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March 11, 2021

By email: BuckM@leicesterma.org

Michelle Buck, Town Planner
Town of Leicester
Leicester, MA 01586

RE: Supplemental information to application for Special Permit for Outdoor Marijuana
Cultivation Leon H. Dykas III
Town Meadow Farm 124 Green Street, Leicester, MA

Dear Ms. Buck:

I wanted to provide some additional information regarding Mr. Dykas' application for special permit that we initially provided on February 2, 2021. A supplemental response was also emailed to you by our engineer DC Engineering & Survey, Inc., on March 8, 2021 (enclosed).¹ He addressed eleven (11) points. I will respond to some additional concerns that you raised:

¶(4)

Town Meadow Farm Cannabis Grow Odor Mitigation Plan
Introduction

The intent of our plan is to undertake vigorous efforts to mitigate the odor that will be produced due to the development and operation of a two-acre outdoor cannabis grow on the property of Mr. Leon Dykas, located at 124 Green Street in Leicester, MA. The odor mitigation plan is one of the major processes that this organization will utilize to alleviate the impact that a cannabis grow can have on a community. This organization's goal is to responsibly provide a new cash crop to a local farm and help preserve some of the natural, agricultural heritage of Central Massachusetts while avoiding detriment to the surrounding community.

¹ It also includes a Stormwater Operation and Maintenance Plan & Long-term Pollution Prevention Plan, Stormwater Drainage Analysis and plan.

Project Location

The project is located on Town Meadow Farm, a 141 acre farm at 124 Green Street in Leicester, MA (see Figure 1). The location of the grow itself is strategically setback from the road and the nearest residential buildings (see Figure 2) in order to reduce the impact on the surrounding community. This is a much greater setback than has been proposed as regulations in other towns such as the 100 feet proposed by Williamstown, MA. The project is set on top of a secluded hill that receives substantial northward wind which will move the odor away from the residential areas located to the South of the project site. The hill itself is situated in the middle of Dykas' property, which is an actively farmed parcel surrounded by farmland and undeveloped woodland. Adjacent to the site is an additional 81 acres of working farm owned by Mr. Dykas. There are no retail businesses in the area to be affected by this project. The location of this project maximizes the effect of every odor mitigation process being implemented. By locating the project on a secluded hilltop that receives general wind patterns away from the nearest residential areas this organization has set itself up to be successful in its odor mitigation plan from the startup.

Spatial Analysis

The spatial analysis of the project revealed that the closest residential building to the grow site is that of the property owner of 124 Green Street, Mr. Leon Dykas who is invested in the project. Other abutters are appropriately distanced from the site. In addition the farm has natural barriers that will reduce the impact of any odor produced by the project.

Mitigation Techniques

Structural/Mechanical

This organization is installing an opaque 600 foot by 300 foot fence around the entire perimeter of the grow. The fence will not only contain much of the odor produced but will also act as the bulwark for the odorous groundcovers to be planted on either side of it. We have chosen peppermint as the primary odorous groundcover. See **Exhibit 1** –photograph of a similar fence. Peppermint produces high amounts of potent essential oils such as menthol, limonene, and linalool. These oils will act as a mask for the terpenes that the cannabis plants will be producing.

Strain Selection

This organization will grow cannabis strains that are not high in noxious terpenes. Some of the terpenes produced by certain strains of cannabis have reputations for producing potent odors that many people are sensitive to. As a result, the strains that have been selected for this project in general do not produce high levels of these volatile organic compounds. Despite the limitations this will put on the organization it is a compromise that is built into the odor plan for the benefit of the community.

Cyclical Planting and Harvest

It is important to understand the whys and whens of Cannabinoid odor production and live odor in the plant cycle. A mature plant in flower is at its peak harvest time when it is on the cusp of becoming odorous. While mature plants can smell, it is in our best financial interest to remove these plants from the field before odor is an issue. The plant's terpenes values are at their highest, and if we let it run past that point the total value of our field drops dramatically. Similar to most agriculture, this grow will consist of staggered planting and staggered harvesting. At no point in

time will we have a field of fully matured plants. We have a tiered set up to have 8-10 different harvest times. Meaning no more than 10 - 12.5 % of the field will be mature at any one time.

