

## **Registration**

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

## **Undertaking**

Microbrewery

## **Location**

111 Mountainview Road, Salvage, Newfoundland and Labrador

## **Submitted by**

Charles Matchim on Behalf of  
Wild Cove Adventures Limited

## **Submission Date**

June 23, 2023

**Registration**  
Microbrewery  
Salvaje Brewing Company

**NAME OF UNDERTAKING:**

Salvaje Brewing Company

**PROPONENT:**

(i) **Name of Corporate Body:**

Wild Cove Adventures Limited

(ii) **Address:**

Box 34, Site 2A  
Eastport, NL  
A0G 1Z0

(iii) **Chief Executive Officer:**

Name: Charles Matchim  
Title: Chief Executive Officer

(iv) **Principal Contact Person for Purposes of Environmental Assessment:**

Name: Charles Matchim  
Title: Chief Executive Officer

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## **THE UNDERTAKING:**

### **(i) Nature of the Undertaking:**

Charles Matchim, co-owner of Salvaje Brewing Company, will occupy a portion of the ground floor of an existing building (building size is 22,400 ft<sup>2</sup>) located at 111 Mountainview Road in Salvaje, NL. They are seeking approval to open a small microbrewery at that location. A microbrewery is defined as producing less than 15,000 hectolitres of beer per year whereas a large macro brewery, such as Labatt or Molson, produce over 10 million hectolitres per year.

The proposed microbrewery will produce between 10 and 12 barrels (or approximately 12 to 15 hectolitres) per batch, with approximately 8 brew days per month during tourist season and down to 4 brew days per month outside of tourist season. The beer that is produced will be made with all natural ingredients (water, malted barley, hops and yeast), with no requirement for the use of preservatives or pasteurization. In addition to the microbrewery processing operation there will be an area provided with seating for customers to sit and sample the product as well as consume food from the adjacent on-site restaurant. Such an area is normally referred to as a taproom or "tasting area". Future plans include the onsite sale of retail products with the brewery logo.

### **(ii) Purpose/Rationale/Need for the Undertaking:**

In general, the tourism industry in Newfoundland and Labrador generates over \$1.1 billion in visitor spending each year. The Eastport Peninsula is recognized as a significant tourist destination area within the province, with approximately 40% of visitors coming from outside the province. The historic community of Salvaje, located at the tip of the Peninsula, is recognized internationally for its natural beauty, cultural heritage and first class system of walking and hiking trails (Damnable Trail).

As a small fishing community, Salvaje depends heavily on seasonal tourism based activities to supplement the income of many of its residents. The permanent closure and subsequent decommissioning of the fish processing plant in 2013 dealt a significant blow to the local economy and its workforce. However, the abandoned 'plant facility' has opened the door for a new economic opportunity in town. Its recent purchase and re-development in to a multi-

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business enterprise (of which the Salvaje Brewing Company is one) infuses a new hope for future prosperity in the community. The building will house a restaurant, cafe, bakery and small boutique style hotel, which alongside the proposed microbrewery and local marina facility, will offer year round opportunities for enjoyment by visitors and local residents alike.

It is well recognized that the craft beer and the microbrewery industry has grown exponentially across the country, with many of the microbreweries opening in rural locations experiencing unprecedented success. Salvaje Brewing Company believes a microbrewery in Salvaje (operating in conjunction with the planned businesses listed above) would make a valued addition to the local economy by drawing more visitors to the area and bolstering the potential for development of additional local businesses and increasing employment opportunities for local people on the Eastport Peninsula.

## **DESCRIPTION OF THE UNDERTAKING:**

### **(i) Geographical Location:**

The proposed microbrewery location is within the Town of Salvaje - at 111 Mountainview Road. The entire property (land and building) that the microbrewery will be located on comprises an area of approximately 32,000 square feet. The microbrewery facility/operation itself will occupy a significant portion of the ground floor level of the building (approximately 8,100 ft<sup>2</sup>).

As a former fish processing plant, the back of the building (west side) is facing the water and is adjacent to a fully operable government wharf (fishing vessels still operate out of this location), while the front of the building (east side) faces Mountainview Road. Parking for the microbrewery is available at the front of the building as well as across the road.

Water for operation of the microbrewery, as well as all other facilities within the building structure, will be provided by means of the towns' water supply. Waste water disposal, including all effluents associated with operation of the microbrewery, will occur through utilization of an on-site septic system, located adjacent to the southern end of the building.

*NOTE: Refer to attached Appendix A for details pertaining to the microbrewery location, floor plan and building design.*

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## **(ii) Physical Features:**

The major physical features of the undertaking include interior renovations to the existing building - approximately 6,000 square feet to be used as the site for the brewing operation (equipment, cold room storage, etc.), 1,300 square feet for the taproom, cooler and serving tanks, and roughly 800 square feet for entrance area, reception, etc.

