

Appeal Period Expires 1/20/2021
 Zoning District B1

Town of Essex, Vermont
Application for Zoning Permit
 www.essex.org

Application Date 1/1/21
 Permit Number 2021-4

All construction is to be completed in accordance with the Town of Essex Zoning Regulations and any/all federal or state regulations now in effect. You are required to post this permit in a conspicuous location on the property during the appeal period and it must remain posted throughout the construction period. **You are required to contact the necessary state agencies to obtain state permits @ 477-2241 (Jeff McMahon, Permit Specialist).**

Any interested person may appeal the decision of the Zoning Administrator to the Zoning Board of Adjustment within fifteen (15) days of the permit's date of issuance. Commencing construction within this fifteen (15) day appeal period is prohibited by law.
 Signed: Charles F. Smith

A Parcel Account Numb. (Map-Parcel-Lot) 2-047-012-838
 (found in Town Assessor's Office)
 Property Address: 1 Market Place, Unit 25
 Owner: Jeff Harton Town Market #1 U25 LLC
 Owner Address: 57 River Road, Box 1017, Essex Junction, VT 05452,
 Owner Phone: (work) _____ (home) _____
 (cell) (802) 310-9182 (Email) _____
 Contractors name: Charles Smith (Tenant) Phone: _____
 Cell: (610) 256-4836
 Estimated Construction Dates: Start: 1/8/21 Completion: 1/8/21
 Sq. Feet: 100 - future Estimated Cost (labor & materials): \$ \$950
(1,000 SF EXISTING)

B Sewage Disposal (Please attach Sewer or Septic Application).
 Public Private Connection Fee \$ _____ Date Paid: _____
 Proposed New Bedrooms: _____ Existing Bedrooms EXISTING

C Water (Please attach Water Service Application).
 Public Private Fee \$ _____ Date Paid: EXISTING

D Driveway (Please attach copy of approved Curbcut / Utility Application).
 Date of approval 1/1/21 EXISTING

E Stormwater
 Project disturbs an area greater than or equal to 1 acre – Erosion Control Permit Required. Attach completed permit application.
 Project creates new or expands existing impervious surface greater than or equal to 1/2 acre – Erosion Control Permit and Stormwater Management Permit required. Attach completed permit application.

F Diagram – Show a sketch of project on reverse of this application with property lines, building, and setbacks or attach separate sheet.

G see attached
 Signature of Tenant and Charles F. Smith
 Signature of Owner _____

G

Check box(es) which describe proposed use or construction (circle choice in parenthesis).
 N = New A = Addition R = Remodel

<i>Residential:</i>	N	A	R
Single Family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two-family (duplex)(other)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Condominium / Townhouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobile home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Inclusions or Additions:</i>			
Garage (attached) (detached)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Porch (enclosed) (open)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pool (in) (above) ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barn (residential) (agriculture)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Non-residential:</i>			
Commercial / Industrial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Stormwater:</i>			
Stormwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Erosion Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Other:</i>			
Change in use <u>Small Production + sales</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miscellaneous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renewal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Office Use Only

Fees:	Type	Amount	Date Pd
Permit	<u>use</u>	\$ <u>85</u>	<u>1/1/2021</u>
Recreation		\$ _____	
Recording		\$ <u>30</u>	<u>1/1/21</u>
Certificate of Occ		\$ <u>75</u>	<u>1/1/21</u>
Other		\$ _____	

Building Permit

Approved Rejected Date 1/15/21
 Issued to: Town Market #1 U25 LLC
 Zoning Administrator: Thomas J. Kelly
 Notes: _____
 C.O. Required Yes No

Sharon Kelley

From: Charles Smith <charles@fullcirclemicrobes.com>
Sent: Tuesday, January 5, 2021 4:43 PM
To: Sharon Kelley
Cc: Jeff Harton
Subject: Re: Market Place Unit 25 RE: test
Attachments: 1 Market Place Unit 25_Zoning Permit 2017 Feb.pdf; Town of Essex_Use Permit_Online Payment Receipt_Full Circle Microbes.pdf

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST

Hi Sharon,

That sounds great, thank you very much. Please find attached the updated form with my signature at the top and bottom and contact information in the contractor section. I've made our payment online and have attached the receipt for your reference.

I've also included our narrative below, there are longer versions that we've exchanged over email so please just let me know if you need any more detail:

Our company: Full Circle Microbes is a Vermont based startup driven by the mission to transform organic waste that harms our planet into a sustainable fertilizer substitute that helps it. We received grant funding from the National Science Foundation to further their efforts in helping hemp farmers become more environmentally and financially sustainable and are working with the University of Vermont on those efforts as well.

What plan to do in 1 Marketplace, Unit 25:

- Small scale production of our microbial inoculant that we sell to hemp growers, powering our on-farm recycling process.
- This small scale production involves a fermentation process that's similar to kombucha and involves only microorganisms that are distinguished to be Generally Regarded as Safe by the FDA
- Set up desks in one section of the space to serve as our office

I hope you've enjoyed the holidays and that 2021 is off to a great start!

