

Registration

Pursuant to s. 49 of the Environmental Protection Act, SNL 2002, c. E-14.2

Undertaking:

Microbrewery

Location:

27-29 Church Street, Bonavista, Newfoundland

Submitted by:

Jason Norman, on behalf of
Bonavista Brewing Company Inc.

Submission date:

March 28, 2023

Registration

Microbrewery

Bonavista Brewing Company

Table of Contents

NAME OF UNDERTAKING	2
PROPONENT	2
(i) Name of Corporate Body	2
(ii) Address	2
(iii) Chief Executive Officer	2
(iv) Principal Contact Person for purposes of Environmental Assessment	2
THE UNDERTAKING	2
(i) Name of the Undertaking	2
(ii) Purpose/Rationale/Need for the Undertaking	3
DESCRIPTION OF THE UNDERTAKING	3
(i) Geographical Location	3
(ii) Physical Features	3
(iii) Construction	4
(iv) Operation	4
a) The Brewing Process	4
(b) Crushing Grain:	5
(c) Cleaning:	5
(d) Canning & Bottling:.....	5
Other Operations:	5
Water Demand/Usage:	5
Period of Operations:.....	6
Potential Sources of Pollutants:.....	6
(v) Occupations	7
(vi) Project Related Documents	7
APPROVAL OF THE UNDERTAKING	7
SCHEDULE	8
FUNDING	8
Appendix	9

Registration

Microbrewery

Bonavista Brewing Company

NAME OF UNDERTAKING

Bonavista Microbrewery

PROPONENT

(i) Name of Corporate Body

Bonavista Brewing Company Inc.

(ii) Address

27-29 Church Street
Bonavista, NL
AOC 1B0

(iii) Chief Executive Officer

Name: Jason Norman
Official Title: Chief Executive Officer/Director
Address: 68 Ridgewood Dr., Paradise, NL, A1L 1K8
Telephone No: 709-749-6046
Email address: jhnorman@nl.rogers.com

(iv) Principal Contact Person for purposes of Environmental Assessment

Name: Jason Norman
Official Title: Chief Executive Officer/Director
Address: 68 Ridgewood Dr., Paradise, NL, A1L 1K8
Telephone No.: 709-749-6046
Email address: jhnorman@nl.rogers.com

THE UNDERTAKING

(i) Name of the Undertaking

The owners of Bonavista Brewing Company (Jason Norman and Mary Norman) are seeking approval to open a microbrewery in a 4900 square foot space at 27-29 Church Street in Bonavista. A microbrewery is defined as producing less than 15,000 hectoliters of beer per year. In comparison, large macrobreweries such as Labatt or Molson, produce over 600 times as much, at roughly 10 million hectoliters per year.

The proposed microbrewery will produce 10 barrels (or approximately 12 hectoliters) per batch, with approximately 8 brew days per month during tourist season and down to 2-4 brew days per month outside of tourist season. There will be an area with seating for customers to sit and sample the products, called a tap room or "tasting area" which will cover 2000 square feet of the building. Retail products with the brewery logo will be sold onsite as well.

Registration

Microbrewery

Bonavista Brewing Company

(ii) Purpose/Rationale/Need for the Undertaking

Craft beer and the microbrewery industry have also exploded across the country with many microbreweries opening in rural locations and experiencing unprecedented successes. For example, Nova Scotia currently has over 50 microbreweries and New Brunswick has over 40, with over half of these succeeding in rural locations.

Newfoundland, however, has only 19 in the province. Therefore, there is a great opportunity in the tourism destination of Bonavista to make craft beer on a small “artisan” level and to offer a craft product to tourists as well as to provide them with a unique visitor experience of touring the brewery and seeing the process firsthand.

The tourism industry in Newfoundland and Labrador generates over \$1.1 billion in visitor spending each year, and the Bonavista region is a significant tourist destination area within the province, with out-of-province visitors exceeding 60,000 in 2019. Nationally and globally, Bonavista has attracted attention through the majestic beauty of the town along with the icebergs and whales that pass by our shoreline every spring and summer season. In addition, the Bonavista Peninsula recently received official UNESCO status as the Discovery Global Geopark and with it will come a continuous increase in the number of visitors to the Bonavista area each year.