The building in which the microbrewery will exist was formerly a fish processing plant, but has been vacant since its closure in 2013. All associated processing equipment has been removed from the building. The back or west side of the building, faces on to the waterfront and an active government wharf facility. Fishing boats still operate from the wharf, unloading and moving crab, capelin, cod and other fish species when in season.

Along with the microbrewery, the building will also house a boutique style hotel (15 rooms with double and triple occupancy plus a 4 room double occupancy loft), restaurant, cafe and bakery. A small outdoor patio is situated adjacent to the wharf area, for use by patrons of both the microbrewery and the restaurant. A small marina is situated on the northern edge of the property, with 8 seasonally and/or permanently occupied houses located on the northeastern (6) and southeastern sides (2) of the property. Several small fishing sheds and "stages" are located to the south of the structure. The closest dwelling (a seasonally occupied house) is located approximately 60 metres away from the building.

There will be no new buildings, pipelines, transmission lines, roads, etc. constructed for the microbrewery as it will use all existing structures. The existing town water supply and on-site commercial scale septic system will be utilized for all microbrewery related activities. A second on-site septic system will be utilized for all other operations, including the hotel, bakery, restaurant, etc..

Wildlife in the area is limited, with avian species being the most prominent (sea gulls, terns, crows, etc.). Bald eagles are regularly seen flying around the area, however no known nesting sites have been observed or documented. Terrestrial species are practically non-existent with only squirrels, rabbits and locally owned domestic animals (cats) being present. Being adjacent to the saltwater of Salvaje Harbour, aquatic species are quite prevalent (rock cod, sculpin, lobsters, sea urchins, etc.), along with various aquatic plants such as seaweed and eelgrass. Brewing operations at the Salvaje Brewing Company is not anticipated to have any negative impact on any of these species, their immediate habitat, or associated ecosystems.

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### **(iii) Construction:**

The existing building in which the microbrewery will be housed was operated as a fish processing plant until its closure and subsequent abandonment in 2013. The former commercial style building will be renovated to meet the needs of the microbrewery - in association with the other businesses operating out of the same structure.

As the microbrewery facility is located within a larger, multi-purpose building providing services for people such as food and accommodations, the vast majority of large scale construction work has already been completed (i.e., installation of new heating and ventilation systems, construction of a new commercial grade septic system, wheelchair accessible washrooms, F2 firewalls, fireproof doors, fire exits, etc.). All work has been (or is in the process of being) inspected and approved by the required provincial authorities.

The larger building and microbrewery area has been inspected and no evidence of asbestos or other deleterious type building products (UFF, etc.) were found.

The microbrewery construction itself will consist primarily of renovation work although some construction work will be required;

- Installation of new interior walls.
- installation of a cannery processing facility.
- Installation of a solid waste containment receptacle.
- installation of a water filtration system.
- Re-routing of plumbing to facilitate installation of proper drainage in the brewery area.
- Installation of an insulated cool fermentation room.
- Construction of a cold room for beer storage/delivery, and
- Construction/renovation of the taproom area for use by facility patrons.

This work is intended to be carried out over a 3-4 month period.

Potential pollutants during the construction phase of the project will be limited and would be related to the use and/or spillage of petroleum based products. Any equipment requiring fuel will be addressed off-site and the contractor will be required to have a spill containment kit in place during the actual activity.

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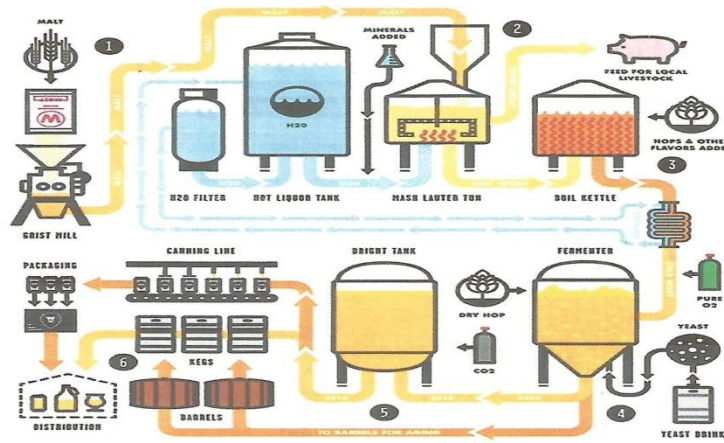
(iv) Operations:

This will be a year round operation, with increased production occurring during the tourist season - May to October.

