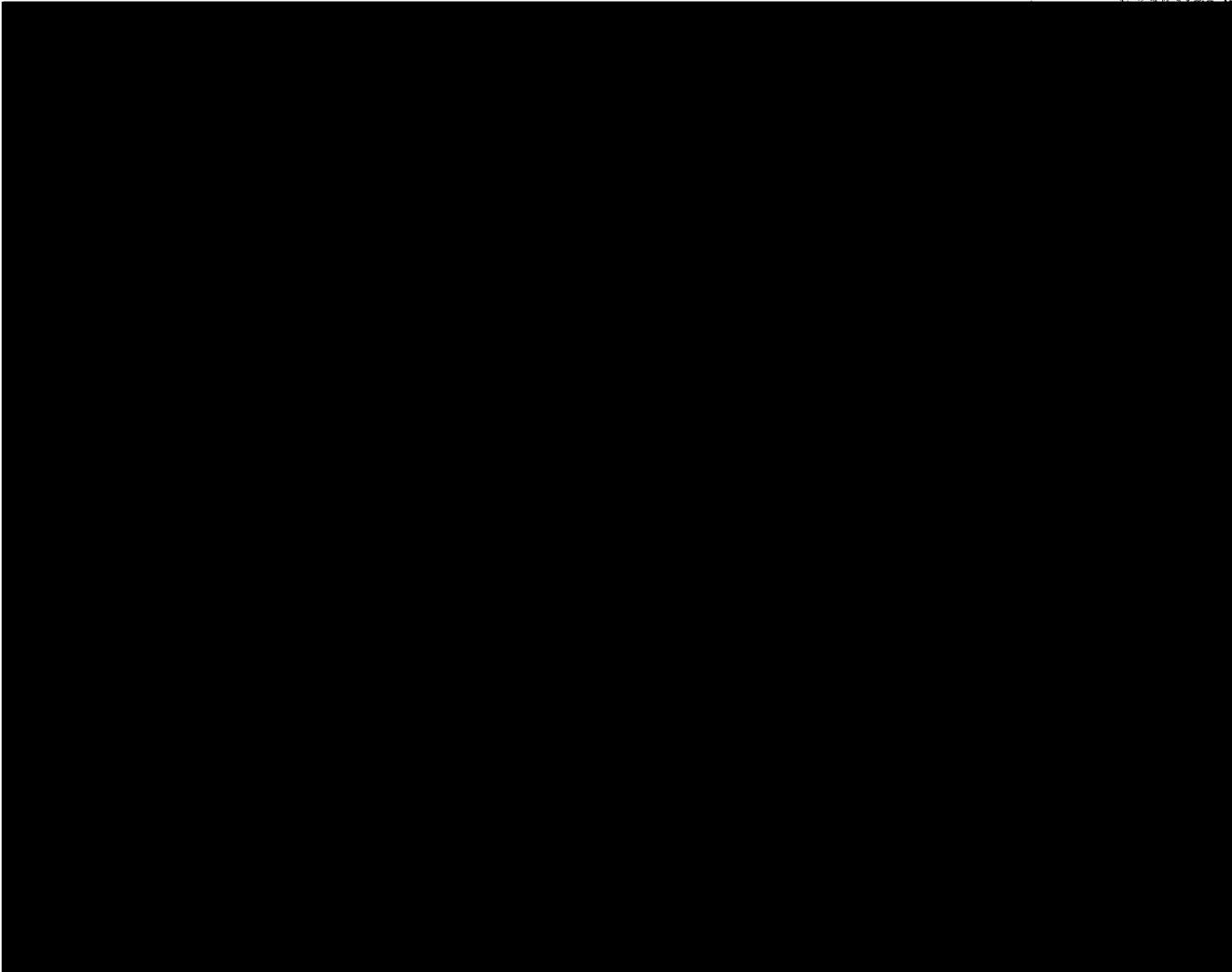
[INVENTORY MANAGEMENT - seeds, plants, usable marijuana & MIPS adjusted to reflect projected needs of registered qualifying patients (RQP). Sales data / production projections compared weekly by management and compliance teams. Production adjusted 2x/ month for "just in time" supply per projected demand. Can obtain additional products or limit intake of new patients if supplies are inadequate; or distribute excess to other RMDs per 105CMR725.105(B)(2), or destroy overstock per 725.105(J) as needed. 2. SEED-TO-SALE TRACKING: MJ Freeway Software ("MJFS"), seed-to-sale inventory, tracking, documentation and POS software system; both GramTracker Elite and GrowTracker Elite installed when provisional certification per DPH. TRACKING PHASE I: seeds, clones, cuttings (acquired or produced in-house; includes stems, leaves, resins) entered into MJFS same day & assigned sequential serial number ("ss#") & bar-code. PHASE II: each phase I unit (seed; clone / cutting) labeled with ss#: when planted, batch & lot numbers permanently assigned; each plant tagged: ss#, date, batch, lot #. Each unit's status updated daily in MJFS database: date of event (receipt; planting etc); vegetative or flowering growth; & other parameters (coded lighting sequences; nutrition plan & scheduling; pest issues, treatments etc.) PHASE III: harvest day: plants entered into "harvest" & followed through trimming, drying and curing, including ss#, weight for marijuana, waste weight, total weight harvested yield. All plant material including leaves, stems, and resins, tracked & documented. Products reweighed after full drying / curing before packaging (in sealed nylon or polyethylene under vacuum / nitrogen, then sealed inside opaque childproof containers without depictions of the product, cartoons, or images other than CTC logo, and placed in refrigerated, locked, secure, AV monitored storage: weight-loss checked to control diversion. PHASE IV: MJFS prints labels compliant w. 105CMR725.105 (E)(1) and (E)(2) for marijuana, including type size, RMD name, registration number, telephone number, address, quantity, ss#, lot, batch, date, bar code to identify batch and lot, cannabinoid profile including THC level, statement that the product was tested for contaminants with no adverse findings and date of testing; and the statement "This product has not been analyzed or approved by the FDA. There is limited information on the side effects of using this product, and there may be associated health risks. Do not drive or operate machinery when under the influence of this product. KEEP THIS PRODUCT AWAY FROM CHILDREN". Products divided into smaller sale quantities receive a secondary retail bar code and other data but maintain the original ss#, batch and lot numbers etc. and new quantity labels only. Patient's name added upon dispensing. MIPS are packaged in compliance with 105CMR725.105(E)(1) and labeled per 105CMR725.105(E)(3). PHASE V: As needed for retail, product status changed to "inventory" in MJFS, keeping original batch and lot. Sold items securely labeled with RQP name etc. per 105CMR725.105(E)(1); moved from inventory to "sold product".

PREVENTION OF DIVERSION, THEFT AND LOSS: a. OVERLAP OF RESPONSIBILITY / MULTIPLE ENTRY DATA COLLECTION: MJFS provides current real time inventory / tracking of all marijuana plants, clones by phase of development, marijuana ready for dispensing, MIPS, and excess, damaged, defective, expired, or contaminated marijuana / MIPS awaiting disposal, deliveries, status, & more. Monthly inventories will verify each of these items and report. Only the Production & Cultivation Manager (PCM); the Security, Tracking and Diversion Prevention Manager (STDPM); and the Chief Compliance, Security and Safety Officer (CCSSO) may access inventory functions in MJFS (permissions). The PCM and STDPM do weekly inventories in each department. Both reports are presented to the CCSSO and C.O.O. who compare the integrated data & may change audit levels. b. SURVEILLANCE: - a known deterrent. Secure high definition AV cameras placed to record all employee activities in overlapping fields of view, some with auto PTZ, in / outside RMD under continual remote-station third party monitoring. Recordings can also be audited to look for illegal activity, stored in redundant, secure hosts long-term. LIMIT AND SEGMENT ACCESS: Only employees with access permissions for a particular area within the facility or handling permissions can access products at any given stage of production. Example: customer sales representatives don't have access to cultivation data. d. WORKING WITH LAW ENFORCEMENT. The CCSSO will maintain contact with the local police and narcotics division to determine if there are any activities or arrests that suggest diversion. e. STORAGE: All marijuana / MIPS / leaves stems resins or waste in the process of cultivation, production, preparation, transport, analysis or destruction will be housed and stored in such a manner as to prevent diversion, theft or loss. 1. All marijuana will be accessible to the minimum number of specifically authorized dispensary agents essential for operation. Restricted key fobs will prevent ingress or egress except to particular

areas allowed for each employee. 2. All marijuana will be returned to the proper storage area immediately after completion of each operation. For example - stocking display counter; emptying display counter at end of working day; producing and planting clones; moving plants from vegetative to flowering growth room; 3. If a process cannot be completed by end of a work day, the processing area or tanks, vessels, bins or bulk containers containing marijuana will be securely locked inside an area that affords adequate security. Rooms will be separately locked and keys or fobs only available to selected personnel for each area. Products & cash kept in separate locked floor-bolted safes locked in security room. Minimal amounts in display case while RMD open]

7.8 Describe how the applicant will transport marijuana, whether between the cultivation and dispensing site or between the dispensing site and a patient's home, including provisions for preventing diversion and tracking inventory during transport. Include a description of the RMD's proposed home delivery protocol, including an identification check of the registered patient or registered personal caregiver and record keeping. Note that a copy of the transportation program policies and procedures will be reviewed as a component of the provisional inspection process.





7.9 Define the applicant's service area and provide an analysis of the projected patient population and projected need in the service area of the proposed RMD, including the applicant's strategy for delivering culturally competent and linguistically appropriate services.

Commonwealth Therapeutics Centers' dispensary is near Boston's and Cambridge's research and medical centers; most of Cambridge and Somerville; downtown Boston, Chelsea, Everett, Malden and the western and southern near suburbs. Populations include:

- **Residents** 3.5 mile diameter = ~ 480,000.
- **Commuters** into and through the city: 150,000 auto commuters/day Mass Pike and Central Artery, Some portion of these commuters will use our RMD since we are easily accessible to Routes 90(Mass Pike) 93, 99, 1, and 1A, and only a few minutes from routes 3, 16, 2 (concord turnpike) and 28. We lacked time to estimate traffic on these other major routes, or trains. Boston's daytime population increases by 41%, but commuters aren't as likely as residents to choose us (a guess).
- > 100,000 T travelers (red + green) Boston. A small percentage will use our RMD.
- Major hospital centers in Boston have 32% total 'patient days' in MA; proportionally more likely to use medicinal marijuana.

Based on these (very rough) calculations, the total served population for our Boston location could approximate 515,000. We supposed it would remain stable for the first 3 years of operation.

To roughly estimate the growth of use over time, we did linear & nonlinear regressions on historic adoption rates of all states starting medical marijuana; we tried to determine when service actually began, not passage of the law (Rhode Island law passed 2005, then 2006; first dispensary opened April 2013!) Nonlinear modeling didn't help (usage versus time from opening in states legalizing medical marijuana). There were still wide differences between states; after trying other parameters we gave up and used a straight least-squares fit.

We think patient usage will start at 1/1000 end year 1, and grow linearly at a rate of 1/1000/year for the state. We estimate that Boston RMDs will grow somewhat faster, at 2/1000/year, due to the concentration of medical centers. Thus, by the end of the third year of operation (4th year of legislation), we will have a forecast adoption rate of 4.5 patients/1000. These figures are not adjusted for income; age; illness; or ethnicity.

Competition from other RMDs will likely reduce our share. The model suggests that we will initially serve 30% of our target market in the first year, but only 1/4 and then 22% thereafter due to expanded options.

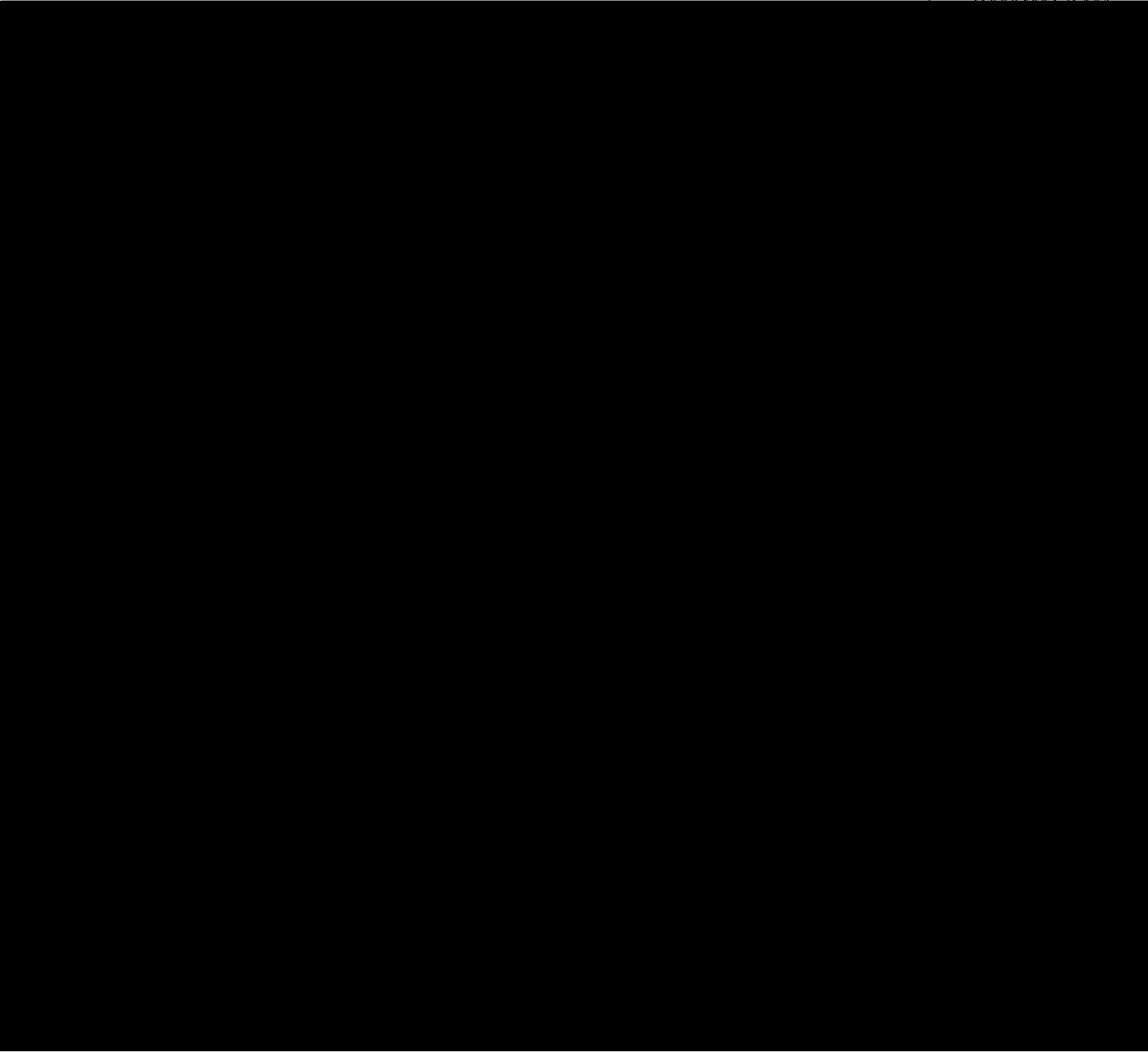
Income demographics for the catchment region are atypical of the state at large. Many of the zip-codes in the catchment area have average household incomes that far exceed the Federal poverty level for a family of 4, particularly those along the Charles River. A few households, (about 10 %), are at or near this threshold, suggesting that there will be a relatively small population that requires subsidized or free access to this medication. For modeling purposes, it is assumed that 15% of the target population will receive full subsidies. This is higher than our estimates in 7.12, however we intend to modify those figures for Mass Health calculations.

Revenue per patient is expected to initially be \$480/quarter (\$160/month) and will grow to \$600/quarter by year 3. Net forecast of patients, subsidies and gross revenue for the first 12 quarters of operation are shown in the table below.

Year Quarter	1				2				3			
	1	2	3	4	1	2	3	4	1	2	3	4
Patients/1000 [total available market]	1.00	1.00	1.25	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50
Estimated market share	30%	30%	30%	30%	25%	25%	25%	25%	22%	22%	22%	22%
Total patients of CTI	153	153	191	229	240	287	335	383	380	421	463	505
% patients requiring subsidized/free	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Paying patients	130	130	162	195	204	244	285	326	323	358	394	429
Average cost / paying patient /month	480	480	480	480	540	540	540	540	600	600	600	600
Net revenue/quarter (\$000)	\$ 187	\$ 187	\$ 234	\$ 280	\$ 330	\$ 395	\$ 461	\$ 527	\$ 581	\$ 644	\$ 708	\$ 773

There are 4 primary ethnic/language groups represented in the catchment area. These are, Spanish (7%) and Chinese (7%), French (2%) and Italian (1%). Furthermore, Portuguese and French-Creole are common in the surrounding communities. CTI will address these 6 languages by providing written translations of all relevant material. Multi-lingual sales staff will also provide translational services on an advanced schedule. Boston has a much wider range of linguistic groups than above and the medical institutions in the catchment area attract visitors from around the world. CTI will provide live translation via a 3rd-party, remote telephone service. (for example: www.ctslanguagelink.com) Similar services are employed at Cambridge Health Alliance and other area hospitals. We will offer similar services to hearing and visually impaired patients, and others with special needs. CTC is fortunate to have fluent Chinese, French, Spanish, German, and Thai speakers among its Senior Executives and Board. We are accustomed to, and enjoy, living, and working with people of diverse origins

7.10 Describe the RMD's procedures for safely dispensing medical marijuana to registered qualifying patients or their registered personal caregiver, including a process for identifying patients/caregivers, ensuring their safety, and protecting their privacy.



7.11 Describe the RMD's patient record keeping system and planned use of technology to support business operations, including use of the Department's electronic registration and dispensing tracking system. Note that a copy of the patient record keeping policies and procedures will be reviewed as a component of the provisional inspection process.

[7.11 Record Keeping and Technology Implementation

1) Patient Record Keeping System COMMONWEALTH THERAPEUTICS CENTERS, INC. (CTC) will hold confidential all data relate to patients and caregivers; not disclosed absent written consent of the owner, except as mandated by court order or required by DPH, DHS, or other authorized Federal or MA agency, in the course of official duties, or when exempt as under 105CFR725.200(B)

- a) Patient / other records kept in MJ Freeway™, current medical marijuana industry standard cloud-based, patient tracking, HIPAA compliant software, redundant cloud-based servers, 24-hour surveillance, biometric locks, regular security patches & full data encryption, behind enterprise-class firewall.
- b) Database access - only a few key personnel (passcode); access permissions re electronic patient files controlled by our Security, Tracking and Diversion Prevention Manager, ex Suffolk County District Attorney and US Army Military Intelligence Officer, and a database management expert.
- c) DPHs electronic registration, dispensing & tracking system adopted as available, enable any system. Absent integration, dual verification (access DPH data however authorized by DPH; i.e. internet login, query DPH database re: validity of registration and certification, diagnosis, physician information if any, dosage and frequency data if any, disallows dose duplication ("double dipping"), identifies overprescribing MD's, or whatever other safety measures are created and supported by the DPH system.
- d) Compliant with MGL c. 66 except where countermanded - 105CMR725.200(A) , (C)

2) Patient/Caregiver Data Collection MJ Freeway permits in-depth patient data collection. 105CMR725.000 requires patients and caregivers seeking RMD access to provide valid proof of registration with DPH, without listing obligatory shared info. We don't think patients will have to provide more than is on a valid registration card and driver's license.

- a. document all patient and caregiver identification numbers for each visit and purchase.
- b) patient and/or caregiver names will be requested despite current unclear status.
- c) personal and/or medical information will be requested to allow consistent, safe, high-quality care; they may opt out.
- d) Minimum collection standard: we will track patient/caregiver purchase histories, quantities, dates & times of purchase, bar codes and serial numbers of purchased products, tracking data and purchase prices.
- e) Interaction with DPH validation and verification system, when available. manually, to a username / password-protected site which permits Patient Satisfaction Tracking
- f) Third-party patient-satisfaction survey software app, which allows anonymous collection of patient/caregiver satisfaction.
- g) Miscellaneous requirements for data storage:
 - a. price lists for marijuana, MIPS, and alternate price lists for patients with documented verified financial hardship per 105CMR725.100(A)(6) should be stored securely together with dates of validity. cited at 725.105(A)13
 - b. staffing records in compliance with 725.105(I)(4)(c)
 - c. 725.105(I) (4)(a) and (b) 1-7; (c) (d) and (e) - description exceeds allotted space. Some of these records may not be stored on MJFreeway and may either require physical paper storage, or another solution acceptable to DPH
 - d. 725.105(I) (5) business records - found in MJ Freeway
 - e. waste disposal records per 105CMR725.105(J)(5) - some may require paper storage;
 - f. if CTC closes, it will maintain all records intact for at least two years per 105(I)(7).
 - h) DPH check of valid certification, diagnosis, physician information, dosage / frequency data would prevent dose duplication ("double dipping"), identify outlier MD's;
 - i) Paper: We will NOT utilize a paper filing system for patient data collection. Any printed materials with patient/caregiver names will be shredded. Some employee and government records may require paper storage which will be secure, fireproof, and locked.

s]

7.12 Provide a detailed summary of the proposed RMD's policies and procedures for the provision of marijuana to registered qualifying patients with verified financial hardship at no cost or reduced cost, including a sliding fee scale. Note that a copy of these policies and procedures will be reviewed as a component of the provisional inspection process.

[
 It is the cornerstone of our mission to provide medical marijuana to all Registered Qualifying Patients with a valid Registration Card and certified by a duly Registered Certifying Physician with whom the patient has a bona fide physician-patient relationship, for a debilitating medical condition, who is entered in the DPH database and has valid proof of identification, regardless of financial capability. We realize that we must balance several concerns to make this possible on an indefinite basis. Our intention is to help create access to the extent possible without creating incentive for diversion of marijuana. POLICIES AND PROCEDURES We have adopted the National Health Service Corps policies and procedures for Developing and Implementing a Discount Fee Schedule, including: a. The discounted/sliding scale fee schedule must be in writing and non-discriminatory; b. No patient should be denied services due to an inability to pay; c. Signage / notice is posted onsite and to the web site (if applicable) to ensure that patients are aware that a discounted/ sliding fee schedule is available to them; d. Patients must present valid and yearly proof of enrollment in an approved public assistance program and present financial documents to determine poverty level. e. Every patient's privacy is protected;

DETERMINATION OF FINANCIAL HARDSHIP. We intend to use enrollment in the Federal Supplemental Security Income (SSI) program as the main qualification for our Financial Hardship Program. We will also utilize Temporary Assistance for Needy Families or other public assistance programs to make a determination of financial hardship. Additionally, any recipient of MassHealth, or whose income does not exceed 300% of the federal poverty level when adjusted for family size, will be considered to have Verified Financial Hardship and be eligible for medical marijuana at no cost or reduced cost. COST DETERMINATION METHODOLOGY. A sliding fee scale must not be overly complex to be fair and effective. Therefore a. Patients at or below 100% adjusted federal poverty may receive one ounce of medical marijuana, or MIPs equivalent, per month at no cost, and receive a 25% discount on all marijuana products thereafter in each month, up to the limit recommended; b. Patients at or between 101-200% of adjusted federal poverty levels will receive one-half ounce of medical marijuana, or MIPs equivalent, per month without cost and a 20% discount on all marijuana products thereafter. c. Patients at or between 201-300% of adjusted federal poverty levels will receive one-quarter ounce of medical marijuana, or MIPs equivalent, per month without cost, and a 15% discount on all marijuana products thereafter. d. for patients on Temporary Assistance for Needy Families or other public assistance programs, or patients on MassHealth, we will work together with DPH and state agencies to determine a fair and symmetric program. Additionally, patients who do not qualify by the strict mathematical standards but who have particular medical needs, such as severe pain or refractory symptoms, will be considered on a case-by-case basis for assistance. PROGRAM FUNDING AND SUSTAINABILITY. Cost determination must factor into revenue. The CFO must determine that the Hardship Program does not place the non-profit company in financial jeopardy. A percentage of excess revenues, as determined by the CFO and approved by the Board of Directors, will be utilized to create additional subsidies for approved hardship patients. The Department will be notified of any changes to the Hardship Program before they are implemented. We will contact local law enforcement regularly to determine if our Hardship (or other) Program has led to any increase in illegal drug activity. We are open to suggestions from DPH for modification of our sliding scale.

]

 Proposed sliding price scale attached as exhibit 7.12

7.13 Describe the proposed plans to provide counseling and educational materials to registered qualifying patients and their personal caregivers related to methods of marijuana administration and information about the health effects of marijuana use.

[Medical marijuana and infused products (MMP) can relieve suffering IF used correctly, by informed (RQP); for proper indications; with realistic expectations. Potential harm otherwise. Inform patient: MMP aren't FDA approved & may have unknown toxic effects; smoking MMP may cause additional lung toxicity. To avoid social (externalized) costs: prevent access by children; can't drive / operate machinery.

Patient education: counselors will explain: means of administration (smoking; vaporizer; water pipe; MIPS); differences between strains of marijuana, varying effects, side effects, benefits; effects on dosage, rate of onset, duration; adjusting dose (titration) with different routes of administration; why it's best to titrate to adequate relief, but avoid over-sedation; side effects & consequences of over-potent strains or preparations; explain tolerance, dependence and withdrawal; how to recognize substance abuse in yourself and others; information on treatment programs, assistance in getting referred to therapists or programs; legal basis and limits of new Law - illegal to drive under influence of MMP, or to give or sell MMP; excess or outdated MMP must be returned to issuing RMD.

CTC's extensive experience in interactive learning will be used to create interactive programs to instruct patients, PC's, health care workers, police, fire fighters, EMT's, administrators; also used in computers, web apps, our website www.CTCMass.org; brochures; booklets; seminars; meetings (slides and interactive); counseling individual / group; in all languages spoken in community.

Intake counseling / education sessions: New RQPs (+PCs) intake, assessment, education session with counselor ("RA") to:

- 1) re-check current valid qualification of the RQP per 105CMR725.105(F)(1)&(2);
- 2) verify RQP / Certifying Physician ("CP") complied w. 725.010(C) - (G);
- 3) check CP / RQP status on DPH's system;
- 4) assess RQP's: current limitations on life activities, driving; understanding of underlying condition ("DMC"): prognosis; any other treatment for DMC? are there unrealistic expectations for MMP effect? what relief expected from MMP?; expected toxicity, side effects.
- 5) Counselor to explain consequences of MMP use (as above); different effects of different strains of MMP - explain, offer literature, explain website etc.; effect of routes of administration on dosage - explain, offer literature, website etc

Following interview:

- 1) assess RQP's understanding and outline a plan to address deficiencies, if any;
- 2) discuss with RQP; ask if RQP wants to discuss price reduction or support;
- 3) decide on the appropriate next step:
 - a) intake into the RMD's patient register;
 - b) schedule another private or group session or more information;
 - c) refuse to dispense under 105(F)(4); or 4) or other authorized actions including per 105CMR725.
- 4) Intake sessions about 45 - 60'; counseling or group available free for Q&A, expected course of treatment, complications. Accommodate individual needs, circumstances, and conditions. Depending on severity of RQP's DMC, and other factors, RA may decide to dispense immediately; to request more information or another session; or other lawful, appropriate action.
- 5) CTC offers printed brochures etc. in patient's preferred language; demonstrate CTC web-site, with expanded explaining in detail (and translation): relevant parts of the Act; allowable amounts of MMP; responsible use; personal / family safety precautions; license validity and renewal requirements; can't sell or share MMP; Comparative risks and benefits of different methods of consumption are explained; vaporizers & MIPS explained.
- 6) We offer free materials from Americans for Safe Access (ASA) including condition-based books for the patient's DMC which explain risks, benefits. A reading library and counseling referral contact lists available for patients who so desire.
- 7) Because we believe that in-house counseling and educational services should be combined with community outreach and involvement, we have already met with, and plan meetings shortly, with community groups and non-profits, State and local. Many community-based organizations have approached us to discuss collaborative educational and charitable programs.

7.14 Describe the RMD's proposed marketing and advertising plan, including the company logo, printed materials and flyers, external signage, advertising practices, and outreach and promotional materials. Note that a copy of the marketing and advertising plan will be reviewed as a component of the provisional inspection process. Do not include reproductions or representations of the logo, printed materials, or flyers.

[
Our 2 MDs are both multiply board certified, academicians and current or former practicing doctors. Dr. Ehrman, an oncologist, hematologist, and former HIV specialist, recommended marijuana and dispensed THC legally for decades through NCI / NIH. Dr. Rizzo, distinguished Harvard / MGH professor, clinician, scholar and inventor, is also a neurologist, psychiatrist, and ophthalmologist, and an innovator who lectures at MIT and designs electronic eyeglasses. Uniquely suited to engaging physicians, nurses, pharmacists, and patients in dialogue with scientifically based, factual evidence about medical marijuana and derived products ("MMP"). We must increase our knowledge of the clinical pharmacology MMP, analyzing strains and methods of use, and the underlying pharmacology and chemistry. Strains with little or no THC, but with cannabidiol (CBD) and other cannabinoids, may have greater therapeutic effects in some circumstances with little or no psycho-activity (no "high"). At least 65 compounds are found in some plants (varying types and amounts); none is fully clinically or pharmacologically analyzed. Learning about these potential medications is much more persuasive than spreading self-serving folklore and puffery.

We don't need more use and consumption; rather we should educate doctors and nurses, and organize studies to more narrowly define the best clinical circumstances for its use.

Dr. Ehrman has wide experience building successful state and national medically related businesses, and also started, grew and directed one of the largest oncology practices in the southeast US, (each of which gave away in excess of 30% of services while thriving), but has almost no experience with advertising. Despite competing with large national and multinationals, he used instead 1. highly trained, well- paid and motivated staff; 2. new, needed, and unexplained or misunderstood services and products; 3. MD's and patients thirsty for knowledge, and disgusted by traditional drug-company propaganda. 4. Caring and careful service, meticulous attention to detail, patient comfort, and therapeutic results. We took lots of time, and didn't worry about "making a sale". Cautious, correct, quiet, scientifically established facts and principles prevailed over promotional materials. Attending meetings and conferences; talking to colleagues; gradually penetrating the shell of academic medicine worked well.

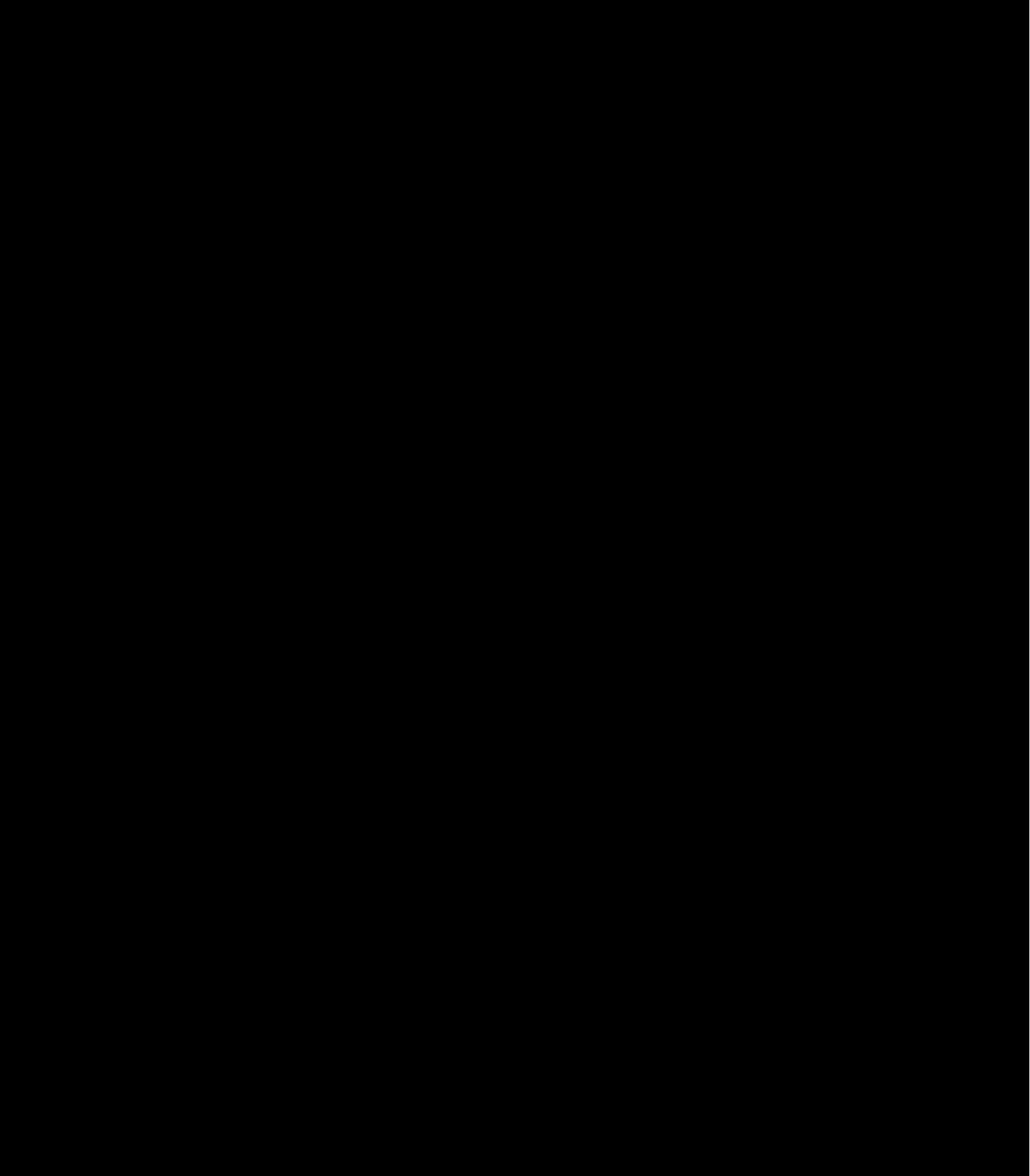
MMP has suffered from md insularity, but also (in part) caused it. Unsupported, sometimes untrue claims; folklore, hearsay, and pseudo-wisdom, all contribute. But prohibition has rendered this inevitable. Our task, as prohibition for medical purposes eases a bit, is to encourage this wandering plant to return to the fold of medicine and science, not witchcraft and folk medicine. Advertising is not a sharp tool for this task.

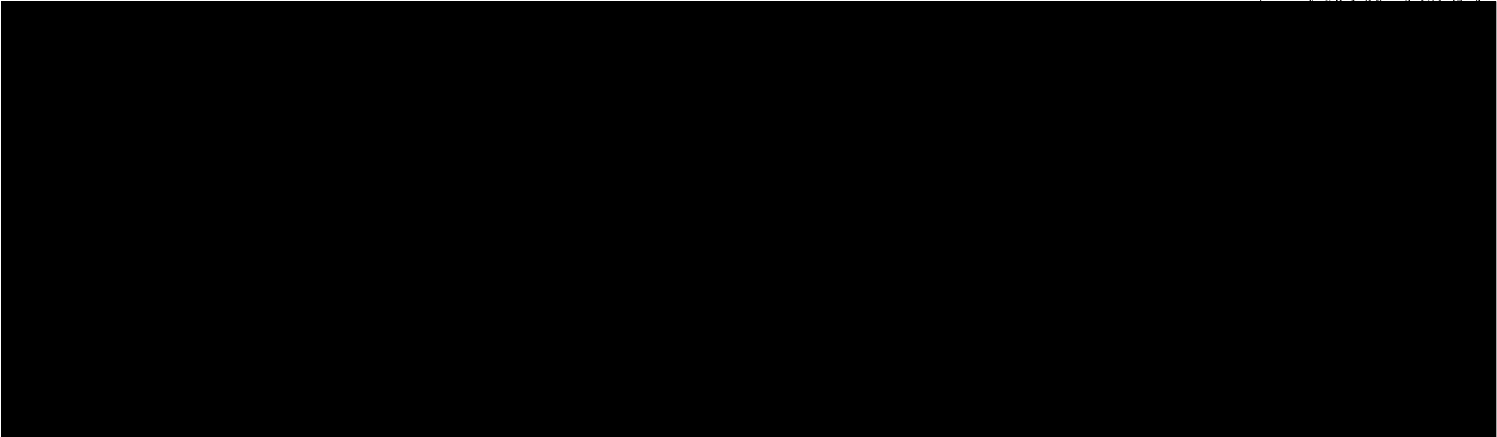
Q7.14 is intended to draw a response which dissects 105CMR725.105(L). Our simple logo respects all prohibitions (i.e. no drug and mj plant imagery, leaves, bong, etc; no "medical" symbols or imagery). We have no interest in signage, posters, billboards, etc. nor in TV or radio ads, colored cards, etc. We will simply be us, and get the word out by talking to people in the community, health professionals and patients, and make the purest products possible (including, but not only, those with low THC etc.) We will observe every word and line of (L) (1) (2) (3) (4) (5) (6) (7) (8) (especially (c) since we are more cautious scientifically than almost anyone; certainly we will observe (d) since we won't serve minors);

Our website will also be quiet secure and professional, meticulously respect 105CMR725.105(J) and (K), and be careful about claims. We will educate patients in special audiovisual suites in our dispensaries, using materials we develop and program. Our patients will tell their (real) doctors. More suffering folks seeking relief will come.