The tourism industry is the main support for many businesses during the summer months. This includes Bonavista’s accommodations that are sold-out in the summer, but visitors who would like a drink, only have the option to go to two small pubs that currently do not supply local, craft beer.

DESCRIPTION OF THE UNDERTAKING

(i) Geographical Location

The site is located within the Town of Bonavista, at 27-29 Church Street. There is an existing building onsite that will be renovated to be a taproom.

The site is serviced by municipal water and sewer.

Attached are geographical maps showing the location of the undertaking as well as plans for the portion of the site that will contain the microbrewery

(ii) Physical Features

The major physical features of the undertaking include interior renovations to the existing building, 2900 square feet, to be used as a taproom and cooler for the serving tanks while another 2000 square foot building will be constructed on the same property with a link to the existing building and the new attachment will include the installation of the brewing equipment, kitchen, extra bathrooms, and construction of a patio to Service NL standards.

Bonavista Brewing Company will use the town of Bonavista’s existing water and sewage systems.

Registration

Microbrewery

Bonavista Brewing Company

(iii) Construction

The building in which the taproom will be operating is a commercial building which will be renovated.

Construction on the new attachment is expected to take from Spring 2023 to Winter 2024 and interior designers, architect and engineers are involved in the design and planning phase of our project. They will ensure that everything will be designed and built to code including ensuring that the extension will be designed with accessibility and fire safety in mind. Once we are ready to begin construction, we will require confirmation from all sub-contractors that they are following provincial occupational health, safety and environmental standards and guidelines throughout the construction work.

All contractors involved in the renovations will follow provincial Occupational Health and Safety requirements and provincial environmental standards throughout the construction work. The construction for the undertaking will include floor preparation and sloping, plumbing drainage added to floor (trench drain), electrical upgrades and installation of building systems, mechanical upgrades and installation of building systems. The walls will be made of washable materials for sanitary purposes, and the flooring will have a urethane cement coating in order to prevent breakdown from constant moisture, heat and cleaning chemicals. There will be drains in the brewery floor for water and beer spillage which will drain into municipal sewage. The electrical will be upgraded to operate a 600amp service.

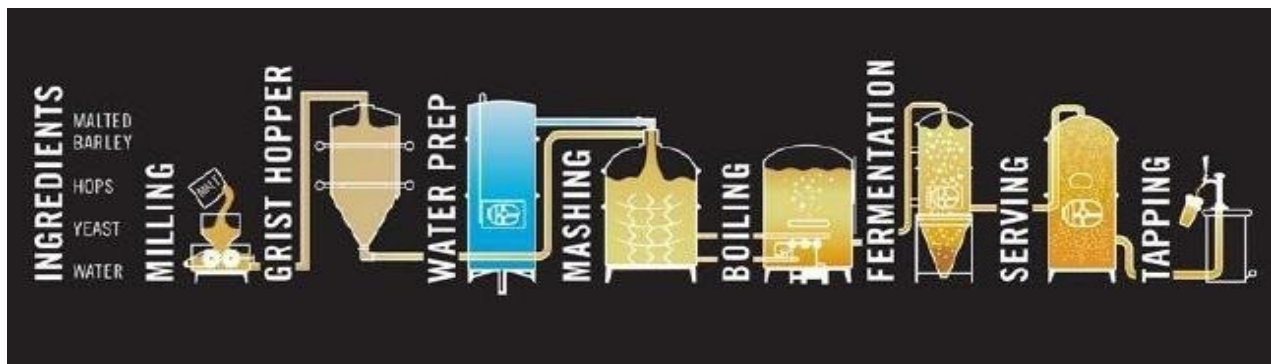
The only potential source of pollutants during the renovation period would be related to any use of machinery, such as a spill of any diesel or lubricants. The use of such equipment would be minimal, as the site is relatively flat and level, and the contractor will be required to have a spill kit on site.