It requires two to three weeks to make a finished (packaged) beer. The complete operation consists of the following steps:

- a) Brewing process (mash-in, boil) Occurs once or twice a week over a 2-3 week period,
- b) Cleaning and sanitizing of tanks,
- c) Packaging (cans, kegs)
- d) Other operations

A schematic of the brewing process is as follows:



## (a) The Brewing Process

The brewing process typically runs over an 8-hour period and can be described as follows:

- Heating via electrical elements, approximately 600 litres 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 (MLT). Malted barley/grain is added and steeped in the hot water (65C) for approximately one hour. Additional water (approximately 150-200 litres) is added to sprinkle over the grains to draw off more starches where possible.
- The liquid ("wort") is then drawn from the MLT via pump and hose and transferred into a third stainless steel tank, called the Boil Kettle (BK), which is fitted with electrical elements. The wort is heated to 100C and boils for approximately one hour. During the boil, hops are added, giving beer bitterness as well as additional flavour 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 (or fermenter) tank that contains a glycol jacket. Dry brewer's ale yeast is added to the tank which holds the wort at a controlled temperature of 18C for five to seven days. Glycol circulates throughout the outside of the tank (via the "jacket") to keep the temperature consistent.
- After fermentation is completed, the wort is cooled in the same tank over a 12-24 hour period to reach a temperature of 4C. The beer is then transferred via pump and hose to a carbonating/conditioning tank (called a Brite Beer Tank or BBT) that is also glycol-jacketed. The temperature of this tank is held at 4C during which it is carbonated via the addition of CO<sub>2</sub>.
- The carbonated beer is then transferred from the BBT into kegs where it will be served to guests or delivered to tap accounts. Transfer from the BBT may also be to the canning line, where the beer will be injected in to cans, for storage and subsequent packaging and distribution.
- During the brewing process, one portable 2 HP variable frequency drive pump will perform all of the above transfers of liquid via hose.

## (b) Milling Grain

At this time the Salvaje Brewing Company is not intending to mill its own grain. Pre-milled grain will be procured from a supplier.



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There does exist the possibility that in the future, grain will be milled on site. If this occurs, the operation will be carried out in a small, enclosed room, with explosion-proof fixtures, emergency stops and proper ventilation.

### (c) Cleaning and Sanitizing of Tanks

The tanks and equipment are cleaned and sanitized after every use utilizing a clean-in-place (CIP) system with an alkaline based 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.

The cleaning chemicals used in the brewery will be non-hazardous, similar to those used in other breweries throughout North America. Powdered Brewery Wash (PBW) will be used daily to clean equipment. It is a carbonate based cleaner and will be diluted and disposed of through the floor drains. Paracetic acid will be used as a disinfectant for kegs and equipment. It is an organic compound which can also be diluted and disposed of through the building's floor drains, directly in to the on-site septic system. This acid will first be recycled several times and used in the airlock for the fermenter tank.

Occasionally a strong peroxide-based acidic cleaner may be needed to dissolve the beerstone (a buildup of minerals and proteins that accumulates on brewery tanks as they age). This type of cleaner will be used minimally and will be saved and reused several times, once spent it will be neutralized before disposal into the on-site septic system.

### (d) Packaging (cans, kegs)

All of the microbrewery product will be packaged into cans and kegs. The process is carried out over a few hours and consists of transferring beer from the Brite Beer Tank (BBT) in to either a canning line or keg machine that is also connected to a source of CO<sub>2</sub> to purge the containers of any air before filling. The footprint of these machines is quite small, and the canning line operates via electricity.

### (e) Other Operations

Salvaje Brewing Company will also operate a taproom, which will be a licensed area for alcoholic beverage and food delivery 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 the product.

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The taproom will include a bar and table seating for patrons, with access to an outside patio area. The taproom will be open about 10 hours daily in the summer months (June through September) and on a to-be-determined limited basis during other months. The occupancy limit for the facility is anticipated to be 50 patrons.

A small retail area where souvenir merchandise and packaged beer for off-site consumption will also be provided.

#### (v) Water Demand and Usage:

Water usage will fluctuate based on the operation being carried out that day. Other than water usage for washrooms and the taproom, the only times water will be required will be: 1) when the actual brewing of beer is taking place (known as "brew day") and, 2) during cleaning/sanitizing operations. Brew days should occur about 5 or 6 times per month.

**Brewing and Cleaning:** Approximate water demand for the brewing process is 950 litres. During the subsequent cleaning process (which follows after a brew day) an additional 150 litres of water will be required. The source of water for these operations will be from the Town of Salvaje municipal water supply. A filtration system will be utilized in order to treat the water to a suitable quality for brewing.

