Doherty Wallace Pillsbury & Murphy P.C.

March 25, 2021

Via Email &
Federal Express

Sandisfield Board of Selectmen
Brian O'Rourke, Chairman
George Riley
Mark Newman
66 Sandisfield Road
P.O. Box 90
Sandisfield, MA 01255

Re: Application for Special Permit by SAMA Productions, LLC

Dear Chairman O'Rourke and Members of the Board of Selectmen:

As you know, I represent an ever-growing group of residents and taxpayers who own property in Sandisfield. For the reasons set forth herein, I respectfully request on their behalf that the Select Board (the "Board") deny the Special Permit Application (the "Application") filed by SAMA Productions, LLC ("SAMA") in connection with a commercial cannabis facility located at Lot 8 on Abby Road (the "Project").

As a preliminary matter, it is crucial to note that SAMA's Application is woefully incomplete and lacks crucial facts and documentation that would be required for the Board to make a well-reasoned and thoughtful decision regarding the proposal. Furthermore, the scant information that is included raises far more questions than it answers. These issues and shortcomings are discussed in more detail below and, on their own, form a sufficient basis to deny the Application.

More importantly, however, the Town of Sandisfield Zoning Bylaws (the "Bylaws") require that the Board deny the Application for the simple reason that the Application seeks a special permit for uses that are not permitted under the plain language of the Bylaws. To grant a special permit to SAMA for the Project would clearly exceed the authority of the Board and would almost certainly result in a reversal on appeal.

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I. The Sandisfield Bylaws Do Not Allow the Board to Grant a Special Permit for the Uses Set Forth in the Application.

Sandisfield's Zoning Bylaws are "protective" in nature in that they set forth permitted uses and forbid any use that is not explicitly permitted therein. *See* Bylaws, Section 5 ("Except as provided by law or in the bylaw, …no building structure, or land or part thereof shall be used for any purpose or in any manner other than one or more of the uses hereinafter set forth as permitted by right or as permissible by special permit and so authorized, in accordance with the provisions of the bylaw."). Thus, for any use to be permissible, it must be clearly listed as a "by right" use – or receive a special permit in accordance with the bylaws governing that process.

While SAMA seeks recognition of its proposed use as a "commercial greenhouse" – a use that is permitted only by special permit under the Bylaws – the facts and law make it very clear that the "commercial greenhouse" contemplated by the Bylaws does not include SAMA's proposal. A careful consideration of the specifics of commercial cannabis growing, as well as consideration of the parcel in question and the applicable state law on the subject, strongly supports denial of this special permit.

While the Bylaws do allow "commercial greenhouses" if the applicant can satisfy the requirements of a special permit, it is plain that the meaning of the language in the Bylaws did not contemplate use of a greenhouse for the growth of cannabis at the time it was drafted and adopted. This is true for the obvious reason that cannabis cultivation was not a legal activity within the Commonwealth at the time of adoption, but more importantly, the practicalities of a cannabis greenhouse vary significantly and dramatically from any other greenhouse operation due to the nature of the crop and the level of oversight at the State level.

Indeed, unlike a typical "commercial greenhouse," a cannabis growing facility requires 24-hour security, cameras, security fencing, and a complex ventilation system to prevent the escape of any odor or noxious fumes from the cannabis or other chemicals used in the growing process. The impact of cannabis greenhouses (and other growing facilities) on neighbors, wildlife, and abutting properties far exceeds the minimal impact that would result from a traditional commercial greenhouse.

Moreover, state law has specifically stated that the growing of commercial cannabis is not an agricultural use in the context of zoning. G. L. c. 40A, § 3 ("…the terms agriculture, aquaculture, floriculture and horticulture shall not include the growing, cultivation, distribution or dispensation of marijuana…"). As a result, the activity proposed by SAMA in its commercial greenhouses does not even constitute agricultural activity under state zoning laws. By incorporating this statement into state law, the Legislature has acknowledged that the growing of cannabis is a unique undertaking that deviates from the typical considerations used in considering a traditional agricultural project and should be given extra scrutiny.

Furthermore, the complex and extensive State requirements for operating a cannabis greenhouse distinguish SAMA's proposed use from the type of non-intrusive commercial greenhouse that the Bylaws have traditionally allowed in specific situations.

While the Application lacks key details regarding security camera locations and coverage, fencing details, security staffing, ventilation systems, and light and sound pollution which would result from the Project, it is plain to see that these factors will interfere not only with the area residents use and enjoyment of their own property, but are also likely to interfere with area wildlife and the greater public's use and enjoyment of the natural land in the area, including the abutting State forest. Likewise, traditional commercial greenhouses do not typically contain an odor control system that "mimics Mother Nature by safely generating hydroxyls and other molecules that naturally 'seek and destroy' bacteria, viruses, mold, odor causing chemicals and VOCx." *See* Application, Attachment D.[1] *See also*, California Air Resources Board alert regarding air purifies, such as ODOROX, and their potential health impacts, attached as Exhibit A hereto.

Even ignoring the specific use of the commercial greenhouses for cannabis production, the size and scope of the greenhouses proposed for the Project run a substantial risk of being "injurious, noxious or offensive" due to their size, possible noise and light pollution, extensive fencing disrupting animal traffic through the area, and an inordinate use of water. The lack of details clarifying such factors (water use, noise and light pollution, animal traffic) further heighten the concerns regarding the impact the Project's proposed commercial greenhouses may have on the surrounding area and the Town at large.

Similarly, the size and scope of the greenhouses (again, even ignoring their use for the growing of cannabis) are "plainly inconsistent with the intent of the by-law" which was clearly to allow unobtrusive, inconspicuous and modest greenhouses within residential areas where they would not impact neighbors or wildlife. Rather than an unremarkable greenhouse that can be tucked away in a residential neighborhood, the Project proposes vast commercial greenhouse facilities – 100,000+ sq. ft. in total – that will significantly alter the character of the area and impact and impair abutters, nearby residents, and area wildlife and forests.

The enormous scale of the proposed commercial greenhouses and the required security staff, fencing, lighting, cameras, and alarms all pose significant disruptive impact on the local wildlife and neighbors. These safety, security, and technological requirements were not contemplated or intended to be included in the definition of a "commercial greenhouse" as a permitted use under the Bylaws at the time they were adopted and the scope and scale of the project proposed by SAMA clearly require denial of the special permit application.

[1] "Hydroxyls actually neutralize odor molecules and gasses by breaking down their chemical bonds. This can be done with even some of the most difficult molecules, such as hydrogen sulfide (H2S) and ammonia (NH3)." *See* Application, Attachment D.