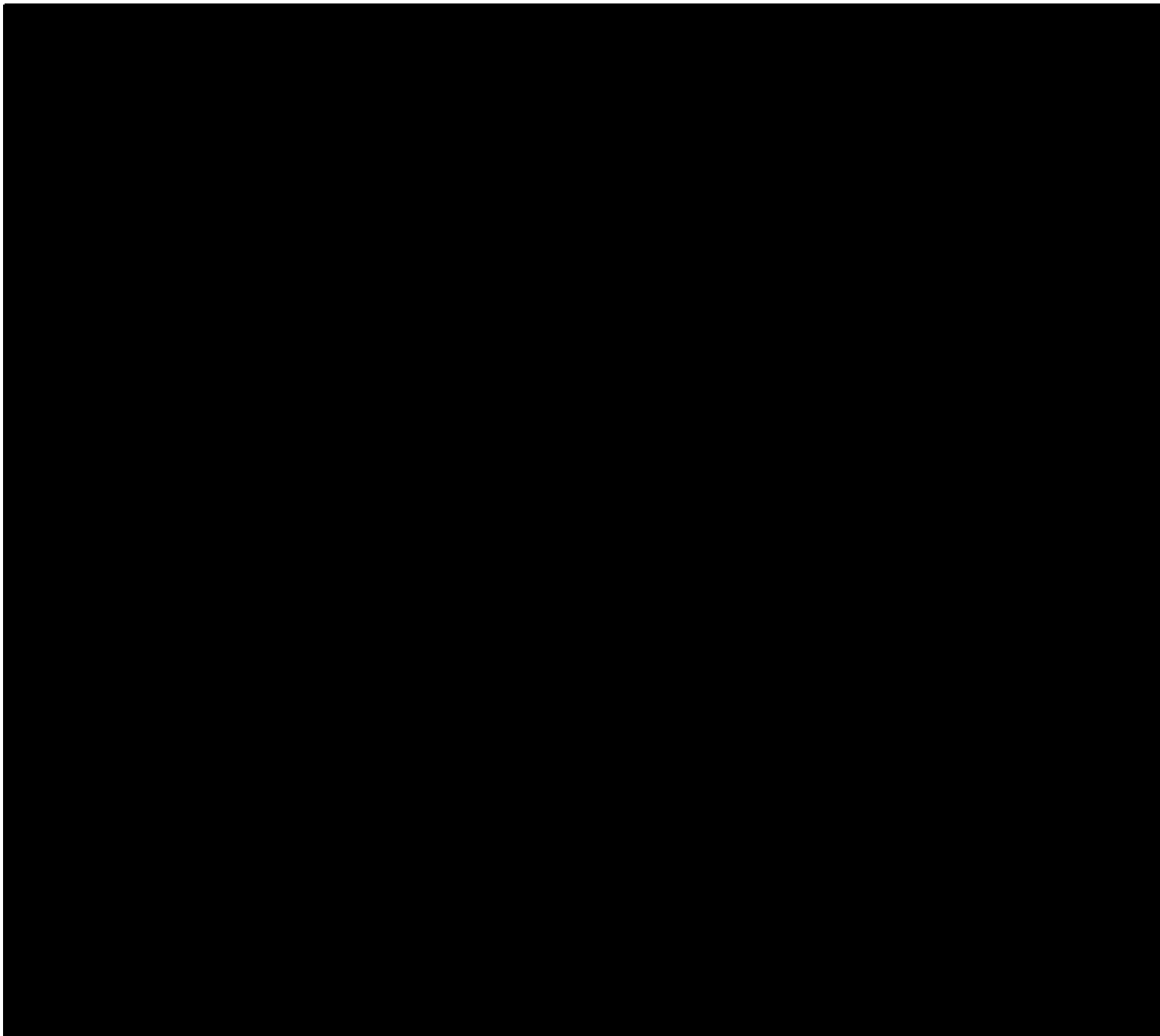
.]

7.15 Describe the RMD's emergency preparedness procedures, including a disaster plan with procedures to be followed in case of fire or other emergency. Note that a copy of the safety and security procedures will be reviewed as a component of the provisional inspection process.





7.16 Describe the RMD's employee security policies, such as an employee ID/badge system and personal safety. Note that a copy of employee security policies will be reviewed as a component of the provisional inspection process.



7.17 Describe the RMD's incident management program, including policies and procedures to document, report, and manage adverse incidents, consumer complaints, operational concerns, and issues that will be reported to law enforcement and/or the Department. Note that a copy of the incident management program policies will be reviewed as a component of the provisional inspection process.

[Policies And Procedures re adverse incidents, consumer complaints, operational events: All management, staff and agents trained / educated yearly. Goals: a. ensure highest standards of incident management; b. comply with all related provisions in 105CFR725.000, i.e. 105 CMR 725.110(E)(10); 105 CMR 725.110(F) - all; 105CFR725.300(B), (C); and 725.445; c. continually improve procedures & performance; d. improve safety & patient satisfaction; e. prevention.

Incident Management: per our Security Policies and Procedures Manual. Full compliance with all laws and regulations. All medical emergencies and events occurring at our facility, or during the transport of marijuana, handled per First-Responder Best Practices per our Safety Manual; reported per regulations and to CTC's Patient Advocate (report - Chief Medical Officer), and to CTC's Quality Control Manager, (report - Production Manager, Operations Division) to allow team recording, investigation, response and improvements;

On receipt of a report of possible adverse effects: a. Assist patient, family members, caregiver(s) to determine & document all aspects of the event, how best to respond; b. help patient; c. test samples of batch / lot, find defects; d. destroy remaining inventory (batch, lot); e. recall bad lots / batches; f. investigate production records, test analyses, find source / origin of problem; g. document / report per regulation; h. report to our Patient Advocate and Quality Control Manager;

Consumer Complaints: a. on receipt, immediately 1. report it to supervisor; 2. log it into incident log; 3. categorize the complaint; 4. determine (team) whether the cause of the complaint could lead to additional harm or operational problems; 5. report to DPH, and other authorities depending on the nature of the issue, and 6. take immediate corrective actions.

Operational Concerns: Our policy of continuous improvement (kai-zen) demands awareness, identification, documentation and reporting for all operational concerns. Management of operational concerns involves integration of proper checks-and-balances and redundancy at all levels of the operation and includes: a. System reviews and data collection; b. Regular and comprehensive audits; c. Customer surveys to detect trends or issues; d. Regular staff and one-on-one meetings to gather employee input.

Documentation: All incidents and concerns must be documented. All departments to maintain up-to-date incident and concern log. Compliance Manager, Quality Control Manager, Patient Advocate and the Security and Safety Manager informed of all relevant incidents and concerns; Compliance Manager maintains files for each such incident or concern, and reports to DPH per 105CMR110(F)(2). Each incident or concern must be treated appropriately until resolution has been achieved & documented by Compliance Manager .

Reporting: Within 10 calendar days, provide written notice to the Department of any incident described below, by submitting an incident report in the form and manner determined by the Department to detail

circumstances of the event, corrective actions taken, and confirmation that the appropriate law enforcement and/or regulatory bodies were notified; maintain all documentation related to an incident reportable per 105 CMR 725.110(F)(1) for no less than one year per (F)(3) and make it available to the Department & law enforcement authorities upon request;

All incidents managed and reported per above include all:

(a) Discrepancies identified during inventory, diversion, theft, loss, and any criminal action involving the RMD or a dispensary agent; (b) Any suspicious act involving the sale, cultivation, distribution, processing, or production of marijuana by any person; (c) Unauthorized destruction of marijuana; (d) Any loss or unauthorized alteration of records related to marijuana, registered qualifying patients, personal caregivers, or dispensary agents; (e) An alarm activation or other event that requires response by public safety personnel; (f) The failure of any security alarm system due to a loss of electrical power or mechanical malfunction that is expected to last longer than eight hours; (g) Any other breach of security.

4) Corrective Actions. All incidents fully documented & undergo corrective actions assessment and implementation process (Executive Management Team; Compliance Manager; Board of Directors). Seek corrective action feedback from law enforcement, DPH, other regulatory bodies.

]



ORIGINAL

ORGANIZATIONAL CHART
(Exhibit 1.3)

This exhibit must be completed and attached to a required document and submitted as part of the application.

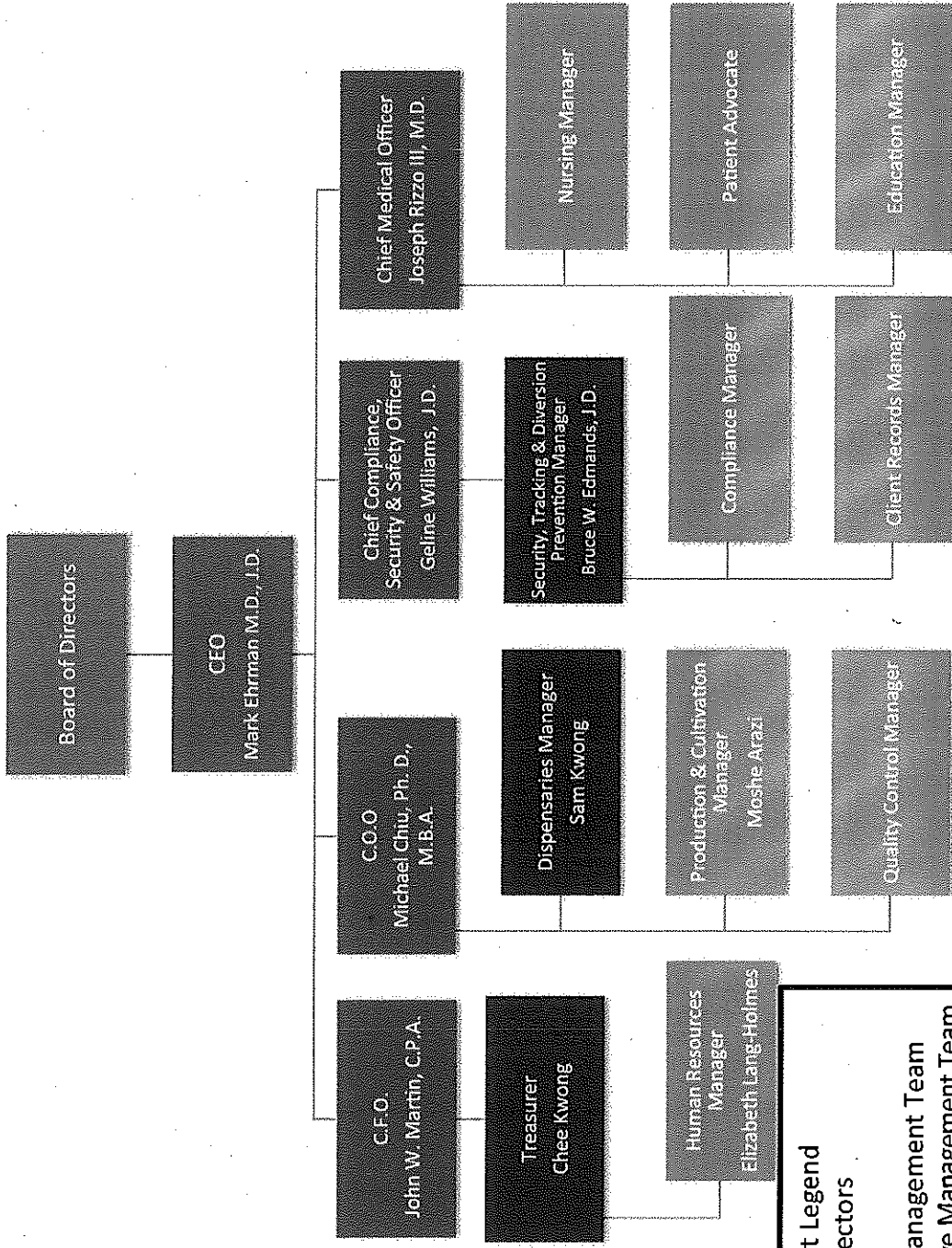
Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

Attach organizational chart.

Commonwealth Therapeutics Centers, Inc. Senior Management Organizational Chart

ORIGINAL



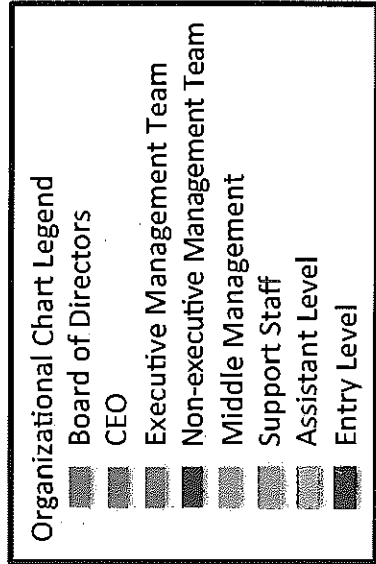
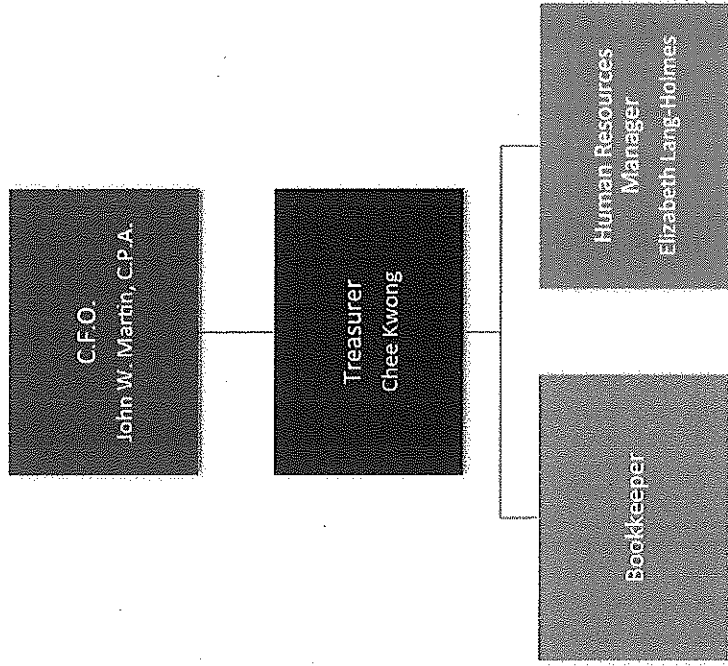
Organizational Chart Legend

- Board of Directors
- CEO
- Executive Management Team
- Non-executive Management Team
- Middle Management
- Support Staff
- Assistant Level
- Entry Level

Commonwealth Therapeutics Centers, Inc.
 Finance Division Organizational Chart

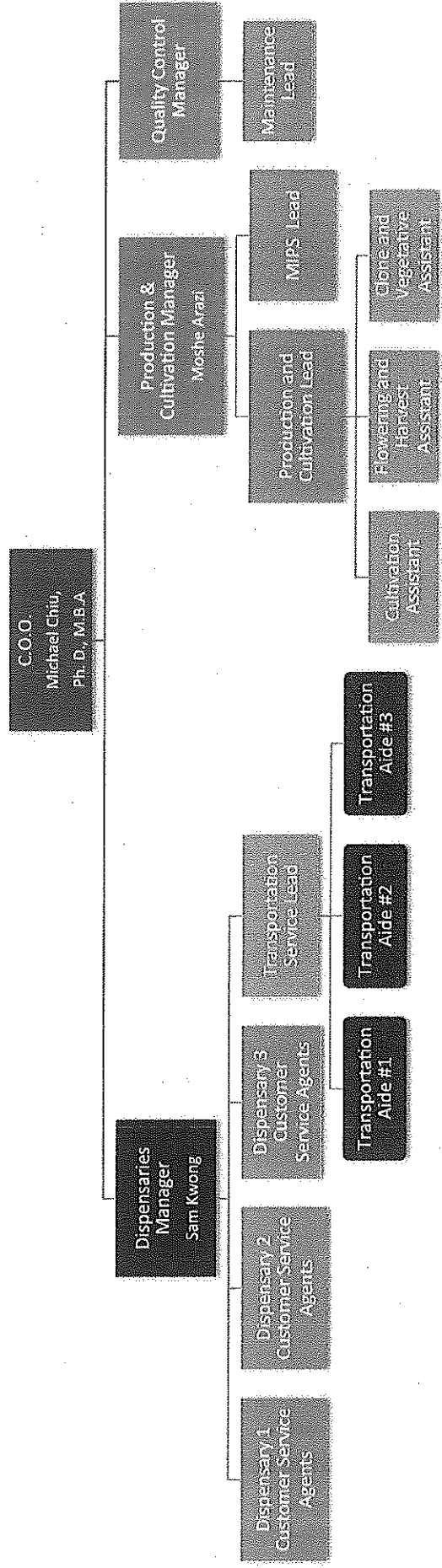


ORIGINAL



Commonwealth Therapeutics Centers, Inc. Operations Division Organizational Chart

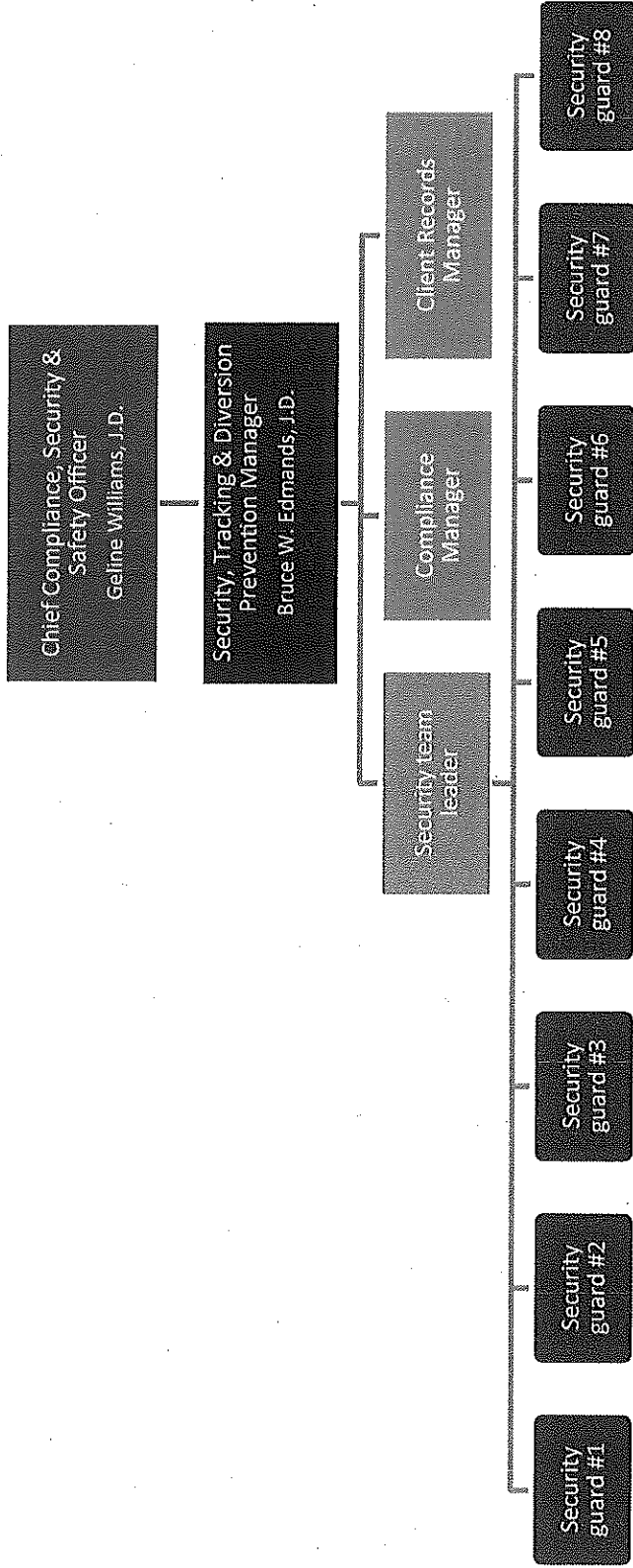
ORIGINAL



Organizational Chart Legend

- Board of Directors
- CEO
- Executive Management Team
- Non-executive Management Team
- Middle Management
- Support Staff
- Assistant Level
- Entry Level

Commonwealth Therapeutics Centers, Inc.
Compliance, Security & Safety Division Organizational Chart



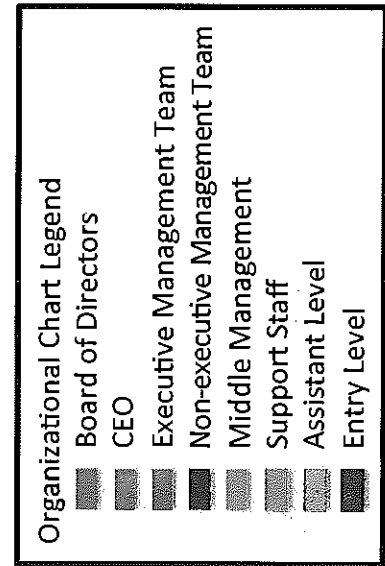
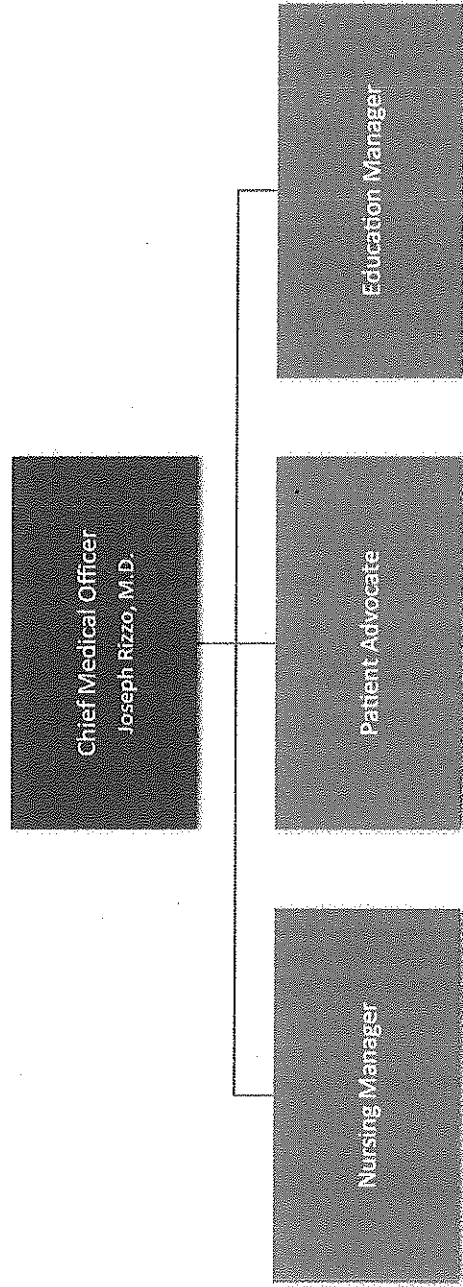
Organizational Chart Legend


- Board of Directors
- CEO
- Executive Management Team
- Non-executive Management Team
- Middle Management
- Support Staff
- Assistant Level
- Entry Level

Commonwealth Therapeutics Centers, Inc. Medical Division Organizational Chart



ORIGINAL



 ORIGINAL

BOARD OF DIRECTORS
(Exhibit 1.4)

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

	Board Role	Name	Date of Birth	Business Email	Business Address
1	President	Mark L. Ehrman	[REDACTED]	Drehman@CTCMass.org	11 Beacon Street, Suite 340 Boston, MA 02108
2	Vice President/ Vice Chair	N/A	[REDACTED]		
3	Treasurer	Chee W. Kwong	[REDACTED]	cwkwong1@gmail.com	159 Beacon Street, Boston, MA 02116
4	Clerk	Geline W. Williams	[REDACTED]	geline.williams@edmands.org	12 Hereford Rd., Newton, MA 02468
5	Director	John Walter Martin	[REDACTED]	jackwmartin@earthlink.net	36 Dale St., Swampscott, MA 01907
6	Director	Michael A. Chiu	[REDACTED]	michael.a.chiu@gmail.com	Automation Engineering Inc. 299 Ballardvale Street Wilmington, MA 01887
7	Director				
8	Director				
9	Director				
10	Director				

 ORIGINAL

MEMBERS OF THE CORPORATION
(Exhibit 1.5)

This exhibit must be completed or marked N/A and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc. Application # (if more than one): Marijuana Center #1

A. Member as Individuals

Individual Name	Business Address	Type of Membership Rights	If Member of Other RMD, Which One?
1 N/A			
2			
3 Add more rows as needed.....			

B. Member as Corporations

Corporate Name/ Business Address	Leadership	Type of Membership Rights	If Member of Other RMD, Which One?
1 N/A	CEO/ED: President/Chair: Treasurer: Clerk/Secretary:		
2	CEO/ED: President/Chair: Treasurer: Clerk/Secretary:		
3 Add more rows as needed.....	CEO/ED: President/Chair: Treasurer: Clerk/Secretary:		



ORIGINAL

**CORPORATE BYLAWS
(Exhibit 1.6)**

This exhibit must be completed and attached to a required document and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Center, Inc.

Application # (if more than one): Marijuana Center #1

Attach bylaws.

Please see attached the bylaws of Commonwealth Therapeutics Centers, Inc.

 ORIGINAL

BYLAWS
OF COMMONWEALTH THERAPEUTICS CENTERS, INC.

Section 1.
ARTICLES OF ORGANIZATION, LOCATION, CORPORATE SEAL AND FISCAL YEAR

1.1 Articles of Organization. The name and purposes of the Corporation shall be as set forth in its Articles of Organization. These Bylaws, the powers of the Corporation and of its directors and officers, and all matters concerning the conduct and regulation of the affairs of the Corporation shall be subject to such provisions in regard thereto, if any, as are set forth in the Articles of Organization.

1.2 Purpose. To engage in civic, educational and benevolent activities as per MGL Ch. 180 §4. This purpose includes making medical marijuana available to qualified patients and their personal caregivers in a safe, healthy, and clean environment that complies with the laws of The Commonwealth of Massachusetts and the directives of the Massachusetts Department of Public Health. Additionally, the purpose includes providing palliative and other services to qualified patients, as well as educational materials regarding the potential benefits and dangers associated with the use of medical marijuana.

As permitted by law, the Corporation may engage in any and all activities in furtherance of, related to, or incidental to these purposes, the activities being lawful for a Corporation formed under Chapter 180 of the General Laws of Massachusetts.

1.3 Location. The principal office of the Corporation in The Commonwealth of Massachusetts shall initially be located at the place set forth in the Articles of Organization of the Corporation. The director(s) may change the location of the principal office in The Commonwealth of Massachusetts effective upon filing a certificate with the Secretary of the Commonwealth.

1.4 Corporate Seal. The director(s) may adopt and alter the seal of the Corporation.

1.5 Fiscal Year. The fiscal year of the Corporation shall end on the December 31 in each year unless the director(s) change the fiscal year by filing a certificate with the Secretary of the Commonwealth.

1.6 Annual Meeting. The annual meeting of the Corporation shall be held not later than the last day of November at such time and place, as the director(s) shall designate.

1.7 Gender. The personal pronoun "he" or possessive pronoun "his", when appropriate, shall be construed to mean "she" or "her" and the word "chairman" shall be construed to include a female.

1.8 Not-for-Profit Operation.

(a) No dividends, liquidating dividends, or distributions shall be declared or paid by the Corporation to any private individual, member, officer, or director of the Corporation.

(b) No part of the net earnings or net income of the Corporation shall inure to the benefit of any private individual or officer or director of the Corporation; provided, however, that such a person may receive reasonable compensation for sales, leases or loans, or personal services rendered which are necessary to carrying out the purposes of the Corporation.

(c) Notwithstanding any other provision of these Articles of Organization, the Corporation shall not carry on any other activities not permitted to be carried out by a Corporation that is formed under M.G.L.c. 180, is a registered marijuana dispensary pursuant to 105 CMR 725.000 and is in compliance with the laws of The Commonwealth of Massachusetts.

Section 2.
NO MEMBERS

The Corporation shall not have members. Any action or vote required or permitted by M.G.L. ch. 180 to be taken by members shall be taken by action or vote of the same percentage of directors in accordance with M.G.L. ch. 180, §3.

Section 3.
SPONSORS, BENEFACTORS, CONTRIBUTORS,
ADVISORS, FRIENDS OF THE CORPORATION

The director(s) may designate certain persons or groups of persons as sponsors, benefactors, contributors, advisors or friends of the Corporation or such other title as they deem appropriate. Such persons shall serve only in an honorary capacity and, except as the director(s) shall otherwise designate, shall in such capacity have no right to notice of or to vote at any meeting, shall not be considered for purposes of establishing a quorum, and shall have no other rights or responsibilities.

Section 4.
BOARD OF DIRECTORS

4.1 Powers. The business and affairs of the Corporation shall be controlled and governed by the Board of the Directors who may exercise all the powers of the Corporation as permitted by law.

4.2 Number and Election. The director(s) shall determine the number of directors and the manner by which new directors are nominated and appointed. The names and addresses of the initial Board of Directors and Officers are:

1. President/Director-Mark L. Ehrman 159 Beacon Street, Boston MA 02116
2. Treasurer/Director-Chee W. Kwong 159 Beacon Street, Boston, MA 02116
3. Clerk/Director-Geline W. Williams 12 Hereford Road, Newton MA 02468
4. Director-Michael Chiu 17 Kidder Avenue, Somerville, MA 02144

5. Director-John Walter Martin 36 Dale Street, Swampscott MA 01907

4.3 Term of Office. Director(s) shall determine the length and number of terms to be served by directors, and these Bylaws will then be updated to reflect such term.

4.4 Meetings. The Board of Directors shall hold annual meetings each year and may select the time and place for annual and other meetings of the Board. Other meetings of the Board of Directors may be called by the president or by a majority of the directors then in office by delivering notice in writing by mail, facsimile or electronic transmission, at his usual or last known business or residence address of the date, time, place, and purpose of such meeting, to all directors at least three (3) days in advance of such meeting.

4.5 Waiver of Notice for Meetings. Whenever any notice of a meeting is required to be given to any director under the Articles of Organization, these Bylaws, or the laws of Massachusetts, a waiver of notice in writing signed by the director, whether before or after the time of the meeting, shall be equivalent to the giving of such notice.

4.6 Quorum. At any meeting of the directors a majority of the directors then in office shall constitute a quorum. Any meeting may be adjourned by a majority of the votes cast upon the question, whether or not a quorum is present, and the meeting may be held as adjourned without further notice.

4.7 Action by Vote. When a quorum is present at any meeting, a majority of the directors present and voting shall decide any question, including election of officers, unless otherwise provided by law, the Articles of Organization, or these Bylaws.

4.8 Action by Writing. Any action required or permitted to be taken at any meeting of the directors may be taken without a meeting if all the directors consent to the action in writing and the written consents are filed with the records of the meetings of the directors. Such consents shall be treated for all purposes as a vote at a meeting.

4.9 Qualifications. The directors shall at all times have and qualify for a dispensary agent registry identification card issued by the Massachusetts Department of Public Health. At any time should a director fail to qualify for a dispensary agent registry identification card or have such card revoked pursuant to 105 CMR 725.000, the director shall be deemed automatically removed from the Board.

4.10 Presence Through Communications Equipment. Unless otherwise provided by law or the articles of organization, directors may participate in any meeting of the Board of Directors by means of a conference telephone or similar electronic or communications equipment by means of which all persons participating in the meeting can hear each other at the same time, and participation by such means shall constitute presence in person at a meeting.

Section 5.

OFFICERS AND AGENTS

5.1 Number and Qualification. The officers of the Corporation shall be a president, treasurer, clerk and such other officers, if any, as the director(s) may determine. The Corporation may also have such agents, if any, as the director(s) may appoint. An officer may, but need not, be a director. The clerk shall be a resident of Massachusetts unless the Corporation has a resident agent duly appointed for the



purpose of service of process. A person may hold more than one office at the same time. If required by the director(s), any officer shall give the Corporation a bond for the faithful performance of his duties in such amount and with such surety or sureties as shall be satisfactory to the directors.

5.2 Election. In the event that officers retire or are otherwise removed, the officers of the Corporation shall be elected annually by the Board of Directors at the annual meeting. Each officer shall hold office until a successor shall have been elected and qualified.

5.3 Tenure. The president, treasurer and clerk may each hold office for the lifetime of the Corporation.

5.4 President. Unless otherwise determined by the directors, the president shall be the chief executive officer of the Corporation and, subject to the control of the directors, shall have general charge and supervision of the affairs of the Corporation. If no chairman of the Board of Directors is elected, the president shall preside at all meetings of the directors, except as the directors otherwise determine. The president shall have such other duties and powers as the directors shall determine.

5.5 Treasurer. The treasurer shall be the chief accounting officer of the Corporation. He shall be in charge of its financial affairs, funds, securities and valuable papers and shall keep full and accurate records thereof. He shall also be in charge of its books of account and accounting records, and of its accounting procedures. It shall be the duty of the treasurer to prepare or oversee all filings required by the Commonwealth of Massachusetts, the Internal Revenue Service, and other federal or state agencies. He shall have such other duties and powers as designated by the director(s) or the president.

5.6 Clerk. The clerk shall record and maintain records of all proceedings of the director(s) in a book or series of books kept for that purpose, which book or books shall be kept within the Commonwealth at the principal office of the Corporation or at the office of its clerk or of its resident agent and shall be open at all reasonable times to the inspection of any director. Such book or books shall also contain records of all meetings of incorporators and the original, or attested copies, of the Articles of Organization and Bylaws and names of all directors and the address of each. If the clerk is absent from any meeting of directors, a temporary clerk chosen at the meeting shall exercise the duties of the clerk at the meeting. The clerk shall have custody of the seal of the Corporation.

5.7 Chairman of the Board of Directors. If a chairman of the Board of Directors is elected, he or she shall preside at all meetings of the directors except as the directors shall otherwise determine, and shall have such other powers and duties as may be determined by the directors.

Section 6.

RESIGNATIONS, REMOVALS AND VACANCIES

6.1 Resignations. Any director or officer may resign at any time by delivering his resignation in writing to the chairman of the board, if any, or the president or the clerk or to the Corporation at its principal office. Such resignation shall be effective upon receipt unless specified to be effective at some

other time. If there is only one director of the Corporation, the director may not resign without appointing a new director, updating these Bylaws or dissolving the Corporation.

6.2 Removals. A sole director may not be removed unless another is appointed or the Corporation is dissolved. In the event that additional directors exist, a director may be removed with or without cause by a two-thirds (2/3) vote of a majority of the directors then in office (not including himself).

An officer may be removed for cause by unanimous vote (not including himself) only after reasonable notice and opportunity to be heard before the body proposing to remove him on the occurrence of any of the following events:

(a) upon a good faith finding by the directors of (i) the failure of such director or officer to perform his assigned duties for the Corporation, (ii) dishonesty, gross negligence or willful misconduct, or (iii) the conviction of, or the entry of a pleading of guilty or nolo contendere by such director or officer to, any crime involving moral turpitude or any felony;

(b) upon any period of inactivity on the part of such director or officer for the preceding twelve month period prior to such removal as determined by the directors in their reasonable discretion; and

(c) upon the disability of such director or officer. As used in this section, the term "disability" shall mean the inability of such director or officer, due to a physical, emotional or mental disability, for a period of one hundred and twenty (120) days, whether or not consecutive, during any three hundred and sixty (360) day period to perform his assigned duties for the Corporation. A determination of disability shall be made by the directors in their reasonable discretion, but requiring a unanimous vote of directors (not including the vote of the director who may be disabled).

6.3 No Right to Compensation. No director or officer resigning, and (except where a right to receive compensation shall be expressly provided in a duly authorized written agreement with the Corporation) no director or officer removed, shall have any right to any compensation as such director or officer for any period following his resignation or removal, or any right to damages on account of such removal, whether his compensation be by the month or by the year or otherwise; unless the director(s) shall, in his discretion, provide for compensation.

6.4 Vacancies. Any vacancy in any office or on the board of directors may be filled by the directors by a two-thirds (2/3) vote of a majority of the directors then in office. The directors shall elect a successor if the office of the president, treasurer or clerk becomes vacant and may elect a successor if any other office becomes vacant. Each such successor shall hold office for the unexpired term and in the case of the president, treasurer and clerk until his successor is chosen and qualified, or in each case until he sooner dies, resigns, or is removed. The directors shall have and may exercise all their powers notwithstanding the existence of one or more vacancies in their number.

Section 7.
COMMITTEES

The Board of Directors may create such standing and special committees as it determines to be in the best interest of the Corporation. The Board of Directors shall determine the duties, powers, and composition of such committees, except that the Board shall not delegate to such committees those powers which by law may not be delegated. Each such committee shall submit to the Board of Directors at such meetings as the Board may designate, a report of the actions and recommendations of such committees for consideration and approval by the Board of Directors. Any committee may be terminated at any time by the Board of Directors.

Section 8.
EXECUTION OF PAPERS

Except as the director(s) may generally, or in particular cases, authorize the execution thereof in some other manner, all deeds, leases, transfers, contracts, bonds, notes, checks, drafts and other obligations made in the course of the Corporation's regular business, accepted or endorsed by the Corporation shall be signed by the president or by the treasurer. Except as otherwise provided by M.G.L. c. 180 or directed by the director(s), the president may authorize in writing any officer or agent of the Corporation to sign, execute and acknowledge such documents and instruments in his or her place and stead. The clerk of the Corporation is authorized and empowered to sign in attestation all documents so signed, and to certify and issue copies of any such document and of any resolution adopted by the director(s) of the Corporation, provided, however, that an attestation is not required to enable a document to be an act of the Corporation.

Any recordable instrument purporting to affect an interest in real estate, executed in the name of the Corporation by the president or a vice president and the treasurer or an assistant treasurer, who may be one and the same person, shall be binding on the Corporation in favor of a purchaser or other person relying in good faith on such instrument, notwithstanding any inconsistent provisions of the Articles of Organization, Bylaws, resolutions or votes of the Corporation.

Section 9.
COMPENSATION; PERSONAL LIABILITY

9.1 Compensation. Except as otherwise provided in Section 6.3, the director(s) shall be entitled to receive for their services such amount, if any, as the director(s) may determine, which may include expenses of attendance at meetings. The director(s) shall not be precluded from serving the Corporation in any other capacity and receiving compensation for any such services.