Non-Cannabis Crops

We have chosen to give up some of the growing medium of the project to grow other non-cannabis crops that have odors of their own. The plants have been chosen to produce odors throughout the growing season and a planting of each will divide every cannabis plant. In total 3,000 Milkweed, Lemon Balm, Cerastium, Lavender (*lavandula angustifolia*) and Dill plants will accompany the 3,000 cannabis plants within the growing area.

Exterior Plantings

A 20 foot Peppermint ground cover will be planted around the perimeter of the fence and it will be maintained and routinely mowed to encourage vigorous oil production. Peppermint produces a variety of oils that are used in perfumes due to the potency of the oils. A plant will be planted every four squared feet to allow the plants to spread, grow, and produce an effective odorous groundcover. Sunflowers will be planted every five feet around the fence to attract pollinators and act as a green odorous fence. The same is true for lavender.

Four eight by eight foot herb plots will be installed near the southern boundary of the grow. Six plants of lavender, sage, and thyme will be grown in each of these plots. These herbs have been chosen for their pleasant scents and for their medicinal and culinary uses. Lavender for example is commonly used in perfumes due to its high levels of linalool, pinene, and myrcene all of which are considered to be relaxing, pleasant odors. Sage produces terpinolene, limonene, and myrcene. While Thyme produces thymol, carvacrol, and geraniol. These herbs and the potent oils they produce will attract pollinators and provide a pleasant odor to mask the odor of the cannabis throughout the growing season.

Four eight by eight foot flower plots will be installed near the southern boundary of the grow. Six plants of Orienpet, Lily, Peony, Aster, Echinacea, Dianthus will be planted in each of these plots. These flowers have been chosen for their pleasant aroma and their pleasing aesthetic quality. Orienpet Lily for example produces pinene, myrcene, and limonene. Peony will produce caryophyllene, linalool, and citronellol. Aster will produce germacrene, pinene, and caryophyllene. Echinacea will produce myrcene, pinene, and limonene. Dianthus will produce ocimene and caryophyllene. These flowers and their powerful oils will attract pollinators and provide a pleasant odor to mask the odor of the cannabis throughout the growing season.

Conclusion

This Odor Mitigation Plan describes the steps that will be taken by this organization to mitigate the odor produced by the construction and operation of a 2-acre cannabis grow at Town Meadow Farm. Included in this plan is an intensive planting to combat odors. This plan outlines how this organization will through: site selection, the use of existing and newly planted natural barriers, the construction of structural barriers, the planting of odorous and odor suppressing non-cannabis

species, and the overall strain selection of the grow in order to minimize the odor emitted by the proposed outdoor cannabis grow at Town Meadow Farm.²

¶ 5 Lighting and general operations ¶8.

Work lighting and hours of operation are interrelated. The Planning Board asked the petitioner for additional information on lighting. Specifically, “What security lighting, if any, is required by the Cannabis Control Commission (CCC)? Describe the use of outdoor lights for farming operation.”

Response:

The CCC has very specific regulations for indoor cultivation lighting. See, e.g., 935 CMR 500.120(11)(b)(1)(2)(3). For outdoor cultivation, their rules are as follows:

Outdoor Cultivation shall mean the cultivation of mature Cannabis without the use of artificial lighting in the Canopy area at any point in time. Artificial lighting is permissible only to maintain immature or vegetative Mother Plants. The remaining lighting provisions of the CCC appear primarily targeted towards indoor cultivation. 935 CMR 500.002 in the definition section at pp. 110 of the regulations.³

Security lighting: the interior and exterior security lighting is not continuous during the night. Security lighting is triggered only by sensor activity.