Best,
Charles

On Tue, Oct 6, 2020 at 5:08 PM Charles Smith <charles@fullcirclemicrobes.com> wrote:

Hello Sharon, Beth and Peter:

Thank you all for your help in getting this squared away, we're very much looking forward to moving into Market Place in Essex Junction.

I thought it might be helpful to briefly summarize our expected parking and water/waste water consumption to make sure everyone has all the information. Please see below for a quick description and let me know if you have any questions:

- Expected parking: 1-3 cars per day (1-2 on most days)
- Expected water usage:
 - Bathroom use and drinking water by 1-3 people over course of work day
 - Handwashing ~14-20 1-liter glass bottles per week

As Peter mentioned, we expect that this would be far less than the previous restaurant tenant, but I of course understand your point, Sharon, that it's necessary to understand this potential impact in the context of the overall complex.

Beth - would you be able to share any background on how that water usage might fit into the context of the overall complex and how water is being used?

Thank you all again for your help!

Best,

Charles

Hi Sharon,

Thank you for the questions and opportunity to clarify these points. Aaron - it's great to connect with you.

To your question about microbes going down the drain, we will **never** dispose of live microbes in the wastewater system. It is of course our priority to minimize any sort of waste, but in the event that we do need to eliminate any

liquid or microbial material involved in our production, this would first be sterilized in our autoclave to ensure that no live microbes would ever enter the wastewater system.

I do want to reiterate that all of our microbes are Generally Regarded as Safe and are naturally occurring. If they did enter the wastewater system they would more likely have beneficial effects than any negative ones, but as noted above, we will take every precaution to ensure that no live microbes enter the wastewater system. We've done a bit of research on brewery waste and a key factor from a waste management perspective is that brewery effluent is very high BOD (biochemical oxygen demand), can have extreme pH and contain a significant amount of TSS (Total Suspended Solids). These can lead to significant challenges if sent through a standard wastewater system, but none of these risk factors are present in our production process. We will not dispose of live organisms in the wastewater system, nor extreme pH liquids, nor any effluent with high nutrient content, TSS, or BOD. I would also note that our standard production process does not produce any waste, in contrast to the brewing industry which generates spent grain and effluent as a standard part of production.

To your question about "preferred nutrient sources", this would include microbial growth media such as LB Broth or LB Agar. Neither liquid nor agar nutrients will enter the wastewater system from our production operation. As noted above, we ensure that our process minimizes any sort of waste, but in the event that nutrient media is wasted for one reason or another, this media is sterilized, dried, and disposed of in the trash.

I know this is a somewhat lengthy response but I hope the comparison to brewery waste is helpful. I'm more than happy to answer any additional questions and I appreciate you both helping to move this process forward.

Thank you,

Charles

The only work that we're having done is some cosmetic work on one section of flooring, fixing some cracked tiles and resealing that section of the floor. We have a quote from Summit Construction for this and they believe it will take a day to complete in the first week of January. I've attached their proposal in addition to the completed Zoning Permit form for your review.

Hi Sharon,

Happy Friday - I hope it's been a great week!

Thanks for your help in coordinating with Public Works and hopefully getting things squared away so we can move into the space. I understand that this might be more straightforward with a formal report from our previous space, but we're moving from a farm in Hinesburg where we've shared barn space with a chicken farm and horse farm tenants. I'm happy to send the description of our process and I'm sorry I couldn't get back to you yesterday.

Please see below for a description of the steps in our production process with description of potential water usage:

- Individual naturally occurring and GRAS (General Regarded as Safe - classification from FDA) microbes are grown in 1 liter bottles.
 - Bottles contain distilled water (purchased and brought to our facility) and the preferred nutrient source for the microbe being grown
 - Bottles are placed in an incubator to provide the right growth temperature.
- This process is repeated for all the component microbes in our inoculant.
- Liter bottles containing all the component microbes are then combined into a larger brew tank for additional growth, fermentation and co-culturing.
- When we make a sale to a farmer, the combined microbes are dispensed from the brew tank into a 5 or 1 gallon container to be delivered to the farm.
 - In times of ongoing production, distilled water and additional nutrients can be added to the brew tank for continued microbial growth, similar to a sourdough starter or certain brewing techniques

- Approximately 14 liter bottles will be cleaned on a weekly basis. Our cleaning process involves a 10% bleach dilution that is further diluted during washing
- Surfaces in the production facility will be cleaned on a regular basis, consistent with general hygiene standards of a restaurant
- Preparation of nutrient media can produce mild smells when nutrients are mixed with distilled water. This would be significantly less pungent than smells associated with cooking
- Distilled water will be purchased and brought onsite and water consumption will be driven by the need to use the restroom by the 1-3 people in our location and the washing of ~14 glass liter bottles.