9.2 No Personal Liability. The director(s) and the officers of the Corporation shall not be personally liable for any debt, liability or obligation of the Corporation for or arising out of a breach of fiduciary duty as an officer or director notwithstanding any provision of law imposing such liability; provided, however, that the foregoing shall not eliminate or limit the liability of an officer or director to the extent that such liability is imposed by applicable law (i) for a breach of the officer's or director's duty of loyalty to the Corporation or its members, (ii) for acts or omissions not in good faith or which involve

intentional misconduct or a knowing violation of the law, or (iii) for any transaction from which the officer or director derived an improper personal benefit.

All persons, corporations or other entities extending credit to, contracting with, or having any claim against, the Corporation, may look only to the funds and property of the Corporation for the payment of any such contract or claim, or for the payment of any debt, damages, judgment or decree, or of any money that may otherwise become due or payable to them from the Corporation.

Section 10.
INDEMNIFICATION

The Corporation shall, to the extent legally permissible, indemnify any person serving or who has served at any time as a director, executive director, president, vice president, treasurer, assistant treasurer, clerk, assistant clerk or other officer of the Corporation, or at its request as a director or officer of any organization, or at its request in any capacity with respect to any employee benefit plan, and may indemnify an employee or other agent who has so served, against all liabilities and expenses, including, without limitation, amounts paid in satisfaction of judgments, in compromise or as fines and penalties, and counsel fees, reasonably incurred by him in connection with the defense or disposition of any action, suit or other proceeding, whether civil or criminal, in which he may be involved or with which he may be threatened, while in office or thereafter, by reason of his being or having been such a director or officer (or in any capacity with respect to any employee benefit plan), except with respect to any matter as to which he shall have been adjudicated in any proceeding not to have acted in good faith in the reasonable belief that his action was in the best interests of the Corporation (or, to the extent that such matter relates to service with respect to an employee benefit plan), in the best interest of the participants or beneficiaries of such employee benefit plan; provided, however, that as to any matter disposed of by a compromise payment by such person, pursuant to a consent decree or otherwise, no indemnification either for said payment or for any other expenses shall be provided unless such compromise and indemnification shall be approved:

- (i) by a majority vote of a quorum consisting of disinterested directors;
- (ii) if such a quorum cannot be obtained, then by a majority vote of a committee of the board of directors consisting of all the disinterested directors;
- (iii) if there are not two or more disinterested directors in office, then by a majority of the directors then in office, provided they have obtained a written finding by special independent legal counsel appointed by a majority of the directors to the effect that, based upon a reasonable investigation of the relevant facts as described in such opinion, the person to be indemnified appears to have acted in good faith in the reasonable belief that his action was in the best interests of the Corporation (or, to the extent that such matter relates to service with respect to an employee benefit plan, in the best interests of the participants or beneficiaries of such employee benefit plan); or
- (iv) by a court of competent jurisdiction.

If authorized in the manner specified above for compromise payments, expenses including, but not limited to, counsel fees, reasonably incurred by any such person in connection with the defense or disposition of any such action, suit or other proceeding may be paid from time to time by the Corporation in advance of the final disposition thereof upon receipt of (a) an affidavit of such individual of his good faith belief that he has met the standard of conduct necessary for indemnification under this Section, and (b) an undertaking by such individual to repay the amounts so paid to the Corporation if it is ultimately determined that indemnification for such expenses is not authorized by law or under this Section, which undertaking may be accepted without reference to the financial ability of such person to make repayment.

The right of indemnification hereby provided shall not be exclusive of or affect any rights to indemnification to which corporate personnel other than the persons designated in this Section may be entitled by contract, by vote of the board of directors, or otherwise under law.

As used herein the terms "person," "director," "officer," "employee," and "agent" include their respective heirs, executors and administrators, and an "interested" director or officer is one against whom the proceedings in question or other proceedings on the same or similar grounds is then pending.

If any term or provision hereof, or the application thereof to any person or circumstances, shall to any extent be held invalid or unenforceable, the remainder hereon, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision hereof shall be held valid and be enforced to the fullest extent permitted by law.

Section 11.
AMENDMENTS

These Bylaws may be altered, amended or repealed, in whole or in part, by a two-thirds (2/3) vote of a majority of the directors then in office.

Section 12.
ACTIVITIES

12.1 Investments. The Corporation shall have the right to retain all or any part of any securities or property acquired by it in whatever manner, and to invest and reinvest any funds held by it, according to the judgment of the director(s), without being restricted to the class of investments which a trustee is or may hereafter be permitted by law to make or any similar restriction, provided, however, that no action shall be taken by or on behalf of the Corporation if such action is a prohibited transaction.

MT

12.2 Loans. No moneys shall be borrowed on behalf of the Corporation and no evidences of such indebtedness shall be issued in its name unless authorized by a resolution of the Board of Directors. Such authority may be general or confined to specific instances.

12.3 Deposits. All funds of the Corporation, not otherwise employed, shall be deposited from time to time to the credit of the Corporation in such banks, investment firms or other depositories as the Board of Directors shall select.

12.4 Conflict of Interest. Whenever a director or officer has a financial or personal interest in any matter coming before the Board of Directors, the affected person shall a) fully disclose the nature of the interest and b) withdraw from discussion, lobbying, and voting on the matter. Any transaction or vote involving a potential conflict of interest shall be approved only when a majority of disinterested directors determine that it is in the best interest of the Corporation to do so. The minutes of meetings at which such votes are taken shall record such disclosure, abstention and rationale for approval.

12.5 Audits. Within four months after the close of the Corporation's fiscal year, the Corporation will prepare reviewed financial statements in accordance with generally accepted accounting principles (GAAP) and make these statements available to any interested parties. In the event that the Corporation has total gross revenue in excess of \$500,000.00 per year the Corporation will prepare independently audited financial statements, in accordance with GAAP, and make those available to any interested parties. In the event that the Corporation becomes a Public Charity under M.G.L. Chapter 12, Section 8 et seq. or is otherwise required by the Department of Public Health or any other provision of Massachusetts law to file audited or reviewed financial statements and a Form PC, such auditing and filing will be completed in accordance with GAAP and performed in a timely manner.

Section 13.

INSURANCE

The Corporation may purchase and maintain insurance (including but not limited to insurance for legal expenses and costs incurred in connection with defending any claim, proceeding or lawsuit) on behalf of any person who is or was a director, officer, employee, fiduciary or agent of the Corporation or who, while serving in this role, is or was serving at the request of the Corporation as a director, officer, partner, trustee, employee, fiduciary or agent of any other foreign or domestic Corporation, partnership, joint venture, trust, employee benefit plan, or other enterprise, against any liability asserted against him or incurred by him in any such capacity, or arising out of his status as such, whether or not the Corporation would have the power to indemnify him against such liability under the provisions of Section 10. In addition the Corporation shall maintain liability insurance coverage in compliance with 105 CMR 725.105(Q).

Section 14.

CORPORATE INTEGRITY POLICY

It is the policy of the Corporation to encourage and enable directors, officers, and employees to make reports where they believe, in good faith, that acts or omissions unlawful under the laws of the Commonwealth of Massachusetts or unethical may have occurred. With this goal in mind, no one who, in good faith, makes a report shall be subject to retaliation in any form, including adverse employment

consequences. Moreover, an employee who retaliates against someone who has made a good faith report is subject to discipline up to and including dismissal from the volunteer position or termination of employment. If after an investigation, the claim is determined to have been made in bad faith or was knowingly false, the individual making the claim will immediately have his or her position in the Corporation revoked.

Section 15.
ANTITRUST POLICY

It is the policy of the Corporation to comply fully with all federal and state antitrust laws, which prohibit companies from working together to restrict competition. It is also the policy of the Corporation that it and its director(s) and officers are informed about antitrust laws and recognize possible antitrust issues or questions.

It is legal for competitors within the medical marijuana industry to work together, unless such work unlawfully restricts competition within the industry. Although the Corporation's activities generally do not present antitrust issues, to ensure against inadvertent violations of federal and state antitrust laws, directors, except to insure that prices are reasonable and affordable for the Corporation's patients, and to prevent diversion for non-medical purposes, officers and employees shall not discuss with competitors:

- Increasing, decreasing, or stabilizing prices for medical marijuana or related products and services;
- Establishing market monopolies for Member products or services;
- Refusal to deal with a company because of pricing or distribution practices for medical marijuana or related products or services;
- Strategies or plans to give business or remove business from a specific company.

Furthermore, directors, officers, and employees shall not engage in any actions or understandings arising in the context of the Corporation's activities which appear to be anti-competitive in purpose or inconsistent with this policy.

In the event that additional directors are appointed, and Board of Director meetings occur, Corporation meetings shall follow a pre-approved agenda and meeting minutes will be prepared and available. Any questions regarding antitrust issues and the Corporation's activities shall be directed to the Chair of the Board, if any, and referred to counsel if deemed necessary.

Section 16.
DISSOLUTION

Dissolution of the Corporation will comply with M.G.L. Chapter 180, s. 11. The director(s) may authorize a petition for the dissolution of the Corporation. A two-thirds vote will be required for such dissolution. The Articles of Dissolution form will be filed with the Massachusetts Secretary of State. All annual reports for the last ten years will be filed with the Secretary of State. A letter to the Massachusetts

Department of revenue on the Corporation's letterhead will be sent stating that the Corporation is dissolving. All outstanding business will be completed. All outstanding debts will be paid. Any remaining funds in the Corporation will be distributed as per the direction of the director(s) at the meeting authorizing the dissolution. A notice will be published in a newspaper of regular circulation in the County where the Corporation is located.

In the event that the dissolution also requires the Medical Marijuana Dispensary to close, i.e. the dissolution is not because of a transfer of the Dispensary to another nonprofit entity, the following actions will also take place: the Department of Public Health will be notified; the patients and caregivers that obtain medical marijuana will be notified of the Corporation's dissolution via mail, or in-person if the opportunity to notify the patient or caregiver arises prior to the closing of the doors of the Corporation's place of business; any remaining medical marijuana and products that contain medical marijuana will be destroyed at the time the doors of the Registered Marijuana Dispensary are closed, or disposed of in any way consistent with the direction of the Massachusetts Department of Public Health and the policies and procedures of the Dispensary.

Section 17.
SEVERABILITY

The invalidity or unenforceability of any provisions of these Bylaws shall not affect the validity or enforceability of any other provision of this Agreement, which shall remain in full force and effect.

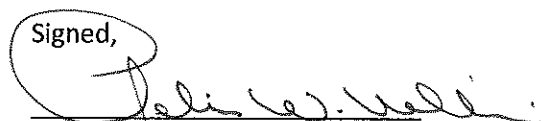
These Bylaws have been amended and adopted by a vote of the board as per Section 11 and affirmed by the Incorporator as an officer of the Corporation on this ____ day of November, 2013.



Mark L. Ehrman, Incorporator and President

"I, Geline W. Williams, the Clerk of Commonwealth Therapeutics Centers, Inc. hereby attest that these are the bylaws of Commonwealth Therapeutics Centers, Inc. and that these bylaws have been duly adopted by a vote of the Board of Directors on this 13th day of November, 2013.

Date: November 13, 2013

Signed,


Geline W. Williams, Clerk

**AMENDED ARTICLES OF ORGANIZATION
(Exhibit 1.7)**

This exhibit must be completed and attached to a required document (if applicable) and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

Please check box if articles have changed since Phase 1:

YES

NO

Please see response in the text box in question 1.7

Also see attachments:

- A.) Certificate of Change of Directors or Officers of Non-Profit Corporations
- B.) Restated Articles of Organization

Box "no" is checked because in the "Questions and Answers Posted on November 15, 2013"

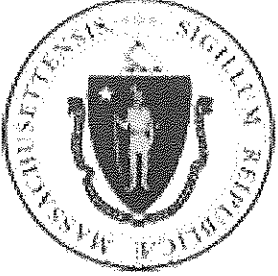
The question:

Q: Does a "Certificate of Change of Directors or Officers" constitute an amendment to a corporation's Articles of Organization? If so, does a "Certificate of Change of Directors or Officers" constitute the required document for Exhibit 1.7?

was answered as follows:

A: No, this certificate does not constitute such an amendment, and there is no need to submit it. Describe any changes in officers or directors in the text box in question 1.7.

Due to a potential ambiguity, we have attempted to follow the instructions to the best of our abilities. When the answer was issued it was too late to follow up with another question (modification of Bylaws only to reflect change in directors). DPH may discard these attachments if so desired. Thank you.



The Commonwealth of Massachusetts
William Francis Galvin

No Fee

Secretary of the Commonwealth, Corporations Division
One Ashburton Place, 17th floor
Boston, MA 02108-1512
Telephone: (617) 727-9640

Certificate of Change of Directors or Officers of Non-Profit Corporations
(General Laws, Chapter 180, Section 6D)

Federal Employer Identification Number: [REDACTED] (must be 9 digits)

I, GELINE W. WILLIAMS Clerk Assistant Clerk ,

of COMMONWEALTH THERAPEUTICS CENTERS, INC.

having a principal office at: 159 BEACON STREET BOSTON , MA 02116 USA

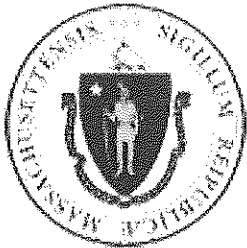
certify that pursuant to General Laws, Chapter 180, Section 6D, a change in the directors and/or the president, treasurer and/or clerk of said corporation has been made and that the name, residential street address, and expiration of term of the president, treasurer, clerk and each director are as follows: *(Please provide the name and residential street address of the assistant clerk if he/she is executing this certificate of change. Also, include the names of any additional officers of the corporation.)*

Title	Individual Name First, Middle, Last, Suffix	Address (no PO Box) Address, City or Town, State, Zip Code	Expiration of Term
PRESIDENT	MARK L. EHRMAN	159 BEACON STREET BOSTON, MA 02116 USA	n/a
TREASURER	CHEE WING KWONG	159 BEACON STREET BOSTON, MA 02116 USA	n/a
CLERK	GELINE W. WILLIAMS	12 HEREFORD ROAD NEWTON, MA 02468 USA	n/a
DIRECTOR	MARK L. EHRMAN	159 BEACON STREET BOSTON, MA 02116 USA	n/a
DIRECTOR	GELINE W. WILLIAMS	12 HEREFORD ROAD NEWTON, MA 02468 USA	n/a
DIRECTOR	MICHAEL CHIU	17 KIDDER AVENUE SOMERVILLE, MA 02144 USA	n/a
DIRECTOR	JOHN WALTER MARTIN	36 DALE STREET SWAMPSCOTT, MA 01907 USA	n/a
DIRECTOR	CHEE WING KWONG	159 BEACON STREET BOSTON, MA 02116 USA	n/a

SIGNED UNDER THE PENALTIES OF PERJURY, this 13 Day of November, 2013,
GELINE W. WILLIAMS , Signature of Applicant.



ORIGINAL



**The Commonwealth of Massachusetts
William Francis Galvin**

Minimum Fee: \$35.00

Secretary of the Commonwealth, Corporations Division
One Ashburton Place, 17th floor
Boston, MA 02108-1512
Telephone: (617) 727-9640

Restated Articles of Organization

(General Laws, Chapter 180, Section 7)

Federal Employer Identification Number: 463447050 (must be 9 digits)

We, MARK L. EHRMAN President Vice President,

and GELINE W. WILLIAMS Clerk Assistant Clerk,

of COMMONWEALTH THERAPEUTICS CENTERS, INC.

located at: 159 BEACON STREET BOSTON, MA 02116 USA

do hereby certify that the following Restatement of the Articles of Organization was duly adopted at a meeting held on: 11/13/2013, by vote of:

0 members, all directors, or 0 shareholders,
being at least two-thirds of its members/directors legally qualified to vote in meetings of the corporation (or, in the case of a corporation having capital stock, by the holders of at least two thirds of the capital stock having the right to vote therein):

ARTICLE I

The exact name of the corporation is:

COMMONWEALTH THERAPEUTICS CENTERS, INC.

ARTICLE II

The purpose of the corporation is to engage in the following business activities:

TO ENGAGE IN CIVIC, EDUCATIONAL, AND BENEVOLENT ACTIVITIES PER MGL CH. 180 §4.

ARTICLE III

A corporation may have one or more classes of members. If it does, the designation of such classes, the manner of election or appointments, the duration of membership and the qualifications and rights, including voting rights, of the members of each class, may be set forth in the by-laws of the corporation or may be set forth below:

ARTICLE IV

Other lawful provisions, if any, for the conduct and regulation of the business and affairs of the corporation, for its voluntary dissolution, or for limiting, defining, or regulating the powers of the corporation, or of its directors or members, or of any class of members, are as follows:

(If there are no provisions state "NONE")

1. MEETINGS OF DIRECTORS AND OFFICERS ARE AUTHORIZED TO TAKE PLACE ANYWHERE WITHIN THE UNITED STATES. 2. THE DIRECTORS MAY MAKE, AMEND, OR REPEAL THE BY

LAWS IN WHOLE OR IN PART, EXCEPT WITH RESPECT TO ANY PROVISION THEREOF WHICH BY LAW, THE ARTICLES OF ORGANIZATION, OR THE BY-LAWS REQUIRE ACTION BY THE DIRECTORS. 3. NO DIRECTOR SHALL BE PERSONALLY LIABLE TO THE CORPORATION FOR MONETARY DAMAGES FOR BREACH OF FIDUCIARY DUTY AS DIRECTOR NOTWITHSTANDING ANY PROVISION OF LAW IMPOSING SUCH LIABILITY, PROVIDED HOWEVER THAT THIS PROVISION SHALL NOT ELIMINATE THE LIABILITY OF A DIRECTOR, TO THE EXTENT THAT SUCH LIABILITY IS IMPOSED BY APPLICABLE LAW; A. FOR ANY BREACH OF THE DIRECTOR'S DUTY OF LOYALTY TO THE CORPORATION. B. FOR ACTS OR OMISSIONS NOT IN GOOD FAITH OR WHICH INVOLVE INTENTIONAL MISCONDUCT OR KNOWING VIOLATION OF LAW; AND C. FOR ANY TRANSACTION FROM WHICH THE DIRECTOR DERIVED AN IMPROPER PERSONAL BENEFIT.

Note: The preceding four (4) articles are considered to be permanent and may ONLY be changed by filing appropriate Articles of Amendment.

ARTICLE V

The effective date of the Restated Articles of Organization of the corporation shall be the date approved and filed by the Secretary of the Commonwealth. If a *later* effective date is desired, specify such date which shall not be more than *thirty days* after the date of filing.

11/14/2013

ARTICLE VI

The information contained in Article VI is not a permanent part of the Articles of Organization.

a. The street address (post office boxes are not acceptable) of the principal office of the corporation in Massachusetts is:

No. and Street: 11 BEACON ST., SUITE 340
 City or Town: BOSTON State: MA Zip: 02108 Country: USA

b. The name, residential street address and post office address of each director and officer of the corporation is as follows:

Title	Individual Name First, Middle, Last, Suffix	Address (no PO Box) Address, City or Town, State, Zip Code	Expiration of Term
PRESIDENT	MARK L. EHRMAN	159 BEACON STREET BOSTON, MA 02116 USA	n/a
TREASURER	CHEE WING KWONG	159 BEACON STREET BOSTON, MA 02116 USA	n/a
CLERK	GELINE W. WILLIAMS	12 HEREFORD ROAD NEWTON, MA 02468 USA	n/a
DIRECTOR	MARK L. EHRMAN	159 BEACON STREET BOSTON, MA 02116 USA	n/a
DIRECTOR	GELINE W. WILLIAMS	12 HEREFORD ROAD NEWTON, MA 02468 USA	n/a



ORIGINAL

DIRECTOR	MICHAEL CHIU	17 KIDDER AVENUE SOMERVILLE, MA 02144 USA	n/a
DIRECTOR	JOHN WALTER MARTIN	36 DALE STREET SWAMPSCOTT, MA 01907 USA	n/a
DIRECTOR	CHEE WING KWONG	159 BEACON STREET BOSTON, MA 02116 USA 159 BEACON STREET BOSTON, MA 02116 USA	n/a

c. The fiscal year (i.e., tax year) of the business entity shall end on the last day of the month of:
December

d. The name and business address of the resident agent, if any, of the business entity is:

Name:

No. and Street:

City or Town:

State:

Zip:

Country:

We further certify that the foregoing Restated Articles of Organization affect no amendments to the Articles of Organization of the business entity as heretofore amended, except amendments to the following articles. Briefly describe amendments below:

ARTICLE VI(A): CHANGED ADDRESS; ARTICLE VI(B): DELETED ONE DIRECTOR, ADDED ANOT HER.

SIGNED UNDER THE PENALTIES OF PERJURY, this 13 Day of November, 2013,
MARK L. EHRMAN , President / Vice President,

GELINE W. WILLIAMS , Clerk / Assistant Clerk.



ORIGINAL

THE COMMONWEALTH OF MASSACHUSETTS

I hereby certify that, upon examination of this document, duly submitted to me, it appears that the provisions of the General Laws relative to corporations have been complied with, and I hereby approve said articles; and the filing fee having been paid, said articles are

deemed to have been filed with me on:

November 13, 2013 01:41 PM

A handwritten signature in cursive script, reading "William Francis Galvin". The signature is written in dark ink and is centered on the page.

WILLIAM FRANCIS GALVIN

Secretary of the Commonwealth

 ORIGINAL

PARENT OR SUBSIDIARY CORPORATIONS
(Exhibit 1.8)

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

	Corporation Name	Chief Executive Officer	CEO Business Phone & Email	Corporation's Board Officers	Corporate Relationship to Applicant
1	N/A			President/Chair: Treasurer: Clerk/Secretary:	
2				President/Chair: Treasurer: Clerk/Secretary:	
3				President/Chair: Treasurer: Clerk/Secretary:	
4				President/Chair: Treasurer: Clerk/Secretary:	
5				President/Chair: Treasurer: Clerk/Secretary:	

ORIGINAL

REFERENCES
(Exhibit 1.9)

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

	Name of Reference	Business Phone & Email	Relationship to Applicant	Dates of Relationship
1	Jonathan Davis CEO, CIO, and Founder The Davis Companies	617-451-1300 JDavis@thedaviscompanies.com	Business	1988-Current
2	Bruce Edmands Partner Lawson & Weitzen, LLP	617-439-4990 bedmands@lawson-weitzen.com	Business	1990-Current
3	Sailing Adler First Vice President RBC Wealth Management	617-725-1704 sailing.adler@rbc.com	Private Banking/Financial Advisor	2002-Current

EXECUTIVE MANAGEMENT TEAM
(Exhibit 2.1)

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc. Application # (if more than one): Marijuana Center #1

	Management Role	Name	Date of Birth	Business Email and Phone Number	Business Address
1	Chief Executive Officer	Mark L. Ehrman, M.D., J.D.		DrEhrman@CTCMass.org 617-262-6942	CTC, Inc. 11 Beacon Street Suite 340 Boston, MA 02108
2	Chief Financial Officer	John W. Martin, C.P.A.		jackmartin@earthlink.net 978-335-5544	36 Dale Street Swampscott, MA 01907
3	Chief Operations Officer	Dr. Michael Chiu, Ph.D., M.S., M.B.A.		michael.a.chiu@gmail.com 978-658-1000	Automation Engineering Inc 299 Ballardvale Street Wilmington, MA 01887
4	Chief Compliance, Security & Safety Officer	Geline W. Williams, J.D.		geline.williams@edmands.org 617-969-7263	12 Hereford Road Newton, MA 02468
5	Chief Medical Officer	Joseph F. Rizzo, III, M.D.		Joseph_Rizzo@meei.harvard.edu 617-573-3851	Director, Division of Neuro-Ophthalmology, Mass Eye & Ear Infirmary 243 Charles Street Boston, MA 02114
6					

RESUMES FOR EXECUTIVE MANAGEMENT TEAM (Exhibit2.2)

This exhibit must be completed and attached to the required documents and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

List the résumés attached:

	Title	Name
1	Chief Executive Officer	Mark L. Ehrman, M.D., J.D.
2	Chief Financial Officer	John W. Martin, C.P.A.
3	Chief Operations Officer	Dr. Michael Chiu, Ph.D., M.S., M.B.A.
4	Chief Compliance, Security & Safety Officer	Geline W. Williams, J.D.
5	Chief Medical Officer	Joseph F. Rizzo, III, M.D.

CURRICULUM VITAE

NAME: Mark Lawrence Ehrman, M.D., M.Sc., JD

ADDRESS: [REDACTED]

TELEPHONE: 617-262-6942

FAX: [REDACTED]

MEDICAL LICENSURE: State of New York - 1972 - 2001 currently inactive
State of Florida - 1984 - 2003 currently inactive
Province of Quebec - 1974 - 1989 currently inactive

SPECIALTY CERTIFICATION:

USA: American Board of Internal Medicine (ABIM) Board Certified Internal Medicine
ABIM Board Certified Hematology
ABIM Board Certified Medical Oncology

Canada: Royal College of Physicians and Surgeons of Canada:
Internal Medicine
Hematology

Quebec: Société des médecins spécialistes du Québec
Médecine interne
Hématologie
Oncologie

LANGUAGES SPOKEN: French, Spanish, German

BAR ADMISSIONS: Commonwealth of Massachusetts 1998

ACADEMIC RECORD:

Degree	Subject / Program / Honors	University	Date
B.A.	Physics / Mathematics University Scholar National Merit Scholar	Princeton University Princeton NJ	1967
M.D.	Medicine NIH Scholar	New York University Medical School	1972
	Biochemistry/ Microbiology NIH MD/ Ph.D. Scholar	New York University Graduate School Arts/Sciences	1972
J.D.	Law Degree cum laude	Boston University Law School	1998

Mark L Ehrman M.D., J.D. Chief Executive Officer, Commonwealth Therapeutics Centers, Inc.

CLINICAL EXPERIENCE:

- 1971-72** Medical Sub-Intern, NYU Medical School, Bellevue Hospital NYC
- 1972-74** Resident I and II, Internal Medicine, Cornell University Medical Center (New York Hospital) and Memorial Sloan Kettering Medical Center, NYC
- 1974-1976** Hematology and Oncology RIII and RIV, Royal Victoria Hospital, McGill University Medical Center, Montréal, Canada
- 1977-78** Assistant Professor of Medicine and Hematology, McGill University School of Medicine; Assistant Physician, Dept. of Medicine, Royal Victoria Hospital. Director, Blood Bank, Royal Victoria Hospital. Started plasmapheresis and leukopheresis units and platelet pheresis programs, and directed same. Clinical instructor in Hematology and Oncology. Attending physician, Oncology Day Center and Palliative Care Center
- 1978-81** Kept above appointments. Also appointed Assistant Professor of Pediatrics, McGill University School of Medicine and Consultant in Hematology and Pediatric Oncology, Montreal Children's Hospital. Director of Coagulation Laboratories, Royal Victoria Hospital and Montreal Children's Hospital; Directed Residency training programs in Hematology and Oncology, Royal Victoria Hospital. Developed and assisted in delivery of care in the Oncology Day Clinics and Palliative Care Unit, Royal Victoria Hospital. Participated in ECOG cooperative studies on THC in cancer nausea, emesis, appetite and other symptom control. Early studies with lymphadenopathy, Kaposi's sarcoma and immunodeficiency.
- 1982-1983** Appointed founding Chief of Dept. of Hematology and Oncology at the Pierre Boucher Hospital, a new 365 bed primary and regional hospital on Montreal's South Shore. Directed main general hematology laboratory, special hematology and immunofluorescence laboratories, special hematology, coagulation laboratory, radioimmunoassay laboratory and others; and director of the regional blood bank. Consulted with RAMQ re: establishment, mandate, services, quality control for new or modified laboratories or services elsewhere in Province of Quebec. Established an active and modern oncology practice and environment including training nurses, physicians' assistants and nurse practitioners in oncology duties including palliation, administration of chemotherapeutic agents, establishing hospital protocols for administration of such agents. Participated in ECOG cooperative studies on THC in cancer nausea, emesis, appetite and other symptom control. Participated in policy and planning with the Government of Quebec Regie de l'Assurance - Maladie du Québec and the hospitals of McGill University and l'Université de Montréal. Maintained association with ECOG and maintained participation in THC studies as cancer care adjuvant. Continuing work with immunodeficiency and patients with what would become HIV syndromes.
- 1983-1984** Maintained above positions and additionally appointed co-director of all equivalent positions at Hôpital Charles LeMoyné, a 571 bed secondary care hospital in Le Vieux Longueuil, Quebec. Directed general hematology laboratories at both hospitals, blood banks, special hematology laboratories, coagulation laboratories, radioisotope laboratories and immunofluorescence laboratories. Consulted with RAMQ re: laboratory services elsewhere in Quebec Province. Established a computerized scheduling, reporting, and documentation system for previously manually recorded laboratory tests at both hospitals and managed approximately 300 laboratory

Mark L Ehrman M.D., J.D. Chief Executive Officer, Commonwealth Therapeutics Centers, Inc.

technicians, in addition to clinical responsibilities. Established a combined clinical oncology service with support from R.A.M.Q., Société des Médecins Hématologistes du Québec (SMHQ), Fédération des Médecins Spécialistes du Québec (FMSQ) and other planning bodies including allocation of budget for personnel, capital costs for equipment such as CT scanners, clinical facilities, budgets for specialized medications etc. The resulting services are ongoing on the South Shore of Montréal and are being integrated into the new Montérégie Comprehensive Cancer Care Center 2013-2014. I was instrumental in fighting for and implementing a primary care with tertiary referral model for administration of cancer care to the more than 500,000 people on the South Shore. Maintained participation in US and Canadian cooperative study groups and THC and other medication studies. Also participated in budget studies and analyses for capital equipment (and need authorizations) for CT scanners, MRI and equivalent.

- 1984 - 1999** Moved to Fort Walton Beach Florida and established a private practice limited to Hematology and Oncology, with emphasis on cross-subsidization to ensure cancer care for uninsured as well as insured patients, provision of medications, and subsidized hospital admissions. Also worked for and established the basis for outpatient chemotherapy medication administration, home care services for pain relief, symptom control, home antibiotic administration, home "hi-tech" nursing services etc. Maintained participation in cooperative study groups and THC and other medication studies. Also joined the South West Oncology Group study organization and registered separately with NIH to continue participation in THC studies.
- 1985** Founded Home Care Associates, Inc. to provide integrated home care nursing, nursing aide, homemaker, oxygen, durable medical equipment, intravenous and other pharmaceuticals to patients in 17 counties throughout the panhandle of Florida. Filed for a Certificate of Need for the above services, which was refused by the State of Florida, ostensibly due to a moratorium. Filed suit naming the State of Florida and an association of Home Health Providers (FAHHA) for illegally restricting care and access to care and was awarded (after three years of litigation and hearings). We received Certificates of Need in 18 counties in Florida. Established the first horizontally integrated services for multiply and seriously ill patients in North Florida. We assisted hospitals and nursing homes to prevent excessive use of inpatient facilities when home services were feasible. Expanded our coverage and received additional Certificates of Need for South Florida. Continued participation in NIH- sponsored studies of Delta-9-THC in double - blind studies for cancer cachexia, nausea and vomiting due to chemotherapy and radiotherapy, and other symptom complexes.
- 1990** Home Care Associates grew to over 4,300 employees including nurses, nurses aides, pharmacists, physical therapists, utilization review experts, and others, and served hospitals and patients throughout most of Florida.
- 1990** Founded Allmed Therapeutics Inc., a high-tech service pharmacy serving hospitals with rare and specialized medications requiring sterile and other specialized preparation. Expanded to 14 pharmacies in 12 counties in Florida.
- 1990 - 2004** Founder and operator, Advanced Home Health Care of NW Florida, Inc; Physicians Home Care of NW Florida Inc., and other integrated services organizations.

Mark L Ehrman M.D., J.D. Chief Executive Officer, Commonwealth Therapeutics Centers, Inc.



ORIGINAL

1995 - 1998 Law school, Boston College and Boston University. JD Boston University 1998 with honors. Admitted to MA bar 1998.

2005 - Current Owner and operator Viña Maipú SRL, a winery located in Mendoza, Argentina.

2010 - Current President, Pinguino Wines & Spirits LLC dba Avatar Wines & Spirits, Federal Basic Permit (Import) MA-I-15143; (Wholesale) MA-P-15155 a fully licensed importer and Massachusetts Wholesaler of wines from Argentina, Chile, South Africa, France, and other areas. Avatar sells wine from South America, South Africa, and Europe throughout North America.

2009 - Current Board of Advisors, The Davis Companies Funds I and II. Real Estate investment funds investing \$240,000,000 and \$440,000,000. respectively. See www.thedaviscompanies.com. Further documentation available.

Mark L Ehrman M.D., J.D. Chief Executive Officer, Commonwealth Therapeutics Centers, Inc.

John W. Martin, CPA



Professional Experience:

Independent consultant with a forty year background as a financial executive and advisor in public and private companies. Jack has played a significant role in a large number of financing, partnership, and M&A transactions involving businesses defined by creative people, unique intellectual property, and significant growth.

Jack's work experience as a CFO, corporate VP, auditor and CPA has encompassed a broad range of managerial responsibilities including the following:

- Oversight of financial accounting and IT systems in both publicly held companies and smaller start up ventures. Reporting financial results and operating performance to Boards of Directors, the Securities and Exchange Commission, and shareholders, filing of annual tax returns and other information reports to various governmental agencies and interested parties.
- Development of annual and shorter term budgets, revenue projections, and cash flow forecasts. Filing of information reports with various regulatory agencies.
- Interfacing with the Board of Directors, legal counsel and senior executives on matters involving operating performance, major business transactions, legal compliance with governmental regulations, and administration of employee benefit programs.
- Significant role in merger and acquisition negotiations, business divestitures, business divestitures, joint venture activities, and other negotiated transactions. Active participation in the structure, negotiation, tax planning and due diligence review, purchase and/or sale of at least 30 business concerns, including several international properties.
- Leadership role in all fundraising activities. Design and negotiating of legal structure of all related debt and equity financing instruments.
- Active participation/negotiation in real estate-related transactions including site location, lease negotiations, sale and leasebacks, and divestitures. Oversight of related property, casualty and liability insurance programs.
- Negotiation or mediation of countless corporate agreements or disagreements in entrepreneurial settings characterized by rapid growth, emerging technologies, governmental regulation. Extensive experience in managing complex transactions involving multiple parties and uniquely talented individuals with creative skill sets.

Employment History:

Financial Consultant / Advisor

Self-employed

2006 - Present

Strategic and tactical consulting, primarily to startup businesses and entrepreneurs, often in connection with major financings and business transactions.



Board of Directors

Think Through Learning (formerly Apangea Learning)

2007 – Present Greater Pittsburgh Area

K-12 adaptive and personalized learning software, winner of the 2012 Codie Award for the Best Mathematics Instructional Solution

Board of Directors

MD Everywhere (formerly ClinEffect Solutions)

1999 – 2006 Duke University, Durham, North Carolina

Mobile device based scheduling, billing and coding software

Vice President of Finance and Operations, CFO

Groove Networks

1998 – 2005 Beverly, Massachusetts

Participated in the formation, start up, financing and market development of Groove Networks, a company founded by Ray Ozzie, the creator of Lotus Notes. Served as CFO and VP of Finance & Operations since inception. Actively involved in all major business transactions, financings, senior management recruiting, and dealings with major investors and the Board of Directors. Closely involved in strategic planning process and in negotiations which led to the sale of the company to Microsoft Corporation and Mr. Ozzie's appointment as successor to Bill Gates as Microsoft's Chief Software Architect.

Vice President of Finance, VP of Business Development,

Lotus Development Corporation

1987 – 1994 Cambridge, Massachusetts

Oversaw worldwide financial operations of Lotus during the early days of the personal computing industry during a period in which Lotus revenues roughly doubled from \$400 million to \$800 million annual sales. Created and assumed position of VP of Finance and Business Development in for Lotus' newly formed Communications Product Division which responsible for the development of the world's first PC-based email products, including Lotus Notes which became the market leader. Actively involved in the acquisition and integration of many of the products which comprised the Lotus product suite and service offerings prior to Lotus' acquisition by IBM.

Senior Vice President of Finance / CFO

Courier Corporation

1979 – 1987 Lowell Massachusetts

Promoted through a range of financial positions including Controller, Treasurer, VP- Finance, and Senior VP of Finance and CFO. Responsible for all financial, legal, tax and real estate related operations of this \$150 million public holding company of various printing and publishing interests. Structured/coordinated several significant acquisitions, divestitures, joint ventures of divisions of the company as well as various major real estate transactions. Active in employee benefit plan design and administration.

Audit Manager, Partner

Arthur Andersen LLP

1971 – 1979 Greater Boston area

Audit Manager in the commercial audit division. Active in several purchase investigations, major SEC financings, and multi-office audit engagements. Wide range of clients in the manufacturing, retailing, and services sectors.