Hours of operation

Hours of operation and lighting are coterminous (dependent). Normal hours of operation will be dawn to dusk seven (7) days a week similar to any other agricultural activity. Working under natural light will be the preferred method of operation. However, weather and progress in planting and the demand of harvest may dictate work hours beyond daylight time. For instance,

² We consulted with another colleague running an outdoor cultivation site similar to our proposal. They notified us that they are going into their fourth growing season and that do date have not experienced any odor complaints.

³ Industrial F-1, as further defined in guidelines issued by the Commission.

(b) Lighting used for Cannabis Cultivation must meet one of the following compliance requirements:

1. Horticulture Lighting Power Density must not exceed 36 watts per square foot, except for Tier 1 and Tier 2 which must not exceed 50 watts per square foot; or
2. All horticultural lighting used in a facility is listed on the current Design Lights Consortium Solid-state Horticultural Lighting Qualified Products List ("Horticultural QPL") or other similar list approved by the Commission as of the date of license application, and lighting Photosynthetic Photon Efficacy (PPE) is at least 15% above the minimum Horticultural QPL threshold rounded up to the nearest 0.1 $\mu\text{mol/J}$ (micromoles per joule).

3. A facility seeking to use horticultural lighting not included on the Horticultural QPL or other similar list approved by the Commission shall seek a waiver pursuant to 935 CMR 500.850 and provide documentation of third-party certification of the energy efficiency features of the proposed lighting. All facilities 935 CMR 500.120 (11)(b)(1)(2)(3)

during spring time, natural sunlight can last up to fifteen hours a day. As the summer progresses into the fall solstice months natural daylight is shorter.

Early spring

Once the greenhouse can sustain above freezing temperatures during the night, growing activity will slowly begin. Per our security plan before any work activity starts, there will be testing and implementation of the security plan.

You have also inquired about the length of our season: We submit the start of our season will be between approximately March and the month of May, weather dependent.

Mid Spring

During April and May most of our work will be dedicated to preparation and construction of the site to bring the necessary facilities. Some of our workers will involve greenhouse work and soil preparation.

Early fall and harvesting

We anticipate harvesting between late August thru October. Obviously the days will grow shorter thru the fall equinox (Sept. 21st). It is also hurricane season in New England with high winds, excessive rain. Thus, in some cases harvesting may continue thru the night. Work light are only meant for the safety of our employees and functionality. We may require point of use lighting to help facilitate harvesting.

¶6

We have retained the professional services of Platinum Protection Systems, LLC of 15 McGrath Road, Methuen, Massachusetts. As you probably know this company is involved in the Millbrook project on Huntoon Highway, Leicester, MA. Upon information and belief, this company has done over twenty-two marijuana establishment security plans in the Commonwealth. Mr. Dykas, Chief of Police Antanavica and Mr. Terrizzi from Platinum protection have already met and discussed the details of the security plans. These plans will comply in every respect with CCC requirements. The security plan will address other issues including but not limited to signage on the opaque fence. signage around the entire property. We anticipate a full security plan will be submitted to Chief Antanavica by tomorrow, Friday March 12, 2021.

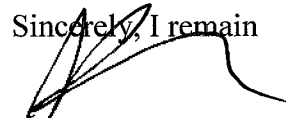
¶8

With respect to processing, once harvested, our harvest will be immediately removed from the farm to another facility. We do not intend to process marijuana at 124 Green Street. As far as traffic, one of the seven employees lives at the farm. The other six will come into work and we do not belief this number of employees will affect traffic on Green Street. Our product will be transported in small box trucks or vans that comply with CCC regulations. We will submit an

application to the CCC as soon as we received our approval from the Board and the host community agreement from the Town of Leicester.

We will have an opaque green colored fence. Our worker's trailer and our security trailer will both be white. Our sheds will be built with lumber and stained. Our green house will be clear. On a final footnote, we may slightly reduce the area of the security fence and may move it back 200' to its original location.