**Taproom:** The Salvaje Brewing Company is working on the assumption of a maximum 50 person occupancy for the taproom. Using the formula for water usage for a lounge/ bar of that occupancy, the following amount can be calculated:

*Max. Occupancy x 2 x 25 litres. 50 x 2 x 25 litres = 2500 litres per day / regular washroom use*

Therefore, the maximum water demand possible in one day, if we brewed, cleaned and had the maximum capacity of occupants, would be approximately 3600 litres. As mentioned, this quantity of daily demand will occur only 5 to 6 times per month, during brew days. On all other days in which the taproom is open, water usage will average 2500 litres per day. In order to ease the pressure on water usage, cleaning could be carried out on the day following a brew day (versus immediately after).

As part of the brewing process, some water is required for cooling via a heat exchanger where it does not come in to direct contact with the hot beer. Salvaje Brewing Company will be storing that water in a hot water tank for re-use the following brew day, versus disposing of it in the drain system. That amount could equate to 750 litres of water being ready for immediate usage the next day.

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(vi) **Period of Operations:**

Salvaje Brewing Company will operate year round with the greatest production happening seasonally between May and October. The taproom will be open to the public 7 days a week during tourist season from June to September, and open for special events during the rest of the year. During the winter months, some brewing will be required to supply the on-site restaurant, other restaurants and bars as well as for special events. The tap room may be open to the public during this time, depending on need and/or public support.

(vii) **Potential Source of Pollutants:**

*Airborne Emissions:*

There is only a small opportunity for airborne emissions during operations - vented steam during the brewing process. This process results 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 the brewing process and will be ventilated outdoors via a dedicated duct from the boil kettle. The steam is the result of the wort being drawn from the Mash Lauter Tun and being put in to the Kettle and being boiled for approximately one hour. During the boil, hops are added at various stages to give the beer a more distinct flavour. At this point the liquid only contains starches from the grains and flavours drawn off the hops, which are all natural and contain no chemicals or toxic substances. The steam from this boil emits only a slight odor, similar to bread dough.

Should the milling of grain on-site ever occur, the amount of dust from the process will not be sufficient enough to create a fire or explosion hazard. The process would occur a maximum of 3 times a week, operating for approximately 15 minutes during brew days and crushing between 150 and 200 lbs of grain during that time. The grain would be stored and milled as recommended by Provincial fire regulations.

*Solid Waste and Liquid Effluents:*

Salvaje Brewing Company will operate as an environmentally friendly enterprise and will work towards exceeding all environmental standards when possible. Fortunately, the brewing processes use organic materials that are reusable in nature. They have the potential to be recycled, reused or composted.

As in any manufacturing process, there will be some waste of product. The waste produced in the brewing process for 600 litres of beer are water, spent grains, hops and cleaning related products. For organic materials, an effective mitigation measure for reducing the volume of "solids" being sent thru to the septic waste disposal facility, will be to install fine mesh screens in the building's floor drains. The "trapped" solid, organic material will be removed on a regular basis and disposed of through composting.

- *Waste Water* - (varies, around 150-200 litres) Though the majority of water is used in making the beer product, a considerable amount will also be used to cool the beer through the plate chiller as well as in cleaning of the equipment. The intent is to recapture the water used in the plate chiller for use in the cleaning process. Once used there it will become an effluent discharge (refer to the following section on Cleaning Products for additional information re the method of effluent disposal).
- *Waste Beer* - (minimal) There will be a minimal liquid effluent as a result of any accidental spillage.
- *Spent Grains* - (approx. 140 kg) This is the "steeped" grains leftover once the liquid has been drawn off from the tank. Since this is a food-grade by-product, it will be reused (on a donated basis) as animal feed for local farmer(s). If not fully utilized, it will be used as compost for use by local residents/hobby farmers.
- *Spent Hops/Kettle Trub* - (approx. 10-15 litres) This is the precipitate left in the boil kettle upon completion of the boil and removal of the liquid. It has a "slurry" consistency since this is a food-grade by-product. It is intended to use this as a soil improver or as compost material.
- *Yeast/Fermentation Trub* - (approx. 15-20 litres) Trub consists of hop material and precipitated proteins formed during the water boil. A portion (5-7 litres) will be reused for yeast propagation for a future batch and once its lifespan has expired, it will be used as compost. Per 600 litre batch, it is expected that there will be 150 kg of spent grain, 20 litres spent yeast, and 45 litres of spent trub.
- *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, biodegradable and user-friendly clean-in-place cleaner.

Not in every cleaning session, but there may be some instances where a peroxide-based acid cleaner will be required to dissolve scale and beerstone from inside the

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tanks. This would be applied at a highly diluted ratio of 2000:1 (water to cleaner). When required with the system, 20 mL of caustic is used and diluted with 40 litres of water. This solution will have a pH between 5.5 and 9, to adhere to Provincial wastewater guidelines. The intent is to have this heavily diluted solution disposed of through the on-site septic system.