Education:

University of Notre Dame

Bachelor of Science, Business Administration (Accountancy), Magna cum laude

1967 – 1971 South Bend, Indiana



Innovation | Systems Engineering | General Management | Governance
Experience solving complex technology, business and organizational challenges

KEY SKILLS / INTERESTS

New Ventures, Early-Stage Technology, Product Commercialization and Business Development

Broad experience in technology evaluation, market studies, business planning and M&A analysis

Organizational Leadership and Operations Management

Built and lead globally-positioned teams that included R&D, operations, marketing and sales

Managed breadth of business operations including finance, manufacturing, supply-chain and support

Corporate Strategy, Finance and Governance

Multiple board, chair and advising roles in corporate, private and non-profit organizations

PROFESSIONAL EXPERIENCE

- Director of Operations | Automation Engineering, Inc.** Wilmington, MA 2013 – Present
*Manufacturer of capital equipment for optics & photonics manufacturing
Responsible for engineering, manufacturing, applications and support*
- Director | LGL Group (AMEX: LGL)** Orlando, FL 2010 – Present
*Manufacturer of high precision timing & filter systems for communications
Chairman of compensation and strategic planning committees*
- Founder, CEO | GeckoCap, RespirGames** Cambridge, MA 2011 – 2012
*Early-stage medical device startups. Funded via Healthbox/Blue-Cross|Blue-Shield
Technology for diagnostics and therapeutics for pediatric pulmonary diseases*
- Founder, President, CTO | Trophos Energy** Somerville, MA 2008 – 2010
*VC-backed energy bio-tech startup based on IP licensed from Harvard University
Built strategy, team, facilities, R&D, marketing resulting in successful exit*
- General Manager | Teradyne** North Reading, MA 2005 – 2007
*Global custom products/services business with \$70M P&L, \$5M budget.
Responsible for engineering, applications, support and global supply chain*
- Engineering Manager, Architect and Program Manager | Teradyne** Bedford, MA 2001 – 2004
*Built applications, engineering and operations in US, Taiwan, Singapore and Japan
Lead JV product development from concept to market introduction*
- Business Development | Teradyne** Munich, Germany 1999-2001
*Pursued new JV opportunities, new technologies and emerging customers
Developed new custom business unit focused on production customers*
- Systems Engineer, Mechanical Engineer | Teradyne** Boston, MA 1996– 1999
*Developed systems architectures for high-density, high-performance electronics
Lead concept-to-market development of new interface product based on PhD thesis*



Established new standard for industry with over \$250M in sales

EDUCATION

MBA MIT/Sloan School of Management <i>MIT Sloan Fellows Program in Innovation and Global Leadership</i>	Cambridge, MA	2007 – 2008
Management Certificate Babson College <i>Teradyne-sponsored executive management program</i>	Wellesley, MA	2007 – 2008
Ph.D, M.S Massachusetts Institute of Technology <i>Mechanical Engineering: High Precision Machine and Systems Design</i> <i>Minor: Business and Technology Strategy</i>	Cambridge, MA	1992 – 1997
B.S. University of Minnesota <i>Mechanical Engineering, Summa Cum Laude</i>	Minneapolis, MN	1986-1991

CIVIC, VOLUNTEER AND COMMUNITY ENGAGEMENT

Lecturer, Instructor, Advisor MIT <i>Skoltech: MIT/Skolovo Institute team advisor</i> <i>i-Teams innovation advisor: 10.807/15.371</i> <i>Mechanical Design Courses 2.70, 2.75, 2.075</i>	Cambridge, MA	2012-Present 2011-Present 1995-1998
Founder, Officer Somerville Children's Network, Progress Together <i>501c3 and social welfare organizations focused on community and education</i>	Somerville, MA	2005 – Present
Leader Cub Scout Pack 3, Boy Scout Troop 3 <i>Worked with parents to revitalize lapsed scouting organization in Somerville</i>	Somerville, MA	2009 – Present
Trustee Cambridge Health Alliance: Hospital Board <i>Harvard-affiliated, safety-net hospital serving Cambridge, Somerville and surrounding communities</i>	Cambridge, MA	2010 – 2012
Coach US-FIRST Robotics <i>Secured funding from Teradyne and supported MIT-Cambridge H.S. team</i>	Cambridge, MA	1995-1999

AWARDS, PATENTS AND PUBLICATIONS

<i>6 patents issued, additional provisional and pending</i>	Various
<i>Awarded "Best Gadget of Consumer Electronics Show" by Huffington Post (GeckoCap)</i>	2013
<i>Winner of MIT Media Lab "New Media Medicine" Hackathon (Chameleon)</i>	2011
<i>R&D 100 Award, "The Oscars of Invention"</i>	1996

Geline W. Williams professional profile

2013



Geline W. Williams is a Massachusetts attorney with over thirty years' experience in civil and criminal matters.

A native of Richmond, Virginia, Ms. Williams served most recently as Executive Director of the Massachusetts District Attorneys Association (MDAA), an independent state agency that coordinates technology, training, and policy initiatives for the eleven Massachusetts District Attorneys and their fifteen hundred employees. Prior to MDAA, Ms. Williams was a senior prosecutor in Plymouth County, where she headed the Child Abuse Unit and the Family Protection Unit and was promoted to Deputy First Assistant District Attorney, which position she left to join MDAA in 2000.

Among her roles at MDAA, Ms. Williams was active in policy and legislative matters relating to the criminal justice system and represented the District Attorneys on a number of boards and commissions, including the Governor's Commission on Sexual and Domestic Violence, the Massachusetts Antiterrorism Task Force, the Massachusetts Sentencing Commission, and the Advisory Board of the Massachusetts Sexual Assault Nurse Examiners (SANE) Program.

Prior to her career in prosecution, Ms. Williams was in private practice in Boston as a civil and criminal trial attorney. She is a graduate of Manhattanville College (B.A.), Simmons School of Library Science (M.L.S.), and Suffolk University Law School (J.D.), *cum laude*. She has served on the Board of Directors of the National Association of Prosecutor Coordinators, and is immediate past President of the Board of Directors of The Gifford School, a private non-profit school for children with learning, behavioral and emotional challenges in Weston, MA.

In her role at MDAA, Ms. Williams assisted the District Attorneys in their opposition to ballot questions in 2000 and 2008 which sought in effect to decriminalize the possession of certain quantities of drugs. With the Commonwealth Therapeutic Centers, she looks forward to participating in an enterprise whose mission is to bring medical relief to those who are suffering while adhering scrupulously to the requirements of Massachusetts law.

CURRICULUM VITAE**DATE PREPARED:** December 1, 2012**PART I: General Information****Name:** Joseph Felix Rizzo, III**Home Address** **Office Address:** Massachusetts Eye and Ear Infirmary
243 Charles Street
Boston, MA 02144**Phone:** (617) 573-3412**Email:** joseph_rizzo@meei.harvard.edu**Fax:** (617) 573-3851**Place of Birth:** **Education:**

1974 B.S. (Biology and Chemistry), Louisiana State University
1978 M.D. (Medicine), Louisiana State University, New Orleans, LA

Postdoctoral Training:

07/78-06/79 Intern in Adult Medicine, University of Southern California/Los Angeles
County Hospital
07/79-06/82 Resident in Neurology, Tufts/New England Medical Center
07/82-06/85 Resident in Ophthalmology, Boston University School of Medicine
07/85-06/86 Clinical Fellow, Neuro-Ophthalmology, Massachusetts Eye and Ear
Infirmary/Harvard Medical School (Mentor: Simmons Lessell, M.D.)
07/86-06/01 Laboratory of Richard Masland, Ph.D., Massachusetts General Hospital

Licensure and Certification:

1979 Massachusetts Medical License
1984 Board-Certified, American Board of Psychiatry and Neurology
1987 Board-Certified, American Board of Ophthalmology

Academic Appointments:

- 1986-1988 Instructor in Ophthalmology, Harvard Medical School, Boston, MA
- 1986-1990 Clinical Research Affiliate, Massachusetts Institute of Technology, Cambridge, MA
- 1989-1998 Assistant Professor of Ophthalmology, Harvard Medical School, Boston, MA
- 1990- Research Affiliate, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA
- 1998-2010 Associate Professor of Ophthalmology, Harvard Medical School, Boston, MA
- 2010- Professor of Ophthalmology, Harvard Medical School, Boston, MA
- 2011- David G. Cogan Professor of Ophthalmology in the Field of Neuro-Ophthalmology

Hospital or Affiliated Institution Appointments:

- 01/86-12/86 Assistant in Ophthalmology, Associate Staff, Massachusetts Eye and Ear Infirmary, Boston, MA
- 01/87-12/97 Assistant in Ophthalmology, Active Staff, Massachusetts Eye and Ear Infirmary, Boston, MA
- 01/98- Associate Surgeon, Massachusetts Eye and Ear Infirmary and the Massachusetts General Hospital, Boston, MA
- 09/01- Staff Ophthalmologist, Veterans Administration Hospital, Jamaica Plain, Boston, MA
- 06/03- Clinical Associate: Surgery Service/Ophthalmology, Massachusetts General Hospital, Boston, MA

Other Professional Positions and Major Visiting Appointments:

- 1994-1997 Quarterly Visiting Physician, Rhode Island Hospital, Department of Ophthalmology
- 2010- Scientific Consultant, NASA

Hospital and Health Care Organization Clinical Service Responsibilities:

- 1986- Staff Attending, Ophthalmology, Massachusetts Eye and Ear Infirmary

Major Administrative Responsibilities:

- 2001- 2011 Director, Center of Innovative Visual Rehabilitation, Veterans

- Administration Hospital, Jamaica Plain, Boston
2006- Director, Neuro-Ophthalmology Service, Massachusetts Eye and Ear
Infirmery
2010- Director of Alumni, Massachusetts Eye and Ear Infirmery

Major Committee Assignments:**Affiliated Institution**

- 1989-2008 Fellowship Committee, Massachusetts Eye and Ear Infirmery
1990- Medical Records Committee [Chairperson], Massachusetts Eye and Ear
Infirmery
1991-2010 Patent Committee, Massachusetts Eye and Ear Infirmery
1992- Residency Selection Committee, Massachusetts Eye and Ear Infirmery
1997-2001 Joint Governing Committee, Schepens-Massachusetts Eye and Ear
Infirmery Study Unit
2006-2010 Strategic Planning Committee, Massachusetts Eye and Ear Infirmery

Professional Societies:

- 1980- Massachusetts Medical Society, Member
1984- American Academy of Neurology, Member
1985- American Academy of Ophthalmology, Member
1987- Association for Research in Vision and Ophthalmology, Member
1987- North American Neuro-Ophthalmic Society, Member
Scientific Program Committee, 1991-1996
Secretary, 1992-1994
Chairperson, Abstracts Subcommittee, 1992-1995
Certification and Accreditation Committee, 1993-1999
Education Committee, 1993-2006
Research Symposium Planning Committee, 1993-1995
Nominations Committee, 1993-2000
Fellowship Committee, 2004-
Frank B. Walsh Committee, 2004-2009
1987-1995 Frank Walsh Society, Member
1988- American Medical Association, Member
1988-1995 Massachusetts Society of Eye Physicians and Surgeons, Member
1991-2005 New England Ophthalmological Society, Member
2009- The Association for Research in Vision and Ophthalmology, Fellow

Community Service Related to Professional Work:

- 1993-1994 Member, Medical Advisory Board Member Registry of Motor Vehicles,
Commonwealth of Massachusetts
1994- Member, Medical Advisory Board Myasthenia Gravis Foundation,
Massachusetts Chapter

Editorial Boards:

- 2003-2004 Ad-Hoc Editorial Board Member, Investigative Ophthalmology and Visual Science
- 2004- Editorial Board Member, Investigative Ophthalmology and Visual Science
- 2007- Editorial Board Member, The Journal of Ocular Biology, Diseases, and Informatics
- 2010- Associate Editor, Investigative Ophthalmology and Visual Science.

Awards and Honors:

- 1972 Phi Beta Sigma, Honor Society, Louisiana State University
- 1975 Phi Kappa Phi, Honor Society, Louisiana State University
- 1976 Ciba Award (presented to the person contributing the most to the medical school class), Louisiana State University School of Medicine
- 1978 Dean's Award for "Overall Excellence", Louisiana State University School of Medicine
- 1995 Special Award , Xth Congress European Society of Ophthalmology, Milan, Italy
- 2004 Bartemeus Award (for leadership within the field of retinal prosthetics), Detroit Institute of Ophthalmology
- 2007 Senior Achievement Award, American Academy of Ophthalmology
- 2009 ARVO Fellow, The Association for Research in Vision and Ophthalmology

Part II: Research, Teaching, and Clinical Contributions**A. Narrative report of Research, Teaching, and Clinical Contributions**

I am a Neuro-Ophthalmologist and a physician scientist, and I direct a research project to develop a retinal prosthesis to restore vision to the blind. My professional time is nearly equally divided between clinical work and research, with additional time allocations for teaching (10%) and administrative responsibilities (5%). An overview of my areas of primary focus is provided below.

Research

My research is dedicated toward either studying the mechanisms of visual loss, improving our diagnostic methods for blinding diseases, or developing new treatments for blinding diseases.

Basic Science and Translational Research. I founded the Boston Retinal Implant Project

(BRIP) in the late 1980s, and I have since served as co-director of the Project. The BRIP is a multi-disciplinary research initiative that is based at the Massachusetts Eye and Ear Infirmary, Massachusetts Institute of Technology and the Boston Veterans Administration Hospital. The goal of the BRIP is to develop a retinal prosthesis to offer a new therapeutic option for patients who have acquired blindness.

My primary roles on the Project have been to: 1) set the strategic direction of the Project; 2) perform administrative duties, including hiring and firing of research and administrative staff; 3) coordinate the biological initiatives with our team of engineers; and 4) develop in-vivo techniques related to development of a retinal prosthesis. Regarding the latter, my most recent interest is the development of a technological platform to study the neural code of vision, which I believe will help inform our approach to deliver electrical stimulation to blind patients to create visual images.

Clinical Research

My clinical research has focused primarily on the study of optic neuritis/multiple sclerosis, ischemic optic neuropathy, pseudotumor cerebri and giant cell arteritis. I have completed three significant clinical research studies that have influenced the diagnosis and treatment of optic neuritis and ischemic optic neuropathy, which are the two most common forms of non-glaucomatous optic neuropathy in adults. Some of my significant findings include: 1) recognition that all women and most men who experience optic neuritis eventually developed multiple sclerosis; 2) the demonstration of a significant overlap in the clinical profiles of optic neuritis and ischemic optic neuropathy; and 3) the recognition that magnetic resonance imaging (MRI) provides the most objective method to distinguish between these two disorders. The improved diagnostic accuracy obtained by MRI reduces the potential that patients with ischemic optic neuropathy might be unnecessarily treated as if they had multiple sclerosis. My work also included the first observation of optic neuropathy in Familial Dysautonomia, and occult large vessel occlusive disease of the retina and choroid as a cause for persistent monocular visual loss.

Teaching

I share responsibility for supervision and teaching of one clinical fellow and eight residents per year in the basic evaluation and management of Neuro-Ophthalmic disorders. I provide one-on-one instruction to residents, fellows and medical students on the Neuro-Ophthalmology rotation, and I deliver approximately 35 lectures per year on a wide range of clinical problems. As director of the Neuro-Ophthalmology service, I also design and provide oversight for our fellowship training program. For the past 17 years, I have served as Director of the Neuro-Ophthalmology section of the Lancaster course in Ophthalmology, which is the oldest and largest educational course that is designed for residents-in-training.

Clinical Care

I deliver medical care to patients only at the Massachusetts Eye and Ear Infirmary, where I practice as one of three full-time Neuro-Ophthalmologists. I evaluate roughly 40% of all patients referred to our service. My practice is primarily one of diagnostic consultation for a wide range of visual disturbances that result from damage to the eye or brain.

Intersection Among Professional Activities

My goal in becoming a physician-scientist has been to deliver high quality care to individual patients while performing research to hopefully help a much larger number of patients than I would ever meet. My interactions with severely blind patients led me to establish my research project to develop a retinal prosthesis. The scientific knowledge that I gain from my basic/ translational research has helped to improve my ability to understand the problems that affect my patients.

B. Funding Information

- 1986-1991 Physician Scientist Award, National Eye Institute, National Institutes of Health, Title: "Identification of Sub-Populations of Human Retinal Ganglion Cells"
- 1988- Principal Investigator, Lion's Club (yearly application, with continuous funding), Title: "Development of a Silicon Retinal Implant to Restore Some Vision to Blind Patients"
- 1990-1996 Co-Principal Investigator, Seaver Foundation, Title: "Development of a Silicon Retinal Implant to Restore Some Vision to Blind Patients"
- 1991-1992 Principal Investigator, The E. Matilda Ziegler Foundation for the Blind, Inc., Title: "Development of a Silicon Retinal Implant to Restore Some Vision to Blind Patients"
- 1991-1996 Consultant, National Institute on Aging, P01-AG09976, Title: "Sleep, Aging and Circadian Rhythm Disorders"
- 1994-1996 Principal Investigator, Joseph Drown Foundation, Title: "Development of a Silicon Retinal Implant to Restore Some Vision to Blind Patients"
- 1994-1999 Collaborator, National Institutes of Health, Title: "The Role of Human Visual Cortex in Perception"
- 1996-1997 Principal Investigator, Grousbeck Foundation, Title: "Development of a Silicon Retinal Implant to Restore Some Vision to Blind Patients"
- 1997-2001 Co-Principal Investigator, Catalyst Foundation, New York, Title: "Retinal Implant Chip for the Blind"
- 1997-2001 Co-Principal Investigator, Keck Foundation, Title: "Development of a Silicon Retinal Implant to Restore Vision to the Blind"
- 2000-2001 Principal Investigator, Wynn Foundation, Title: "Retinal Electrical Stimulation of Patients with RP"
- 2000-2003 P.I., Foundation Fighting Blindness, Grant #: T-VP-1000-69, Title: "In Vitro Electrical Stimulation of Retinas"
- 2000-2005 Co-Principal Investigator, National Institute of Health, Sub-Contract with Second Sight, Title: "Development/Testing of Artificial Retinas for the Blind"
- 2001-2006 Principal Investigator, Veterans Administration, Title: "Center of Excellence Project to Support the Center for Innovative Visual Rehabilitation"
- 2002-2003 Principal Investigator, Veterans Administration, Equipment grant to support development of a retinal prosthesis
- 2002-2004 Principal Investigator, Veterans Administration, Title: "High Density

- 2003-2007 Feedthroughs for Implantable Prosthesis Packages"
Supervisor/Investigator, Catalyst Foundation, Title: "Second Generation Retinal Implant for the Blind"
- 2004-2006 Principal Investigator, Veterans Administration, Title: "Development of a Biocompatible Retinal Prosthesis"
- 2005-2007 Principal Investigator, Defense Applied Research Program Agency (DARPA), NEOVISION Program, Title: "Study of the Interface between the Retina and a Custom Designed Stimulator Chip"
- 2005-2008 Principal Investigator, National Science Foundation, Title: "Development of a Technological Platform to Study the Neural Code of Vision"
- 2006-2011 Principal Investigator, Veterans Administration, Title: "Center of Excellence" grant (second cycle of funding) to support the "Center for Innovative Visual Rehabilitation"
- 2007-2008 Principal Investigator, TATRC: United States Army Medical Research and Material Command, Title: "Development of a Modular, Configurable Retinal Prosthesis"
- 2007-2008 Sub-Contractor (P.I.), National Institutes of Health (SBIR Grant), Title: "Functionalized Coatings for Enhanced Neural Interfaces"
- 2007-2009 Principal Investigator, Department of Defense, Title: "Optimization of Microelectronic Methods to Produce an Implantable Retinal Prosthesis to Treat Blindness"
- 2009-2010 Sub-Contract P.I., N.I.H., ARRA Advanced Engineering Development of a Chronic Retinal Implant
- 2010-2011 Principal Investigator, U.S. Department of Veterans Affairs, Title: "Objective Diagnosis of Mild Blast-Induced TBI".
- 2010-2013 Principal Investigator, U.S. Department of Veterans Affairs, Title: "Use of Penetrating Electrodes in the Boston Retinal Prosthesis."
- 2011-2013 Principal Investigator, Cures for Kids, Title: "Development of an Advanced "Smart Glasses" Prototype to Provide Navigation Assistance for Blind Children."

C. Report of Other (Non-Funded) Activities

- P.I. Incidence of Polycystic Ovarian Syndrome and Idiopathic Intracranial Hypertension
- P.I. Screening of a Battery of Tests to Identify Better Means of Assessing Vision in Severely Blind Patients
- P.I. Observational Study of Neoplastic Infiltrative Optic Neuropathy
- P.I. fMRI Study of Visual Cortical Plasticity in Patients Who Are Blind from Retinitis Pigmentosa and Age-Related Macular Degeneration
- P.I. "Anatomical Study of the Anatomy of the Carotid Siphon Using Three-Dimensional Magnetic Resonance Angiography."
- P.I. "Study of the Use of Optical Coherence Tomography to Study the Anatomy of Edematous Optic Nerve Heads."

Collaborator National Institutes of Health, Grant Awarded to NORDIC: Prospective



Study of Idiopathic Intracranial Hypertension.
 Collaborator Pfizer Incorporated. Prospective Study of Blindness Associated with the
 Use of PDE-5 Inhibitor Drugs.

D. Report of Teaching

1. Local Contributions

a. Medical School Courses

1990- 1991	<u>Course in Human Nervous System and Behavior - New Pathway Curriculum</u>			
	Tutor	10 Medical Students	<i>contact time</i> 2 hours/week for 5 week(s)	<i>prep time</i> 1 hours/week for 5 week(s)
1990- 1991	<u>Neurobiology Lecture, "The Retinal Anatomical Basis of Afferent Visual Function"</u>			
	Lecturer	50 Medical Students	<i>contact time</i> 2 hours/year for 1 year(s)	<i>prep time</i> 1 hours/year for 1 year(s)
1992- 2009	<u>Introduction to Neuroscience; Health Sciences and Technology</u>			
	Lecturer	40 Medical Students	<i>contact time</i> 2 hours/year for 1 year(s)	<i>prep time</i> none reported

b. Graduate Medical Courses

1986-	<u>Neuro-Ophthalmology Lecture Series; Massachusetts Eye and Ear Infirmary</u>			
	Lecturer	10 Residents 10 Other Students	<i>contact time</i> 6 hours/year for 15 year(s)	<i>prep time</i> 6 hours/year for 15 year(s)
1989	<u>Schepens Eye Research Institute, "Neuro-Ophthalmological Aspects of Retinal Disease"</u>			
1989- 2002	<u>Neuro-Ophthalmology section Harvard-Post Graduate Review course for Ophthalmologists, Harvard Medical School</u>			
	Lecturer	75 Graduate Students	<i>contact time</i> 4 hours/year for 15 year(s)	<i>prep time</i> 6 hours/year for 15 year(s)
1991-	<u>Lancaster Course in Ophthalmology: Neuro-Ophthalmology Section, Waterville, ME</u>			
	Lecturer	65 Residents	<i>contact time</i> 15 hours/year	<i>prep time</i> 10 hours/year

for 16 year(s)

for 16 year(s)

1992 Emergency Lecture Series: "Neuro-Ophthalmic Complications of Ocular Trauma"

c. Local Invited Presentations

Annual Invited Lecturer

1995-"Ocular Myasthenia", Myasthenia Gravis Support Group of Massachusetts

2001-"Neuro-Ophthalmic Manifestations of Chiasmal Disease", Neuro-Endocrinology
2008 Service, Massachusetts General Hospital

Commencement Speaker

1999 Commencement Address: Resident and Fellowship Graduation Ceremony,
Massachusetts Eye and Ear Infirmary

Grand Rounds

1986 "Optic Neuritis and Multiple Sclerosis", Department of Neurology, Beth Israel
Deaconess Medical Center, Boston

1986 "Transient Monocular Blindness", Department of Neurology, Saint Elizabeth's
Hospital, Brighton

1986 "Optic Neuritis and Multiple Sclerosis", Department of Ophthalmology, Boston
University School of Medicine, Boston

1986-Ophthalmology Grand Rounds, Department of Ophthalmology, Massachusetts Eye
1996 and Ear Infirmary, Boston

1987 "Optic Neuritis and Multiple Sclerosis", Department of Ophthalmology, Tufts/New
England Medical Center, Boston

1987 "Clinical Aspects of Afferent Pathway Disease", Department of Ophthalmology,
Boston University School of Medicine, Boston

1987 "Risk of Developing Multiple Sclerosis after Optic Neuritis", Department of
Neurology, Massachusetts General Hospital, Boston

1988 "Optic Neuritis and Multiple Sclerosis", Department of Neurology, Brigham and
Women's/Beth Israel Hospital, Boston

- 1989 "Optic Neuritis and Multiple Sclerosis", Department of Ophthalmology, Tufts/New England Medical Center, Boston
- 1990 "Clinical Aspects of Afferent Pathway Disease", Department of Ophthalmology, Tufts/New England Medical Center, Boston
- 1992 "Diagnosis and Management of Optic Neuritis", Department of Ophthalmology, Children's Hospital, Boston
- 1993 "Clinical Vignettes that Reveal Aspects of Neuronal Behavior", Department of Neurology, Massachusetts General Hospital, Boston
- 1993 "Clinical Vignettes that Reveal Aspects of Neuronal Behavior", Department of Ophthalmology, Lahey Clinical Medical Center, Burlington, MA
- 1994 "ATP Deficiency Optic Neuropathy", Department of Ophthalmology, Tufts/New England Medical Center, Boston
- 1996 "New Treatment and Concepts of Transient Monocular Blindness", Department of Neurology, Tufts/New England Medical Center, Boston
- 1999 "Development of a Silicon Retinal Prosthesis", Department of Neurosurgery, Massachusetts General Hospital, Boston
- 2000 "Development of a Silicon Retinal Prosthesis", Department of Neurology, Massachusetts General Hospital, Boston
- 2002 "Neuro-Ophthalmic Manifestations of Myasthenia Gravis", Department of Neurology, Tufts/New England Medical Center, Boston
- 2005 "Ophthalmic Aspects of Giant Cell Arteritis", Department of Rheumatology, Boston University School of Medicine, Boston
- 2011 "The Boston Retinal Implant Project: Status and Competitive Landscape," Massachusetts Eye and Ear Infirmary, Boston
- 2011 "The VA-Based Program on Retinal Prosthetics: Our Progress and a Status Report on this Field of Research," Department of Veterans Affairs, Veterans Hospital, Jamaica Plain

Invited Lecturer

1991-"Retro-Chiasmal Syndromes", New England College of Optometry
1995

1996 "Overlapping Clinical Features of Retinal and Optic Nerve Disease" and "Retinal

Basis for Visual Function", Tufts/Boston University Combined Resident Lecture Series

1997 "Management of Temporal Arteritis", Division of Ophthalmology, North Shore Medical Center

1997 Vision Rehabilitation Service, Massachusetts Eye and Ear Infirmary

1997 "Clinical Overview of the Ocular Motor System", Tufts/Boston University Combined Resident Lecture Series

2005 "The Use of Modern Technology to Restore Vision to the Blind", Boston Museum of Science

2006 "Development of a Retinal Prosthesis to Restore Vision to the Blind: The Changing Landscape of Military Ophthalmology", Schepens Eye Research Institute, Boston

Research Presentation

1991 "Retinal Transplantation", Department of Anatomy and Neurobiology, Boston University Graduate Seminar series, Boston

1993 "Development of a Silicon Retinal Prosthesis", Massachusetts Institute of Technology Colloquium

2002 Center for Innovative, Minimally Invasive Technology, "Development of a Retinal Prosthesis", Massachusetts General Hospital

2004 "Puzzling, Retrospective Perceptual Results from Electrical Stimulation of Human Retina", Department of Anatomy and Neurobiology, Boston University School of Medicine, Boston

2008 "Development of a Retinal Prosthesis," Lion's Club

2009 Development of a Retinal Prosthesis, Boston University, Department of Biomedical Engineering.

Seminar

1990 "Paraneoplastic Retinopathy", Schepens Eye Research Institute

1991 "Optic Neuropathies Masquerading as Retinopathy", Schepens Eye Research Institute, Boston

- 1995 "Management of Temporal Arteritis", Springfield Ophthalmology Association, Springfield, MA
- 2001 "Development of a Retinal Prosthesis" in "The Biology of Ophthalmic Diseases", NEI Postdoctoral Training Program, Massachusetts Eye and Ear Infirmary and the Schepens Eye Research Institute, Boston, MA
- 2007 1st Harvard - wide Neural Prosthesis Seminar, Harvard Medical School
- 2008 "Ischemic Optic Neuropathy", Tufts Medical School
- 2009 Myasthenia Gravis, New England Ophthalmologic Society
- 2010 Clinical, Assessment, and Intervention Updates in Neurorehabilitation, The Inn at Longwood, Boston
- 2011 Research and Clinical Advisory Panel (RCAP) for NASA's Visual Impairment/Intracranial Pressure (VIIP) Risk, Houston, TX
- 2012

d. Continuing Medical Education Courses

- 1987 New England Ophthalmological Society, "Optic Neuritis and Multiple Sclerosis"
- 1989- Neuro-Ophthalmology Fall Festival (bi-annual; 8 events in total)
- 1989 Symposium on Head Trauma, Spaulding Rehabilitation Hospital, Boston. "Neuro-Ophthalmic Manifestations of Closed Head Injury"
- 1989- Neuro-Ophthalmology Section (for Ophthalmologists); Harvard Post-Graduate
- 2002 Review Course in Ophthalmology
- 1990 New England Ophthalmological Society, "Partial Central Retinal Artery Occlusion"
- 1991 Course in Acute Neurology and Stroke Management, sponsored by St. Elizabeth's Hospital, Brighton, MA
- 1991 American Academy of Ophthalmology, "Traumatic Optic Neuropathy", Update Course
- 1992 New England Council of Optometrists, Regional meeting. "Clinical Overview of the Afferent Visual System"
- 1992 Practicing Ophthalmology for Primary Care Physicians, Massachusetts Eye and Ear Infirmary. "Migraine"

- 1993 New England Ophthalmological Society, "Visual Function in Alzheimer's Disease"
- 1996 New England Ophthalmological Society, "Diagnosis and Management of Temporal Arteritis"
- 1997 Clinical Update Course in Ophthalmology: "Results of the Optic Neuritis Treatment Trial" and "Paraneoplastic Retinopathy"
- 1997 New England Optometric Society, Annual Regional Meeting. "Clinical Aspects of Optic Nerve Disease"
- 2000 "New Treatments for Neo-Vascular Age-Related Macular Degeneration", sponsored by Harvard Medical School
- 2001 New England Council of Optometrists, Regional Meeting. "Retinal and Cortical Visual Field Defects in a Young Woman"
- 2001 New England Council of Optometrists, Regional Meeting. "Development of a Retinal Prosthesis"
- 2002 New England Ophthalmological Society. "Sneeze Induced Neuro-Ophthalmic Complications"
- 2003 New England Ophthalmological Society. "Ischemic Optic Neuropathy"
- 2004 New England Ophthalmological Society. "Traumatic Optic Neuropathy"
- 2005 Director, Kevin Hill Seminar in Ophthalmology on Neuro-Ophthalmology; 5 Lectures
- 2005 New England Ophthalmological Society's 18th Annual Meeting for Ophthalmic Medical Personnel. "Common Forms of Optic Neuropathies"
- 2005 New England Ophthalmological Society. "Pediatric Nystagmus"
- 2006 Chandler Visiting Lecture; Academic Organizer
- 2007 Alumni Meeting, Department of Ophthalmology, Massachusetts Eye and Ear Infirmary; Course Co-Director
- 2008- Illinois Eye Review (annual course): Overview of Clinical Neuro-Ophthalmology
- 2010 New England Ophthalmological Society. "Giant Cell Arteritis."

2011 Principles and Practice of Clinical Research, International Distance-Learning Clinical Research Training Program. Harvard Medical School.

e. Advisory and Supervisory Responsibilities in Clinical or Laboratory Setting

- 1986- 19 Undergraduate and Graduate Students (10 Undergraduate; 9 Graduate) for 50 hrs/year, Responsibilities include: supervision of students either in our clinic or in my laboratory, reviewing theses, and jointly performing experiments. Harvard College, MIT, Boston University School of Medicine, University of New South Wales, Australia, UCLA, Brown University, Holy Cross, Louisiana State University
- 1986- 139 Ophthalmology Residents and Clinical Fellows for 250 hrs/year, Responsibilities include: supervision of 120 residents during their 3 month rotation and 19 fellows over their year-long appointment, supervise emergency room patients, teach, and perform lumbar punctures and temporal biopsies with the residents and , Massachusetts Eye and Ear Infirmary

f. Leadership Roles

- 1989-2002 Director, Neuro-Ophthalmology section Harvard-Post Graduate Review course for Ophthalmologists, Harvard Medical School
Responsibility: Preparation of lectures and hand-outs that summarize the fundamental clinical issues in the practice of neuro-ophthalmology for a six hour lecture session given once per year.
- 1991-1992 Member, Advanced Concepts in Visual Science Course Planning Committee, Massachusetts Eye and Ear Infirmary
Responsibility: Identify topics and lecturers in emerging fields relevant to visual science.
- 1993 Organizer and Moderator, New England Ophthalmic Society Symposium on Clinical Neuro-Ophthalmology, New England Ophthalmic Society
Responsibility: Selection of topics and choosing lecturers for a half-day symposium to approximately 200 ophthalmologists.
- 1995 Course Co-Director, "Biomedical Engineering Society, Annual Meeting", Boston, MA., Biomedical Engineering Society
Responsibility: Prepare a four hour symposium and select speakers to review the topic of visual prostheses.
- 2007- Trustee, Schepens Eye Research Institute, The Schepens Eye Research

Institute

Responsibility: To provide oversight of The Institute's research activities

- 2008- Symposium Chair, Massachusetts Eye and Ear Infirmary Annual Alumni Meeting, Massachusetts Eye and Ear Infirmary
Responsibility: Symposium Chair, 2008 Update on Ophthalmology

g. Advisees/Trainees

<i>Training Duration</i>	<i>Name</i>	<i>Current Position</i>
1991-1992	Nick Volpe, M.D.	Professor of Ophthalmology, University of Pennsylvania, Philadelphia, PA
1992-1993	Len Levin, M.D., Ph.D.	Professor of Ophthalmology, University of Wisconsin, Madison, WI
1994-1995	Misha Pless, M.D.	Associate Professor of Neurology, Massachusetts General Hospital, Boston, MA
1996-1997	Judith Warner, M.D.	Associate Professor of Ophthalmology, University of Utah School of Medicine, Salt Lake City, UH
1997-1998	Howard Pomeranz, M.D., Ph.D.	Professor of Neuro-Ophthalmology, Long Island Jewish Hospital, Hyde Park, NY
1999-2000	David Newman-Toker, MD, PhD	Assistant Professor of Neurology, Johns Hopkins University School of Medicine
2000-2001	Michael Lee, M.D.	Associate Professor, Department of Ophthalmology, University of Minnesota, Minneapolis, MN
2001-2002	Nathalie Collignon, MD, PhD	Associate Professor of Ophthalmology, University Hospital, University of Liege, Belgium
2002-2003	Dean Cestari, M.D.	Assistant Professor of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA
2003-2004	Jonathan Kim, M.D.	Associate Professor of Ophthalmology, Loma Linda University Medical Center, Loma Linda, CA
2004-2005	Susan Pepin, M.D.	Assistant Professor of Ophthalmology, Dartmouth Medical School, Hanover, NH
2006-2007	Marc Dinkin, M.D.	Assistant Professor of Neurology, Brigham and Women's Hospital, Boston, MA
2007-2008	Kenneth Chang, M.D., M.P.H.	Instructor in Ophthalmology, Harvard Medical School/Massachusetts Eye and Ear Infirmary
2008-2009	Ellen Brown-	Pediatric Ophthalmology Fellow, UPMC Eye



	Mitchell, M.D.	Center
2008-2009	Adam Cohen, M.D.	Assistant Professor of Neurology and Neuro- radiology, Massachusetts General Hospital
2009-2010	Gena Heidary, M.D., Ph.D.	Faculty, Children's Hospital Boston, Department of Ophthalmology, Harvard Medical School
2009-2010	Ming He, M.D.	J.F. Kennedy Rehabilitation Center, New Jersey
2010-2011	Rebecca Stacy, MD, PhD.	Faculty, Harvard Medical School/Massachusetts Eye and Ear
2010-2011	Ivy Thornton, MD	Neuro-Ophthalmology, Cleveland
2011-2012	Cristiano Oliveira MD,	Neuro-Ophthalmology, Weill-Cornell Medical Center
2011-2012	Joshua Kruger, MD,	Clinical Fellow, Harvard Medical/Massachusetts Eye and Ear

2. Regional, national, or international contributions

a. Invited Presentations

Regional

- 1987 "Optic Neuritis and Multiple Sclerosis", New England Ophthalmological Society [*Competitively Selected*]
- 1990 "Partial Central Retinal Artery Occlusion", New England Ophthalmological Society [*Competitively Selected*]
- 1991 "Traumatic Optic Neuropathy", American Academy of Ophthalmology; Regional Update Course [*Competitively Selected*]
- 1992 "Clinical Overlap of Optic Neuritis & Ischemic Optic Neuropathy", Rhode Island Society of Eye and Physicians and Surgeons, RI [*Invited Lecture*]
- 1992 Three lectures on clinical Neuro-Ophthalmological topics, Greater New York Ophthalmology Clinical Lecture Series, NY [*Invited Lecture*]
- 1992 "Occult Retinal and Choroidal Vascular Disease", Manhattan Eye, Ear and Throat Hospital, Department of Ophthalmology [*Grand Rounds*]
- 1993 "Occult Retinal & Choroidal Vascular Disease", Rhode Island Hospital, Providence, RI [*Ophthalmology Grand Rounds*]
- 1994 "Optic Neuritis Treatment Trial", Western Massachusetts Ophthalmological Society [*Invited Lecture*]
- 1994 "Variations on the Theme of Ischemic Optic Neuropathy", New York Hospital,

Cornell Medical Center, New York [*D. Jackson Coleman Visiting Professorship*]