Moreover, a significant component of the Project consists of SAMA's proposed facility for "manufacturing/conversion" cannabis product. This process is not detailed in any meaningful way in the Application, despite the presence of pages and pages of vacuous marketing material from the manufacturer and form letters dated nearly 2 years ago. The process involved in the conversion facility is not described with any detail. These considerations are crucial as a simple Google search for "cannabis conversion" will reveal dozens of serious accidents and injuries resulting from the very process SAMA now seeks to bring to Sandisfield.

Beyond the shortcomings in the Application and the safety issues posed by the process, there can be no dispute that the on-site conversion of cannabis product into oils is a highly technical and complex industrial process. The Bylaws, however, do not allow for a general industrial use in Sandisfield – by right or by special permit. Moreover, the scope and substance of the conversion process is clearly not something that can be an "accessory use" to the commercial greenhouse.

The Bylaws describe an "accessory use" as one that is "normally associated with a principal permitted use on the same premises…" *See* Bylaws, §5(A)(5). As discussed above, this is one of several instances where the distinction between a traditional "commercial greenhouse" deviates significantly from a cannabis greenhouse, as proposed by SAMA. Specifically, there is absolutely no logical support for the contention that a 5,000 sq. ft. commercial cannabis extraction laboratory (or anything remotely similar) is a traditional component of a commercial greenhouse operation.[2]

While an accessory use or structure for a traditional commercial greenhouse could reasonably include a small office, a drying room, or other minimally intrusive uses that support the greenhouse operation, the Project seeks to piggyback an industrial facility that uses highly technical and potentially-dangerous[3] "solvent-based extraction equipment" on site. *See* Application, Exhibit C, p. 7. These facilities are commercial-grade laboratories that include complex and elaborate systems for chemical compound storage and dispersal,[4] airflow and air exchange,[5] decontamination, and fire suppression systems. *See* Application, Exhibit C. While the details of the industrial process remain unclear from the Application, there is no denying the fact

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[2] The Application describes the C1D1 extraction lab as "a self-contained unit that will be constructed inside the proposed building with a dry chemical fire suppression unit." *See* Application, p. 13. The building will also "contain offices, restrooms, a vault and drying space for product." *See* Application, p. 2. It will be surrounded by a 6-foot privacy fence and "monitored by 24/7 video surveillance by (2) separate monitoring companies as required by 935 CMR 500." *See* Application, p. 4. Perimeter lighting will be set on a timer, as well as motion-activated lighting for any potential site intrusion or security breaches. *See* Application, p. 8. "The entry door is of steel construction and equipped with an automatic closer, a panic exit device, a safety window, and weather seals." *See* Application, Exhibit C.

[3] *See*, e.g., alerts issued by the New Jersey division of Fire Safety and the California Department of Industrial Relations regarding risks associated with cannabis extraction and conversion, attached as Exhibit B hereto.

[4] "The module is equipped with a gas detection alarm system that will initiate an audible and visible alarm when hazardous gas begins to be detected." *See* Application, Exhibit C.

[5] "The system provides a slightly negative pressure within the lab to prevent hazardous gasses from leaking into surrounding areas." *See* Application, Exhibit C.

that the uses contemplated far exceed anything that would be "normally associated" with the operation of a traditional commercial greenhouse, as required by the Bylaws.

These uses are completely antithetical to the plain purpose of the Bylaws and cannot, in any rational way, be "normally associated" with a commercial greenhouse operation under the Bylaws. As a result of the scope and industrial nature of the conversion facility, even if the Board grants a special permit for the use of commercial greenhouses over the objections set forth herein, it should deny any permit that allows the attendant industrial use sought by SAMA.

II. The Application Raises Significant Questions About the Project, While Also Lacking Essential Facts and Documentation to Allow the Board to Address the Merits of the Application at This Time.

As set forth above, the Application sets forth sufficient details to allow the Board to deny the Application. It does not, however, provide the necessary information to give the Board and Town residents any comfort in granting a special permit. SAMA proposes an elaborate and sophisticated operation that blends commercial, manufacturing, and industrial uses relating to cannabis cultivation, manufacture, and sale in a complicated manner. The plans provided and the description of the activities to take place on site do not provide any of the information necessary to address the concerns raised in this letter and by other town residents.

Specifically, there is insufficient information regarding the following:

1. A comprehensive traffic impact study analyzing the impact that the Project will have on area roads and the neighborhood, as well as the town in general, with specific consideration for the number of employees, visitors, and deliveries that may take place on site at any time during the day or night. This study should also address the procedures to be used for large-scale deliveries and when and how those deliveries – including deliveries of cannabis – will be handled in a secure and safe manner;[6]

2. An engineering analysis that will detail the impact of the significant earth removal and land disturbance on the surrounding residents and environment, including specifically consideration of these drastic processes on runoff and flooding on the Property and adjoining parcels and the State Forest;[7]

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[6] SAMA acknowledges in its passing discussion of traffic in the Application that "there is some uncertainty in the trip generation since the use is not well studied and documented." For this reason alone, further investigation of the potential traffic impact on the Town is well warranted.

[7] As SAMA notes throughout its Application, the proposed site for the Project is undeveloped, forested hillside with adjacent wetlands. The proposed earthworks and related site work to prepare the site for the Project will likely have long-lasting impacts on the environment surrounding the site. Further investigation of this aspect of the Project should be done immediately. There is no reason to believe that the proposed uses will be anything but obtrusive and harmful to area wildlife and will impact the local region negatively. In addition, the Project site is located on a significant slope and abuts the State Forest, and the impact of the addition of a significant amount of impervious

3. A detailed photometric lighting plan with specific designs and notations addressing the impact of such lighting on the property at various times, including specifically the impact of the required outer perimeter, security lighting, and greenhouse lighting on abutting properties, views from various sites in the area, including the State forest, and the impact of such lighting on wildlife in the area. This should also include details regarding the motion-sensor features of the lighting plan, with particular attention to the sensitivity level of the sensor and the light spillage that could occur during such events;

4. A comprehensive hydrological report to assess the impact of the Project's proposed water use and the resulting impact of that use upon the neighbors, town residents, and the environment in the area in light of potential well draw downs and impact on nearby wells and septic systems;

5. A third-party review and analysis of the potential environmental and safety impacts to the community and the region from both (1) the odor mitigation plan and (2) the operation of the proposed cannabis conversion laboratory;

6. A detailed description of SAMA and its principal(s)' experience and qualifications for developing and running a complex cannabis facility such as the proposed Project;[8] and

7. A prospectus or business plan outlining the anticipated production levels and revenue expectations from the Project.

Many of these items are areas of inquiry identified by the Board at the public hearing regarding the Host Community Agreement that the Town executed with SAMA. At the hearing on February 1, 2021, Mr. O'Rourke indicated that he had informed SAMA representatives of these and other areas of inquiry that he would be looking for in connection with a special permit application. These questions remain unanswered and the concerns remain unallayed.