- *Other (negligible amount)* - For cleaning of the tap room, bathrooms, and non-brewery related rooms, biodegradable, environmentally friendly cleaning products will be used,

#### (viii) Occupations:

The microbrewery will operate as a year-round business and will employ variable numbers of employees, depending on the season.

During the tourist season the brewery and taproom will be operated by a head brewer, one (1) assistant brewer, and 4 taproom attendants. During the winter months, the head brewer and assistant brewer will operate the business, with additional staff brought on during special events, etc.

All required renovations to the building, as well as the installation of the brewing equipment, will be completed by local contractors and experienced, brewery staff from other microbreweries within the province. Maintenance and repair work for the facility will be contracted out to local businesses, if required. Salvaje Brewing Company is committed to diversity in the workforce and will ensure no age or gender discrimination during any hiring process.

#### (ix) Project Related Documents:

Attached in Appendix A are the following project related documents:

- Figure 1 - 'Street View' Photo of Salvaje Brewing Company Building.
- Figure 2 - Topographical Map of Salvaje Area.
- Figure 3 - Aerial Photo and Microbrewery Structural Building Specifications.
- Figure 4 - Site Plan Drawing for Salvaje Brewing Company Location.
- Figure 5 - Floor Plan Drawing of Salvaje Brewing Company Microbrewery/Taproom Area.
- Figure 6 - Town of Salvaje Approval in Principle Letter for Salvaje Brewing Company.

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## **APPROVAL OF THE UNDERTAKING:**

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

### **Municipal:**

- Municipal Approval - Town of Salvage

### **Provincial:**

- Environmental Assessment Approval and Registration - Department of Environment and Climate Change
- 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
- Labelling Requirements - Canadian Food Inspection Agency

## **SCHEDULE:**

Renovation work to the building is currently ongoing, with a scheduled tentative start up of operations in early fall 2023 (subject to all approvals, licenses, etc. being in place).

## **FUNDING:**

The estimated capital cost of this undertaking is \$260,000. All financing for the project has been acquired thru personal capital contributions by the owners. No government funding has been requested or provided.

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Date

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Signature of Chief Executive Officer

# APPENDIX "A"





Figure 1. "Street View" Photo of the Salvaje Brewing Company Microbrewery Building in Relation to the Surrounding Area of Salvaje Harbour