- 1995 "Steps Toward the Development of a Retinal Prosthesis", Biomedical Engineering Society, Annual Meeting, Boston, MA [*Invited Lecturer*]
- 1997 "Transient Monocular Blindness: New Concepts and Therapy", Department of Neurology, Brown University Medical Center, Providence, RI [*Neurology Grand Rounds*]
- 1999 "Italian-American Biomedical Exchange Symposium", Boston University, Boston, Massachusetts [*Guest Lecturer*]
- 2006 "The Relevance of Neuroscience for the Development of a Retinal Prosthesis to Restore Vision to the Blind", Boston Society of Neurology and Psychiatry, 2006 [*Invited Lecturer*]
- 2006 "Development of a Retinal Prosthesis to Restore Vision to the Blind", Advanced Technologies in the Neurosciences, sponsored by Dartmouth Medical School and CIMIT, Hanover, NH [*Invited Lecture*]
- 2009 Higher Cortical Visual Impairment, Georgetown University [*Invited Lecture*]
- 2011 Harnes Lecturer in Ophthalmology. Dartmouth Medical School, Dartmouth-Hitchcock Medical Center.
- 2011 Guest Speaker, Boston College Colloquium Series, Departments of Biology and Physics.
- 2011 Speaker, "Development of the Boston Retinal Prosthesis", 33rd Annual International IEEE EMBS Conference August 30 - September 3, 2011, Boston Marriott Copley Place, Boston, MA
- 2012 "Neuro-Ophthalmic Potpourri: The clinical approach to afferent and efferent disease in the pediatric population". Pediatric Grand Rounds, Baystate Medical Center, Springfield MA

National

- 1986 "Optic Neuritis and the Risk of Developing Multiple Sclerosis", North American Neuro-Ophthalmic Society [*Competitively Selected*]
- 1986 "A Progressive Neurologic Syndrome Following Immunization", Frank Walsh Neuro-Ophthalmic Society [*Competitively Selected*]
- 1987 "Multiple Sclerosis Following Idiopathic Optic Neuritis", American Academy of Neurology [*Competitively Selected*]

- 1987 "Optic Neuritis and Multiple Sclerosis", University of Iowa, Iowa City,
IA[*Ophthalmology Grand Rounds*]
- 1987 "Ophthalmoplegia with Congenital Hypotonia", Frank Walsh Neuro-Ophthalmic
Society[*Competitively Selected*]
- 1988 "Clinical Aspects of Retinal Ganglion Cell Function", North American Neuro-
ophthalmic Society[*Invited Lecture*]
- 1988 Neuro-Ophthalmology mini-symposium, "Clinical Applications of Optic Nerve
Blood Flow Studies", Association for Research in Vision and
Ophthalmology[*Invited Lecture*]
- 1988 "How Do We See? Retinal Anatomy Underlying Afferent Visual Function",
Louisiana State University School of Medicine, New Orleans, LA[*Ophthalmology
Grand Rounds*]
- 1989 "Measurement of Optic Nerve Blood Velocity as a Function of Age in Normal
Subjects", North American Neuro-ophthalmic Society[*Competitively Selected*]
- 1990 "Lymphoma Affecting the Neuro-Ophthalmic Pathways", North American Neuro-
Ophthalmology Society[*Invited Lecture*]
- 1990 "Paraneoplastic Retinopathy", Frank Walsh Society[*Competitively Selected*]
- 1990 "Optic Neuritis and Ischemic Optic Neuropathy", Neuro-Ophthalmology
Conference; University Hospital, Washington, D.C.[*Invited Lecture*]
- 1991 "Acromegaly with Visual Loss", Frank Walsh Society[*Competitively Selected*]
- 1991 "Unconscious Sight Regulating Circadian Rhythms in a Blind Patient", Los
Angeles Neuro-Ophthalmology Society, Los Angeles, CA[*Visiting Lecturer*]
- 1991 "Anatomical and Physiological Basis of Afferent Visual Function", North
American Neuro-ophthalmology Society[*Seminar*]
- 1992 "ATP Deficiency; A genre of optic neuropathy", North American Neuro-
Ophthalmology Society[*Competitively Selected*]
- 1992 "ATP Deficiency: A genre of optic neuropathy", University of Pennsylvania,
Philadelphia, PA[*Neurology Grand Rounds*]
- 1992 Three clinical lectures, Pacific Medical Center, San Francisco, CA[*Ophthalmology
Grand Rounds*]
- 1993 "Development of a Silicon Retinal Implant to Restore Some Vision to Blind
Patients", Department of Ophthalmology, University of Chicago, Chicago, IL[*Guest*]

Lecturer]

- 1993 "Development of a Retinal Prosthesis", Louisiana State University Medical Center, New Orleans, LA [*Ophthalmology Grand Rounds*]
- 1993 "Development of a Retinal Prosthesis", Department of Ophthalmology, Mayo Clinic, Rochester, MN [*Visiting Professor*]
- 1993 "Varying the Intensity of Stimulus Light for Detection of Afferent Pupil Defects", North American Neuro-ophthalmology Society [*Competitively Selected*]
- 1993 "Management of Optic Neuritis", American Academy of Ophthalmology [*Competitively Selected*]
- 1993 "Overview of Afferent Visual Function", Southern College of Optometry, Memphis, TN [*Visiting Lecturer*]
- 1993 Case presentations and one clinical lecture, Oregon State Society of Ophthalmology, Portland, Oregon [*Annual Guest Lecturer*]
- 1993 "Development of a Retinal Prosthesis", FASEB Conference, Copper Mountain, CO [*Invited Lecture*]
- 1994 "Pathological Cupping of the Optic Nerve Head", Jules Stein Eye Institute [*Visiting Professor*]
- 1994 "Steps Toward the Development of a Retinal Prosthesis", Nashville Ophthalmological Society, Nashville, TN [*Guest Lecturer*]
- 1994 "Development of a Silicon Retinal Implant to Restore Some Vision to Blind Patients", Salk Institute, La Jolla, CA [*Invited Lecture*]
- 1994 "Overlapping Clinical Profiles of Retinal and Optic Nerve Disease", Departments of Ophthalmology and Neurology, Vanderbilt University [*Visiting Professor*]
- 1994 "Development of a Retinal Prosthesis", Department of Ophthalmology, Willis-Knighton Hospital, Shreveport, LA [*Visiting Professor*]
- 1994 "Subconscious Sight Regulating Circadian Rhythms in Several Blind Patients", North American Neuro-Ophthalmology Society [*Competitively Selected*]
- 1994 "Development of a Retinal Prosthesis", Defense Science Research Council, La Jolla, CA [*Invited Lecture*]
- 1994 "Implications of the Optic Neuritis Treatment Trial", Rhode Island Hospital [*Ophthalmology Grand Rounds*]

- 1994 "Application of Human Photoreceptor, Retinal Ganglion Cell and Occipital Cortical Density Data to Visual Field Analysis", North American Neuro-Ophthalmology Society, Tuscon, AZ[*Competitively Selected*]
- 1994 "Development of a Silicon Retinal Implant to Restore Some Vision to Blind Patients", California Institute of Technology, Pasedena, CA[*Invited Lecture*]
- 1994 "Development of a Retinal Prosthesis", University of Southwestern Louisiana, Lafayette, LA[*Plenary Lecturer, 37th Midwest Symposium on Circuits and Systems*]
- 1994 Five lectures on clinical Neuro-Ophthalmology, Los Angeles Ophthalmological Research Club, Los Angeles, CA[*Visiting Professor*]
- 1994 "Development of a Retinal Prosthesis", Smith-Ketterwell Institute, San Francisco, CA[*Invited Lecture*]
- 1994 One Clinical Lecture, Pittsburg Ophthalmological Society[*Visiting Lecturer*]
- 1994 "Compressive Optic Neuropathies", Department of Ophthalmology, National Naval Medical Center, Bethesda, MD[*Visiting Professor*]
- 1994 "Histopathology of an Adult Onset Optic Neuropathy", Frank Walsh Neuro-Ophthalmology Meeting, Washington, D.C.[*Competitively Selected*]
- 1995 "Vision Without Perception", American Academy of Ophthalmology, Atlanta, GA[*Seminar*]
- 1995 Four clinical lectures, Department of Ophthalmology, Cleveland Clinic[*Visiting Professor*]
- 1995 "Steps Toward the Development of a Retinal Prosthesis", Science Writers Convention, Orlando, Florida, sponsored by Research to Prevent Blindness[*Guest Lecturer*]
- 1995 One clinical and one basic science lecture, University of New Jersey Medical and Dental Health Science Center[*Visiting Professor*]
- 1995 "Disorders of Ocular Motility" (3 hours), New York City Resident Lecture Series[*Guest Lecturer*]
- 1995 "Childhood Optic Neuritis", Manhattan Eye and Ear Infirmary, Manhattan, NY[*Pediatric Ophthalmology Grand Rounds*]
- 1995 "Steps Toward the Development of a Retinal Prosthesis", NASA-Goddard Space Center, Maryland[*Invited Lecturer*]
- 1995-Two hours each of case presentations by residents and clinical lectures,

- 1997 Ophthalmology Department, Brown University, Providence, RI [*Quarterly Visiting Professor*]
- 1995-Five lectures per year of clinical neuro-ophthalmological topics, Stanford
1998 University-sponsored training course for Ophthalmology residents-in-training, Palo Alto, CA [*Invited Lecturer*]
- 1996 "Development of a Retinal Implant", 2nd Annual RESNA Engineering Research Symposium, Salt Lake City [*Invited Lecturer*]
- 1996 Clinical lecture, Department of Ophthalmology, University of Missouri, Columbia, MO [*Visiting Professor*]
- 1996 "Steps Toward Development of a Retinal Prosthesis" and 3 hours of case discussions, University of Michigan Ophthalmology Grand Rounds [*Visiting Professor*]
- 1996 Clinical Lecturer, Walter Reed Army Hospital Biennial Ophthalmology Symposium [*Visiting Professor*]
- 1996 Clinical lecture, Long Island Jewish Hospital/Northshore Hospital Long Island, NY [*Visiting Lecturer*]
- 1996 "New Concepts of Transient Monocular Blindness", Scheie Eye Institute, University of Pennsylvania [*Ophthalmology Grand Rounds*]
- 1996 Delivered both Ophthalmology and Neurology Grand Rounds, Department of Neurology, University of Mississippi, Jackson, Mississippi [*Visiting Professor*]
- 1997 Clinical Lecture, Great Lakes Symposium of VLSI circuits and design, Lafayette, Louisiana [*Invited Plenary Lecturer*]
- 1998 Presentation in Symposium of Retinal Prostheses, sponsored by "Vision Research", Fort Lauderdale, Florida [*Invited Lecture*]
- 1999 "Development of a Silicon Retinal Prosthesis", Cornell Medical Center Grand Rounds [*Visiting Professor*]
- 1999 Regional Biomedical Symposium, University of Southwestern Louisiana, Department of Engineering [*Guest Lecturer*]
- 2000 "Development of a Silicon Retinal Prosthesis", MACULA 2000/ Atlantic Coast Retinal Meeting [*Guest Lecturer*]
- 2000 Clinical Lecture, Inauguration, Mann Institute of Biomedical Engineering, University of Southern California, Los Angel [*Invited Lecturer*]



- 2000 "Development of a Retinal Prosthesis", National Medical Association, Washington, D.C.[*Invited Lecturer*]
- 2001 "Giant Cell Arteritis", American Academy of Ophthalmology, Sponsored by the North American Neuro-Ophthalmology Society, Dallas[*Competitively Selected*]
- 2002 "Retinal Prosthesis: The Boston School", Retina Mini-Symposium, American Academy of Ophthalmology meeting[*Invited Lecturer*]
- 2002 "Differential Diagnosis of Optic Neuropathy", American Academy of Ophthalmology, Sponsored by the North American Neuro-Ophthalmology Society, Fort[*Competitively Selected*]
- 2002 "Engineering and Clinical Challenges of Developing a Retinal Prosthesis", Foundation Fighting Blindness, Chicago, IL[*Invited Lecture*]
- 2003 "Retinal Prosthesis: Unexpectedly Small Percepts Evoked in Human Testing", Research Conference sponsored by the Department of Ophthalmology, Stanford University[*Invited Lecture*]
- 2003 "International Conference on Restoration of Neural Function", Veterans Administration, Asilmar, CA[*Invited Lecture*]
- 2003 "Development of a Retinal Prosthesis", John F. Kennedy Rehabilitation Hospital, New Jersey, Department of Neurology[*Invited Lecturer*]
- 2003 "Development of a Retinal Prosthesis", Case Western Reserve University[*Purnell Visiting Professor*]
- 2004 Lecture , The Institute of Ophthalmology and Visual Science, New Jersey Medical School[*Invited Lecturer*]
- 2004 "Regulatory Considerations in the Development of a Retinal Prosthesis", Federal Food and Drug Administration, Center for Drug Evaluation and Research[*Invited Speaker*]
- 2004 "Development of a Retinal Prosthesis", Long Island Jewish Hospital[*Invited Lecture*]
- 2004 Lecture, Chicago Ophthalmological Society[*Invited Lecture*]
- 2004 Lecture, Federation of American Societies for Experimental Biology, Saxtons River, Vermont[*Invited Speaker*]
- 2004 Lecture, New Jersey Institute of Technology, Newark, NJ[*Invited Lecturer*]
- 2005 "The Visual Potential of a Retinal Prosthesis", American College of Eye Surgeons, Fort Lauderdale, FL[*Invited Lecturer*]

- 2005 "Challenges in the Development of a Retinal Prosthesis", Symposium on the "Integration of New Technologies for the Care of Retinal Disease", Aspen, CO [*Invited Lecturer*]
- 2005 "Technologies Related to Development of a Retinal Prosthesis", Dual Sensory Disability Conference, sponsored by the Department of Veterans Affairs, Portland, OR [*Invited Lecturer*]
- 2005 Lecture, White House Conference on "Emerging Technologies in Support of the New Freedom Initiative", Department of Veterans Affairs [*Invited Lecturer*]
- 2005 "The Process of Discovery" Lecture Series, Cleveland Clinic - Case Western Medical School, Cleveland, OH [*Invited Lecturer*]
- 2006 "Replacement and Rescue", Symposium Meeting at the John A. Moran Eye Center, University of Utah School of Medicine [*Invited Lecturer*]
- 2006 "Development of a Retinal Prosthesis", Neuroscience Institute, Medical University of South Carolina, Charleston, SC [*Invited Professor: Neuroscience Grand Rounds*]
- 2006 Neuro-Ophthalmology, 2005-2006 Greater New York Ophthalmology Clinical Lecture Series [*Invited Lecturer*]
- 2006 "A Retinal Prosthesis as a Potential Treatment for Trauma-Induced Blindness", Dartmouth 2006 Poly-Trauma Conference, Hanover, NH [*Invited Lecture*]
- 2006 Clinical Lecture, The New York Eye and Ear Infirmary [*Invited Professor*]
- 2006 "Strategies and Solutions: the Changing Landscape of Military Ophthalmology", Schepens Eye Research Institute, Boston, MA [*Invited Lecturer*]
- 2007 "Emergency Neuro-Ophthalmology: Diagnosis and Management", American Academy of Ophthalmology Annual Meeting, New Orleans, LA [*Invited Lecturer*]
- 2008 "Use of Retinal Prosthesis to Restore Vision Following Traumatic Ocular Injury and Naturally-Occurring Retinal Diseases", Third Biennial Military Vision Research Symposium: Traumatic Eye and Brain Injury [*Invited Lecture; Moderator*]
- 2008 Product Line Review: Ocular Health "A Novel Retinal Prosthesis that is Modular and Configurable", Telemedicine and Advanced Technology Research Center [*Invited Lecture*]
- 2008 "The Bionic Eye: Posterior Segment - New Therapies", Monroe J. Hirsch Memorial Research, American Academy of Optometry [*Invited Lecture*]

- 2008 Bio-X Symposium: "What Level of Vision Might a Retinal Prosthesis Provide to Blind Patients?", Stanford University [*Invited Lecture*]
- 2009 The Development of Visual Prostheses and other Assistive Devices., NANOS [*Invited Lecture*]
- 2009-Illinois Eye Review: Neuro-Ophthalmology Overview, University of Illinois [*Invited Lecture*]
- 2009 Charles Dwight Townes Memorial Lecture 2009, University of Louisville , University of Louisville [*Invited Lecture*]
- 2010 "The Status of the Field of Visual Prosthetics with Specific Attention to the Boston Retinal Implant Project," Extraordinary Ophthalmology Lecture Series, Annual Meeting, Department of Ophthalmology, University of Wisconsin, Madison
- 2011 "Updates on Ischemic Optic Neuropathy, Updates on Pseudotumor Cerebri, Interesting Adult Neuro-Ophthalmic Cases," SUNY Downstate Department of Ophthalmology's Current Concepts in Ophthalmology 2011, Caesar's Atlantic City, New Jersey.
- 2011 "The Boston Retinal Implant Project, "NEI/FDA Endpoints Symposium: Use of Functional Vision Endpoints in Visual Prostheses Product Development. National Eye Institute, Bethesda, Maryland.
- 2011 Moderator, "Overview of Progress on the Boston Retinal Prosthesis." ARVO 2011 Visionary Genomics. Fort Lauderdale, Florida.
- 2011 "Giant Cell Arteritis" and "Idiopathic Intracranial Hypertension". Vanderbilt University, "Comprehensive Ophthalmology Pearls XV"

International

- 1992 Case presentations and 2 clinical lectures, Universite Laval, Department of Ophthalmology, Quebec, Canada [*Visiting Professor*]
- 1994 Three lectures on clinical neuro-ophthalmology, Fondation Ophthalmologique A. De Rothschild, Paris [*Invited Lecturer*]
- 1994 "Development of a Retinal Prosthesis", Instituto Scientifico, Ospedale S. Raffaele, University of Milan [*Invited Lecture*]
- 1994 "Development of a Silicon Retinal Implant", European Congress of Ophthalmology, Milan, Italy [*Plenary Lecturer*]
- 1994 Two day long course in fundamentals of Neuro-Ophthalmology, Universidad de
- Joseph F. Rizzo, III, M.D. Chief Medical Officer, Commonwealth Therapeutics Centers, Inc. 24

Valladolid, Spain [*Visiting Professor*]

- 1996 Clinical Lecture, Scandinavian University Research Seminar, given by Merck, Sharpe, and Dohme, Co., Denmark [*Guest Lecturer*]
- 1996 Clinical lectures, Department of Ophthalmology, Sick Children's Hospital, Toronto, Canada [*Visiting Professor*]
- 1997 Two lectures and discussion of case presentations, Department of Ophthalmology, McGill University, Montreal, Canada [*Grand Rounds*]
- 1997 Clinical Lectures, University of Vienna, Department of Ophthalmology [*Visiting Professor and Grand Rounds Lecturer*]
- 1997 Development of a Silicon Retinal Implant, European Congress of Ophthalmology, Budapest, Hungary [*Invited Lecture*]
- 1997 "Neuro-Ophthalmological Disease with Glaucomatous Features", Charles University, Prague, Czech Republic [*Guest Lecturer, Glaucoma Conference*]
- 1998 "Development of a Silicon Retinal Prosthesis", Eighth International Symposium on Retinal Degeneration, Schluchsee, Germany [*Invited Lecturer*]
- 2000 "Perceptual Results from Electrical Stimulation of Human Retina", Hospital for Sick Children, Toronto, Canada [*Invited Lectureship: "Lloyd Morgan" Lecture*]
- 2000 "Development of a Silicon Retinal Implant", Parma from the Heart Medical Symposium on Blindness, Parma, Italy [*Keynote Lecturer*]
- 2000 Lecture, 11th World Congress of Retina International, Toronto, Canada [*Invited Lecturer*]
- 2000 The Eye and the Chip: World Congress on Artificial Vision, 2000, The Detroit Institute of Ophthalmology, Detroit, MI [*Lecturer*]
- 2001 "Development of a Retinal Prosthesis", International Neuro-Ophthalmology meeting, Sardinia, Italy [*Special Lecturer*]
- 2001 "Development of a Silicon Retinal Implant", International Ophthalmology Symposium, 50th Anniversary, Menicon Co, Nagoya, Japan [*Plenary Lecture*]
- 2002 Clinical Lecture, University of Liege, Belgium [*Visiting Professor*]
- 2002 Lecture, International Society of Eye Research, Geneva, Switzerland [*Invited Lecture*]
- 2002 The Eye and the Chip: World Congress on Artificial Vision, 2002, The Detroit Institute of Ophthalmology, Detroit Michigan [*Lecturer*]

- 2004 The Eye and the Chip: World Congress on Artificial Vision, 2004, The Detroit Institute of Ophthalmology, Detroit, Michigan[Lecturer]
- 2004 "Development of a Retinal Prosthesis" and clinical case presentations, Swiss Ophthalmology Society[Invited Lecturer]
- 2006 Lecture, German Ophthalmological Society, Berlin, Germany[Invited Lecturer]
- 2006 "Surgery for Sub- and Epiretinal Implants" , Artificial Vision 2006: The Bonn Dialogue, Bonn, Germany[Invited Lecture]
- 2006 Lecture, Shanghai International Biophysical Research Conference, Shanghai, China[Executive Committee/Invited Lecturer]
- 2006 Lecture, Brain Machine Interface Symposium, Kyoto, Japan[Invited Lecturer]
- 2006 "The Visual Potential of a Retinal Prosthesis", The University of Regensburg, Regensburg, Germany[Invited Lecture]
- 2006 The Eye and the Chip: World Congress on Artificial Vision, 2006, The Detroit Insitute of Ophthalmology, Detroit, Michigan[Lecturer]
- 2009 14th Congress of Chinese Ophthalmological Society, Chinese Ophthalmological Society[Invited Lecture]
- 2010 "The Conundrum of the Field of Retinal Prosthetics," Plenary Lecture, Engineering and Physical Sciences in Medicine & The Australian Biomedical Engineering Conference, Melbourne, Australia
- 2010 "The Ocular Implant: It Does Have a Future," Fourth Amsterdam Retina Debate, Academic Medical Center, Amsterdam, The Netherlands.
- 2011 "Boston Retinal Implant: Status and Competitive Landscape," and "Management of Pseudotumor Cerebri," McGill Ophthalmology Research Day 2011; McGill Day Lecture and invited lecture. McGill University, Montreal, Canada.

b. Professional Leadership Roles related to Teaching

- 1977-1978 National. Louisiana State University School of Medicine, New Orleans, LA. President, Student Body
- 1991 National. North American Neuro-Ophthalmic Society Course. Co-Director of "Neuro-anatomical basis of afferent visual function": Selection of topics and speakers for seminars at our annual meeting.

- 1991-1999 National. North American Neuro-Ophthalmic Society Member, Scientific Program Committee: Choice of topics and lecturers for mini-symposia given at the yearly educational meeting.
- 1992 Regional. Lancaster Review Course for Ophthalmologists, Colby College, Waterville, ME. Director, Neuro-Ophthalmology Section: Selection of faculty, organization of subject matter of roughly 30 lectures given over four days, preparation of detailed hand-outs and quality control of presentations.
- 1992-1995 National. North American Neuro-Ophthalmic Society Chairman, Abstracts Subcommittee: Help choose the best abstracts submitted for presentation at our yearly meeting.
- 1993- National. North American Neuro-Ophthalmic Society Member, Certification and Accreditation Committee: Defining the base of knowledge and associated technical skills necessary to practice Neuro-Ophthalmology as part of an effort to determine if our sub-specialty should attempt to employ a certification standard for its practitioners.
- 1993 National. American Academy of Ophthalmology Course Director and Moderator, "Practical Discussions in Neuro-Ophthalmology" for approximately 1,000 attendees: Selection of six speakers for a four hour symposium.
- 1993 National. Association for Research in Vision and Ophthalmology Moderator, Neuro-Ophthalmic Symposium
- 1993-1995 National. North American Neuro-Ophthalmic Society Member, Research Symposium Planning Committee: Identify topics for mini-symposia for meetings of neuro-ophthalmologists held each year in conjunction with the Association for Research in Vision and Ophthalmology.
- 1994 International. European Congress of Ophthalmology Meeting, Milan, Italy. Course Director, "Practical Neuro-Ophthalmic Discussions": Selection of topics of discussion and lecturers for a two hour long seminar given to 30 attendees.
- 1995 National. North American Neuro-Ophthalmic Society. Course Co-Director, "Visual Rehabilitation": Select topics of presentation and lecturers for a symposium at the annual meeting.
- 1999-2006 National. American Academy of Ophthalmology Member, Faculty Committee, For the preparation of the Neuro-Ophthalmology Text and the Basic Clinical Science Course

- 2000- International (every other year). Detroit Institute of Ophthalmology, Detroit, IL. Member, Scientific Planning Committee, Bi-Annual "Eye and The Chip" International Meeting for Visual Prosthetics
- 2001 National. Association of Research in Vision and Ophthalmology, Ft. Lauderdale, FL. Moderator, Visual Prosthetic Symposium
- 2004 National. Association of Research in Vision and Ophthalmology, Ft. Lauderdale, FL. Moderator, Visual Prosthetic Symposium
- 2005 National. American Academy of Ophthalmology, Chicago, IL. Moderator, Neuro-Ophthalmology Sub-Specialty Day
- 2006- Regional. Massachusetts Eye and Ear Infirmary, Boston. Course Director, Neuro-Ophthalmology Fall Festival (Bi-Annual)
- 2006 Regional. Massachusetts Eye and Ear Infirmary, Boston. Academic Organizer, Chandler Visiting Lecture
- 2006 International. Shanghai International Biophysical Research Conference, Shanghai, China. Executive Planning Committee Member/Scientific Organizer of Conference
- 2007 Regional (annual meeting). Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston. Course Co-Director, Alumni Meeting
- 2008 National. NANOS. Organizer, NanoTechnology for Neuro-Ophthalmology
- 2009 National. NANOS. Moderator, Nanotechnology & Evolving Strategies for Vision Restoration, NANOS

Description of Teaching Award(s) Received

- 1986 "Fellow of the Year"
Massachusetts Eye and Ear Infirmary
- 2000 "Teacher of the Year Award"
Lancaster Course in Ophthalmology, Waterville, ME

Part III: Bibliography

Original Articles

1. Rizzo JF, Lessell S, Liebman SD. Optic atrophy in familial dysautonomia. *Am J Ophthalmol.* 1986;102(4):463-7.
2. Rizzo JF, Berson EL, Lessell S. Retinal and neurologic findings in the Laurence-Moon-Bardet-Biedl phenotype. *Ophthalmology.* 1986;93(11):1452-6.
3. Lessell S, Lessell IM, Rizzo JF. Ocular neuromyotonia after radiation therapy. *Am J Ophthalmol.* 1986;102(6):766-70.
4. Rizzo JF, Lessell S. Posterior ischemic optic neuropathy during general surgery. *Am J Ophthalmol.* 1987;103(6):808-11.
5. Snebold NG, Rizzo JF, Lessell S, Pruett RC. Transient visual loss in ornithine transcarbamoylase deficiency. *Am J Ophthalmol.* 1987;104(4):407-12.
6. Rizzo JF, Lessell S. Risk of developing multiple sclerosis after uncomplicated optic neuritis: a long-term prospective study. *Neurology.* 1988;38(2):185-90.
7. Fiore PM, Latina MA, Shingleton BJ, Rizzo JF, Ebert E, Bellows AR. The dural shunt syndrome. I. Management of glaucoma. *Ophthalmology.* 1990;97(1):56-62.
8. Joseph MP, Lessell L, Rizzo JF, Momose KJ. Extracranial Optic Nerve Decompression for Traumatic Optic Neuropathy. *Archives of Ophthalmology.* 1990;108:1091-1093.
9. Cronin-Golomb A, Corkin S, Rizzo JF, Cohen J, Growdon JH, Banks KS. Visual dysfunction in Alzheimer's disease: relation to normal aging. *Ann Neurol.* 1991;29(1):41-52.
10. Cronin-Golomb A, Rizzo JF, Corkin S, Growdon JH. Visual function in Alzheimer's disease and normal aging. *Ann N Y Acad Sci.* 1991;640:28-35.
11. Rizzo JF, Feke GT, Goger DG, Ogasawara H, Weiter JJ. Optic nerve head blood speed as a function of age in normal human subjects. *Invest Ophthalmol Vis Sci.* 1991;32(13):3263-72.
12. Rizzo JF, Lessell S. Optic neuritis and ischemic optic neuropathy. Overlapping clinical profiles. *Arch Ophthalmol.* 1991;109(12):1668-72.
13. Rizzo JF, Cronin-Golomb A, Growdon JH, Corkin S, Rosen TJ, Sandberg MA, Chiappa KH, Lessell S. Retinocalcarine function in Alzheimer's disease. A clinical and electrophysiological study. *Arch Neurol.* 1992;49(1):93-101.
14. Rizzo JF, Gittinger JW. Selective immunohistochemical staining in the paraneoplastic retinopathy syndrome. *Ophthalmology.* 1992;99(8):1286-95.
15. Rizzo JF, Breen L, Winterkorn J. Peripapillary Hemorrhage. *Survey of Ophthalmology.* 1993;37:362-372.
16. Rizzo JF, Lessell S. Tobacco amblyopia. *Am J Ophthalmol.* 1993;116(1):84-7.
17. Rizzo JF. Occult retinal and choroidal vascular disease. The value of timed and directed fluorescein angiography. *Ophthalmology.* 1993;100(9):1407-16.
18. Masland RH, Rizzo JF, Sandell JH. Developmental variation in the structure of the retina. *J Neurosci.* 1993;13(12):5194-202.
19. Levin LA, Joseph MP, Rizzo JF, Lessell S. Optic canal decompression in indirect optic nerve trauma. *Ophthalmology.* 1994;101(3):566-9.

20. Kurylo DD, Corkin S, Dolan RP, Rizzo JF, Parker SW, Growdon JH. Broad-band visual capacities are not selectively impaired in Alzheimer's disease. *Neurobiol Aging*. 1994;15(3):305-11.
21. Rizzo JF, Lessell S. Cerebrovascular abnormalities in neurofibromatosis type 1. *Neurology*. 1994;44(6):1000-2.
22. Rizzo JF, Lessell S. Choroidal infarction after optic nerve sheath fenestration. *Ophthalmology*. 1994;101(9):1622-6.
23. Rizzo JF. Adenosine triphosphate deficiency: a genre of optic neuropathy. *Neurology*. 1995;45(1):11-6.
24. Czeisler CA, Shanahan TL, Klerman EB, Martens H, Brotman DJ, Emens JS, Klein T, Rizzo JF. Suppression of melatonin secretion in some blind patients by exposure to bright light. *N Engl J Med*. 1995;332(1):6-11.
25. Bianchi-Marzoli S, Rizzo JF, Brancato R, Lessell S. Quantitative analysis of optic disc cupping in compressive optic neuropathy. *Ophthalmology*. 1995;102(3):436-40.
26. Wyatt J, Rizzo J. Ocular Implants for the Blind. *IEEE Spectrum*. 1995;(47-53).
27. Rizzo JF. Visual loss after neurosurgical repair of paraclinoid aneurysms. *Ophthalmology*. 1995;102(6):905-10.
28. Volpe NJ, Rizzo JF. Retinal disease in neuro-ophthalmology: paraneoplastic retinopathy and the big blind spot syndrome. *Semin Ophthalmol*. 1995;10(3):234-41.
29. Kurylo DD, Corkin S, Rizzo JF, Growdon JH. Greater Relative Impairment of Object Recognition than Visuospatial Abilities in Alzheimer's Disease. *Neuropsychology*. 1996;10:74-81.
30. Warner JE, Rizzo JF, Brown EW, Ogilvy CS. Recurrent chiasmal apoplexy due to cavernous malformation. *J Neuroophthalmol*. 1996;16(2):99-106.
31. Levin LA, Rizzo JF, Lessell S. Neural network differentiation of optic neuritis and anterior ischaemic optic neuropathy. *Br J Ophthalmol*. 1996;80(9):835-9.
32. Warner JE, Lessell S, Rizzo JF, Newman NJ. Does optic disc appearance distinguish ischemic optic neuropathy from optic neuritis? *Arch Ophthalmol*. 1997;115(11):1408-10.
33. Klerman EB, Rimmer DW, Dijk DJ, Kronauer RE, Rizzo JF, Czeisler CA. Nonphotic entrainment of the human circadian pacemaker. *Am J Physiol*. 1998;274(4 Pt 2):R991-6.
34. Mendola JD, Rizzo JF, Cosgrove GR, Cole AJ, Black P, Corkin S. Visual discrimination after anterior temporal lobectomy in humans. *Neurology*. 1999;52(5):1028-37.
35. Weinberg DH, Rizzo JF, Hayes MT, Kneeland MD, Kelly JJ. Ocular myasthenia gravis: predictive value of single-fiber electromyography. *Muscle Nerve*. 1999;22(9):1222-7.
36. Grumet AE, Wyatt JL, Rizzo JF. Multi-electrode stimulation and recording in the isolated retina. *J Neurosci Methods*. 2000;101(1):31-42.
37. Pless M, Rizzo JF, Lamkin JC, Lessell S. Concordance of bilateral temporal artery biopsy in giant cell arteritis. *J Neuroophthalmol*. 2000;20(3):216-8.

38. Unsöld AS, Rizzo JF, Lessell S. Optic neuropathy after burns. *Arch Ophthalmol.* 2000;118(12):1696-8.
39. Volpe NJ, Rizzo JF, Lessell S. Acute idiopathic blind spot enlargement syndrome: a review of 27 new cases. *Arch Ophthalmol.* 2001;119(1):59-63.
40. Pless M, Rizzo JF, Shang J. Orbital apex syndrome: a rare presentation of extramedullary hematopoiesis: case report and review of literature. *J Neurooncol.* 2002;57(1):37-40.
41. Andreoli CM, Leff GB, Rizzo JF. Sneeze-induced visual and ocular motor dysfunction. *Am J Ophthalmol.* 2002;133(5):725-7.
42. Rizzo JF, Andreoli CM, Rabinov JD. Use of magnetic resonance imaging to differentiate optic neuritis and nonarteritic anterior ischemic optic neuropathy. *Ophthalmology.* 2002;109(9):1679-84.
43. Montezuma SR, Rizzo JF, Ziv OR. Combined vitrectomy lens and contact electrode for ERG recording during surgery. *Retina.* 2002;22(6):828-9.
44. Klerman EB, Shanahan TL, Brotman DJ, Rimmer DW, Emens JS, Rizzo JF, Czeisler CA. Photic resetting of the human circadian pacemaker in the absence of conscious vision. *J Biol Rhythms.* 2002;17(6):548-55.
45. Egan RA, Ha Nguyen T, Gass JD, Rizzo JF, Tivnan J, Susac JO. Retinal arterial wall plaques in Susac syndrome. *Am J Ophthalmol.* 2003;135(4):483-6.
46. Banks MC, Robe-Collignon NJ, Rizzo JF, Pasquale LR. Scanning laser polarimetry of edematous and atrophic optic nerve heads. *Arch Ophthalmol.* 2003;121(4):484-90.
47. Kim SK, Andreoli CM, Rizzo JF, Golden MA, Bradbury MJ. Optic neuropathy secondary to sub-tenon anesthetic injection in cataract surgery. *Arch Ophthalmol.* 2003;121(6):907-9.
48. Jensen RJ, Rizzo JF, Ziv OR, Grumet A, Wyatt J. Thresholds for activation of rabbit retinal ganglion cells with an ultrafine, extracellular microelectrode. *Invest Ophthalmol Vis Sci.* 2003;44(8):3533-43.
49. Cestari DM, Rizzo JF. Intracranial hypertension following epidural blood patch. *Neurology.* 2003;61(9):1303.
50. Rizzo JF, Wyatt J, Loewenstein J, Kelly S, Shire D. Methods and perceptual thresholds for short-term electrical stimulation of human retina with microelectrode arrays. *Invest Ophthalmol Vis Sci.* 2003;44(12):5355-61.
51. Rizzo JF, Wyatt J, Loewenstein J, Kelly S, Shire D. Perceptual efficacy of electrical stimulation of human retina with a microelectrode array during short-term surgical trials. *Invest Ophthalmol Vis Sci.* 2003;44(12):5362-9.
52. Rizzo JF, Goldbaum S, Shahin M, Denison TJ, Wyatt J. In vivo electrical stimulation of rabbit retina with a microfabricated array: strategies to maximize responses for prospective assessment of stimulus efficacy and biocompatibility. *Restor Neurol Neurosci.* 2004;22(6):429-43.
53. Montezuma SR, Rizzo JF, Ziv OR. Differential recovery of the electroretinogram, visually evoked cortical potential, and electrically evoked cortical potential following vitrectomy: Implications for acute testing of an implanted retinal prosthesis. *J Rehabil Res Dev.* 2004;41(2):113-20.