Furthermore, there are specific areas of concern raised by the information in the Application.

First, contrary to the language in the older deed for the Property from further back in the chain of title that SAMA chose to include in its Application (and its related NOI before the Conservation Commission), the *actual* deed conveying the parcel from Franklin Woods Investments, LLC to Abbey Road Land, LLC contains a restrictive covenant that requires that

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surface to the site will result in significant water runoff of stormwater and the related waste and contaminants that it will surely contain. Note also that the proposed earth removal on site fails to meet the requirements of the Bylaws with respect to the removal of earth and the materials that must be submitted for prior approval of such activities in Sandisfield.

[8] The special permit process typically includes some vetting and evaluation of the operators who will be conducting business on the proposed site. In this case, there is little to no information regarding the principals in the various entities involved in this operation, their experience in the industry or other related fields, their general background, or their financial ability to conduct this business in the cannabis field.

the parcel "may be used for single family home-sites only." A copy of the deed is attached as Exhibit C hereto.

As a preliminary matter, it does not bode well for the Town as it embarks on what I am sure it hopes is a long-term relationship with SAMA (where the Town's potential for revenue is tied to SAMA's business performance) that SAMA has withheld pertinent information relative to the very ownership of the property. It seems unlikely that the omission of the deed – with its restrictive language – was inadvertent, especially considering the fact that the deed it did produce was not the deed transferring the property to Abbey Road Land, LLC.

More importantly, based on this restrictive covenant, it appears that SAMA does not have sufficient rights over the property to operate the facility they have proposed in the Application. The existence of the restrictive language further confirms the directive of prior owners of the Property that the character of this area of Town has been, and should remain, residential in nature.

There are other areas of the Application that raise legitimate concerns about SAMA's ability to conduct its operations in Sandisfield properly. For example, SAMA proposes in the Application to dispose of its wastewater – including water used for fertilizing cannabis plants – by use of an on-site septic system. *See* Application, p. 9. The Cannabis Control Commission, however, specifically prohibits such practices in its most-recent *Guidance on Best Management Practices for Water Use*, attached hereto as Exhibit D. See Exhibit D, p. 5 ("…water which is being disposed of cannot be discharged to an on-site septic system…").

In short, the Application itself gives cursory fleeting coverage of areas of great import that will likely have permanent impacts on Sandisfield and the immediate vicinity of the Project. What information it does provide creates even more areas of concern for residents. Much more investigation of these aspects of the Project – and others, I am sure – must be undertaken before any special permit should be granted for this Project oat this site.

III. Even Assuming the Board Has the Authority to Grant a Special Permit to SAMA for the Project, the Application Fails to Satisfy the Requirements of the Bylaw.

As set forth above, it is illogical to assume that the Bylaws' permissive stance on commercial greenhouses should apply at all to a cannabis greenhouse with all of its appurtenant industrial uses and the substantial requirements placed upon such facilities by the Cannabis Control Commission. Nonetheless, even if the Board believes that the Project could properly be considered a "commercial greenhouse" under the Bylaws, the Project still fails to meet the requirements for the granting of a special permit.

Indeed, a review of the Bylaws clearly shows that the purpose and intent with respect to uses in Sandisfield was to allow for certain historical uses to continue and to allow for certain unobtrusive commercial activity to take place in residential areas only where it could be

implemented without impacting the character of the surrounding neighborhood. The Application seeks a special permit for something completely different – and something completely at odds with the stated language and plain intent of the Bylaws.

Moreover, while SAMA skates right past any consideration of a "commercial greenhouse" as an "injurious, noxious, or offensive" use, this Project must face stricter scrutiny than a typical commercial greenhouse for the numerous reasons already discussed herein. In fact, rather than a typical commercial greenhouse that was contemplated by the Bylaws, the greenhouse portion of SAMA's Project is more akin to a minimum-security prison by virtue of its size, fencing, lighting, and security features. There is no question that the operation of these greenhouses will have a significant impact on the area, including both the human and animal occupants of the surrounding land.

One could imagine that the very features which SAMA seeks to include as essential features in its proposal would, instead, be subject to explicit restrictions or conditions that would be placed on a typical commercial greenhouse (i.e., restrictions on lighting, fencing, earth removal, etc.…), while others would never even be contemplated for a typical commercial greenhouse (security staff, 24-hour video monitoring, emergency alarms and lighting, security fencing, etc.…).

The area of town in question is a rural residential area, which residents and the Town at large have always valued for its seclusion, privacy, and environmental preservation. There are currently minimal non-residential uses in the immediate and outlying area and such uses that do exist are unobtrusive and inconspicuous or pre-date the adoption of the Bylaws. While SAMA seeks to shoehorn its industrial cannabis complex into a generous interpretation of the definition of a commercial greenhouse, it is clear that the specifics of their proposal far exceed the scope and impact of a typical commercial greenhouse, as contemplated by the Bylaws. For that reason, the Application should be denied.

IV. Conclusion

Sandisfield has always sought to preserve the natural features and rural nature of the Town as an invaluable feature of the community. This intent is reflected in the Bylaws, which provide very limited instances for commercial or industrial uses in town. Even the proposed cannabis bylaw to be considered at town meeting imagines small, unobtrusive cannabis facilities in an effort to preserve the character and culture of this community. This desire was formalized with respect to the specific property in question by prior owners in the form of a restrictive covenant explicitly limiting all future use to residential homes.[9]

[9] This desire is further reflected by the proposed cannabis bylaw that has been placed on the Town Meeting Warrant for consideration at the annual town meeting after months of drafting and revisions by the Planning Board and the Select Board. That draft bylaw reflects a clear intent to limit industrial cannabis facilities in town in order to protect these very features discussed herein.

Into this setting, SAMA has requested permission to perform significant earth removal and make permanent physical alterations to pristine woodlands abutting a State Forest and construct a monstrous complex containing enormous greenhouses and an industrial cannabis conversion lab that will be used to undertake complex chemical processes that have the potential to create real hazards to the area residents, wildlife, hillside, and forest. It seeks to handle wastewater through impermissible disposal methods and exhaust unknown chemicals directly into the State Forest and surrounding habitat.

The potential impacts from this project will be far-reaching and irreversible. Once permitted, it will be difficult – if not impossible – to stop SAMA from continued operation. Long after any potential revenue to the Town has stopped, Sandisfield will be left to clean up the mess and avert its collective eyes from the eyesore that has been placed within the community. The environmental impacts will continue. The unsightly fencing, lighting and security features will continue. The erosion and stormwater issues created by the complex will continue. It is not too late to stop this mistake before it is made and preserve the natural beauty and character of the Sandisfield community.