Sincerely, I remain



Hector E. Pineiro

Enclosure

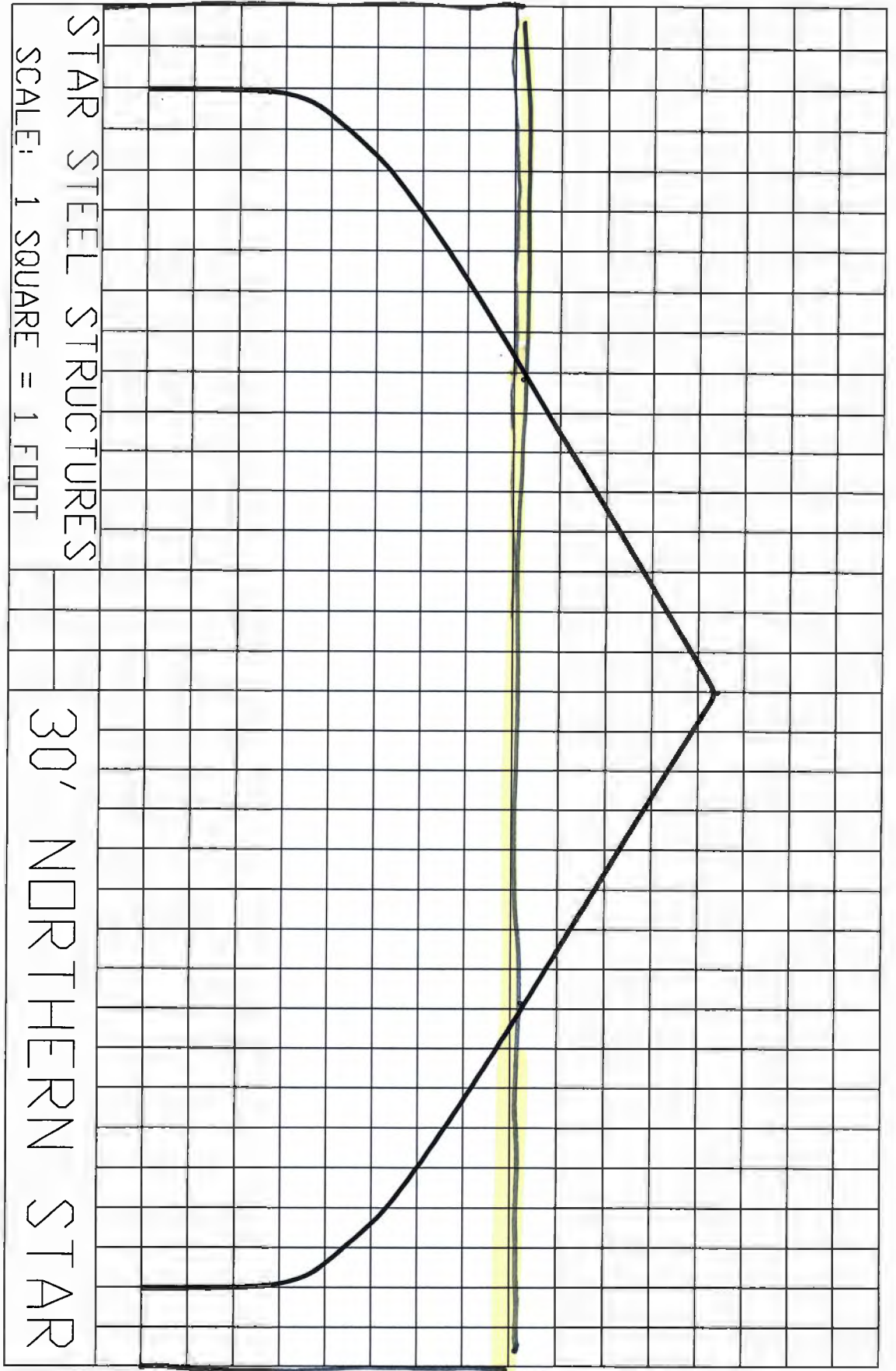
Ex. 1





Fence

Fence



STAR STEEL STRUCTURES

SCALE: 1 SQUARE = 1 FOOT

30' NORTHERN STAR





fence

fence

STAR STEEL STRUCTURES
SCALE: 1 SQUARE = 1 FOOT

30' NORTHERN STAR