54. Yamada K, Chan WM, Andrews C, Bosley TM, Sener EC, Zwaan JT, Mullaney PB, Oztürk BT, Akarsu AN, Sabol LJ, Demer JL, Sullivan TJ, Gottlob I, Roggenkäemper P, Mackey DA, De Uzcategui CE, Uzcategui N, Ben-Zeev B, Traboulsi EI, Magli A, de Berardinis T, Gagliardi V, Awasthi-Patney S, Vogel MC, Rizzo JF, Engle EC. Identification of KIF21A mutations as a rare cause of congenital fibrosis of the extraocular muscles type 3 (CFEOM3). *Invest Ophthalmol Vis Sci.* 2004;45(7):2218-23.
55. Collignon-Robe NJ, Feke GT, Rizzo JF. Optic nerve head circulation in nonarteritic anterior ischemic optic neuropathy and optic neuritis. *Ophthalmology.* 2004;111(9):1663-72.
56. Yamauchi Y, Franco LM, Jackson DJ, Naber JF, Ziv RO, Rizzo JF, Kaplan HJ, Enzmann V. Comparison of electrically evoked cortical potential thresholds generated with subretinal or suprachoroidal placement of a microelectrode array in the rabbit. *J Neural Eng.* 2005;2(1):S48-56.
57. Ziv OR, Rizzo JF, Jensen RJ. In vitro activation of retinal cells: estimating location of stimulated cell by using a mathematical model. *J Neural Eng.* 2005;2(1):S5-S15.
58. Jensen RJ, Ziv OR, Rizzo JF. Responses of rabbit retinal ganglion cells to electrical stimulation with an epiretinal electrode. *J Neural Eng.* 2005;2(1):S16-21.
59. Jensen RJ, Ziv OR, Rizzo JF. Thresholds for activation of rabbit retinal ganglion cells with relatively large, extracellular microelectrodes. *Invest Ophthalmol Vis Sci.* 2005;46(4):1486-96.
60. Kim JW, Rizzo JF, Lessell S. Delayed visual decline in patients with "stable" optic neuropathy. *Arch Ophthalmol.* 2005;123(6):785-8.
61. Sweitzer, R, Montezuma, S, Rizzo, JF, Scholz, C. Evaluation of subretinal implants coated with amorphous aluminum oxide and diamond-like carbon. *Journal of Biodegradable and Compatible Polymers.* 2006;21:5-22.
62. Kim JW, Hills WL, Rizzo JF, Egan RA, Lessell S. Ischemic optic neuropathy following spine surgery in a 16-year-old patient and a ten-year-old patient. *J Neuroophthalmol.* 2006;26(1):30-3.
63. Montezuma SR, Loewenstein J, Scholz C, Rizzo JF. Biocompatibility of materials implanted into the subretinal space of Yucatan pigs. *Invest Ophthalmol Vis Sci.* 2006;47(8):3514-22.
64. Shah HA, Montezuma SR, Rizzo JF. In vivo electrical stimulation of rabbit retina: effect of stimulus duration and electrical field orientation. *Exp Eye Res.* 2006;83(2):247-54.
65. Jensen RJ, Rizzo JF. Thresholds for activation of rabbit retinal ganglion cells with a subretinal electrode. *Exp Eye Res.* 2006;83(2):367-73.
66. Winter JO, Cogan SF, Rizzo JF. Neurotrophin-eluting hydrogel coatings for enhanced contact with neural prostheses. *J Biomed Mater Res B Appl Biomater.* 2007;81B(2):551-563.
67. Jensen RJ, Rizzo JF. Responses of Ganglion Cells to Repetitive Electrical Stimulation Electrodes. *J Neural Engineering.* 2007;4(1):S1-6.
68. Wester ST, Rizzo JF, Balkwill MD, Wall C 3rd. Optokinetic nystagmus as a measure

- of visual function in severely visually impaired patients. *Invest Ophthalmol Vis Sci.* 2007;48(10):4542-8.
69. Zaidi FH, Hull JT, Peirson SN, Wulff K, Aeschbach D, Gooley JJ, Brainard GC, Gregory-Evans K, Rizzo JF, Czeisler CA, Foster RG, Moseley MJ, Lockley SW. Short-Wavelength Light Sensitivity of Circadian, Pupillary, and Visual Awareness in Humans Lacking an Outer Retina. *Current Biology.* 2007;17:1-7.
 70. Winter JO, Gokhale M, Jensen RJ, Cogan SF, Rizzo JF. Tissue engineering applied to the retinal prosthesis: neurotrophin-eluting polymeric hydrogel coatings. *Materials Science and Engineering C.* 2008;C 28:448-453.
 71. Jensen RJ, Rizzo JF. Activation of retinal ganglion cells in wild-type and rd1 mice through electrical stimulation of the retinal neural network. *Vision Research.* 2008;48:1562-1568.
 72. Dagi LR, Rizzo JF, Cestari DM. Leber hereditary optic neuropathy in an octogenarian. *J Neuroophthalmol.* 2008;28(2):156.
 73. Cogan SF, Ehrlich J, Plante TD, Smirnov A, Shire DB, Gingerich M, Rizzo JF. Sputtered iridium oxide films for neural stimulation electrodes. *J Biomed Mater Res B Appl Biomater.* 2008;89B(2):353-61.
 74. Liu Y, Dinkin MJ, Rizzo JF, Cestari DM. Multifocal electroretinographic abnormalities in ethambutol-induced visual loss. *J Neuroophthalmol.* 2008;28(4):278-82.
 75. Jensen RJ, Rizzo JF 3rd. Activation of ganglion cells in wild-type and rd1 mouse retinas with monophasic and biphasic current pulses. *J Neural Eng.* 2009;6(3):035004.
 76. Shire DB, Kelly SK, Chen J, Doyle P, Gingerich MD, Cogan SF, Drohan WA, Mendoza O, Theogarajan L, Wyatt JL, Rizzo JF. Development and implantation of a minimally invasive wireless subretinal neurostimulator. *IEEE Trans Biomed Eng.* 2009;56(10):2502-11.
 77. Chen J, Shah HA, Herbert C, Lowenstein JI, Rizzo JF 3rd. Extraction of a chronically implanted, microfabricated, subretinal electrode array. *Ophthalmic Res.* 2009;42(3):128-37.
 78. Arvold ND, Lessell S, Bussiere M, Beaudette K, Rizzo JF, Loeffler JS, Shih HA. Visual outcome and tumor control after conformal radiotherapy for patients with optic nerve sheath meningioma. *Int J Radiat Oncol Biol Phys.* 2009;75(4):1166-72.
 79. Fried SI, Lasker AC, Desai NJ, Eddington DK, Rizzo III, JF. Axonal sodium channel bands shape the response to electric stimulation in retinal ganglion cells. *J Neurophysiol.* 2009 Apr;101(4):1972-87.
 80. Arvold, N.D., Lessell, S., Bussiere, M., Beaudette, K., Rizzo, J.F., Loeffler, J.S., Shih, H. A. Visual outcome and tumor control after conformal radiotherapy for patients with optic nerve sheath meningioma. *Int J Radiat Oncol Biol Phys.* 2009 Nov 15;75(4):1166-72.
 81. Jensen RJ, Ziv OR, Rizzo JF 3rd, Scribner D, Johnson L. Spatiotemporal aspects of pulsed electrical stimuli on the responses of rabbit retinal ganglion cells. *Exp Eye Res.* 2009;89(6):972-9.

82. Newman-Toker DE, Rizzo JF III. Subjectively-quantified Maddox rod testing improves diagnostic yield over alternate cover testing alone in patients with diplopia. *J Clin Neurosci*. 2010 Jun;17(6):727-30.
83. Dean M, Cestari, MD, Kim Chan, DO, Nadja Tajouri, MD, Joseph F Rizzo III, MD. The Use of Botulinum Toxin A in the Treatment of See-Saw Nystagmus. *Journal of Pediatric Ophthalmology & Strabismus*. *J Pediatr Ophthalmol Strabismus*. 2010 Jul 22;47:e1-3.
84. Freeman, DK, Eddington, DK, Rizzo, JF & Fried, SI (2010). Selective Activation of Neuronal Targets with Sinusoidal Electric Stimulation. *J Neurophysiol*. 2010 Nov;104(5):2778-91.
85. Cestari DM, Chan K, Tajouri N, Rizzo JF 3rd (2010). The use of onabotulinum toxin a in the treatment of see-saw nystagmus. *J Pediatr Ophthalmol Strabismus*. 2010 Jul 22;47:e1-3.
86. Rizzo JF, 3rd. Update on retinal prosthetic research: the Boston retinal implant project. *J Neuroophthalmol*. Jun 2011;31(2):160-168.
87. Jensen RJ, Rizzo JF 3rd. Effects of GABA receptor antagonists on thresholds of P23H rat retinal ganglion cells to electrical stimulation of the retina. *J Neural Eng*. 2011 Jun;8(3):035002.
88. Freeman DK, Rizzo JF 3rd, Fried SI. Encoding visual information in retinal ganglion cells with prosthetic stimulation. *J Neural Eng*. 2011 Jun;8(3):035005.
89. Cai C, Ren Q, Desai NJ, Rizzo JF 3rd, Fried SI. Response variability to high rates of electric stimulation in retinal ganglion cells. *J Neurophysiol*. 2011 Jul;106(1):153-62.

91. Thornton IL, Rizzo JF, Cestari DM. Neuromyelitis optica: a review. *Semin Ophthalmol*. 2011 Jul;26(4-5):337-41.
92. Kelly SK, Shire DB, Chen J, Doyle P, Gingerich MD, Cogan SF, Drohan W, Behan S, Theogarajan L, Wyatt JL, Rizzo JF. A Hermetic Wireless Subretinal Neurostimulator for Vision Prostheses. *IEEE Trans Biomed Eng*. 2011 Aug 22.
93. Kelly SK, Shire DB, Chen J, Doyle P, Gingerich MD, Cogan SF, Drohan WA, Theogarajan LS, Wyatt JL, Rizzo JF. Communication and Control System for a 15-Channel Hermetic Retinal Prosthesis. *Biomed Signal Process Control*. 2011 Oct 1;6(4):356-363.

Patel, M. Gaze-evoked amaurosis from orbital breast carcinoma metastasis. *Ophthalmic Plastic and Reconstructive Surgery*, 2013.

Callahan A. Horner's syndrome. 2013.

Proceedings of Meetings

1. Winter JO, Han N, Jensen R, Cogan SF, Rizzo JF. Adhesion molecules promote chronic neural interfaces following neurotrophin withdrawal. In: Conf Proc IEEE Eng Med Biol Soc.;2009. p. 7151-4.
2. Kelly SK, Shire DB, Chen J, Doyle P, Gingerich MD, Drohan WA, Theogarajan LS, Cogan SF, Wyatt JL, Rizzo JF. Realization of a 15-channel, hermetically-encased wireless subretinal prosthesis for the blind. In: Cof Proc IEEE Engl Med Biol Soc. 2009. p. 200-3.
3. J.O. Winter, N. Han, R. Jensen, S.F. Cogan, J.F. Rizzo, III. Combined Effect of Brain Derived Neurotrophic Factor and Cell Adhesion Molecules on Neurite Extension and Persistence. In: Proceedings of EMBS Annual Meeting; Sept. 2-6, 2009; Minneapolis, Minnesota.

Reviews/Chapters/Editorials

1. Rizzo JF. The Retina - Basic Science and Clinical Review. In: Lessell S, van Dalen JTW (eds.) Current Neuro-Ophthalmology. Chicago, IL: Medical Publishers;1989.
2. Rizzo JF. The Retina - Basic Science and Clinical Review. In: Lessell S, van Dalen JTW (eds.) Current Neuro-Ophthalmology. Chicago, IL: Medical Publishers;1990.
3. Rizzo JF. Neuro-Ophthalmologic Disease of the Retina. In: Albert DM, Jakobiec FA (eds.) Principles and Practice of Ophthalmology. WB Saunders Co.;1993. p. 2507-2528.
4. Berestka JS, Rizzo JF. Controversy in the Management of Traumatic Optic Neuropathy. International Ophthalmology Clinics. 1994.
5. Rizzo JF. Neuro-Ophthalmologic Disease of the Retina. In: Albert DM, Jakobiec FA (eds.) Principles and Practice of Ophthalmology. WB Saunders Company;1994. p. 2507-2528.
6. Volpe N, Rizzo JF. Retinal Disease in Neuro-Ophthalmology: Paraneoplastic retinopathy and the Big Blind Spot Syndrome. Seminars in Ophthalmology. 1995;10(3 (September));234-241.
7. Rizzo JF, Volpe N. Cancer-Associated Retinopathy. In: Pepose JS, Holland GN, Wilhelmus KR (eds.) Ocular Infection and Immunity. St. Louis, MO: Mosby;1996. p. 585-599.
8. Cohen RG, Rizzo JF, Lou P. New Developments in Cancer Associated Retinopathy. International Ophthalmology Clinics. 1997.
9. Rizzo JF, Wyatt JL. Prospects for a Visual Prosthesis. Neuroscientist. 1997;3(4):251-262.
10. Rizzo JF. Retinal Anatomy: Clinical Correlation. Walsh and Hoyt's Clinical Neuro-Ophthalmology. 1997.
11. Davis EA, Rizzo JF. Ocular Manifestations of Multiple Sclerosis. International Ophthalmology Clinics. 1998;38(1):129-139.
12. Rizzo JF, Loewenstein J, Wyatt J. Development of an Epiretinal Electronic Visual Prosthesis: The Harvard Medical School - Massachusetts Institute of Technology

- Research Program. In: Hollyfield JG and LaVail MM (eds.) *Retinal Degenerative Diseases and Experimental Therapy*. New York, NY: Kluwer Academic/Plenum Pub;1999. p. 463-469.
13. Feke GT, Rizzo JF, Hayes MT, Kneeland MD, Kelly JJ. Ocular myasthenia gravis: predictive value of single-fiber electromyography. *Muscle Nerve*. 1999;9(22):1222-7.
 14. Rizzo JF, Wyatt JL. Retinal Prosthesis. In: Berger JW, Fine SL, Maguire MG (eds.) *Age-related macular degeneration*. St. Louis, MO: Mosby, Inc.;1999. p. 413-432.
 15. Zacks DN, Rizzo JF. The Diagnostic Challenge of Occult Large Vessel Ischemia of the Retina and Choroid. *Current Opinion in Ophthalmology*. 1999;10:371-375.
 16. Pomeranz HD, Rizzo JF, Lessell S. Treatment of Traumatic Optic Neuropathy. *International Ophthalmology Clinics*. 1999;39(1):185-194.
 17. Rizzo JF. Neuro-Ophthalmologic Disease of the Retina. Albert DM and Jakobiec FA (eds.) *Principles and Practice of Ophthalmology*. 2000;5:4083-4108.
 18. Egan R, Rizzo JF. Neuro-Ophthalmological Complications of Ocular Surgery. *International Ophthalmology Clinics*. 2000;40(1):93-105.
 19. Shen T, Sakai O, Curtin H, Rizzo JF. Magnetic Resonance Imaging of Primary Anterior Visual Pathway Tumors. *International Ophthalmology Clinics*. 2001;41(1):171-180.
 20. Newman-Toker DE, Rizzo JF. Neuro-Ophthalmic Diseases Masquerading as Benign Strabismus. *International Ophthalmology Clinics*. 2001;41(4):115-127.
 21. Ambati B, Rizzo JF. Nonglaucomatous Cupping of the Optic Disc. *International Ophthalmology Clinics*. 2001;41(1):139-149.
 22. Rizzo JF, Wyatt J, Humayun M, de Juan E, Liu W, Chow A, Eckmiller R, Zrenner E, Yagi T, Abrams G. Retinal prosthesis: an encouraging first decade with major challenges ahead. *Ophthalmology*. 2001;108(1):13-14.
 23. Lee MS, Rizzo JF, Lessell S. Neuro-Ophthalmic Complications of Cataract Surgery. *Seminars in Ophthalmology*. 2002;17(3-4):149-152.
 24. Cestari D, Rizzo JF. The neuro-ophthalmic manifestations and treatment options of unruptured intracranial aneurysms. *International Clinics of Ophthalmology*. 2003;44(1):169-187.
 25. Loewenstein JL, Montezuma SR, Rizzo JF. Outer retinal degeneration: an electronic retinal prosthesis as a treatment strategy. *Arch Ophthalmol*. 2004;122(4):587-96.
 26. Kim JW, Rizzo JF, Lessell S. Controversies in the Management of Optic Nerve Sheath Meningiomas. *International Ophthalmology Clinics*. 2005;45(4):15-23.
 27. Rizzo JF. Disability level low 10 years after optic neuritis. *Journal Watch Neurology*. 2005;3(20):20.
 28. Rizzo JF. The Embryology, Anatomy, and Physiology of the Afferent Visual System. In: Walsh and Hoyt's *Clinical Neuro-Ophthalmology*. Williams & Wilkins;2005.
 29. Loewenstein JL, Warden SM, Rizzo JF. Visual Prostheses. In: Hartnett ME, Trece M. (eds.) *Pediatric Retinal Diseases*. Lippincott Williams & Wilkins;2005.
 30. Merabet L, Rizzo JF, Amedi A, Somers D, Pascuale-Leone A. What Blindness Can Tell Us about Seeing Again: Merging Neuroplasticity with Neuroprostheses. *Nature*

- Reviews Neuroscience. 2005;6(1):71-77.
31. Dinkin M, Rizzo JF. Abnormal Eye Movements in Children. *International Ophthalmology Clinics*. 2007;In Press.
 32. Poggel DA, Merabet LM, Rizzo JF. Artificial Vision. In: Parasuraman R, Rizzo JF (eds.) *Neuroergonomics: The Brain at Work*. Oxford University Press;2007. p. 329-345.
 33. Rizzo JF, Snebold L, Kenney M. Development of a Visual Prosthesis: A Review of the Field. In: Rizzo JF, Tombran-Tink, Barnstable (eds.) *Visual Prostheses and Ophthalmic Devices*. Humana Press;2007.
 34. Dinkin M, Banks M, Rizzo JF. Imaging the Nerve Fiber Layer and Optic Disc. *Essentials in Ophthalmology*. 2007;In Press.
 35. Rizzo JF. Neuro-Ophthalmologic Disease of the Retina. In: Albert DM, Jakobiec FA (eds.) *Principles and Practice of Ophthalmology*. WB Saunders Company;2007.
 36. Pepin S, Rizzo JF. Ophthalmic Manifestations of Systemic Disease. In: Albert DM, Jakobiec FA (eds.) *Principles and Practice of Ophthalmology*. WB Saunders Company;2007.
 37. Winter JO, Cogan SF, Rizzo JF. Retinal prostheses: Current challenges and future outlook. *Journal of Biomaterials Science, Polymer Edition*. 2007;In Press.
 38. Merabet L, Rizzo JF, Pascaul-Leone A, Fernandez E. 'Who is the ideal candidate?': Decisions and issues relating to visual neuroprosthesis development, patient testing, and neuroplasticity. *J Neural Engineering*. 2007;4(1):S130-135.
 39. Winter JO, Cogan SF, Rizzo JF. Retinal Prostheses: current challenges and future outlook. *J Biomater Sci Polym Ed*. 2007;18(8):1031-55.
 40. Dinkin MJ, Rizzo JF. Abnormal eye movements in children. *Int Ophthalmol Clin*. 2008;48(2):95-134.
 41. Muhammad Ali Memon, MD and Joseph F. Rizzo III, MD. Development of Visual Prostheses and Other Assistive Devices. In: Leonard A. Levin (ed.) *Ocular Diseases*. Elsevier;2009.
 42. Chang KK, Rizzo JF. Recent advances in the immunopathology of giant cell arteritis. *Int Ophthalmol Clin*. 2009;49(1):99-109.
 43. Muhammad Ali Memon, MD and Joseph F. Rizzo III, MD. The Development of Visual Prosthetic Devices to Restore Vision to the Blind. In: Hunter Peckham, Ph.D (ed.) *Neuro-Modulation*. Elsevier;2009.
 44. Rizzo JF, O'Malley ER, Hessburg PC. The eye and the chip 2008. *J Neural Eng*. 2009;6(3):030201.
 45. Kenneth K. Chang, MD, MPH Joseph F. Rizzo, III, MD. Recent Advances in the Immunopathology of Giant Cell Arteritis. In: *International Ophthalmology Clinics* (ed.) *Ocular Pathology*. Philadelphia, Pa: Lippincott Williams & Wilkins;2009. p. 99-109.
 46. Ming He, Dean Cestari, Mary Beth Cunnane, Joseph Rizzo (2010). The Use of Diffusion MRI in Ischemic Optic Neuropathy and Optic Neuritis. *Seminars in Ophthalmology*, in press.
 47. Heidary, G., Rizzo, J.F. (2010). Use of Optical Coherence Tomography to Evaluate



- Papilledema and Pseudopapilledema. *Seminars in Ophthalmology*, in press.
48. Daniel K. Freeman, Joseph F. Rizzo III, Shelley I Fried (2011). Encoding visual information in ganglion cells with prosthetic stimulation. *Neural Eng.* **8** (2011) 035005 (18pp).
 49. Stacy RC, Rizzo JF, Cestari DM. Subtleties in the histopathology of giant cell arteritis. *Semin Ophthalmol.* 2011 Jul; 26(4-5):342-8.
 50. Thornton IL, Rizzo JF, Cestari DM. Neuromyelitis optica: a review. *Semin Ophthalmol.* 2011 Jul;26(4-5):337-41.

Books, Monographs, and Textbooks

1. Rizzo JF, co-editor. Principles and Practice of Ophthalmology. In: *Neuro-Ophthalmology*, vol. 4. WB Saunders Company;1993. p. 2387-2847.
2. Rizzo JF, co-author. Neuro-Ophthalmology. In: *American Academy of Ophthalmology, Basic and Clinical Science Course. section 5* ;2001.
3. Rizzo JF, co-author. Neuro-Ophthalmology. In: *American Academy of Ophthalmology, Basic and Clinical Science Course. section 5* ;2004.
4. Rizzo JF, co-editor. Special Edition on Visual Prosthetics. *Journal of Neural Engineering.* volume 2 ;2005.
5. Rizzo JF, co-editor. *Visual Prosthetics and Ophthalmic Devices.* Humana Press;2005.

Educational Materials

1. Rizzo JF. The Patient with Diplopia. Basic and Clinical Science Course, Section 5. Sponsored by the American Academy of Ophthalmology. 2001.
2. Rizzo JF. The Patient with Nystagmus or Spontaneous Eye Movement Disorders. Basic and Clinical Science. Course, Section 5. Sponsored by the American Academy of Ophthalmology. 2001.
3. Rizzo JF. The Patient with Ocular Motility Disorders Not Causing Diplopia. Basic and Clinical Science Course, Section 5. Sponsored by the American Academy of Ophthalmology. 2001.
4. Rizzo JF. The Patient with Diplopia. Basic and Clinical Science Course, Section 5. Sponsored by the American Academy of Ophthalmology. 2005.
5. Rizzo JF. Nystagmus and other Ocular Oscillations. Basic and Clinical Science Course, Section 5. Sponsored by the American Academy of Ophthalmology. 2005.
6. Rizzo JF. Supranuclear Control of Eye Movements. Basic and Clinical Science

Course, Section 5. Sponsored by the American Academy of Ophthalmology. 2005.

7. Rizzo JF, Co-Editor. "Ophthalmology Rounds", Nationwide distribution of case-based educational material, in CME format, to all American ophthalmologists, published by Snell Medical Communications; 10 publications per year 2006-2010.

NonPrint Materials

1. Audiovisual Teaching Collection of Ocular Motility Disorders. 1992. A comprehensive teaching videotape of more than 25 eye movement disorders. This teaching tool is organized with regard to the anatomical site of the neural lesion that is responsible for each motility problem, starting with cerebral lesions and progressing in an orderly descending fashion through the brain. This anatomical approach is a unique format for teaching of eye movement disorders. These video clips have been digitally merged with anatomical slides to facilitate teaching the relationship between specific lesions and particular eye movement irregularities. Examples of these disorders, many of which are uncommon, were solicited from colleagues around the country. This videotape was expanded upon in 1997.
2. Rizzo JF, Brookman JC. Digital Compendium of Clinically-Relevant Neuro-Ophthalmic Literature. 2007. Students and residents face a significant challenge when attempting to build a foundation of knowledge in a new field. The internet has made available an enormous volume of medical information, but younger trainees do not have the experience to appropriately decide which articles would provide the most informative evidence to help support their education. This compendium contains approximately 150 published articles and editorials, as well as topic notes, clinical cases, images and videos covering the width and breadth of subjects in Neuro-ophthalmology. The articles were reviewed and annotated by Dr. Rizzo. A web interface was designed and developed in Macromedia Dreamweaver 8 using XHTML 1.0 and CSS scripting language.

Patents

1. David J. Edell, John L. Wyatt, Jr., Joseph F. Rizzo III. Method and Apparatus for Preferential Neuron Stimulation. US Patent # 5411540. 1995 May 2.
2. Dave J. Edell, John L. Wyatt, Jr., Joseph F. Rizzo, III. Low Pressure Neural Contact Structure. US Patent # 5476494. 1995 Dec 19.
3. Joseph F. Rizzo, III. Medication Dispensing Intra-Ocular Lens System. US Patent # 5554187. 1996 Sep 10.
4. David J. Edell, Joseph F. Rizzo, III, John L. Wyatt, Jr. Low Pressure Neural Contact Structure. US Patent # 5575813. 1996 Nov 19.
5. Joseph F. Rizzo III, M.D. Methods for Epiretinal Implantation. US Patent # 5597381. 1997 Jan 28.
6. Joseph F. Rizzo, III, John L. Wyatt, Jr. Intra-Ocular Lens System Including



- Microelectric Components. US Patent # 5800530. 1998 Sep 1.
7. Joseph F. Rizzo, III, John L. Wyatt, Jr. Intra-Ocular Lens System Including Microelectric Components. US Patent # 6120538. 2000 Sep 19.
 8. Doug Shire, Joseph F. Rizzo, III, John L. Wyatt, Jr. Chronically Implantable Retinal Prosthesis. US Patent # 6324429. 2001 Nov 27.
 9. John L. Wyatt, Jr., Joseph F. Rizzo, III, Doug Shire. Inflatable Neural Prosthesis. US Patent # 6368349. 2002 Apr 9.
 10. Joseph F. Rizzo, III, John L. Wyatt, Jr., Luke Theogarajan. Minimally Invasive Retinal Prosthesis. US Patent # 6976998. 2005 Dec 20.
 11. Shawn K. Kelly, John L. Wyatt, Joseph F. Rizzo, III. System for and Method of Power Efficient Electrical Tissue Stimulation. US Patent # 7295872. 2007 Nov 13.
 12. Kenneth J. Mandell, Paula T. Hammond, Renee C. Smith, Joseph F. Rizzo III. Drug Delivery Coating and Devices. Submitted, 2010.

Abstracts

1. Rizzo JF, Masland R. Transplantation of organized retinal tissue between adult rabbits. *Investigative Ophthalmology and Visual Science Supplement*. 1990;(31):596.
2. Reichel E, Adamian M, Lessell S, Rizzo JF, Berson EL. Peripapillary cone density in the normal human retina. *Investigative Ophthalmology and Visual Science*. 1991;(32):912.
3. Rizzo JF, Sorkin JA. Pupillodynamic study of the swinging flashlight test: Intensity of stimulating light variably affects components of the pupil response. *Investigative Ophthalmology and Visual Science*. 1991;(32):951.
4. Rizzo JF, Masland RH. Immunohistochemical staining of large ganglion cells in the human retina. *Investigative Ophthalmology and Visual Science Supplement*. 1992;(33):940.
5. Rizzo JF. Preservation of Central Acuity with Macular Infarction: Hypotheses on the Resilience of Foveal Outflow Channels to Retinal Ischemia. *Investigative Ophthalmology and Visual Sciences Supplement*. 1993;(34):2513.
6. Mann J, Edell D, Rizzo JF, Raffel J, Wyatt JL. Development of a silicon retinal implant: Microelectronic system for wireless transmission of signal and power. *Investigative Ophthalmology and Visual Science Supplement*. 1994;4(35):1380.
7. Rizzo JF, Socha M, Edell D, Antkowiak B, Brock D. Development of a silicon retinal implant: Surgical methods and mechanical design. *Investigative Ophthalmology and Visual Science Supplement*. 1994;4(35):1535.
8. Miller S, Rizzo JF, Wyatt JL. Development of a silicon retinal implant: Long-term biocompatibility of materials. *Investigative Ophthalmology and Visual Science Supplement*. 1995;4(36):S746.
9. Wyatt J, Mann J, Edell D, Raffel J, Raffel J, Rizzo JF. Development of a silicon retinal implant: Demonstration of microelectronic system for optical transmission of signal and power. *Investigative Ophthalmology and Visual Science Supplement*.

- 1995;4(36):S249.
10. Castelbuono A, Rizzo JF. Distributions of human photoreceptors, retinal ganglion cells and area of the striate cortex applied to Goldmann field charts. *Investigative Ophthalmology and Visual Science Supplement*. 1995;4(36):S455.
 11. Rizzo JF, Moss JD, Socha MM, Wyatt JL. Hermetic Encapsulation Testing for a Retinal Prosthesis. *Investigative Ophthalmology and Visual Science Supplement*. 1999:3869-B727.
 12. Rizzo JF, Socha MM, Moss JD, Shahin M, Herndon T, Wyatt JL. Mechanical Design and Surgical Implantation of Second Generation Retinal Prosthesis. *Investigative Ophthalmology and Visual Science Supplement*. 1999:3885-B743.
 13. Rizzo JF, Loewenstein J, Shahin M, Coury A. Novel Retinal Adhesive Used to Attach Electrode Array to Retina. *Investigative Ophthalmology and Visual Science Supplement*. 1999:3874-B732.
 14. Rizzo JF, Brumet AE, Wyatt JL. Ten Micron Diameter Electrodes Directly Stimulate Rabbit Retinal Ganglion Cell Axons. *Investigative Ophthalmology and Visual Science Supplement*. 1999:3883-B741.
 15. Shahin ME, Rizzo JF, Wyatt JL, Loewenstein J. Evaluation of External Electrical Stimulation of the Eye as a Screening Test for Acute Intraocular Retinal Stimulation. *Investigative Ophthalmology and Visual Science Supplement*. 2000.
 16. Grumet AE, Rizzo JF, Wyatt JL. In-vitro Electrical Stimulation of Human Retinal Ganglion Cell Axons. *Investigative Ophthalmology and Visual Science Supplement*. 2000.
 17. Caulfield RE, Wyatt JL, Rizzo JF. Calculated Power Limits Affecting Retinal Prosthesis. *Investigative Ophthalmology and Visual Science Supplement*. 2001.
 18. Shire DB, Wyatt JL, Rizzo JF. Progress Toward an Inflatable Neural Prosthesis. *Investigative Ophthalmology and Visual Science Supplement*. 2001.
 19. Halpern L, Rizzo JF. The Efficacy and Safety of Pulse Taper Corticosteroid in the Management of Giant Cell Arteritis a Retrospective of 61 Patients. *Investigative Ophthalmology and Visual Science Supplement*. 2001.
 20. Sippel KC, Rizzo JF. Blepharophimosis-ptosis-epicanthus Inversus Syndrome with Unexplained Visual Loss. *Investigative Ophthalmology and Visual Science Supplement*. 2002.
 21. Sun JK, Rizzo JF. Delayed Visual Recovery Associated with Hyperbaric Oxygen Treatment after Retinal Artery Occlusion. *Investigative Ophthalmology and Visual Science Supplement*. 2002.
 22. Jensen RJ, Ziv OR, Rizzo JF. Effect of Epiretinal vs Transretinal in in-vitro Electrical Stimulation of Rabbit Retinal Ganglion Cells. *Investigative Ophthalmology and Visual Science Supplement*. 2002.
 23. Ziv OR, Jensen RJ, Rizzo JF. In-vitro Activation of Ganglion Cells in Rabbit Retina: Effects of Glutamate Receptor Agents. *Investigative Ophthalmology and Visual Science Supplement*. 2002.
 24. Shire DB, Rizzo JF, Loewenstein J. Micromachined Tacks to Attach a Prosthesis to the Retina. *Investigative Ophthalmology and Visual Science Supplement*. 2002.

25. Scholz C, Vayaboury W, Enzmann V, Shire BD, Rizzo JF. Biocompatible Block Copolymers for Coating Sub-Retinal Prostheses. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
26. Yun D, Gotto DC, Merabet L, Rizzo JF. Boston Retinal Implant Project: An Accessible Web-Based Educational Resource. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
27. Poggel DA, Toth LJ, Kim D-S, Rizzo JF. Brain Activation Maps in Patients with Retinal Degeneration. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
28. Liang L, Rizzo JF, Sandell JH. Chx10 and Nestin Labeling in Retinitis Pigmentosa Retina. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
29. Merabet LB, Pascuale-Leone A, Fernandez E, Rizzo JF. Decisions and Issues Relating to Visual Neuroprosthesis Development, Neuroplasticity and Patient Testing. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
30. Drohan WA, Kelly SK, Rizzo JF, Wyatt JL, Fried SI. Development of Retinal Ganglion Cell Model to Assess Optimal Stimulation Parameters. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
31. Swider G, Drohan W, Ziv OR, Kelly SK, Wyatt JL, Rizzo JF. Development of Stimulation/Recording System for Evaluation of Retinal Implants. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
32. Gingerich MD, Shire DB, Wyatt JL, Rizzo JF. Development Towards a Flexible Passive Penetrating Electrode Array Technology for a Subretinal Prosthesis. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
33. Rizzo JF, Brookman J. Digital Compendium of Clinically-Relevant Neuro-Ophthalmic Literature. North American Neuro-Ophthalmology Society. 2007.
34. Winter J, Gokhale MN, Cogan SF, Rizzo JF. Drug Delivery Systems to Promote Electrode-Host Integration in Retinal Prostheses. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
35. Wyatt JL, Eisenman A, Valavanis S, Fried S, Stasheff S, Rizzo JF. Estimating Visual Motion from Neural Output of Rabbit Retina. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
36. Kelly SK, Swider GW, Drohan WA, Wyatt JL, Rizzo JF. Exploration of Optimal Coil Designs for Retinal Implant Power and Data Telemetry. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
37. Franco LM, Uhlenhuth M, Osasona A, Vayaboury W, Scholz C, Shire D, Rizzo JF, Kaplan H, Enzmann E. In-vitro Biocompatibility of Polymers Used in the Fabrication of Microelectrode Arrays. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
38. Ziv OR, Jensen RJ, Rizzo JF. Multielectrode Recording of Burst Responses from Retinal Ganglion Cells to Photic Stimuli of Variable Duration and Intensity. *Investigative Ophthalmology and Visual Science Supplement*. 2007.
39. Shire DB, Ziv OR, Gingerich MD, Jensen R, Rizzo JF, Cogan SF. Progress Toward a Platform for Studying Neural Coding of Vision: Recordings from a Flexible,

Transparent Multielectrode Array. Investigative Ophthalmology and Visual Science Supplement. 2007.

40. Cogan SF, Ehrlich J, Plante TD, Shire DB, Rizzo JF. Sputtered Iridium Oxide Films (SIROFS) for Retinal Stimulation Electrodes. Investigative Ophthalmology and Visual Science Supplement. 2007.
41. Chen J, Kim S, Brookman J, Snebold L, Kenney M, Shire D, Rizzo JF. Surgical Methods for Large Sub-Retinal Prosthetic Implantation. Investigative Ophthalmology and Visual Science Supplement. 2007.



ORIGINAL

EVIDENCE OF CAPITAL
(Exhibit4.1)

This exhibit must be completed and attached to a required document and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

Total Capital needed for this application: \$ 500,000.00

Attach one-page bank statement.

Please see attached Commonwealth Therapeutics Centers, Inc. one-page bank statement.

Letter of Commitment



ORIGINAL

This letter must be completed when the Corporation has its liquid operating capital in an individual account in the name of the Corporation's CEO/Executive Director or President of the Board of Directors instead of in the name of the Corporation. If this letter is not applicable, indicate N/A.

Date: N/A

Name of the Corporation: N/A

Name of CEO/Executive Director of the Corporation: N/A

Name of Account Holder: N/A

This Letter of Commitment is to ensure access to the required liquid capital to support the operations of [NAME OF CORPORATION] if so approved by the Department of Public Health. The total required capital needed for this application equals \$_____.

As Chief Executive Officer/Executive Director or President of the Board of Directors of [NAME OF CORPORATION], I affirm that these funds will remain in [ACCOUNT #] with [FINANCIAL INSTITUTION NAME] for the sole purpose of supporting the operations of the Corporation. Exhibit 4.1 of this application includes a one-page copy of the bank statement referenced here.

Signature of CEO/Executive Director or President of the Board of Directors: _____

Print Name _____

Date: _____

Notary Public

On this (insert date) day of (insert month), 20__, before me, the undersigned notary public, personally appeared (insert name of document signer), proved to me through satisfactory evidence of identification, which were (insert type of ID presented), to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (insert he/she/they) signed it voluntarily for its stated purpose.

If applicable, add:

(as partner for (insert name of partnership), a partnership)

(as (title) for (name of corporation), a corporation)

(as attorney in fact for (name of principal), the principal)

(as (title) for (name of entity/person), (a) (the) (type/description))

Signature of Notary Public



P.O. Box 7000
 ROP450
 Providence, RI 02940



1-800-862-6200
 Call Citizens' PhoneBank anytime for
 account information, current rates and
 answers to your questions.

**Commercial Account
 Statement**

1 OF 1

Beginning October 18, 2013
 through November 12, 2013



COMMONWEALTH THERAPEUTICS CENTERS
 159 BEACON ST
 BOSTON MA 02116-1402

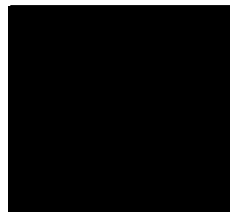
Commercial Checking

US702

SUMMARY

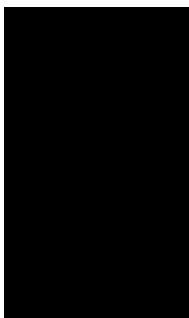
Balance Calculation

Previous Balance
 Checks
 Debits
 Deposits & Credits
 Interest Paid
Current Balance

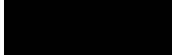


1,300,324.11 =

Balance
Average Daily Balance
Interest
Current Interest Rate
Annual Percentage Yield Earned
Number of Days Interest Earned
Interest Earned
Interest Paid this Year



COMMONWEALTH THERAPEUTICS CENT
 Business Performance Money Mkt



You can waive the monthly maintenance fee of \$20.00 by maintaining a minimum daily balance in your account of \$1,000.

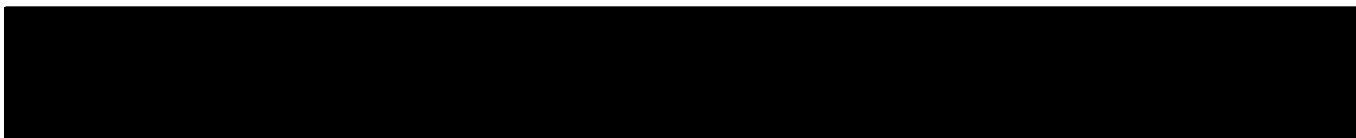
Your minimum daily balance used to qualify this statement period is: **\$1,300,324**

Previous Balance
 .00

TRANSACTION DETAILS

Deposits & Credits

Date
 10/18



Interest

Date
 10/31



Current Balance
 1,300,324.11

Daily Balance

Date	Balance	Date	Balance	Date	Balance
10/18	1,300,000.00	10/31	1,300,324.11		

MEMO

--Important notice regarding Posting Order is enclosed.
 --The variable Annual Percentage Yield (APY) on this statement for your Money Market account is your current APY and is subject to a daily increase or decrease after account opening without notice. Rates are not tied to an index and are subject to change at the bank's discretion.