For the numerous reasons set forth herein, my clients respectfully request that this Select Board deny SAMA's application for a special permit to avoid the clear issues that it will create if it is allowed to move forward with its project.

Very truly yours,

Jesse W. Belcher-Timme

Enclosures

Cc: Dolores Haraskyo, Town Clerk (via email)
Leslie and John Garwood (via email)

EXHIBIT A

Potentially Hazardous Ozone Generators Sold as Air Purifiers

IN THIS SECTION

Some devices that are advertised as "air purifiers", air cleaners, or ozone generators purposely emit large amounts of ozone, the main component of smog! Not only are such ozone generators ineffective at cleaning indoor air, but breathing ozone poses serious health risks. The California Air Resources Board recommends that these ozone generators not be used.

The following is a partial list of portable air cleaners sold as "air purifiers" or ozone generators that can intentionally emit ozone. This list includes air cleaners sold primarily for residential use, plus some for commercial, in-vehicle, and personal use. Inclusion on this list is based on information available at the time of review. We are not aware of test results for these models using the UL 867 test protocol required by the air cleaner regulation. Until the testing required by the regulation is completed, we do not know if the ozone emitted will meet the 0.050 ppm limit specified in the UL 867 Standard. Exclusion from this list is not to be construed as endorsement by the California Air Resources Board. In-duct systems and other non-portable ozone generators are generally not listed here, with a few exceptions, but may generate potentially harmful levels of ozone.

Brand	**Model Name (Model Numbers)**
Air-Zone (All models)	XT-120, XT-240, XT-400, XT-800, XT-2000, XT-4000, XT-6000, XT-14000, XT-28000
Airdow (ADA Air Purifier and Air Cleaner (Xiamen) Co., Ltd)	ADA 311, 377, 388, 705, 706, 708, 717, 728, 729, 737, 739, 767
Air Oasis	3000 Xtreme G3
Allied Products/Biofeedback Instrument Corporation	Kleen-Air King II Model 1004A, 1004, 1004 SP, 1007
Alpine	Living Air Classic, XL-15, Breeze AT, LA1, LA2, Peak, Flair, Fresh Air, Personal Air Purifier
Applied Ozone Systems	CS-1, CS-2
APSNA - Air & Water Purification Systems North America (All models)	FA1, C3, BAT, F2
Aqua Sun Ozone International	Model-(100, 202A, 206A, 217A, 308, 700, 5000), Model-2500/Kleenair, Model-2500R/Kleenair
Aran Aqua Pollution Control Systems	SS-Series Aranizers (SS-1, SS-3X, SS-4X, SS-6, SS-8, SS-10)
Aran Aqua Pollution Control Systems	NS-Series Aranizers (NS-3, NS-5, NS-6, NS-8, NS-10)
AtmosAir	D100, P2000, T400, T400W
Better Living	Sun Aire Air Purifier
BioTech Research	EdenPURE Area Air Purifier, EdenPURE Deluxe Air Purifier
Biozone (All models)	50, 100, 102, 500, 1000, 2000, 3000, 4000, 5000, Travel Aire 50V, Travel Aire 250T
Breathe Pure	QOZO-100, QOZO-500
Capital Vanguard Co., Ltd	HV-(107, 109, 202, 202A, 203A, 205, 206A, 207, 207A, 210A, 217A, 308), HV-202I+O3
Carspa Technology Co., Ltd	Car0100, Car0300, Car0400
Cliff Scott Enterprises (All models)	CSE 100, CSE 101
Codyson	CD-100, CD-120, CD-210, CD-200, CD-2120, CD-2200

Brand	Model Name (Model Numbers)
Crystal Air (All models)	CA45-2, DC Pro (200, 450, 970), Multizone 280, Pro (420, 700, 3400-1, 3600-1), UV Pro 550
Csonka (All models)	Original AirCare, Super AirCare, Pro AirCare, Automotive AirCare, Facility Control System AirCare, Car Fresh AirCare, Desk Fresh AirCare, Turbo Fresh AirCare
Detail King	PT-109
EcoQuest (Most models)	Fresh Air, Living Air Classic, Breeze AT, Flair, Fresh Air To Go, EcoBox
Ecozone	H-50, XL-250 SH, TS-50, M10
Ez-com System, Inc.	EA-8705, EW-300, EW600, EW-900, GW-250
Enaly (Most models)	OZX-A200B, OZX-A500B, OZX-A3500, OZX-A700, OZX-7000B
Fresh-Aire (Triatomic Environmental, Inc.)	T-30UV
HealthWay Home Products, Inc.	Healthway Air Deodorizer HW-DE01
Hefei Sensing Electronic Co., Ltd.	Ozone Air Purifier
Imperial Products	Air Fresh G-100, Moonland Desktop Ozone Purifier, SL-002 High Output Ozone Air Purifier, XJ-1000 Ionic Air Purifier, XJ-3000B Professional Ozone Air Purifier
Jenesco (All models)	DC-12, PT101, PT101W, PT109, PT109W, PRO-4, PRO-8, FM-1,FM-2
King Air & Water Purification Corporation	See Allied Products
Lenntech (All models)	Series 3000
LightningAir	LA-1XP/2500, LightningAir Plus 5PX series, LA-2SPX
Longevity Resources	ZipZone, EnviroPro (420, 700, 3400, 3600, 3600-5)
Matsutek Enterprises Co., Ltd.	ION737, AR-150, CA-320, CA-721
Nanbai	N206a, N208
Natural Air	Natural Air
Nature's Air	NA-2
O3ozone	DC Pro 450, Pro 700, DC Pro 970, UV Pro 550
Odatus (All models)	Odatus II
Odorox (All Models)	
Oxytech Research (All models)	MGA-500, MGA-1000, MGA-2000, MGA-3500
Ozomax, Ltd.	Ozo Fresh 30
Ozone Environmental Technologies	Uvonair (1000, 3000, 5000)
Ozone Solutions (All models)	MZ-280, MZ-450, MZ-950, OMZ-420, OMZ-700, OMZ-1000, OUV-550, OMZ-2500, OMZ-3400
Peaceful Breeze	Small Room Air Purifier Model 388
Peak Pure Air	Peak O3 Air Purifier