(iv) Operation

The operation of the microbrewery will consist of the following: (a) the brewing process, carried out two or three times a week; (b) crushing grains; (c) cleaning; and (d) canning.

a) The Brewing Process

A schematic of the brewing process is provided below:



The brewing process typically runs over an eight-hour period and described as follows:

- Heating, via electrical elements, approximately 600 liters of water to a temperature of 75C in a large stainless-steel tank called a Hot Liquor Tank (HLT).
- The heated water is transferred via pump and hose to a second stainless steel insulated tank called the Mash Lauter Tun. Malted barley/grain is added and steeped in the hot water (65C) for

Registration

Microbrewery

Bonavista Brewing Company

approximately one hour. Additional water (approximately 150-200 liters) added, over the grains to draw off more starches where possible.

- The liquid (“wort”) is then drawn from the mash lauter tun and pumped to a stainless steel tank, called the kettle, which is fitted with electrical elements. The wort is heated to 100°C and boils for approximately one hour. During the boil, hops (the female flower of the hop plant, *Humulus Lupulus*) are added, giving beer bitterness as well as additional flavor and aroma.
- The wort is then drawn off the tank via pump and hose and passes through a plate chiller (heat exchanger) that runs cold water to cool it to room temperature. This water is then used to fill the hot liquor tank.
- The wort leaves the plate chiller and enters the fermentation tank. Brewer’s ale yeast is added to the tank and held at a temperature between 18-22°C for five to seven days. The tank is equipped with a glycol jacket which is used to control the temperature. Glycol is cycled through the jacket and a small chiller to maintain the wort at a consistent temperature.
- After fermentation is completed, the wort is cooled to 4°C over a 12-24 hour period. Once cooled, the beer is then transferred to a serving tank located in a cooler.
- The beer is then held at 4°C and carbonated via the addition of carbon dioxide until served.
- During the brewing process, one portable 2 HP variable frequency drive pump will perform all of the above transfers of liquid via hose.

(b) Crushing Grain:

- The microbrewery will be crushing a small amount of grains prior to brewing. The amount of dust from this process is not large enough to create a fire or explosion hazard. This process will occur a maximum of three times a week. The mill will operate for only 15 minutes during brew days and crush between 150-200lbs of grain during this time. The grain will be stored and milled as recommended by fire regulations.

(c) Cleaning:

- The tanks and equipment will be cleaned and sanitized after every use, utilizing a clean-in-place (CIP) system with non-caustic (alkaline) cleaner and sanitizer. On an as-needed basis, a caustic cleaner will be required to remove scale and beerstone from the tanks. This cleaner will be highly diluted and used on a minimal basis.

(d) Canning & Bottling:

- Canning and bottling is carried out over a few hours and consists of transferring beer from tanks into either a canning line or a small bottling machine that is also connected to a source of CO₂ to purge the cans/bottles of any air before filling. The footprint of these machines is quite small, and the canning line operates via electricity.

Other Operations:

Bonavista Brewing Company will also operate taproom, which will be a licensed area for food and alcoholic beverage service, as well as a walk-in cooler for serving tanks and input storage (hop, yeast, etc). There will be a small draft system to connect to the bar in the taproom where the public will be able to purchase it.

Water Demand/Usage:

The water usage will fluctuate based on the operation being carried out that day. Water will be required: (1) on a brew day and (2) during cleaning. Most days, water usage baseline demand will be that of regular washroom use for patrons and staff. The most water-usage intensive days will be days

Registration

Microbrewery

Bonavista Brewing Company

during which Bonavista Brewing Company is brewing beer – also referred to as a “brew day”. Brew days will occur about 4 to 8 times per month. During these days, water will be used as both an ingredient to the beer being produced, as well as for cleaning after brewing is complete. Approximate water demand for the brewing process is 2000 liters. During the cleaning process following the completion of a brew day, approximately 150 liters is used.

Bonavista Brewing Company is currently working on the assumption of a 50-person occupancy, and based on information from Fire & Life Safety and Service NL, approximate water usage for a taproom/lounge of this size is calculated as:

Max. Occupancy * 2 * 25 liters = 50 * 2 * 25L = 2500 L per day for regular washroom use.

Maximum water demand possible in one day – during which brewing occurred and the taproom was open – would be 4650 liters. As mentioned, this quantity of daily demand will occur only 4 to 8 times per month, during brew days. On all other days in which the taproom is open, water usage will average 2500 liters per day.