**INDIVIDUALS/ENTITIES CONTRIBUTING 5% OR MORE OF INITIAL CAPITAL
(Exhibit4.2)**

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

	Individual Name	Business Address	\$ amount and % of Initial Capital Provided	Type of Contribution (cash, land, building, in-kind)	Role in Dispensary Operations	Terms of Agreement (if any)
1	Mark L. Ehrman, M.D., J.D.	CTC, Inc. 11 Beacon Street Suite 340 Boston, MA 02108	\$ 1,600,000 100%	CASH	President/CEO	Sixty (60) month term loan with fixed 9% interest compounded annually.
2			\$ %			
3	Add more rows as needed.....		\$ %			

	Entity Name/ Business Address	Leadership Names	\$ amount and % of Initial Capital Provided	Type of Contribution (cash, land, building, in-kind)	Role in Dispensary Operations	Terms of Agreement (if any)
1	N/A	CEO/ED: President/Chair: Treasurer: Clerk/Secretary:	\$ %			
2	Add more rows as needed.....	CEO/ED: President/Chair: Treasurer: Clerk/Secretary:	\$ %			

**CAPITAL EXPENSES
(Exhibit 4.3)**



ORIGINAL

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers Inc. Application # (if more than one): Marijuana Center #1

	Expense Type	Costs	Explanation of Expense
	Planning and Development		
1	Architect and design fees	\$ 4,119.	
2	Environmental survey	\$ 500	
3	Permits and Fees	\$ 3,423.94	Includes \$1,594.01 fees to DPH for Architectural Review @ \$8.25 per \$1000
4	Security assessment	\$ 3,500.00	credited against system purchase and installation
5	Land/building cost	\$ N/A	
6	Temporary seedling room walls and security installation	\$ 2,920	
7	caulking/ tyvek / insulation	\$ 3,800	
	Build-out Costs		
1	Construction expenses	\$ 182,993.22	
2	Painting and finishes	\$ 14,300	
3	Security system	\$ 48,400	additional expense after initial \$3,500 line 4 "Planning" etc
4	Landscape work	\$ N/A	
5	Parking facility	\$ N/A	
6	Other- describe	\$ 10,800	Highly secure entryway ADA compliant
7	High bay LCD Lighting system	\$ 8,600	
8	CO2 system	\$ 2,200	
9	ADA bathrooms	\$ 8,780	staff and patients, dispensary
	Equipment Costs		
1	Vehicles and transportation	\$ N/A	two delivery vehicles with OnStar and separate GPS locating system, secure communication devices and secure lockable containers for products. Vehicles will be leased
2	Cultivation equipment	\$ 125,800	
3	Furniture and storage needs	\$ 16,750	
4	Computer equipment	\$ 13,857	
5	HVAC	\$ 6,300.00	this is special HVAC for plants only; landlord supplies standard building HVAC systems already in place
6	Kitchen/food prep equipment MIPS and packaging	\$ 68,500	Including vaccum packing equipment with Nitrogen gas injection system
7	Water filtration and reverse osmosis equipment	\$ 10,400	
8	exterior lighting front and rear	\$ 3,500	supplement existing for security recordings and coverage
9	automation controls for temp and humidity	\$ 3,850	automated recording, and control via internet
	DPH FEES	\$91,500	1500 Phase I application; \$30000 Phase II \$50,000 Annual registration; Registration 20 Agents x 500;
	TOTAL	\$ 634,793.16	

**YEAR-ONE OPERATING BUDGET
(Exhibit 4.4)**

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc. Application # (if more than one): Marijuana Center #1

Budget Period: June 9, 2013 to June 8, 2014

Projected Number of Patients: 536 and Number of Visits: 2896

		Year ONE Budget	Budget Notes ¹
REVENUE			
1	Medical Marijuana sales	\$1,321,600	
2	Other supplies sold	\$105,840	MIPS
3	Other revenue sources	\$6,700	Vaporizer & Misc. Sales
A	TOTAL REVENUE:	\$1,434,140	
PAYROLL EXPENSES			
	Personnel Category	# FTE	
1	Dispensaries Manager	1/3	\$80k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
2	Dispensary Customer Service Agent	2	2 positions at \$35,000
3	Production & Cultivation Manager	1/3	\$80k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
4	Transportation Service Lead	1	\$50k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center #3
5	Transportation Aide	1	\$35k salary-1/3 Allocation to Marijuana Center 1, Marijuana Center #2, & Marijuana Center #3
6	Cultivation Lead	1/3	\$40k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
7	Cultivation Assistant	1/3	\$35k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center #3
8	Flowering and Harvest Assistant	1/3	\$40k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
9	Edibles and Infused Product Manager (MIPS)	1/3	\$60k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
10	Clone and Vegetative Assistant	1/3	\$40k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
11	Maintenance Lead	1/3	\$67k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
12	Quality Control Manager	1/3	\$72k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
13	Security, Tracking and Diversion Prevention Manager	1/3	\$80k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
14	Client Records Manager	1/3	\$60k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
15	Compliance Manager	1/3	\$72k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
16	Security Guard	2	2 positions at \$35,000.00
17	Education Manager	1/3	\$68k salary-1/3 Allocation to Marijuana Center



ORIGINAL

				#1, Marijuana Center #2, & Marijuana Center#3
18	Nursing Manager	1/3	28,331	\$85k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
19	Patient Advocate	1/3	18,000	\$54k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
20	Human Resource Manager	1/3	23,667	\$71k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
21	Administrator Office Assistant	1/3	14,667	\$44k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
22	Bookkeeper	1/3	15,000	\$45k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
23	Treasurer	1	0	*Executive Management \$1 per year first two years or until profitability and other criteria.
24	Human Resource Manager	1/3	23,667	\$71k salary-1/3 Allocation to Marijuana Center #1, Marijuana Center #2, & Marijuana Center#3
25	Chief Executive Officer	1	0	*Executive Management \$1 per year first two years or until profitability and other criteria.
26	Chief Financial Officer	1	0	Executive Management \$1 per year first two years or until profitability and other criteria.
27	Chief Operations Officer	1	0	Executive Management \$1 per year first two years or until profitability and other criteria.
28	Chief Compliance, Security, & Safety Officer	1	0	Executive Management \$1 per year first two years or until profitability and other criteria.
B	TOTAL SALARIES		\$544,663	
C	Fringe Rate and Total	% 15	\$ 87,146	
D	TOTAL SALARIES PLUS FRINGE (B+C)		\$631,809	
OTHER EXPENSES				
1	Consultants		\$80,000	Community Outreach programs and Attorneys
2	Equipment		\$15,000.	Copier Machine and telephone
3	Supplies		\$116,400	Cultivation packaging testing etc. estimated
4	Office Expenses		\$ 75,000	
5	Utilities		\$ 74,060	Water, Electricity, Gas
6	Insurance		\$ 24,000	
7	Internet and Telephone Service		\$ 5,000	
8	Interest		\$ 48,000	Loans est. \$1.6mm, allocate interest expense among the three dispensaries.
8	Depreciation/Amortization		\$ 0	
9	Leasehold Expenses		\$285,000	Include Dispensary, Cultivation & Processing Sites
10	Bad Debt		\$ 0	
11	Term Loan (60) months –Principal		\$ 106,667	Amortization of loan principal \$1.6mm, allocate among the three dispensaries.
12			\$	
E	TOTAL OTHER EXPENSES		\$ 829,127	
	TOTAL EXPENSES: (D+E)		\$1,460,936	
	DIFFERENCE		(\$26,796)	

¹ Enter short explanation of expenses

 ORIGINAL

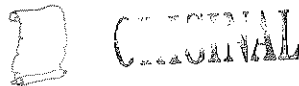
EVIDENCE OF INTEREST IN DISPENSARY SITE
(Exhibit 5.1)

This exhibit must be completed or marked N/A and attached to required documents and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

Physical Address	County	Type of Evidence Attached
Bunker Hill Business Center 440-460 Rutherford Avenue Charlestown, MA 02129	Suffolk	LETTER OF INTENT TO LEASE (4,050 SF)
120 Lincoln Street Boston, MA 02111	Suffolk	LETTER OF INTENT TO LEASE



**CUSHMAN &
WAKEFIELD®**

Cushman & Wakefield of
Massachusetts, Inc.
125 Summer Street
Suite 1500
Boston, MA 02110-1616
(617) 204 5975 Tel
(617) 330 9499 Fax
Scott.gredler@cushwake.com

November 18, 2013

Mark Lawrence Ehrman, M.D., M.Sc., JD
President
Commonwealth Therapeutics Centers, Inc.

Re: Letter of Intent to Lease – Bunker Hill Business Center, Charlestown, MA

Dear Mark:

On behalf of GMIP II BUNKER HILL, LLC ("Landlord") of the above referenced property, I am pleased to submit our Letter of Intent to lease to Commonwealth Therapeutics Centers, Inc. ("Tenant") approximately 4,050 square feet of building area under the following terms and conditions:

BUILDING: Bunker Hill Business Center
440-460 Rutherford Avenue
Charlestown, MA 02129

TENANT: Commonwealth Therapeutics Centers, Inc.

LANDLORD: GMIP II BUNKER HILL, LLC
65 Locust Avenue, Suite 200
New Canaan, CT 06840

MANAGEMENT: Cambridge Hanover, Inc.

PREMISES: Approximately 4,050 SF

**SCHEDULED
LEASCE COMMENCEMENT &
OCCUPANCY DATE:** Scheduled Lease Commencement Date shall be upon completion of
Landlord Improvements, targeted for February 1, 2014.



RENT COMMENCEMENT: Upon the satisfaction of all contingencies and receipt of permits. Tenant shall commence construction upon receipt of the same. Contingencies include: a) Tenant shall be offered and accept a "Certificate" by the MA DPH authorizing Tenant to dispense and grow marijuana in the Premises prior to commencement of Rent, payment of CAM, payment of Real Estate Taxes, etc. Should tenant not be offered and accept a dispensary license and growing license in Charlestown then Tenant may, at its sole election, opt to cancel this Offer and any lease that may result there from, and this Offer and the resulting Lease shall be null and void and of no effect, and neither Landlord nor Tenant shall have any indebtedness or claim upon the other at law or otherwise. Rent shall not commence, nor shall Tenant pay CAM and Real Estate Taxes, until all contingencies are satisfied and tenant has completed its build-out as required by relevant federal/state/municipal authorities.

TERM: Five (5) years

BASE RENT: \$15 NNN with 3% annual increases

OPERATING EXPENSES: Tenant to pay for its proportionate share of all operating expenses including real estate taxes and special assessments, insurance, landscape maintenance, exterior lighting, property management and maintenance. Estimated CAM charges for 2013 are \$3.82 per square foot. Operating Expenses shall not include costs incurred by Landlord for replacement of the roof and other structural elements, including the foundation and load-bearing walls.

UTILITIES: Utilities shall be separately metered; Tenant shall be responsible for the payment all of utility services consumed in or at the Premises.

SUBLET and ASSIGNMENT: Tenant shall have the right, at any time, to sublease or assign all or any portion of Tenant's Premises to any unrelated entities with Landlord's consent, which is not to be unreasonably withheld, conditioned or delayed. To be further described in the lease document.

RENEWAL OPTION: Tenant shall have one (1) option to extend the lease for a term of five (5) years. Tenant shall provide nine (9) months prior written notice to exercise such option. Base renewal option rent shall be a fair market value (FMV,) and in any event, never less than the prior year's rental rate, escalated at 3%. Renewal options rent shall escalate 3% per year, over the base renewal option rent. Renewal options shall be further described in the lease.

LANDLORD WORK: Landlord shall deliver the Premises fully demised.

TENANT IMPROVEMENT ALLOWANCE: Landlord shall provide a Tenant Improvement Allowance equal to \$10 per RSF (\$40,500.00)

LOADING: Tenant will have access in common to one (1) loading dock.



ORIGINAL

- CLEAR HEIGHT:** Eighteen (18) feet.
- PARKING:** Tenant will have access in common to 2.4 parking spaces per 1,000 SF (total of 10 parking spaces.)
- SECURITY DEPOSIT:** Two (2) month's average base rent, subject to satisfactory review of Tenant's financial statements.
- PERMITTING CONTINGENCY:** Tenant shall commence its application once notified by DPH of Tenant's being awarded and accepting a "Certificate" for Charlestown, MA by MA DPH. Immediately following Tenant's receipt of such notification and his acceptance from DPH, currently scheduled for Jan 31 2013, Tenant will notify Landlord and shall commence its application for various permits/licenses and shall have one hundred eighty (180) days from Lease Commencement Date to obtain Permits and applicable Licenses. Tenant may request an additional thirty (30) day extension prior to the expiration of said one hundred eighty (180) day period with fifteen (15) days prior written notice. Should Tenant's application(s) be denied prior to the expiration of said one hundred eighty (180) day period (which may be extended to two hundred ten (210) days per the prior sentence (the, "Permitting Contingency Period")), they may terminate the lease.
- LANDLORD RESPONSIBILITY:** Landlord, at its sole cost and expense, shall be responsible for replacement of the roof and other structural elements, including the foundation and load-bearing walls.
- COMPLIANCE:** Landlord, at its sole cost and expense, will cause the Building to be in compliance with all codes and regulations pursuant to any federal, state or local government law, and shall so represent such compliance to Tenant.
- ENVIRONMENTAL:** Tenant confirms that hazardous material shall never enter the building. All hazardous material on site will be stored in Tenant's trucks. All environmental liability will be addressed in Tenant's certificate of insurance.
- SIGNAGE:** Tenant shall have access to pylon signage, per the general building standards.
- BROKERAGE COMMISSION:** Cushman & Wakefield is the sole broker in this potential lease transaction and shall receive compensation from Landlord as provided by separate agreement. Tenant indemnifies and holds Landlord harmless from any claims by any broker.



This non-binding Letter of Intent to Lease sets forth the general business terms and is also made subject to the following:

- The signing of a mutually satisfactory Lease on a net basis in which the Tenant pays for its proportionate share of CAM charges including all real estate taxes, assessments, utilities, insurance and maintenance costs by February 1, 2014. This proposal is further subject to the availability of the space.

If you are in agreement with all the above terms and conditions, please so indicate by signing below and returning this proposal via facsimile to me at (617) 330-9499, or via email at scott.gredler@cushwake.com. Upon receipt of the executed proposal, we will prepare a draft lease for your review.

Sincerely,

Scott M. Gredler
Authorized Agent for
GMIP II BUNKER HILL, LLC

AGREED AND ACCEPTED:

Commonwealth Therapeutics Center, Inc.

By: Mark Gorman MD

Its: President

Date: Nov 20 2012

cc: Jonathan Garrity via Email



BOSTON REALTY ADVISORS

Bonny L. Doorakian
Managing Director
T 617.850.9655
bdoorakian@bradvisors.com

November 20, 2013

 ORIGINAL

Rich M. Lobkowicz
Associate
Cushman & Wakefield
225 Franklin Street
Boston, MA 02110

**Re: Letter of Intent - 120 Lincoln Street –
Commonwealth Therapeutics Centers, Inc. (CTC Inc.)**

Dear Rich:

I have been authorized to submit the following Letter of Intent to CTC Inc. to lease office space at 120 Lincoln Street UNIT 1A, Boston Massachusetts, as follows:

Landlord: KBY LLC
128 Lincoln Street
Boston, MA

Tenant: Commonwealth Therapeutics Centers, Inc. (CTC Inc.)

Premises: Office space consisting of 3,281 USF

Term: Five (5) Years

**Lease/
Rent Commencement:** February 1, 2014

Base Rental Rate: Year 1: \$31.00/RSF
with 3% increases per annum there after.

Tax Charge: Tenant shall pay for any increase in Re Taxes above the Fiscal Year End; June 30, 2014. Landlord will provide last two (2) year's historical RE tax bills.

**Condo Fees/
Operating Expenses:** Tenant shall pay for any increase in Operating Expenses/Condo Fees above Calendar Year End; December 31, 2013. Landlord shall provide last two (2) year's historical condo fees (operating expenses).

Utilities: Electricity for lights and plugs is separately metered and the responsibility of the Tenant.

Use Clauses: "Other Healthcare Facility." Landlord understands and acknowledges that Tenant shall use subject Premises as a Medical Marijuana Dispensary.

- Zoning:** Tenant is responsible for all state and municipal zoning approvals and permits, as is necessary.
- Cleaning:** Tenant shall be responsible for its own nightly cleaning and trash removal.
- Security:** Tenant shall have the right to install its own security systems.
- Signage:** Tenant may place a small plaque containing "Commonwealth Therapeutics Centers, Inc." on the building at its own expense with City of Boston zoning, DPH and Landlord and condo association approval.
- Plans:** Any and all initial Tenant Improvements will be agreed to in writing prior to commencement of construction.
- Renovation:** All renovation cost within the premises will be paid by the Tenant.
- HVAC:** HVAC to be delivered in good working order.
- Tenant Improvements:** Tenant may further improve the space, which is intended, for its specified use. All Tenant improvements must be approved by Landlord in writing prior to commencement of construction. This approval shall be prompt and not unreasonably withheld, conditioned or delayed.
- Condition of Premises:** Landlord shall deliver the premises in "as is" with the HVAC system in good working order.
- Security Deposit:** A minimum of three months of the average rent.
- Guarantor:** To be determined pending the review of Tenant's audited financials.
- Renewal Option:** Tenant shall have one (1) five (5) year option to renew at the then fair market value.
- Sublease & Assignment:** Tenant has the right to Sublease or Assign the Tenant's premises with Landlord's consent. Such consent shall not be unreasonably withheld so long as Subtenant or Assignee is a suitable Tenant and does not generate additional foot traffic all as further outlined in the Lease.
- Permitting Contingency:** Tenant shall commence its application once notified by DPH of Tenant's being awarded a "Certificate" for Boston, MA by MA DPH. Immediately following Tenant's receipt of such notification from DPH, currently scheduled for Jan 31, 2013, Tenant will notify the Landlord and shall commence its application for various permits/licenses and shall have one hundred eighty (180) days from Lease Commencement Date to obtain Permits and applicable Licenses. Tenant may request an additional thirty (30) day extension prior to the expiration of said one hundred eighty (180) day period with fifteen (15) days prior written notice. Should Tenant's

application(s) be denied prior to the expiration of said one hundred eighty (180) day period (which may be extended to two hundred ten (210) days per the prior sentence (the, "Permitting Contingency Period")), they may terminate the lease with written notice to the Landlord. The penalty for exercising such option shall be six (6) month's average rent as well as any legal fees incurred by Landlord. This shall be further described in the lease.

Access: Tenant shall have access to the building 24 hours/day 365 days / year.

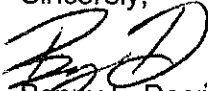
Brokerage Fees: Tenant warrants and represents that it has dealt with no brokers relating to this transaction other than Boston Realty Advisors and Cushman & Wakefield. Tenant shall indemnify and hold Landlord harmless from claims of any other broker in connection with this transaction. Landlord shall pay all brokerage commissions to broker per a separate agreement.

Confidentiality and NDA: It is understood that this lease proposal and information contained herein is highly confidential and may not be disclosed to any third party, other than governmental bodies and agencies in cooperation with proposed Tenant.

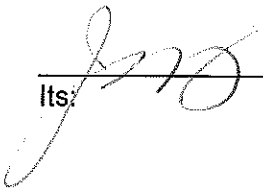
Expiration: This proposal expires 5PM November 25, 2013.

Lease Execution: A lease shall be fully executed on or before January 10, 2014.

This Letter of is not intended to be an enforceable contract, but only an indication of the understanding of the undersigned with respect to matters herein set forth so that both parties may proceed to the negotiation, preparation and execution of a formal lease agreement. It is understood that a formal lease is a prerequisite to the creation of any enforceable contract between the parties and that which may only be evidenced by the execution and delivery of such lease by both parties thereto.


Sincerely,

Benny L. Doorakian
Managing Director

Agreed to and Accepted: KBY LLC


Its: _____

11/21/13
Date _____

Agreed to and Accepted: Commonwealth Therapeutics Centers, Inc. (CTC Inc.)


Its: _____

11/21/13
Date _____

 ORIGINAL

**EVIDENCE OF INTEREST IN CULTIVATION SITE
(Exhibit 5.2)**

This exhibit must be completed or marked N/A and attached to required documents and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Center, Inc. Application # (if more than one): Marijuana Center #1

Physical Address	County	Type of Evidence Attached
Bunker Hill Business Center 440-460 Rutherford Avenue Charlestown, MA 02129	Suffolk	LETTER OF INTENT TO LEASE (15,000 SF)



ORIGINAL



CUSHMAN & WAKEFIELD®

Cushman & Wakefield of
Massachusetts, Inc.
125 Summer Street
Suite 1500
Boston, MA 02110-1616
(617) 204 5975 Tel
(617) 330 9499 Fax
Scott.gredler@cushwake.com

November 15, 2013

Mark Lawrence Ehrman, M.D., M.Sc., JD
President
Commonwealth Therapeutics Centers, Inc.



Re: Letter of Intent to Lease – Bunker Hill Business Center, Charlestown, MA

Dear Mark:

On behalf of GMIP II BUNKER HILL, LLC ("Landlord") of the above referenced property, I am pleased to submit our Letter of Intent to lease to Commonwealth Therapeutics Centers, Inc. ("Tenant") approximately 15,000 square feet of building area under the following terms and conditions:

BUILDING: Bunker Hill Business Center
440-460 Rutherford Avenue
Charlestown, MA 02129

TENANT: Commonwealth Therapeutics Centers, Inc.

LANDLORD: GMIP II BUNKER HILL, LLC
65 Locust Avenue, Suite 200
New Canaan, CT 06840

MANAGEMENT: Cambridge Hanover, Inc.

PREMISES: Approximately 15,000 SF

SCHEDULED LEASCE COMMENCEMENT & OCCUPANCY DATE: Scheduled Lease Commencement Date shall be upon completion of Landlord Improvements, targeted for February 1, 2014.



RENT COMMENCEMENT: Upon the satisfaction of all contingencies and receipt of permits. Tenant shall commence construction upon receipt of the same. Contingencies include: a) Tenant shall be offered and accept a "Certificate" by the MA DPH authorizing Tenant to dispense and grow marijuana in the Premises prior to commencement of Rent, payment of CAM, payment of Real Estate Taxes, etc. Should tenant not be offered and accept a dispensary license and growing license in Charlestown then Tenant may, at its sole election, opt to cancel this Offer and any lease that may result there from, and this Offer and the resulting Lease shall be null and void and of no effect, and neither Landlord nor Tenant shall have any indebtedness or claim upon the other at law or otherwise. Rent shall not commence, nor shall Tenant pay CAM and Real Estate Taxes, until all contingencies are satisfied and tenant has completed its build-out as required by relevant federal/state/municipal authorities.

TERM: Five (5) years

BASE RENT: \$15 NNN with 3% annual increases

OPERATING EXPENSES: Tenant to pay for its proportionate share of all operating expenses including real estate taxes and special assessments, insurance, landscape maintenance, exterior lighting, property management and maintenance. Estimated CAM charges for 2013 are \$3.82 per square foot. Operating Expenses shall not include costs incurred by Landlord for replacement of the roof and other structural elements, including the foundation and load-bearing walls.

UTILITIES: Utilities shall be separately metered; Tenant shall be responsible for the payment all of utility services consumed in or at the Premises.

SUBLET and ASSIGNMENT: Tenant shall have the right, at any time, to sublease or assign all or any portion of Tenant's Premises to any unrelated entities with Landlord's consent, which is not to be unreasonably withheld, conditioned or delayed. To be further described in the lease document.

RENEWAL OPTION: Tenant shall have one (1) option to extend the lease for a term of five (5) years. Tenant shall provide nine (9) months prior written notice to exercise such option. Base renewal option rent shall be a fair market value (FMV,) and in any event, never less than the prior year's rental rate, escalated at 3%. Renewal options rent shall escalate 3% per year, over the base renewal option rent. Renewal options shall be further described in the lease.

LANDLORD WORK: Landlord shall deliver the Premises with ADA code compliant entry and access, two (2) sets of men's/ women's ADA code compliant bathrooms, 100% HVAC, floor drain, adequate electrical service, and 2,000 SF of finished office space. Cost of Landlord Work has been priced by Highland Development and estimated at \$35 PSF. Current price estimate utilizes existing inventory of new HVAC units, drywall and studs, which have previously been paid for by landlord, and excluded from quoted Landlord Work.



ORIGINAL

- TENANT IMPROVEMENT ALLOWANCE:** Landlord shall provide a Tenant Improvement Allowance equal to \$10 per RSF (\$150,000.00) for delivery of Landlord Work. All other cost associated with the delivery of Landlord Work shall be paid for by the Tenant, approximately \$20 per RSF (\$300,000.00.)
- LOADING:** Tenant will have access in common to one (1) loading dock.
- CLEAR HEIGHT:** Eighteen (18) feet.
- PARKING:** Tenant will have access in common to 2.4 parking spaces per 1,000 SF (total of 36 parking spaces.)
- SECURITY DEPOSIT:** Two (2) month's average base rent, subject to satisfactory review of Tenant's financial statements.
- PERMITTING CONTINGENCY:** Tenant shall commence its application once notified by DPH of Tenant's being awarded and accepting a "Certificate" for Charlestown, MA by MA DPH. Immediately following Tenant's receipt of such notification and his acceptance from DPH, currently scheduled for Jan 31 2013, Tenant will notify Landlord and shall commence its application for various permits/licenses and shall have one hundred eighty (180) days from Lease Commencement Date to obtain Permits and applicable Licenses. Tenant may request an additional thirty (30) day extension prior to the expiration of said one hundred eighty (180) day period with fifteen (15) days prior written notice. Should Tenant's application(s) be denied prior to the expiration of said one hundred eighty (180) day period (which may be extended to two hundred ten (210) days per the prior sentence (the, "Permitting Contingency Period")), they may terminate the lease.
- LANDLORD RESPONSIBILITY:** Landlord, at its sole cost and expense, shall be responsible for replacement of the roof and other structural elements, including the foundation and load-bearing walls.
- COMPLIANCE:** Landlord, at its sole cost and expense, will cause the Building to be in compliance with all codes and regulations pursuant to any federal, state or local government law, and shall so represent such compliance to Tenant.
- ENVIRONMENTAL:** Tenant confirms that hazardous material shall never enter the building. All hazardous material on site will be stored in Tenant's trucks. All environmental liability will be addressed in Tenant's certificate of insurance.
- SIGNAGE:** Tenant shall have access to pylon signage, per the general building standards.
- BROKERAGE COMMISSION:** Cushman & Wakefield is the sole broker in this potential lease transaction and shall receive compensation from Landlord as provided by separate agreement. Tenant indemnifies and holds Landlord harmless from any claims by any broker.

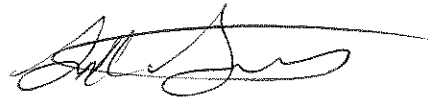
 ORIGINAL

This non-binding Letter of Intent to Lease sets forth the general business terms and is also made subject to the following:

- The signing of a mutually satisfactory Lease on a net basis in which the Tenant pays for its proportionate share of CAM charges including all real estate taxes, assessments, utilities, insurance and maintenance costs by February 1, 2014. This proposal is further subject to the availability of the space.

If you are in agreement with all the above terms and conditions, please so indicate by signing below and returning this proposal via facsimile to me at (617) 330-9499, or via email at scott.gredler@cushwake.com. Upon receipt of the executed proposal, we will prepare a draft lease for your review.

Sincerely,



Scott M. Gredler
Authorized Agent for
GMIP II BUNKER HILL, LLC

AGREED AND ACCEPTED:

Commonwealth Therapeutics Centers Inc

By: Mark Chman MD

Its: President

Date: Nov 20 2013

cc: Jonathan Garrity via Email



ORIGINAL

**EVIDENCE OF INTEREST IN PROCESSING SITE
(Exhibit 5.3)**

This exhibit must be completed or marked N/A and attached to required documents and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Center, Inc.

Application # (if more than one): Marijuana Center #1

Physical Address	County	Type of Evidence Attached
Bunker Hill Business Center 440-460 Rutherford Avenue Charlestown, MA 02129	Suffolk	LETTER OF INTENT TO LEASE (15,000 SF)



Cushman & Wakefield of
Massachusetts, Inc.
125 Summer Street
Suite 1500
Boston, MA 02110-1616
(617) 204 5975 Tel
(617) 330 9499 Fax
Scott.gredler@cushwake.com

November 15, 2013

Mark Lawrence Ehrman, M.D., M.Sc., JD
President
Commonwealth Therapeutics Centers, Inc.
[REDACTED]

Re: Letter of Intent to Lease – Bunker Hill Business Center, Charlestown, MA

Dear Mark:

On behalf of GMIP II BUNKER HILL, LLC ("Landlord") of the above referenced property, I am pleased to submit our Letter of Intent to lease to Commonwealth Therapeutics Centers, Inc. ("Tenant") approximately 15,000 square feet of building area under the following terms and conditions:

BUILDING: Bunker Hill Business Center
440-460 Rutherford Avenue
Charlestown, MA 02129

TENANT: Commonwealth Therapeutics Centers, Inc.

LANDLORD: GMIP II BUNKER HILL, LLC
65 Locust Avenue, Suite 200
New Canaan, CT 06840

MANAGEMENT: Cambridge Hanover, Inc.

PREMISES: Approximately 15,000 SF

**SCHEDULED
LEASE COMMENCEMENT &
OCCUPANCY DATE:** Scheduled Lease Commencement Date shall be upon completion of
Landlord Improvements, targeted for February 1, 2014.



RENT COMMENCEMENT: Upon the satisfaction of all contingencies and receipt of permits. Tenant shall commence construction upon receipt of the same. Contingencies include: a) Tenant shall be offered and accept a "Certificate" by the MA DPH authorizing Tenant to dispense and grow marijuana in the Premises prior to commencement of Rent, payment of CAM, payment of Real Estate Taxes, etc. Should tenant not be offered and accept a dispensary license and growing license in Charlestown then Tenant may, at its sole election, opt to cancel this Offer and any lease that may result there from, and this Offer and the resulting Lease shall be null and void and of no effect, and neither Landlord nor Tenant shall have any indebtedness or claim upon the other at law or otherwise. Rent shall not commence, nor shall Tenant pay CAM and Real Estate Taxes, until all contingencies are satisfied and tenant has completed its build-out as required by relevant federal/state/municipal authorities.

TERM: Five (5) years

BASE RENT: \$15 NNN with 3% annual increases

OPERATING EXPENSES: Tenant to pay for its proportionate share of all operating expenses including real estate taxes and special assessments, insurance, landscape maintenance, exterior lighting, property management and maintenance. Estimated CAM charges for 2013 are \$3.82 per square foot. Operating Expenses shall not include costs incurred by Landlord for replacement of the roof and other structural elements, including the foundation and load-bearing walls.

UTILITIES: Utilities shall be separately metered; Tenant shall be responsible for the payment all of utility services consumed in or at the Premises.

SUBLET and ASSIGNMENT: Tenant shall have the right, at any time, to sublease or assign all or any portion of Tenant's Premises to any unrelated entities with Landlord's consent, which is not to be unreasonably withheld, conditioned or delayed. To be further described in the lease document.

RENEWAL OPTION: Tenant shall have one (1) option to extend the lease for a term of five (5) years. Tenant shall provide nine (9) months prior written notice to exercise such option. Base renewal option rent shall be a fair market value (FMV,) and in any event, never less than the prior year's rental rate, escalated at 3%. Renewal options rent shall escalate 3% per year, over the base renewal option rent. Renewal options shall be further described in the lease.

LANDLORD WORK: Landlord shall deliver the Premises with ADA code compliant entry and access, two (2) sets of men's/ women's ADA code compliant bathrooms, 100% HVAC, floor drain, adequate electrical service, and 2,000 SF of finished office space. Cost of Landlord Work has been priced by Highland Development and estimated at \$35 PSF. Current price estimate utilizes existing inventory of new HVAC units, drywall and studs, which have previously been paid for by landlord, and excluded from quoted Landlord Work.



- TENANT IMPROVEMENT ALLOWANCE:** Landlord shall provide a Tenant Improvement Allowance equal to \$10 per RSF (\$150,000.00) for delivery of Landlord Work. All other cost associated with the delivery of Landlord Work shall be paid for by the Tenant, approximately \$20 per RSF (\$300,000.00.)
- LOADING:** Tenant will have access in common to one (1) loading dock.
- CLEAR HEIGHT:** Eighteen (18) feet.
- PARKING:** Tenant will have access in common to 2.4 parking spaces per 1,000 SF (total of 36 parking spaces.)
- SECURITY DEPOSIT:** Two (2) month's average base rent, subject to satisfactory review of Tenant's financial statements.
- PERMITTING CONTINGENCY:** Tenant shall commence its application once notified by DPH of Tenant's being awarded and accepting a "Certificate" for Charlestown, MA by MA DPH. Immediately following Tenant's receipt of such notification and his acceptance from DPH, currently scheduled for Jan 31 2013, Tenant will notify Landlord and shall commence its application for various permits/licenses and shall have one hundred eighty (180) days from Lease Commencement Date to obtain Permits and applicable Licenses. Tenant may request an additional thirty (30) day extension prior to the expiration of said one hundred eighty (180) day period with fifteen (15) days prior written notice. Should Tenant's application(s) be denied prior to the expiration of said one hundred eighty (180) day period (which may be extended to two hundred ten (210) days per the prior sentence (the, "Permitting Contingency Period")), they may terminate the lease.
- LANDLORD RESPONSIBILITY:** Landlord, at its sole cost and expense, shall be responsible for replacement of the roof and other structural elements, including the foundation and load-bearing walls.
- COMPLIANCE:** Landlord, at its sole cost and expense, will cause the Building to be in compliance with all codes and regulations pursuant to any federal, state or local government law, and shall so represent such compliance to Tenant.
- ENVIRONMENTAL:** Tenant confirms that hazardous material shall never enter the building. All hazardous material on site will be stored in Tenant's trucks. All environmental liability will be addressed in Tenant's certificate of insurance.
- SIGNAGE:** Tenant shall have access to pylon signage, per the general building standards.
- BROKERAGE COMMISSION:** Cushman & Wakefield is the sole broker in this potential lease transaction and shall receive compensation from Landlord as provided by separate agreement. Tenant indemnifies and holds Landlord harmless from any claims by any broker.



This non-binding Letter of Intent to Lease sets forth the general business terms and is also made subject to the following:

- The signing of a mutually satisfactory Lease on a net basis in which the Tenant pays for its proportionate share of CAM charges including all real estate taxes, assessments, utilities, insurance and maintenance costs by February 1, 2014. This proposal is further subject to the availability of the space.

If you are in agreement with all the above terms and conditions, please so indicate by signing below and returning this proposal via facsimile to me at (617) 330-9499, or via email at scott.gredler@cushwake.com. Upon receipt of the executed proposal, we will prepare a draft lease for your review.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott M. Gredler".

Scott M. Gredler
Authorized Agent for
GMIP II BUNKER HILL, LLC

AGREED AND ACCEPTED: Commonwealth Therapeutics Centers Inc
By: Mark Pinner MD
Its: President
Date: Nov 20 2013

cc: Jonathan Garrity via Email



ORIGINAL

EVIDENCE OF LOCAL SUPPORT
(Exhibit 5.4)

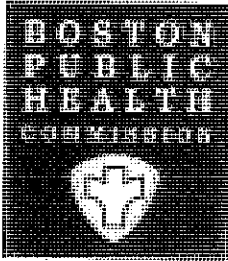
This exhibit must be completed or marked N/A and attached to required documents and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc. Application # (if more than one): Marijuana Center#1

Site	City/Town	County	Type of Support Attached
1	Boston	Suffolk	Signed Letter from Boston Public Health Commission Office with attachment
2			



ORIGINAL



Mark Ehrman, MD
Commonwealth Therapeutics
11 Beacon Street, Suite 340
Boston, MA 02108

November 19, 2013

Dear Dr. Ehrman,

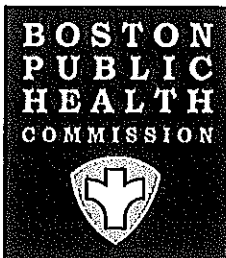
Per my recent conversation with your consultant, Jim McManus, attached is the position of the Boston Public Health Commission (BPHC) regarding letters of support or non-opposition for Phase II Registered Marijuana Dispensary (RMD) Applicants. As stated in the attachment, neither the Mayor's office, BPHC nor any other city department will be issuing letters of support or non-opposition for any RMD applicant. We hope that this will maintain a level playing field for all Boston applications.

BPHC is in the process of promulgating regulations that will govern the permitting and operation of RMDs in Boston, which we hope will be finalized on November 21, 2013. After these regulations are finalized, we are more than happy to meet with you to discuss your proposal.

Sincerely,

Lisa Conley, Esq.

Director of Intergovernmental Relations



 ORIGINAL

**Statement Regarding Local Approval Process for Registered Marijuana Dispensaries
in the City of Boston**

On September 19th, 2013 the Boston Public Health Commission (Commission) proposed a local regulation to Boston's Board of Health to create a local process for permitting and inspecting registered marijuana dispensaries and dispensary agents seeking to operate dispensaries in the city of Boston. The regulation establishes safety, patient access, and other operational requirements for proposed dispensaries.