Brand	Model Name (Model Numbers)
Prozone (All Models)	PZ5-A, PZ2-2A, The Prozone (Purifier), Whole House Twister, PZ6-AIR, Whole House Air and Surface Purifier
Pure 'n Natural (Certain models)	OZ-2000 (Odor Zapper), Sani-Mate AS-250-B, NA50 Deodorizer/Air Freshener
QCH Tradelink	Medi-Aire
Quantum Pure Aire	AccuAire ALS-750, ALS-1500, ALS-3000, RMS-100, ClassicAire (CS-1000, CS-2000, CS-3500), XP-350
Queenaire Technologies, Inc.	QT Storm, QT Thunder, QT Thunder-24, QT Tornado, QT Cyclone, Newaire Plugin
Rain Fresh Air	RFA5000, RFA3500
RainbowAir (All models)	Newaire Plug In, Activator (250, 500, 1000)
Shenyang Bodycare Ozone Research Insitute	UV_Portable, UV_Wall Mount
SpringAir (Certain models)	CS-1, CS-2
Sun Aire	see Better Living
Surround Air (This model only)	Multi-Tech II XJ-3000D
Taoture International Enterprises, Inc.	OZX-A200B, OZX-A500B
TriMed AirMedic	SBR-1, SBH-1, C12-1, C12-U1
TriStar Enterprises, LLC	PureStar XJ-3000D
Trump Electronic Company	TP-2, TP-3, TP-4, TP-5, TP-6, TCB-913GC
Ultra-Pure (Real Spirit USA, Inc.)	UP-988, UP-899, Pet-Pro 3800
Windchaser (Certain models)	IF-1, IF-2, IMC-1
Zhuhai Large Horse Electrical Appliances Co., Ltd.	HMA (300, 300/A, 300/A02, 300/H01, 300/H02, 300/RH, 300/RH01, 300/RH02, 600/O3)
Zontec	Perfect Air Plug-In, PA 100, PA 200, PA 300, O3 Air Purification System

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1001 I Street, Sacramento, CA 95814
P.O. Box 2815, Sacramento, CA 95812

EXHIBIT B

NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF FIRE SAFETY
OFFICE OF THE STATE FIRE MARSHAL

SAFETY ALERT

PO Box 809, Trenton, NJ 08625-0809 (609) 633-6070 SAFETY ALERT 13-1

Butane Hash Oil Extraction Hazards

Issued January, 2013

Over the last few months, law enforcement agencies have noted a marked increase in calls for service related to the use of an improvised hash oil preparation method known within the marijuana user community as "BHO" or Butane Honey Oil extraction.

Honey oil is a concentrated substance derived from Cannabis (Marijuana). The texture varies from crystal (gloss) amber to gold resin (smoother). Hash oil is a resinous mixture of cannabinoids produced by a solvent extraction of Cannabis. Hash oil is a concentrated product with a high tetrahydrocannabinol (THC) content, the active ingredient in marijuana that produces the "high. Honey oil is a specific type of hash oil extracted with butane and is typically smoked.

The process involves the use of an extractor tube, which can either be purchased commercially or homemade. The tube is typically made out of 1.75" diameter PVC pipe, steel pipe, glass or plastic and is usually about 1' long. If PVC or metal pipe is used, end caps are also required. The finished appearance is similar to a pipe bomb. The extractor tube is filled with marijuana and a volatile solvent is injected into the top of the tube to extract a resinous mixture of cannabinoids. Individual solvents can include isopropyl alcohol, ethanol, methyl alcohol, and butane or isobutene. The resin collects at the bottom of the extractor which is usually lined with a coffee filter or other suitable screen, then removed and heated to evaporate the remaining solvent and "purify" the end product. Alternate methods involve allowing the oil to drip directly onto a plate or Pyrex dish which is heated to speed the solvent evaporation process.

Since this process involves the use of flammable and potentially explosive materials, especially butane, the hazard of fire and or explosion is great. This is compounded by the fact that extraction is usually done indoor to avoid detection. Vapors can collect in unventilated spaces where pilot lights and gas stoves used to evaporate solvents provide excellent sources of ignition. Additionally, the person performing the extraction may smoke and/or be intoxicated which compounds the danger.

If responders are called to an occupancy where materials and paraphernalia believed to be used for hash oil extraction are found, they should immediately exit the structure and call law enforcement. Ultimately a bomb squad may need to respond, especially if homemade extraction tubes resembling pipe bombs are found. It is important to note as of the date of this alert, operations that have been discovered have not resulted in pipe bombs being found; what was found were, in fact, extractor tubes. This does not mean that eventually pipe bombs will not be found. With the understanding that drug dealers often use booby traps against law enforcement and competing drug dealers, it is wise to err on the side of safety and take all necessary safety precautions. These include but are not limited to the proper use of PPE and SCBA as appropriate.

Left to right: Commercially available extractor tube from Amazon; Butane being injected into an extractor; Commercially available cans of butane gas.

Left to right: A glass extractor tube; Finished hash oil. Note the honey-like appearance.

A PVC homemade extractor tube, similar in appearance to a pipe bomb.

Explosion and resulting fire caused by extracting hash oil using butane.

PLEASE POST IMMEDIATELY

Department of Industrial Relations
STATE OF CALIFORNIA

N E W S R E L E A S E

News Release No.: 2018-106 **Date:** December 20, 2018

Cal/OSHA Cites Cannabis Company for Safety Violations Following Explosion that Burned Employee

Fremont—Cal/OSHA has cited a manufacturer of cannabis products for multiple serious safety violations following an explosion that seriously injured a worker.

On June 19, an employee of Future2 Labs Health Services was working alone inside a 128-square-foot portable storage container in Watsonville, using propane to extract oil from cannabis leaves. The propane ignited and exploded, badly burning the worker. He was hospitalized for several days.

During the investigation, Cal/OSHA learned the employer did not test the atmosphere inside the storage container for flammable gases or vapors before allowing equipment to be operated. The equipment created a spark that ignited the propane gas where the employee was working.

"The process of using a highly flammable gas to extract oil from cannabis leaves is dangerous," said Cal/OSHA Chief Juliann Sum. "To prevent injuries and mitigate risk, employers in the cannabis industry must establish and implement an effective Injury and Illness Prevention Program, provide effective training to their employees and comply with safety and health standards."

Cal/OSHA cited Santa Cruz-based Future2 Health Services $50,470 in proposed penalties for 10 violations. The citations include three regulatory, four general and three serious accident-related violations. The serious accident-related violations were cited for the employer's failure to:

- Protect workers around flammable vapors
- Identify hazards and provide personal protective equipment
- Maintain equipment in a safe operating condition.

The other citations were issued for violations related to inadequate training, failing to establish an emergency action plan and a hazard communication program. Future2 Labs Health Services also failed to report a serious workplace injury to Cal/OSHA.

Cal/OSHA's Cannabis Industry Health and Safety webpage provides helpful information to employers and workers. Workers in the cannabis industry, including those in cultivation, distribution, retail, testing and manufacturing, are exposed to hazards covered under existing Cal/OSHA regulations.