Period of Operations:

Bonavista Brewing Company will operate year-round with the greatest production happening seasonally between May and September. The taproom will be open to the public 7 days a week during tourist season from May to September, and open on weekends and special events during the rest of the year. During the winter, some brewing will be required to supply restaurants and bars as well as festival activity and other special events.

Potential Sources of Pollutants:

Airborne emissions:

During operations there are only two small opportunities for airborne emissions: (1) vented steam during the brewing and (2) vented grain dust during the milling process. These processes result in minuscule to non-existent air emissions and all are 100% natural and will contain no chemicals or toxic substances.

The vented steam occurs during boiling in the brewing process. The wort drawn from the Mash Lauter Tun is put into the Kettle and boiled for approximately one hour. During the boil, hops (a natural plant) are added at various stages of the boil. At this point, the wort only contains water, starches from the grains, and flavours drawn from the hops, which are all natural and contain no chemicals or toxic substances. The steam from this boil emits only a slight odor, as mentioned consisting only of barley and hops.

There will also be a small amount of airborne grain dust produced while milling the grains. There will be a ventilation system in the brewery to assist in the emission of grain dust, which will be small in nature, all natural, and will dissipate quickly.

Solid Waste & Liquid Effluents:

Bonavista Brewing Company will be environmentally friendly and work towards exceeding all environmental standards when possible. Fortunately, the brewing processes uses organic materials that are reusable in nature.

When manufacturing anything, there will be some waste of product. The waste produced in the brewing process for 600 liters of beer are water, spent grains, hops, and cleaning products:

- Water: There will be approximately 150 liters of water wasted for cleaning purposes. The excess water will be disposed in the floor drain during the cleaning process.

Registration

Microbrewery

Bonavista Brewing Company

- Spent Grains and Hops: The spent grains and hops will be collected from the Mash Lauter Tun when the brew day is complete. The spent grains can range from 500-600 lbs. These grains will be given to farmers the same day to feed their livestock.
- Cleaning Products (small amounts): Fortunately, there are environmentally friendly products available for the cleaning needs of the brewery. The cleaning product most used, particularly for every cleaning session after every brew, will be PBW (powdered brewery wash). This is a low alkaline, non-caustic, environmentally and user-friendly clean-in-place cleaner. At times a peroxide-based acid cleaner will be used to dissolve scale and beerstone from inside the tanks. This would be highly diluted (2000:1 ratio of water to cleaner) and will not be used during every cleaning session. When required with our system, 20mL of caustic is used and diluted with 40L of water. All slurry and liquid effluents will be disposed of to the septic system. For cleaning of the tasting room, bathrooms, and non-brewery related rooms, biodegradable, environmentally friendly cleaning products will be used.

(v) Occupations

The brewery will operate on a seasonal basis, focusing on the tourism market. The brewery and taproom will be operated by the owners, head brewer, and 2-4 taproom attendants during year 1 tourist season and 1-2 taproom attendants outside of tourist season. Should business results allow, the company may hire 1 to 2 additional staff in years 2 and beyond as brewing assistants, and taproom attendants. During hiring, Bonavista Brewing Company will ensure no age or gender discrimination during the hiring process. Bonavista Brewing Company is committed to diversity in the workforce.

(vi) Project Related Documents

Aerial photos, site survey, floor plans, and Town of Bonavista approval letter attached.

APPROVAL OF THE UNDERTAKING

The following is a list of permits, licenses and approvals required for this microbrewery:

Municipal:

- Municipal Approval – Town of Bonavista – **Completed**

Provincial:

- Environmental Assessment Approval & Registration – Department of Environment and Conservation Change and Municipalities
- Food Establishment License – Service NL
- Building Accessibility & Fire and Life Safety Approval – Service NL
- Manufacturer License (Brewery) – Newfoundland Liquor Corporation
- Brewer's Agent License – Newfoundland Liquor Corporation
- Restaurant/Lounge License – Newfoundland Liquor Corporation

Federal:

- Excise Duty License – Canada Revenue Agency

Registration

Microbrewery

Bonavista Brewing Company

- Labeling requirements – Canadian Food Inspection Agency

SCHEDULE

Construction will begin in spring 2023 with the brewery opening in 2024.