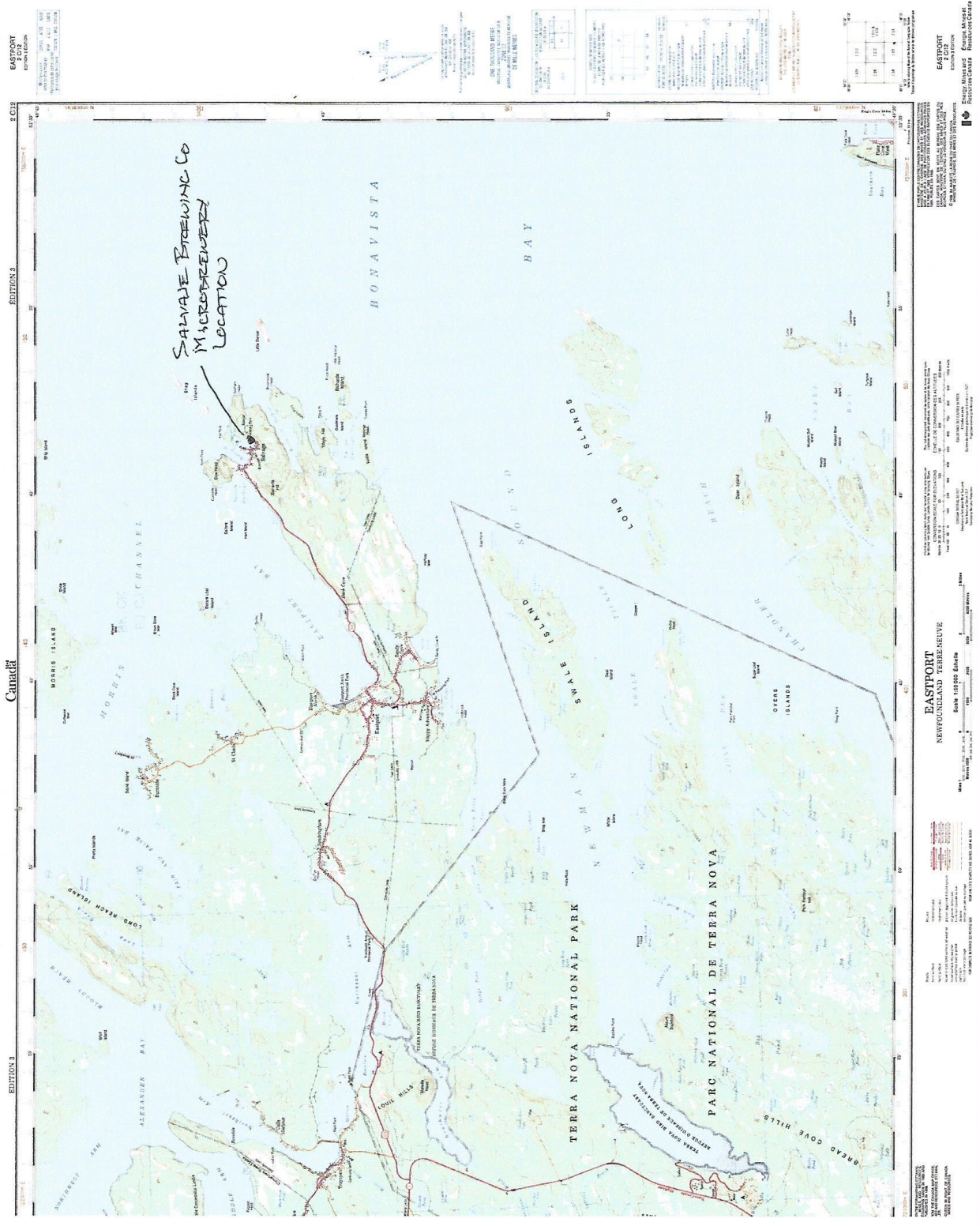


Figure 2. Topographic Map Showing Location of Salvaje Brewing Company in Relation to the Town of Salvaje and Surrounding Area