A violation is classified as serious when there is a realistic possibility that death or serious harm could result from the actual hazard created by the violation. Violations are classified as accident-related when the injury, illness or fatality is caused by the violation.

Cal/OSHA helps protect workers from health and safety hazards on the job in almost every workplace in California. Cal/OSHA's Consultation Services Branch provides free and voluntary assistance to employers to improve their health and safety programs. Employers should call (800) 963-9424 for assistance from Cal/OSHA Consultation Services.

Employees with work-related questions or complaints may contact DIR's Call Center in English or Spanish at 844-LABOR-DIR (844-522-6734). The California Workers' Information line at 866-924-9757 provides recorded information in English and Spanish on a variety of work-related topics. Complaints can also be filed confidentially with Cal/OSHA district offices.

Members of the press may contact Peter Melton or Lucas Brown at (510) 286-1161, and are encouraged to subscribe to get email alerts on DIR's press releases or other departmental updates.

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EXHIBIT C

Bk: 02654 Pg: 286

2021 00262196
Bk: 2654 Pg: 286 Doc: DEED
Page: 1 of 3 01/06/2021 01:15 PM

MASSACHUSETTS EXCISE TAX
Southern Berkshire ROD 001
Date: 01/06/2021 01:15 PM
Ctrl# 012112 16764 Doc# 00262196
Fee: $1,003.20 Cons: $220,000.00

Property Location: Lots 6,7 & 8, Town Hill Road
Sandisfield, MA 01255

WARRANTY DEED

FRANKLIN WOODS INVESTMENTS, LLC, a Massachusetts Limited Liability Company with a business address c/o Fred T. Thompson, 66 Summer Street, North Adams, MA 01247, for consideration paid in the amount of TWO HUNDRED TWENTY THOUSAND AND 00/100 ($220,000.00) DOLLARS, grants to **ABBEY ROAD LAND LLC**, a Florida Limited Liability Company with an address c/o 6574 North SR#320, Coconut, FL 33073with **WARRANTY COVENANTS,** the land in Sandisfield, Berkshire County, Massachusetts, bounded and described as follows:

The land on the westerly side of Town Hill Road in Sandisfield, Berkshire County, Massachusetts bounded and described as follows:

Being Lot-6, containing 7.502 Acres, Lot-7, containing 6.524 Acres and Lot-8, containing 46.749 Acres for a total of 60.775 Acres as shown on PLAN OF LAND SURVEYED FOR FRANKLIN WOODS INVESTMENTS, LLC SANDISFIELD, MASSACHUSETTS SEPTEMBER - 2020 SCALE 1" = 150' KELLY, GRANGER, PARSONS & ASSOCIATES, INC. PROFESSIONAL LAND SURVEYORS 312 Main Street P.O. Box 88 Great Barrington, Massachusetts 01230 APPROVAL NOT REQUIRED UNDER SUBDIVISION CONTROL LAW signed by the Sandisfield Planning Board on October 27, 2020, which Plan is recorded with the South Berkshire District Registry of Deeds as Plat File D-F14.

SUBJECT TO THE RESTRICTIONS that the land may be used for single family home-sites only and may not be used for single-wide manufactured mobile homes. Said single family homes shall have front set back of at least 30', side setbacks of at least 30' and the rear set back of at least 30'. Further, no unregistered/abandoned vehicles, exclusive of classic automobiles of any kind, are to be stored on the premises. These restrictions shall run with the land and shall be included in any conveyance of the premises to successors in interest.

The property described above is not Homestead property.

Meaning and intending to convey and hereby conveying, all and singular, a portion of the premises conveyed to the Grantor herein by deed of James Mieczkowski, Personal Representative of the Estate of Paul P. Bobryk, Berkshire Probate Docket Number BE20P0123EA, which deed is dated September 11, 2020, and is recorded with said Registry of Deeds on September 18, 2020 in Book 02623, Page 131.

The Grantor is not classified for the current taxable year as a corporation for federal income tax purposes and hence the premises are not subject to a corporate lien under General Laws, Chapter 62C, Section 51.

Executed as a sealed instrument, this 2nd day of December, 2020.

FRANKLIN WOODS INVESTMENTS, LLC

By: Mary Ellen Sanders

MARY ELLEN SANDERS, THE PERSON AUTHORIZED TO EXECUTE, ACKNOWLEDGE, DELIVER AND RECORD ANY RECORDABLE INSTRUMENTS PURPORTING TO AFFECT AN INTEREST IN REAL PROPERTY OF SAID LLC

COMMONWEALTH OF MASSACHUSETTS

Berkshire, ss

On this 2nd day of December, 2020, before me the undersigned notary public, personally appeared MARY ELLEN SANDERS, the person authorized to execute, acknowledge, deliver and record any recordable instruments purporting to affect an interest in real estate owned by FRANKLIN WOODS INVESTMENTS, LLC, proved to me through satisfactory evidence of identification which was personal knowledge to be the person who signed the preceding or attached document, and who acknowledged to me that she signed it voluntarily as her free act and deed as such authorized person for its stated purpose.

Notary Public

My Commission Expires: 3/30/23

John Lenhoff

JOHN LENHOFF
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
MY COMMISSION EXPIRES ON
MARCH 30, 2023

EXHIBIT D

Cannabis Control Commission
COMMONWEALTH OF MASSACHUSETTS

Guidance on Best Management Practices for Water Use

This guidance is not legal advice. It is meant to assist licensed Marijuana Establishments with developing best practices in water management and to comply with state laws and regulations. Please consult an attorney if you have any questions regarding the legal requirements that apply.

Introduction

Cannabis, whether in the form of industrial hemp or marijuana, has varying requirements in water and nutrient levels based on the method of cultivation. This document aims to compare the water needs and differences between all methods of cultivation, including removing the plant entirely from natural systems and growing in sealed indoor environments, and the considerations that a grower should be taking into account when locating their facility and establishing watering operations for plant growth and facility maintenance.

**It should be noted that given the lack of research on hemp and marijuana growth in the United States, there is conflicting information on cultivation practices, and the vast differences between methods leads to high amounts of variability. The following numbers are cited but subject to change upon the release of more current regional data.*

Location of Facility and Source of Water

An important consideration for siting of a facility is the availability of water for production. Typically, water for a greenhouse or indoor facility would come from local municipal water or from a regional water supplier like the Massachusetts Water Resources Authority (MWRA). In the case of local municipal water, attention should be paid to whether the water supplier has enough capacity to supply the water both from a source and infrastructure perspective. Depending on the watershed and the specific town the facility is located in, the additional volumes may not be available within the town's registered or permitted amounts, or an Interbasin Transfer[1] approval may be required.