A public hearing was scheduled for November 7th from 5:00pm to 7:00pm at the Boston Public Health Commission, 1010 Massachusetts Avenue, Hayes Conference Room, 2nd Floor, Boston, MA 02118. Notice was advertised in the Boston Globe. A copy of the public notice and regulation can be found online at: <http://www.bphc.org/boardofhealth/regulations>

Written comments may be submitted through 5pm on November 14th to the Boston Public Health Commission, by e-mail to boardofhealth@bphc.org, or in writing to Board Office, ATTN: Kathleen Hussey, 1010 Massachusetts Avenue, 6th Floor, Boston, MA 02118.

No statement of support, or "demonstration of support or non-opposition furnished by the local municipality" as set forth in 105 CMR 725.100(B)(3)(f), will be provided for any applicants by the Commission or the City of Boston other than the issuance of permits or approvals under the proposed regulation or other applicable local law.

In the event that the proposed regulation is adopted by the Board of Health, the Commission will issue guidelines establishing further guidance for application process which will be made available at <http://www.bphc.org/boardofhealth/regulations>. Applicants should also be advised that any approval issued under the proposed guidelines will be made subject to compliance with all other relevant laws ordinances, regulations and all permits and approvals required by law.

 ORIGINAL

SUMMARY CHART OF LOCATIONS AND LOCAL SUPPORT
(Exhibit 5.5)

This exhibit must be completed or marked N/A and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

Site	Full Address	Evidence of Interest Submitted	Evidence of Local Support
1 Dispensing	Bunker Hill Business Center 440-460 Rutherford Avenue Charlestown, MA 02129	LETTER OF INTENT TO LEASE (4,050 SF)	Signed Letter from Boston Public Health Commission Office with attachment.
2 Cultivation	Bunker Hill Business Center 440-460 Rutherford Avenue Charlestown, MA 02129	LETTER OF INTENT TO LEASE (15,000 SF)	Signed Letter from Boston Public Health Commission Office with attachment.
3 Processing	Bunker Hill Business Center 440-460 Rutherford Avenue Charlestown, MA 02129	LETTER OF INTENT TO LEASE (15,000 SF)	Signed Letter from Boston Public Health Commission Office with attachment.



ORIGINAL

RMD ORGANIZATIONAL CHART
(Exhibit 6.1)

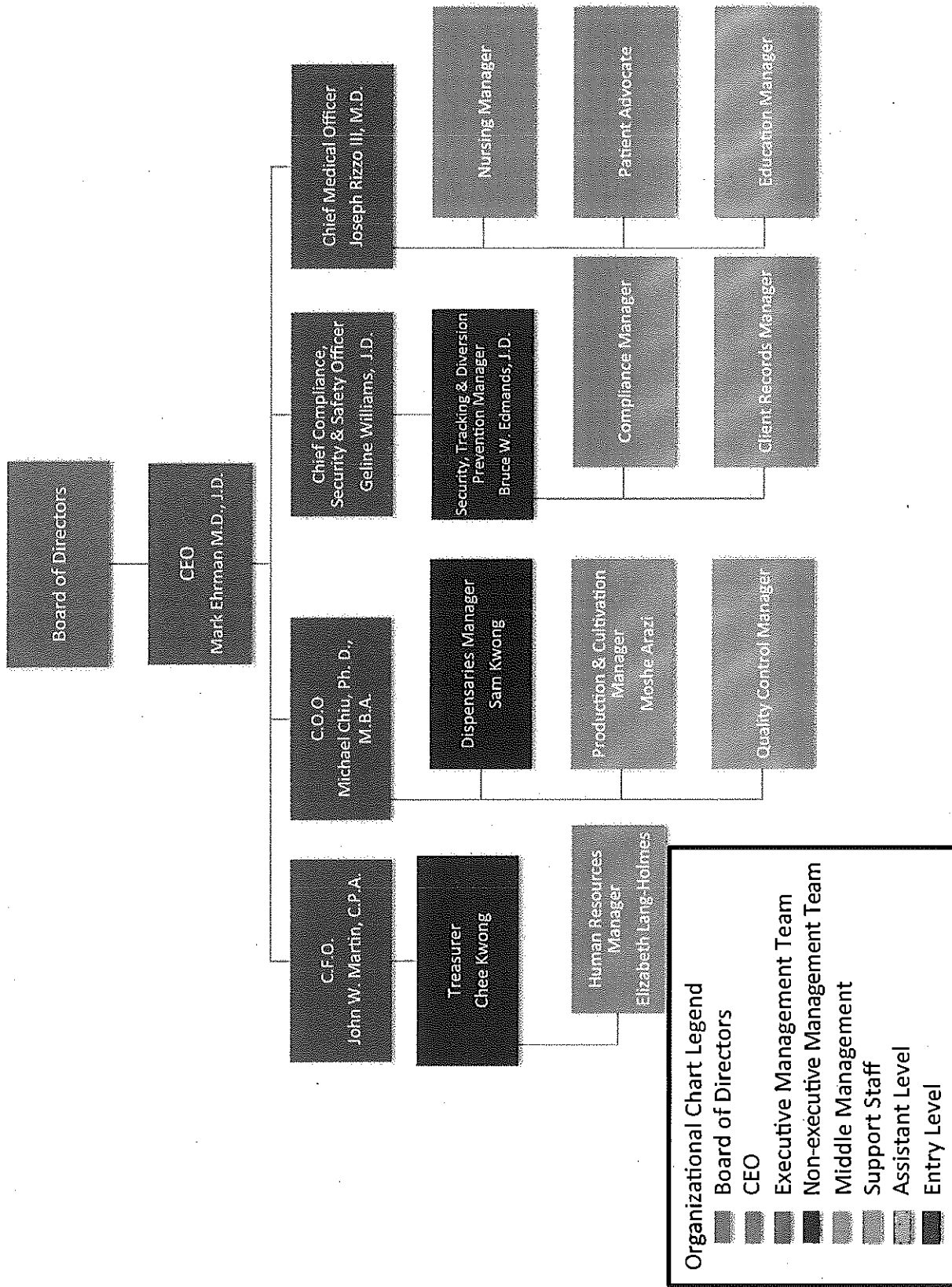
This exhibit must be completed and attached to a required document and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

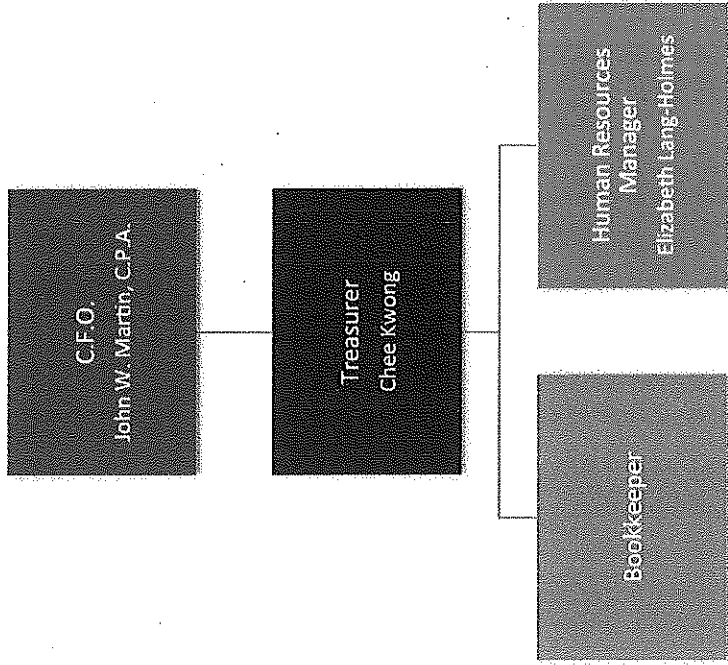
Application # (if more than one: Marijuana Center #1)

Attach organizational chart.

Commonwealth Therapeutics Centers, Inc. Senior Management Organizational Chart



Commonwealth Therapeutics Centers, Inc. Finance Division Organizational Chart

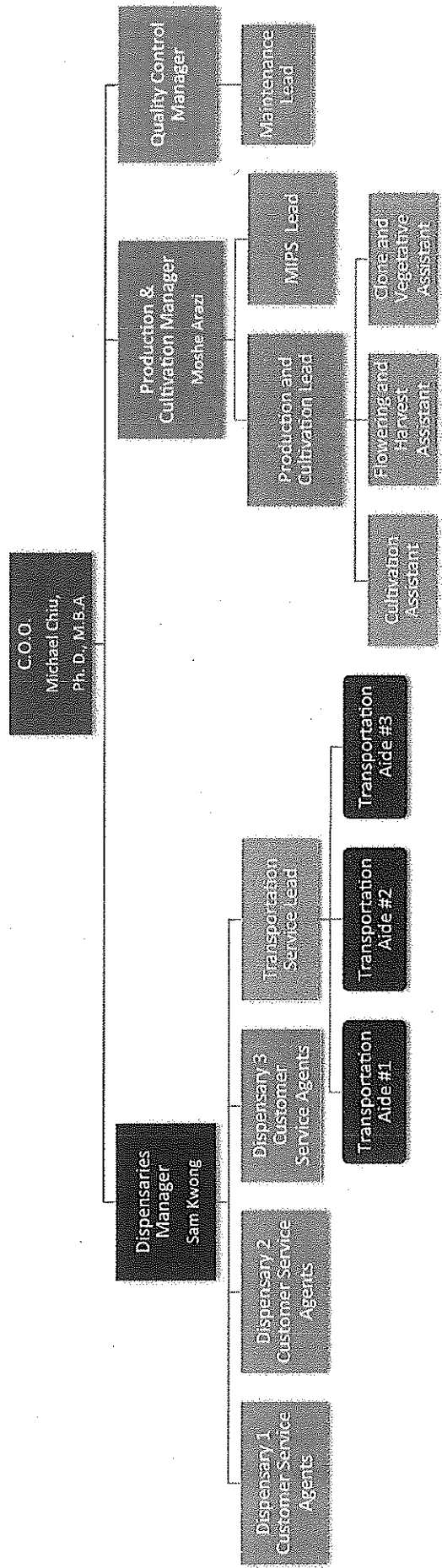


Organizational Chart Legend

- Board of Directors
- CEO
- Executive Management Team
- Non-executive Management Team
- Middle Management
- Support Staff
- Assistant Level
- Entry Level

Commonwealth Therapeutics Centers, Inc. Operations Division Organizational Chart

ORIGINAL



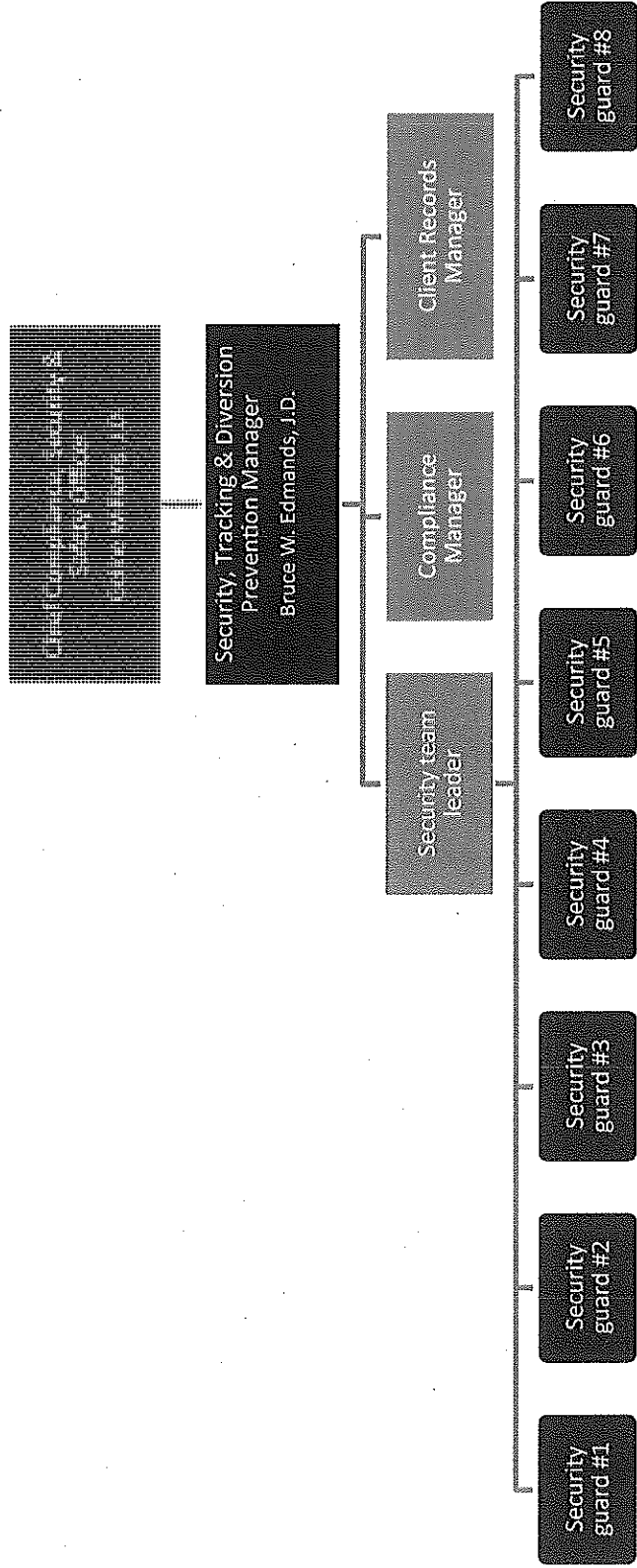
Organizational Chart Legend

- Board of Directors
- CEO
- Executive Management Team
- Non-executive Management Team
- Middle Management
- Support Staff
- Assistant Level
- Entry Level



ORIGINAL

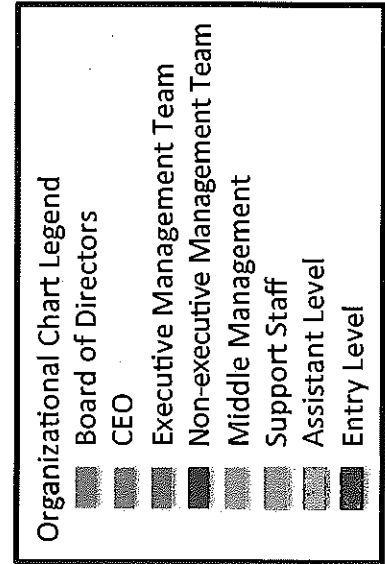
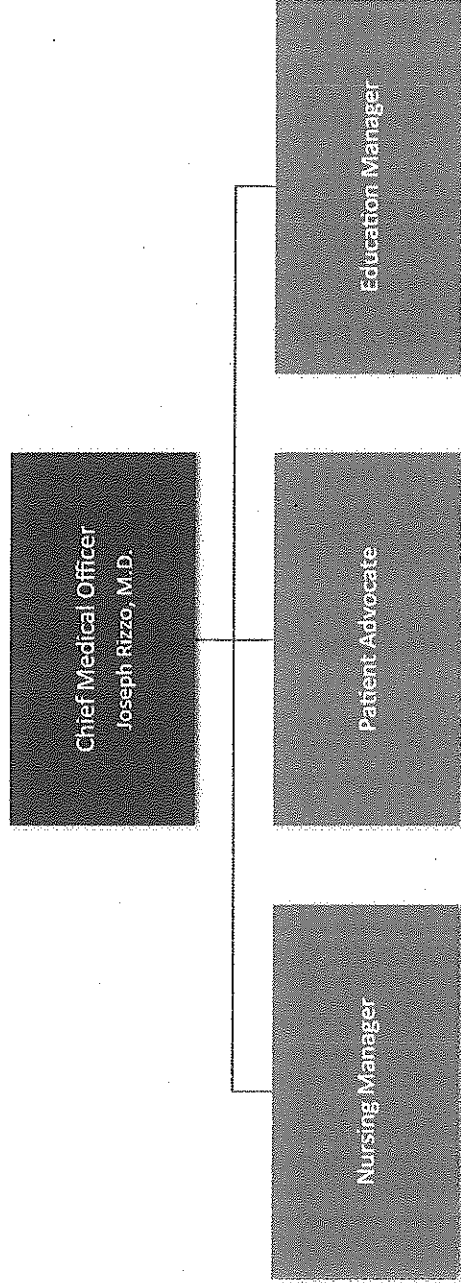
Commonwealth Therapeutics Centers, Inc. Compliance, Security & Safety Division Organizational Chart



Organizational Chart Legend

- Board of Directors
- CEO
- Executive Management Team
- Non-executive Management Team
- Middle Management
- Support Staff
- Assistant Level
- Entry Level

Commonwealth Therapeutics Centers, Inc. Medical Division Organizational Chart





ORIGINAL

**EVIDENCE OF ENROLLMENT WITH DEPARTMENT OF CRIMINAL JUSTICE
INFORMATION SERVICES (DCJIS)
(Exhibit 6.2)**

This exhibit must be completed and attached to a required document and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

Attach evidence of enrollment.

Please see attached evidence of enrollment with Department of Criminal Justice Information Systems.



iCORI

Commonwealth of Massachusetts
Department of Criminal Justice Information Services

Logged in as: CThCxdmk | [Home](#) | [Help](#) | [Logout](#)

- [Home](#)
- [Add Request](#)
- [View CORI Results](#)
- [Manage Account](#)
- [iCORI Cart \(0\)](#)

**Commonwealth Therapeutics
Centers Inc RMD**

Status: **Active**
Account Type(s): **Employer**

Account

- [Account Details](#)
- [Representatives](#)
- [Users](#)
- [Authorized Consumer Reporting Agencies](#)

Account Details

[\[Cancel Account\]](#)

Account Status

Account Status: **Active**
Date First Registered: **08/19/2013** Date Last Renewed:

Organization Details

[\[Edit\]](#) [\[Change Org Name\]](#) [\[View Org Name History\]](#)

Account Type(s): **Employer**

Organization Name: **Commonwealth
Therapeutics Centers Inc
RMD** Organization ID: [REDACTED]

Address: **159 Beacon St, Boston, MA 02116**

Phone No.: **617-262-6954**

Website:

Federal ID No.: [REDACTED]

Secretary of State ID No.: [REDACTED]

RMD STAFF (Exhibit 6.4)
--

This exhibit must be completed or marked N/A and submitted as part of the application.

	Name	Role/Title
1	Mark L. Ehrman, M.D., J.D.	Chief Executive Officer
2	John W. Martin, C.P.A.	Chief Financial Officer
3	Michael Chiu, Ph.D., M.S. M.B.A.	Chief Operations Officer
4	Geline W. Williams, J.D.	Chief Compliance, Security, & Safety Officer
5	Joseph F. Rizzo, III, M.D.	Chief Medical Officer
6	Chee W. Kwong	Treasurer
7	Elizabeth Lang-Holmes	Human Resource Manager
8	Sam Kwong	Dispensaries Manager
9	Moshe S. Arazi	Production & Cultivation Manager
10	Bruce W. Edmands, J.D.	Security, Tracking & Diversion Prevention Manager

RMD START-UP TIMELINE
(Exhibit 7.1)

This exhibit must be completed and submitted as part of the application. Include benchmarks for ALL RMD sites.

Corporation Name: Commonwealth Therapeutics Centers, Inc. Application # (if more than one): Marijuana Center #1

Key Benchmarks ¹	Due Dates	Person Responsible	Risk Level if Not Completed on Time	Date RMD Opens
<p>Receive working drawings from architects for growing facility and dispensary; plans out to bid to GC and sub trades</p>	<p>Dec 10 2013</p>	<p>Architect; Engineer; General Contractor; Sub trades</p>	<p>Preliminary plans have already been approved 11/9/2013. Construction drawings due 12/6/2013. Delay would not cause any substantial issues unless extreme</p>	<p>June 9 2014</p>
<p>Review plans with Inspectional Services Department at 1010 Massachusetts avenue for suggestions and corrections. Website should be up and running www.CTCMass.org and we will be supplementing the public pages for informational and educational content. Senior Executives are working on respective sections of operations manuals, website, educational prospects, and networking with medical and other professionals and community leaders.</p>	<p>Dec 13 2013</p>	<p>Architect; Engineer; CEO</p>	<p>Delay would not cause any substantial issues unless extreme. Not likely since we will have these plans weeks before scheduled date in CAD files. Have reviewed already with commissioner</p>	<p>June 9 2014</p>
<p>Review plans with security consultants, Chief of Compliance, Security and Safety; Boston Police Department ("BOD"); Fire Department; BRA</p>	<p>Dec 16-20 2013</p>	<p>Architect; Engineer; CEO; Chief Compliance Security and Safety Officer</p>	<p>Delay would not cause any substantial issues unless extreme. Not likely due to extensive prior parallel experience</p>	
<p>Receive modified plans incorporate changes recommended by ISD, Boston Fire Dept., BPD, BRA etc; Submit modifications to General Contractor and Sub trades for price adjustments</p>	<p>Dec 23, 2013</p>	<p>Architect; Engineer</p>	<p>Delay would not cause any substantial issues unless extreme</p>	

<p>etc Contract adjustment. Hiring has started in horticulture, education, outreach, bookkeeping, and operations.</p>				
<p>Review plans informally round II with ISD, Boston Fire Department, BRA, BPD; Informal meeting with representatives of Neighborhood Committee if relevant or necessary and with BRA to discuss and review changes to see if their interests have been satisfied.</p>	<p>Jan 10 2014</p>	<p>Architect; Engineer; Security Consultant; CEO; Chief Compliance, Security and Safety Officer</p>	<p>Delay would not cause any substantial issues unless extreme</p>	
<p>Second opportunity to redraft with recommended changes if any. Community meetings continue, networking and outreach with medical and nursing community, hospice groups and other patient interest groups, DPH, community health centers, and others.</p>	<p>Jan 17 2014</p>	<p>Architect; Engineer</p>	<p>Delay would not cause any substantial issues unless extreme</p>	
<p>Second phase revised plans received if relevant; Submit modifications again to General Contractor and Sub trades with submission letters for contract revisions and plan coordination.</p>	<p>Jan 24 2014</p>	<p>Architect; Engineer</p>	<p>Delay would not cause any substantial issues unless extreme</p>	
<p>Repeat this cycle until approved by all parties.</p>	<p>Jan 28 2014</p>	<p>Architect; Engineer; Security Consultant; CEO; Chief Compliance, Security and Safety Officer; all members of Board of Directors</p>	<p>Delay would not cause any substantial issues unless extreme; financial penalties in contracts render this unlikely plus working with contractors, architects, engineers and trade subcontractors with whom we have long experience</p>	
<p>Receive Provisional Certificate Approval DPH. Purchase tracking software MJ Freeway Software Solutions GramTracker Elite and GrowTracker Elite and computer systems for use offsite pending completion of work, security system implementation, and certification. Hire project manager and quantity surveyor to manage bidding and contracting, start of construction on both projects. Hire grower, two security guards, and</p>	<p>Jan 31 2014</p>	<p>DPH</p>	<p>If we do not receive this approval from DPH then the process is terminated, or appeal filed. If we do receive approval, proceed</p>	

bookkeeper. Start training and in-servicing.				
Submit formal application to Boston Redevelopment Authority ("BRA") for zoning approval and to Neighborhood Committee ("NC") if relevant for approval	Feb 3 2014	BRA / neighborhood committee if relevant	None- already initiated, must receive DPH provisional certificate in order to commence the application process; discussions with neighborhood committee if relevant will be commenced in Dec, but cannot be officially started without DPH cert.	
Receive BRA / neighborhood committee if relevant approval letter; Apply to Inspection and Services Department City of Boston and Boston Fire Department for approval, stamped drawings and construction permits in Boston and sites; Start cleaning, sealing, Tyvek and insulation; order furniture per interior design plan. Order benches, irrigation system, pots, soils, nutrients, water filtration, reverse osmosis equipment, lights, electrical subsystems, analytic devices, packaging devices, kitchen equipment etc per schedule so that lead times are respected. May rent a secured warehouse to store all purchased and delivered equipment safely or use Extra Space Storage or Storage Bunker.	Feb 10 2014	CEO; Architect; Interior Designer	Date of filing with ISD will depend on date of reception of approval by neighborhood committee if relevant and BRA. Normally proceeds smoothly if they have already pre-reviewed the working drawings	
Start construction both Dispensary & cultivation Sites. Divide grow site into front side and back side with full floor to ceiling secure divider. Install temporary alarm system in small front space with remote camera viewing etc in three locations. Continue construction in rear space. Hire additional security guards and Dispensary Agent #1 - training and in-servicing.	Feb 12 2014	Architect; Engineer; General Contractor and relevant sub trades	Delays cause commensurate setbacks in completion; working with known architect, general contractor, sub trades, engineer and having good relations with ISD, landlord etc are helpful	
Clean and prepare temporary growing area to receive plants. Plant first seeds in reserved portion of space in cultivation facility (during construction; portable HVAC, humidifier, grow lights, grow at start in grow tents while work	Feb 17 2014	CEO and Production & Cultivation Manager	Day for day delay of first harvest if planting is delayed	

ORIGINAL

<p>proceeds in other portions of the facility. Security guards now work at all relevant areas. Hire two more growers for training. Two more security guards hired.</p>				
<p>Complete overall building cleaning, sealing, Tyvek wrap, additional insulation, metal studs for walls, security rewiring, floor drain installations (cultivation facility; HVAC, humidification; cabinetry drawings finalized and begin automated production) not sure where the parenthesis should end. Preliminary security complete in small grow area in rear site is completed contiguous to area in front side of grow area.</p>	<p>Feb 21 2014</p>	<p>Architect; Engineer; General Contractor and relevant sub trades</p>	<p>First harvest is not very sensitive to delays at this phase</p>	
<p>New seed planting for second wave of seedlings, in same area but different growing tents, lights, pots than first wave. Continue planting new batch of seedlings and / or clones every two weeks indefinitely. Shift to clones as soon as possible</p>	<p>March 3 2014</p>	<p>Production & Cultivation Manager and Cultivation Lead</p>		
<p>Finish rough for ADA front door, ramp, toilets; finish interior partitions, rough plumbing and electricity, install cabinetry in waiting area, display area of dispensary, office area in cultivation facility, HVAC ducts to front side of Cultivation facility. Most construction is complete with only "punch list" remaining. (Dispensary)</p>	<p>March 7 2014</p>	<p>Architect; Engineer; General Contractor and relevant sub trades</p>		
<p>Construction is complete (Cultivation facility; drying and curing area; packaging area; MPS kitchen)</p>	<p>March 17 2014</p>	<p>Architect; Engineer; General Contractor and relevant sub trades</p>		
<p>Move plants from temporary growth area in front of facility to permanent vegetative growth area (still under tents and portable lights) in rear side of cultivation facility.</p>	<p>March 17</p>	<p>Production & Cultivation Manager, Cultivation Lead, and assistant</p>		
<p>First wave of seedlings transitioned to flowering growth area. New seed batch started and cloning</p>	<p>March 21 2014</p>	<p>Production & Cultivation</p>		

<p>initiated if possible. Each successive batch of seedlings will be moved to flowering growth every two weeks, as a new batch of seeds or clones is planted and started on vegetative growth.</p>		<p>Manager; Cultivation Lead, and Assistant</p>		
<p>Finish hiring and training for first phase of Dispensary Agents, Cultivation assistants, bookkeeper, security guards for Marijuana Center I both cultivation and dispensary</p>	<p>March 21 2014</p>	<p>CEO; COO; CFO; Chief Compliance Security and Safety Officer; Human Resource Manager</p>		
<p>Complete build out of cultivation facility</p>	<p>March 31 2014</p>	<p>Architect; Engineer; General Contractor and sub trades</p>		
<p>Provisional Inspection by DPH; CTC Inc submits to DPH a written Plan of Correction per 105CMR725.310 (A) and (B) within 10 days for all violations cited. With respect to each deficiency CTC Inc states the specific corrective steps to be taken, a timetable for each such step, and a date by which compliance with 105CMR725.000 will be achieved, consistent with achievement of compliance in the most expeditious manner possible</p>	<p>March 31 2014</p>	<p>DPH</p>	<p>Failure causes delays according to nature of the defect found and nature of cure</p>	
<p>First harvest first batch of seedlings after 6-8 weeks of flowering growth. Moved to drying area. Temperature, airflow, and humidity adjusted accordingly.</p>	<p>May 2 2014</p>	<p>Production & Cultivation Manager; Cultivation Lead; Assistant; Flowering & Harvest Lead</p>		
<p>Drying completed for first batch, residual humidity measured, inventory entered etc and batch moved to curing / decarboxylation. First waste delivery for incineration after grinding with organic residues.</p>	<p>May 9 2014</p>	<p>Production & Cultivation Manager; Cultivation Lead; and Assistant</p>		

ORIGINAL

<p>Second batch harvested, moved to drying. Samples for analysis if needed. Routine microscopy begins for fungal or bacterial infestation, colony counts etc.</p>	<p>May 16 2014</p>	<p>Production & Cultivation Manager; Cultivation Lead; Flowering & Harvest Lead; & Quality Control Manager</p>		
<p>Second Provisional Inspection by DPH if necessary. Deficiencies from 1st inspection checked and remediation corroborated. CTC Inc submits to DPH a written Plan of Correction per 105CMR725.310 (A) and (B) within 10 days for all violations cited. With respect to each deficiency CTC Inc states the specific corrective steps to be taken, a timetable for each such step, and a date by which compliance with 105CMR725.000 will be achieved, consistent with achievement of compliance in the most expeditious manner possible</p>	<p>May 26 2014</p>	<p>DPH</p>		
<p>License to operate received</p>	<p>May 30 2014</p>	<p>DPH</p>		
<p>Curing / decarboxylation completed for first batch. Samples sent to lab.</p>	<p>May 30 2014</p>	<p>Production & Cultivation Manager; Assistant; Quality Control Manager</p>		
<p>Sample results reported. Failed samples discarded. Passed samples inventoried, vacuum packed under nitrogen with new equipment, entered in product inventory and ready for sale. Dried, packaged, labeled. MIPS produced, samples sent to lab for testing. Packaged and labeled</p>	<p>June 5 2014</p>	<p>Production & Cultivation Manager; Assistant; Quality Control Manager and MIPS Manager</p>		
<p>MIPS lab results returned. Passed batches and lots entered inventory for sale. Failed discarded.</p>	<p>June 7 2014</p>	<p>Production & Cultivation</p>		



ORIGINAL

Marijuana flower buds and leaves are available in storage and used to produce MIPS. MIPS inventoried, packaged, labeled		Manager, Quality Control Manager, and MIPS Manager		
First batch inventoried, vacuum packed under nitrogen with new equipment, entered in product inventory and ready for sale	June 7 2014	Production & Cultivation Manager		
Grand opening	June 9 2014			June 9 2014

Insert more rows if needed



ORIGINAL

PROPOSED SLIDING PRICE SCALE
(Exhibit 7.12)

This exhibit must be completed and attached to a required document and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers, Inc.

Application # (if more than one): Marijuana Center #1

Attach sliding price scale.

Please see attached sliding price scale.

 ORIGINAL

Family Size	Maximum Annual Income Limit
1	\$11,490
2	\$15,510
3	\$19,530
4	\$23,550
5	\$27,570
6	\$31,590
7	\$35,610
8	\$39,630
Each Additional	\$7,538

Patients at or below 100% adjusted federal poverty may receive one ounce of medical marijuana, or MIPs equivalent, per month at no cost, and receive a 25% discount on all marijuana products thereafter in each month up to the limit recommended.

For patients on Temporary Assistance for Needy Families or other public assistance programs, or patients on MassHealth, we will work together with DPH and state agencies to determine a fair and symmetric program. Additionally, patients who do not qualify by the strict mathematical standards but who have particular medical needs, such as severe pain or refractory symptoms, will be considered on a case-by-case basis for assistance.

200% of the Federal Poverty Level Guidelines	
Family Size	Maximum Annual Income Limit
1	\$22,980
2	\$31,020
3	\$39,060
4	\$47,100
5	\$55,140
6	\$63,180
7	\$71,220
8	\$79,260
Each Additional	\$8,040

Patients at or below 101-200% adjusted federal poverty may receive one ounce of medical marijuana, or MIPs equivalent, per month at no cost, and receive a 20% discount on all marijuana products thereafter in each month up to the limit recommended.

For patients on Temporary Assistance for Needy Families or other public assistance programs, or patients on MassHealth, we will work together with DPH and state agencies to determine a fair and symmetric program. Additionally, patients who do not qualify by the strict mathematical standards but who have particular medical needs, such as severe pain or refractory symptoms, will be considered on a case-by-case basis for assistance.

300% of the Federal Poverty Level Guidelines	
Family Size	Maximum Annual Income Limit
1	\$34,470
2	\$46,530
3	\$58,590
4	\$70,650
5	\$82,710
6	\$94,770
7	\$106,830
8	\$118,890
Each Additional	\$10,050

Patients at or below 201-300% adjusted federal poverty may receive one ounce of medical marijuana, or MIPs equivalent, per month at no cost, and receive a 15% discount on all marijuana products thereafter in each month up to the limit recommended.

For patients on Temporary Assistance for Needy Families or other public assistance programs, or patients on MassHealth, we will work together with DPH and state agencies to determine a fair and symmetric program. Additionally, patients who do not qualify by the strict mathematical standards but who have particular medical needs, such as severe pain or refractory symptoms, will be considered on a case-by-case basis for assistance.

APPLICATION RESPONSE FORM SUBMISSION PAGE

CERTIFICATION OF ASSURANCE OF COMPLIANCE: ADA and NON-DISCRIMINATION BASED ON DISABILITY

Applicants must certify that they will comply with all state and federal requirements regarding equal employment opportunity, nondiscrimination, and civil rights for persons with disabilities. The Applicant must complete a Certification of Assurance of Compliance: ADA and Non-Discrimination based on Disability. By signing, the Applicant formally notifies the Department that the Applicant is in compliance and shall maintain compliance with all applicable requirements.

- I certify, that the Applicant is in compliance and shall maintain compliance with all applicable federal and state laws protecting the rights of persons with disabilities, including but not limited to the Americans with Disabilities Act ("ADA"), 42 U.S.C. §§ 12131-12134; Article CXIV of the Massachusetts Constitution; and; Chapter 93, § 103; Chapter 151B; and Chapter 272, §§ 98 and 98A of the Massachusetts General Laws.
- I understand that federal and state laws prohibit discrimination in public accommodations and employment based solely on disability. I recognize that to make goods, services, facilities, privileges, advantages, or accommodations readily accessible to and usable by persons with disabilities, the Applicant, under the ADA, must:
 - remove architectural and communication barriers in existing facilities, when readily achievable and, if not readily achievable, must use alternative methods;
 - purchase accessible equipment or modify equipment;
 - modify policies and practices; and
 - furnish appropriate auxiliary aids and services where necessary to ensure effective communication.

I understand that reasonable accommodation is required in both program services and employment, except where to do so would cause an undue hardship or burden. I also understand that the Massachusetts Constitution Article CXIV provides that no otherwise qualified individual shall, solely by reason of disability, be excluded from the participation in, denied the benefits of, or be subject to discrimination under any program or activity within the Commonwealth.

- I agree that the Applicant shall cooperate in any compliance review and shall provide reasonable access to the premises of all places of business and employment and to records, files, information, and employees therein for reviewing compliance with the ADA, the Massachusetts Constitution, other applicable state and federal laws, and this Contractual Agreement.
- I agree that any violation of the specific provisions and terms of this Assurance or of the ADA, and/or of any Corrective Action Plan shall be deemed a breach of a material provision of the Registered Facility registration between DPH and the Registered Facility. Such a breach shall be grounds for cancellation, termination, or suspension, in whole or in part, of the registration by the Department.

I affirm that I will comply with the requirements of this proposal.

Authorized Signatory (as designated in exhibit B):
 First Name: [Mark | Last Name: [Ehrman]
 Title: [CEO/President]

Authorized Signature for the Applicant Organization (in blue ink):

ORIGINAL

THREE-YEAR BUSINESS PLAN BUDGET PROJECTIONS *
(Exhibit 4.5)**

This exhibit must be completed and submitted as part of the application.

Corporation Name: Commonwealth Therapeutics Centers Inc.

Application # (if more than one): Marijuana Center #1

Fiscal Year Time Period: August 1 2014 - July 31 2015 Projected Start Date for the First Full Fiscal Year: Aug 1 2014 ***

	FIRST FULL FISCAL YEAR PROJECTIONS July 31 2015	SECOND FULL FISCAL YEAR PROJECTIONS July 31 2016	THIRD FULL FISCAL YEAR PROJECTIONS July 31 2017
Projected Revenue *	\$ 728,999.75	\$ 1,159,832	\$ 2,012,481
Projected Expenses	\$ 833,500	\$ 1,140,900	\$ 1,660,000
TOTAL:	\$ (104,500.25)	\$ 18,932	\$ 352,481
Number of Patients	672	1,045	1,688
Number of Patient Visits	4,972	7,732	12,490
Projected % of growth rate annually **	55.5%	61.5%	72.1%
Total FTE in staffing	13 FTE	18 FTE	28 FTE
Projected Medical Marijuana Inventory (based on two week supply)	4 Lbs.	6.125 Lbs.	9.9 Lbs.

* Revenue and Expense projections are conservative. We are financially committed and otherwise prepared to satisfy greater demand.

** Growth Rate shown as forward-looking growth rate to estimate growth during each year. We have assumed constant number of patient visits per patient, undoubtedly a simplification. Also we have assumed a nearly constant price of product inflated only at 3 percent annually. This is subject to extremely wide variation depending on unforeseeable political and economic considerations.

*** These projections assume open and transparent availability of information and cooperation with municipal authorities in Boston, such as but not limited to the licensing or permitting, zoning, neighborhood approval, and application processes. Start date, time line, budget considerations, and sales projections are all subject to this requirement. If such transparent and cooperative interaction is unavailable, then these projections may suffer variation or delay, particularly with regard to timeline, startup date etc.