FUNDING

The estimated capital cost of the undertaking is \$1,600,000. A portion of the financing for this project will be personal capital contributed by the owners. The remaining will be in the form of a mortgage for the commercial property, as well as debt financing from Federal and private institutions.

Debt financing has been requested from:

Business Development Bank of Canada (BDC)

215 Water Street

St. John's, NL

A1C 5K4

TD Canada Trust

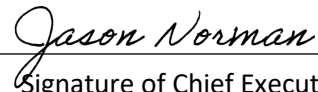
80 Elizabeth Avenue

St. John's, NL

A1A 1W7

March 28, 2023

Date



Signature of Chief Executive Officer

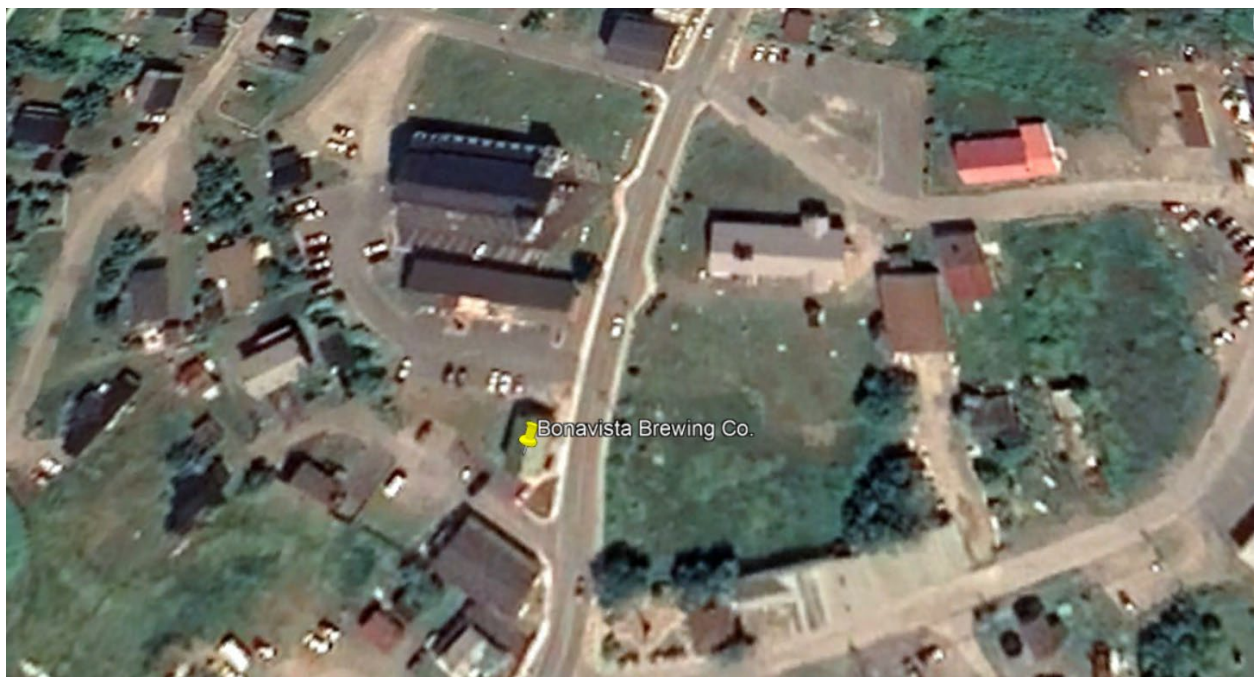
Registration

Microbrewery

Bonavista Brewing Company

Appendix

Aerial photos

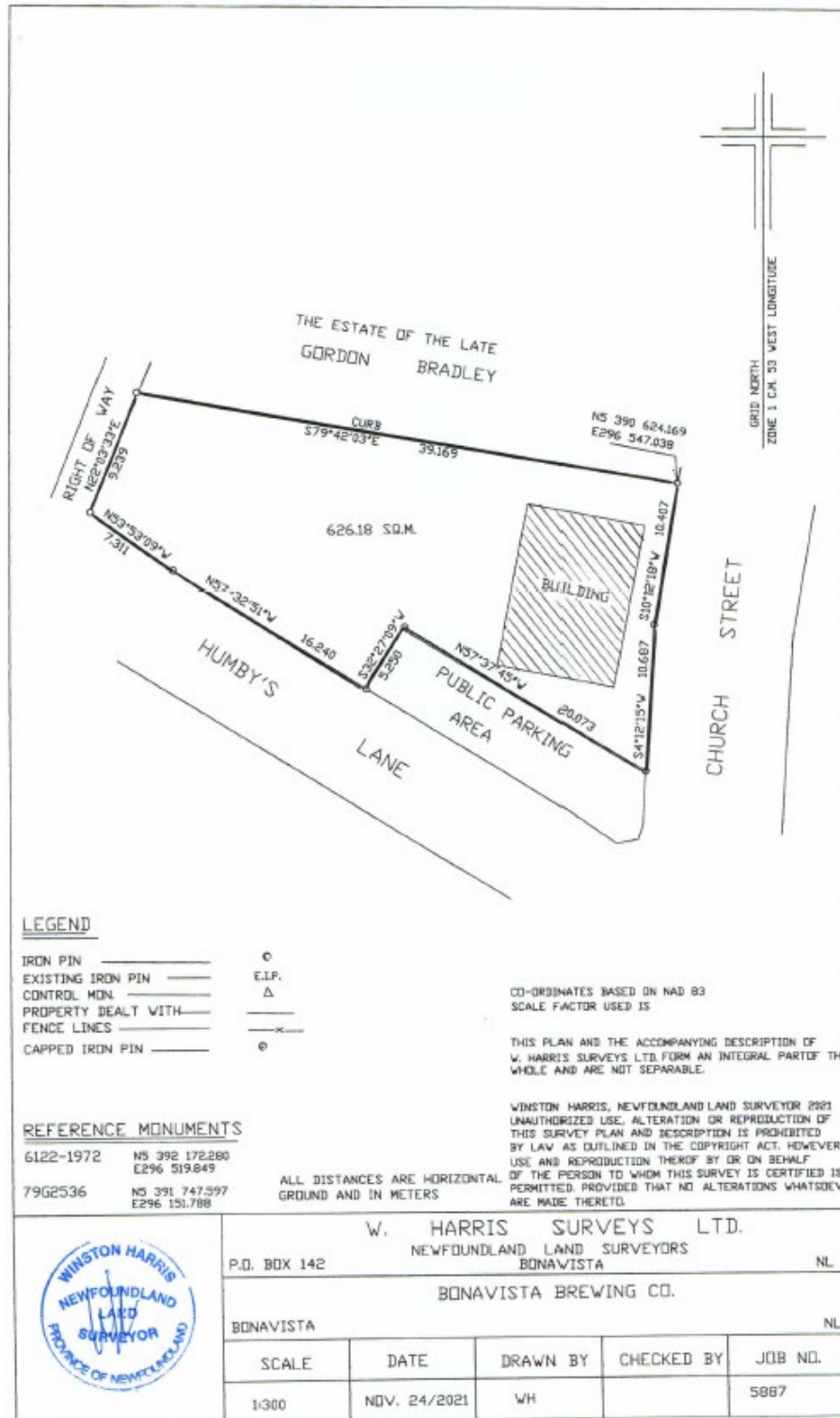


Registration

Microbrewery

Bonavista Brewing Company

Site survey



Town of Bonavista Approval letter

Town of Bonavista
Landfall of Cabot

P.O. Box 279, Bonavista, NL Canada A0C 1B0

April 27, 2021

Mr. Jason Norman

Dear Sir:-

RE: Microbrewery – Church Street

With reference to your application on April 21, 2021, whereby you requested permission to build a microbrewery on land between the Lions Club Parking Lot and Humby's Lane on Church Street directly behind the Keough Shop in the Town of Bonavista.

Please be advised that your request was discussed at a meeting of Council held on April 26, 2021. As a result of this discussion I was instructed to advise you that Council will approve your request subject to recommendations of Service NL. When all the necessary Government approvals are in place, then a permit will be issued.

Good luck on your venture.

Yours very truly,

THE TOWN OF BONAIVISTA



David Hiscock, C.M.C.
Town Manager/Clerk

DH/dp