Increased demand on the system may cause a community to seek a new permitted volume which may have additional mitigation requirements. If a grower chooses to develop their own local water supply such as a new well, it is recommended that they contact the local Massachusetts Department of Environmental Protection (MassDEP) office for guidance on new source

[1] For information about the Interbasin Transfer Act and Application materials: https://www.mass.gov/interbasin-transfer-act

approval. A marijuana cultivation facility could trigger the Water Management Act's permitting requirements if it pumps from its own water sources more than an average of 100,000 gallons per day or more for three consecutive months of the year, or more than nine million unregistered gallons over any three-month period. In addition, a marijuana establishment that is supplying its own potable water and has a restroom that is accessible to 25 or more people 60 or more days per year is considered a Public Water System and would need to obtain an approval. A permit application will need to be filed with MassDEP before operations commence.

Water Use

It is also important to know and understand that prior to establishing your facility you will need to consider how much water you may use. If your water source is public then you must consider that the city or town you are operating in has a limited amount of water it is allocated to use per year.[2] This information may be useful when you are preparing for and going through the state licensing process and local permitting and/or licensing process.

Seeds vs. Clones

Literature does not currently provide an in-depth analysis of the water necessities of an individual plant, but there is significant evidence to indicate that seeds require less water than clones regardless of the cultivation setting. Seeds are hardier and more resistant to stress and disease, and even though they need more water initially, the growing period for seeds is shorter than that of clones. Clones, while providing insurance for an exact chemical profile upon maturity, require more nutrients which are usually mixed in a water solution.

Outdoor Cultivation

Water requirements for outdoor cultivation vary widely by region, variety, and planting date. As outdoor large-scale cultivation of cannabis is new to Massachusetts, there is no data yet to confirm exact amounts of water required. Studies have shown, however, that the ranges can vary between 12-15" in British Columbia to 20-30" in Europe.[3] This equates to about six gallons per plant per day,[4] which is about twice as much as is required by grapes in California, but not as much as cotton in Georgia (10 gallons/day).[5]

Notably, cannabis requires that most of its water be received by the plant within the first six weeks of cultivation, while metrics generally list watering averages over the lifespan of the plant.

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[2] https://www.mass.gov/lists/massdep-water-management-act-laws-regulations-policies-and-guidance

[3] Nelson, R. A. (2000). *Hemp Husbandry*, https://www.hempbasics.com/hhusb/hh2cul.htm

[4] Bauer S, Olson J, Cockrill A, van Hattem M, Miller L, et al. (18 March 2015) Impacts of Surface Water Diversions for Marijuana Cultivation on Aquatic Habitat in Four Northwestern California Watersheds. Plos One 10(9): e0138935. https://doi.org/10.1371/journal.pone.0137935

[5] Bednarz, C., et. al. (2003). *Cotton crop water use and irrigation scheduling*, http://www.ugacotton.com/vault/rer/2003/p72.pdf

Flowering of the plant significantly decreases water uptake. Within that six-week period, it is critical that the plant experience neither drought nor flooding. Dry conditions hasten maturity and stunt the growth of the plant, whereas puddled areas of a field will kill seedlings within two days if not drained appropriately. Soil composition and conditions play a critical role in this.

It should also be noted that varieties respond differently across agricultural regions, with variability in height, biomass, and chemical composition. It has been found that it may take up to three years to develop a localized strain that is acclimatized to the conditions set forth in the region.

Indoor Cultivation

Indoor cannabis cultivation is generally referred to as the process of removing the crop completely from natural conditions such as sunlight, soil, and air and substituting those elements with artificial alternatives. The benefit of indoor growing lies in being able to control the elements of the plant's environment and be able to produce multiple harvests in a year. This method of growing is much more intensive in its usage of energy, water, and chemicals. There are many different methods of cultivating the plants themselves. These methods include:

- Hydroponics (water medium)
- Pots/trays (soil medium)
- Aeroponics (plant suspended on wall, not as common)

In the more typical methods of cultivation (namely soil and hydroponics) medical marijuana studies have estimated that indoor grows require watering in quantities of 98"/room-year, or 40 gallons/room-day (one room = 250 sq. ft.).[6] Hydroponically grown cannabis is much more water intensive than other crops. When grown indoors, however, facilities have the capacity to set up recycling systems that clean and filter used water to be recycled back into irrigation; which helps negate the amount of fresh water input into the system. Treating water and reusing treated water are activities that are regulated by MassDEP and require permits.[7] This water would need to be changed periodically, and nutrient levels can reach unusable points for the plants if not applied correctly.

Generally, for non-cannabis crops, indoor cultivation facilities with natural sun and/or ventilation present appear to provide a more balanced method of cultivation, as they are less energy and water intensive than a sealed indoor facility.

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[6] O'Hare, M., et. al. (7 September, 2013). *Environmental Risks and Opportunities in Cannabis*, https://lcb.wa.gov/publications/Marijuana/SEPA/5d_Environmental_Risks_and_Opportunities_in_Cannabis_Cultivation.pdf

[7] https://www.mass.gov/lists/massdep-wastewater-discharge-and-reuse-regulations

Monitoring and Reporting

Water is a crucial resource in the growth of cannabis and in the functioning and operations of cannabis growing facilities. In addition to plant needs, water is also used for heating, processing, sanitary purposes and landscaping on the property. Minimizing water loss from leaks as well as monitoring total water use as a compliment to instituting best management practices help advance the water conservation goals of the Commonwealth.

Growers should:

- install water meters;
- conduct regular water audits to determine the amount and location of water use;
- develop and implement a water savings strategy; and
- repair all leaks as quickly as possible.

Water Application Methods

Several different methods of water application are used as standards in the horticultural industry. Whereas outdoor fields rely mostly on rainfall or irrigation in cases of drought, indoor facilities must install their own application systems. The most commonly used methods are as follows:

Flood Tables utilize large, shallow tables that flood usually on an automated system and provide a layer of water and/or nutrients to plants growing in hydroponic mediums. Large amounts of water are used for this method but the water can be recycled through the system and used again after treatment via filtration and cleaning.

Drip watering involves irrigation systems that feed directly to each plant through thin drip tubes. The amount of water can be controlled directly or on an automated schedule and virtually eliminates excess water waste or runoff from the plants.

Wick systems employ a reservoir that provides water and nutrients for a plant via capillary action through wicking material. Seedlings and newly vegetating plants are occasionally watered with this method since it is a simple system that does not require machinery or electricity. However, it is insufficient in supplying large plants with greater water needs.