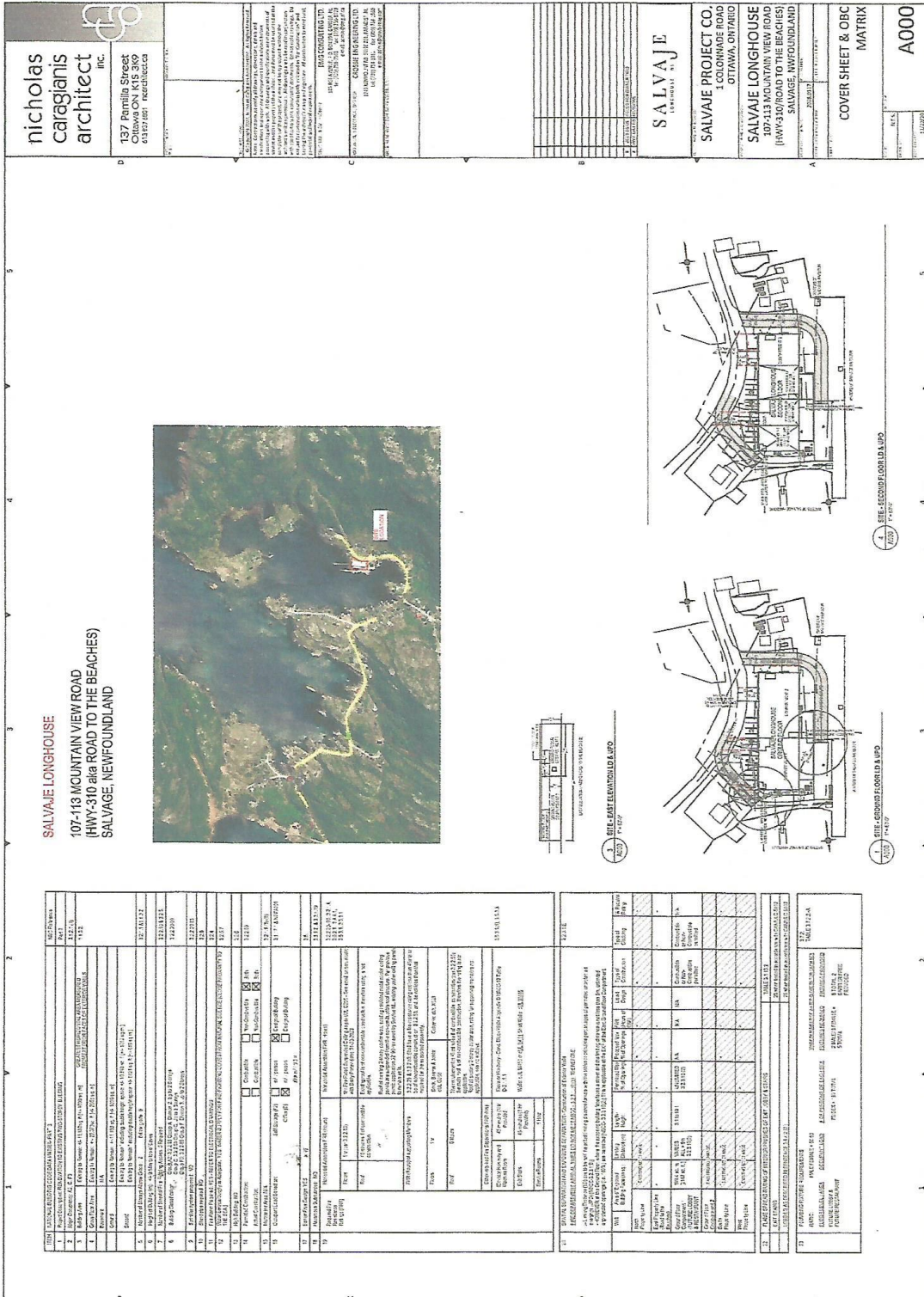


Figure 3. Aerial Photo of SalvaJe Brewing Company Location and Structural Specifications of Microbrewery Building