Hand watering is one of the most common practices used since it requires relatively little equipment and expense initially or in maintenance. However, the amount of applied water varies greatly between applicators and there is a much larger potential for water being wasted through either over application or by missing the plant root systems. If hand watering is being used, the facility should have a good operating procedure on how to hand water.

Aeroponics uses spray nozzles to mist the stem or roots with nutrients. Larger operations will put the stem/root in a channel and have the spray nozzles line the channel, while others may use the bucket system in which the nitrified water and air are maintained in buckets.

NFT Systems use very shallow nutrient solution that runs downward in a tube or tray toward the reservoir where it is reused. It is best used on smaller plants with short crop cycle.

Water Culture Systems are systems where plants are suspended so roots hang down in nutrient solution and the reservoir is continually aerated.

Waste Water Disposal

Many indoor facilities utilize water recapture methods to save money and energy in their operations. Depending on the system in place this could be done through drain pipes and lines, ditches, dehumidifiers or condensation recapture modules. The recaptured water requires treatment if it is to be reapplied to plants to prevent the growth and spread of microbial pathogens and to reduce the amount of ionic and toxic elements that can be introduced to the water through the addition of nutrients. Common practices include carbon filtration, which neutralizes salinity and other inorganic materials in the water, and reverse osmosis, which allows for close to 97% reuptake but produces a brine that is difficult to dispose of. Other chemicals may be added to clean the water before reapplication to reduce microbe levels. Facilities may also employ the use of an aerobic treatment unit to reduce chemical and microbial levels in the returned water to a satisfactory level.[8] Studies have shown that there is no significant difference in plant growth between the use of recycled water versus the use of fresh water.

Even with recapture methods, however, systems need to be flushed on occasion and new water introduced, especially in the event of pathogen outbreaks or from the presence of high levels of salts or ions that could be detrimental to crop growth and development. Water which is not reused must be discharged to a sewer or collected and stored in a certified holding tank for disposal at an approved facility. Note that water which is being disposed of cannot be discharged to an on-site septic system. If wastewater is being discharged out of the facility (e.g., to a Title 5 system, a sewer system, the ground or surface waters), the proponent must contact their local MassDEP office to determine if a discharge permit is required. If wastewater is being stored, it must be kept in a holding tank that is permitted by MassDEP (Transmittal Form DEP01).

In other states, this waste has traditionally been disposed through landfills (often with unused cannabis waste material such as leaves and stems chopped up and mixed in to form a slurry) or is considered industrial waste, depending on the method the waste was created and the definition of industrial/hazardous waste by law. In Massachusetts, however, this waste may not be disposed in a landfill. If the waste is combined with unused cannabis waste, it may be composted or sent to

[8]Oyama, N. (2005). *Recycling of treated domestic effluent from an on-site wastewater treatment system for hydroponics,* https://www.ncbi.nlm.nih.gov/pubmed/16104424

an anaerobic digester. As a last resort, if such slurry is sufficiently dewatered, it may be disposed at a landfill so long as the remaining sludge does not contain free-draining liquids and contains a minimum of 20% solids. (Note that the disposal facility will need advance notice in order to submit the required documentation to MassDEP.) For more information on waste disposal, please refer to the Commission's Guidance on Cannabis Waste Management Requirements.

Best Management Practice Guides

Water use on a crop should strike an appropriate balance between both agricultural needs for water and the need to conserve water. Examples of conservation approaches include proper irrigation scheduling in both timing (daily and seasonal) and volume, control of runoff, the uniform application of water, irrigation technologies, such as drip irrigation (where appropriate), and automated irrigation systems. The Massachusetts Water Conservation Standards[9] (WCS) outline many approaches and best management practices that an agricultural entity should adopt that are environmentally and economically appropriate for their specific operation and site conditions. In addition, the WCS also outlines standards and best approaches for indoor water use to ensure high levels of efficiency in structural items such as toilets and other water fixtures.

Based on the information gathered above, there are three best management practice categories, listed below that are considered high priority and should be implemented, to the greatest extent practicable, by all cannabis growers. These practices along with some others can help reduce or mitigate strains to disposal and environmental systems and improve water and energy efficiency as a whole.

1. Soil Health
    - Determine the soil needs and develop a soil health management system to improve the health and function of the soil. Soils are an ecosystem that can be managed to provide nutrients for plant growth, absorb and hold rainwater for use during drier periods, filter and buffer potential pollutants from leaving fields, serve as a firm foundation for agricultural activities, and provide habitat for soil microbes to flourish.
    - Consider using compost to help promote the health of the soil.
    - Maintain adequate soil moisture based on crop needs for optimum plant growth without causing excessive water loss, erosion, or reduced water quality.

2. Watering Methods
    - Use water in a targeted, planned, and efficient manner with appropriate amounts and frequency to meet the needs of the crop without excessive water loss.

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[9] Massachusetts Water Conservation Standards (2018), Water Resources Commission. https://www.mass.gov/massachusetts-water-conservation-standards

- Automation of watering systems is critical to reducing water waste and decreasing variability in plant health through overwatering. If automation is not financially feasible, water nozzles and other flow reducing systems should be put in place to monitor and check flow rates.
- Micro-irrigation systems, such as subsurface drip irrigation, should be adopted if the facility is designed to be compatible for it.
- Establish an irrigation schedule based on the specific needs of the crop.
- Irrigation system efficiency should be evaluated on an annual basis.
- Where sprinkler systems are used for irrigation, the systems should be capable of uniform application of water with minimal evaporative loss and minimal surface run-off.

3. Water Capture and Reuse
   - A water recapturing system should be used to recycle and reuse water so as to reduce the total amount of water used. Systems can include ones that capture water from watering the plant and reusing and/or capturing water condensation from the HVAC system.
   - Explore the options of capturing and using rainwater.

4. Other
   - Be knowledgeable of the municipal and state laws relative to water use.
   - Choose a site that is capable of managing the amount of water that will be used and will not impact other water users.
   - Cultivators should consider utilizing greenhouses and outdoor settings to reduce the amount of energy and water required to maintain plant health.
   - Monitor and document your water use.
   - If cultivating outdoors, growers should be mindful of all other relevant agricultural and environmental protection regulations in place regarding watershed areas, buffer zones, irrigation runoff, erosion control, and soil amendments.
   - Ensure that the appropriate dilution rates and application schedules are followed for any nutrients or cleaning solutions that are being used during cultivation or in treating water. Over application can lead to unnecessary contaminant levels in the water or poor plant health and require further treatment, more frequent system flushes, and loss of expensive chemicals.

Questions?

If you have additional questions regarding types of Marijuana Establishments, please contact the Commission at CannabisCommission@State.MA.US or (617) 701-8400.