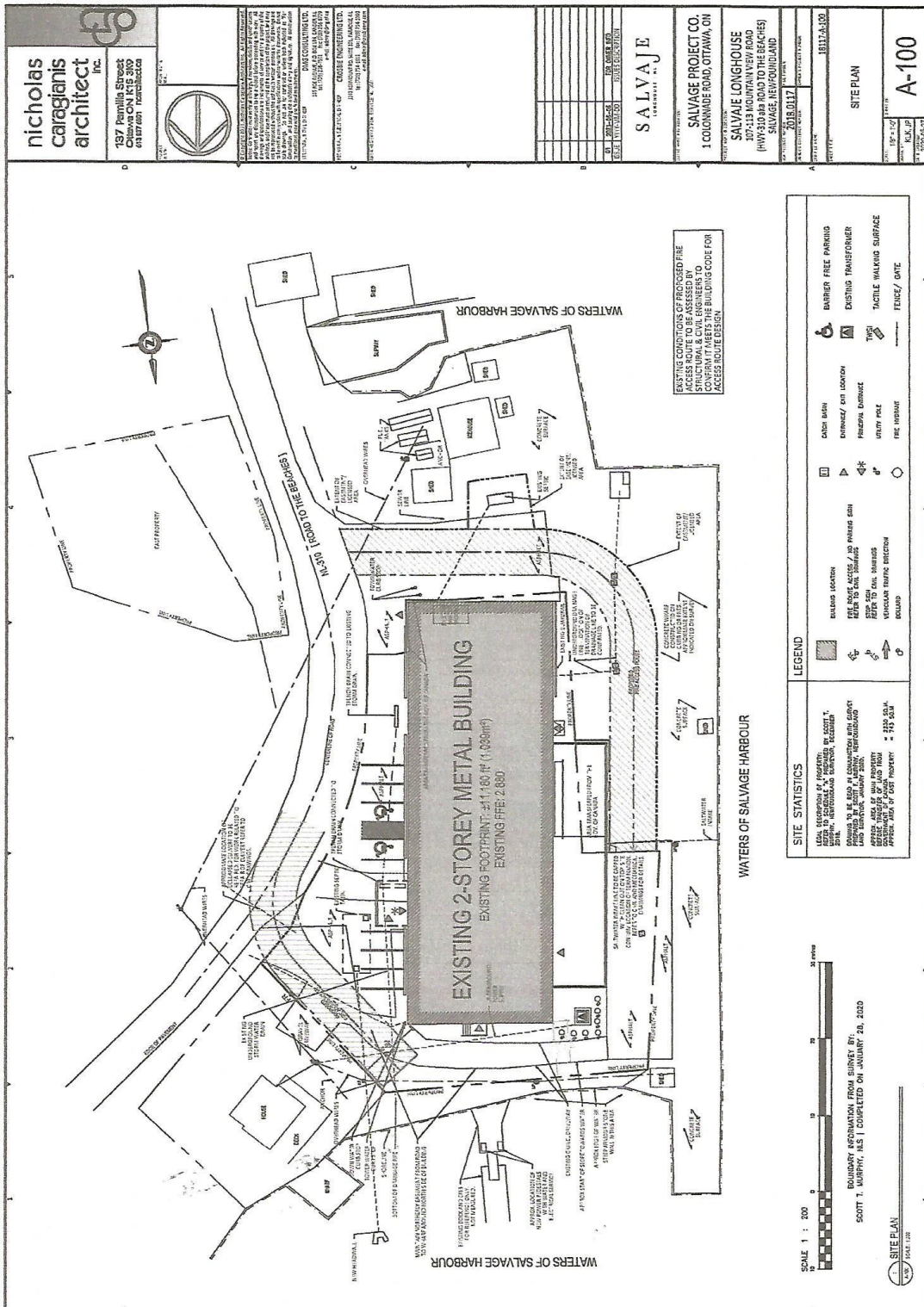


Figure 4. Site Plan for the Salvaje Brewing Company Structure

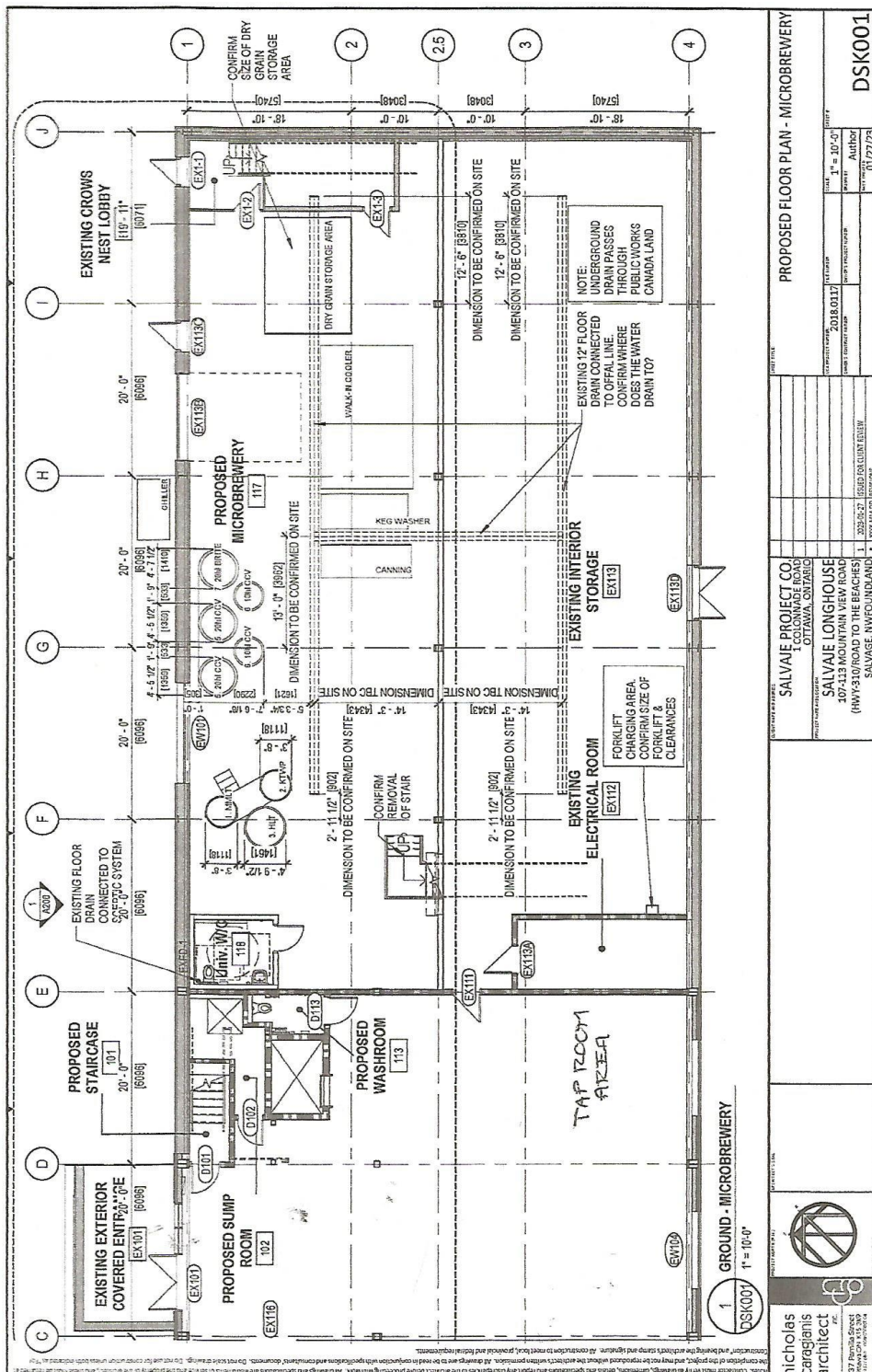


Figure 5. Floor Plan Showing the Salvaje Brewing Company Microbrewery Operation

*Town of Salvage  
General Delivery  
Salvage, NL  
A0G 3X0*

*Phone: 709 677 3535*

*Fax: 709 677 2751*

May 8<sup>th</sup>, 2023

Dear Shar-lett Matchim (Wild Cove Adventures Ltd.)

The Town of Salvage gives Approval In principle for you to proceed with acquiring all of the necessary permits needed from all the required government departments for your application process.

Regards,  
Town of Salvage.

Figure 6. Approval in Principle Letter From the Town of Salvage for the Salvaje Brewing Company