

Union Electric Brewing Inc.

Ms. Jane Tucker  
PO Box 141  
Catalina, NL  
A0C 1J0

13 March, 2019

Honourable Graham Letto  
Minister of Municipal Affairs and Environment  
PO Box 8700  
St. John's, NL  
A1B 4J6

Attention: Joanne Sweeney, Director of Environmental Assessment

Dear Honourable Letto,

Please accept the attached documents for registration and review of our proposed project through the environmental assessment process.

Please contact me at 709-770-6339 if you have any questions.

Regards,

A handwritten signature in black ink that reads "Jane Tucker". The signature is written in a cursive, flowing style.

Jane Tucker

**REGISTRATION**

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

**UNDERTAKING**

Microbrewery

**LOCATION**

49-53 Main Rd, Port Union, NL

**SUBMITTED BY**

Jane Tucker, on behalf of Union Electric Brewing Co. Inc.

**SUBMISSION DATE**

18 March 2019

Union Electric Brewing Inc.

**NAME OF UNDERTAKING:**

Union Electric Brewing Co. Inc.

**PROPONENT:**

(i) Name of Corporate Body: Union Electric Brewing Co. Inc.

(ii) Address: 49 – 53 Main Street, Port Union, A0C 2J0, NL.

(iii) Chief Executive Officer:

Name: Nardia McGrath

Official Title: Head Brewer

Address: 31 Henry Street, St. John's, A1C 1R6, NL

Telephone No.: 1-709-699-7495

(iv) Principal Contact Person for purposes of environmental assessment:

Name: Jane Tucker

Official Title: Brewer

Address: 102A Main Street, Port Union, A0C 2J0, NL

Telephone No.: 1-709-770-6339

Union Electric Brewing Inc.

## **THE UNDERTAKING:**

- (i) Name of the Undertaking:

Union Electric Brewing Co. Inc.

- (ii) Purpose/ Rationale/ Need for the Undertaking:

Nardia McGrath and Jane Tucker have identified the need and opportunity for an enhanced cultural experience in Port Union, NL. Newfoundland's young, yet growing, craft beer industry is an ideal means to bring people together in this historic community as a tourism destination as well as a hub for year-round community members. McGrath and Tucker are both experienced brewers who wish to offer their expertise in a dynamic rural setting. A theme of culinary excellence is emerging on the Bonavista Peninsula (e.g. Bonavista Social Club, Boreal Diner, Port Rexton Brewing Co.), couched within the larger trend promoting artisanal craft, especially in the tourism industry (e.g. Bonavista Creative, CNA's Institute for Cultural Excellence). Port Union is a natural geographic link between two popular tourism destinations: The Trinity Bight area (25 km south) and Bonavista (16 km north). Moreover, the Economic Development Committee for Trinity Bay North has identified the need for a food and beverage destination in our community, in order to further attract visitors who are already visiting the Bonavista Peninsula.

## **DESCRIPTION OF THE UNDERTAKING:**

- (i) Geographical Location:

The proposed site is at the historic Union Electric Building at 49-53 Main Rd, Port Union, NL (see [Appendix A](#)). The Union Electric building is 3734.5 square feet (two stories), plus a 38.5 x 48.5 ft basement. The street-level entrance on the main floor will lead the customer into a taproom area with bar and table seating, two accessible gender-neutral washrooms, an exit at the rear leading to patio seating, and two stairwells to the upstairs story. A 17 x 20 ft section of the main floor (to the right of the entrance – see [Figure 2](#)) will be removed to allow room for the height of brewing tanks, which will be housed in the basement. The remaining 1217 square feet in the basement will contain cold storage, packaging equipment, grain handling equipment, and ingredient storage. A patio will be built on the rear to Service NL standards so patrons can enjoy the waterfront scenery. The location will be leased from the Sir William Ford Coaker Heritage Foundation, a non-profit organization “dedicated to the preservation and careful development of the Historic District of Port Union.” ([Sir William Ford Coaker Heritage Foundation Inc. 2019](#)).

- (ii) Physical Features:

The major physical features of the undertaking include interior renovations, installation of brewing equipment, installation of a low-pressure steam boiler, and construction of a small access road to the rear of the building to receive supplies at the loading door (on the northwest portion of the building). Interior renovations will include pouring a concrete floor, plumbing the brewhouse, and installing a drainage system in the brewhouse to link in with municipal sewer lines. The size of the affected area is approximately 5000 square feet. This includes the 3734.5 square foot building, plus approximately 1200 square feet of outdoor space. The outdoor space will include construction of the access road, building a small shed to house our low-pressure steam boiler, and constructing a beer garden or patio to Service NL standards.

Catalina Harbour is home to gulls, eagles, lobsters, otters, and seaweeds. Brewing operations at Union Electric Brewing Co. will not pose harm to the ecosystem – to be described in Operations section below.

(iii) Construction:

The approximate total construction period is four months, between June – September, 2019. Construction includes two stages: Stage 1 will be construction of a small access road to the northwest of the building as an access road to the supply door at the rear of the building (in the northwest corner). The access road will be constructed from crushed stone and will extend roughly southeast from the existing loading area ([Figure 2](#)). Stage 1 will be complete in under one week and is proposed to begin 1 June 2019. Stage 2 will be the interior renovations, which will include removal of a 17 x 20 ft section of the main floor, pouring of sloped concrete, treated floors, installation of a drainage system, electrical upgrades, and construction of a cold room. Stage two will take approximately four months and will begin second week of June, 2019.

(iv) Operation:

Upon opening, Union Electric Brewing Co.'s brewing system will be a 7 barrel (800 L) system with three double size (1600 L) fermentors. A 5% loss due to mispours, keg foaming, and spillage is assumed. Assuming 60 double brews per year, an estimated 94 000 litres (~ 940 hectolitres) will be produced and sold each year. This product will be sold on site as half-pints, pints, flights, and growlers. Kegged beer will be delivered to tap accounts at restaurants in the region and in St. John's.

Brewing process:

It takes two to three weeks to make a finished (packaged) beer. The brewing process includes a full brew day, where wort is created over the course of about eight hours. This includes mixing crushed malted grains with water (creating the "mash"), then transferring the resulting sugary wort from the mash into the brew kettle. The wort boils for 60 minutes, during which time hops are added, and is rapidly chilled through a plate chiller and transferred into the fermenting vessel. Yeast is pitched into the fermenting vessel and converts sugars in the wort into alcohol over the course of about 7 to 14 days, depending on the style of ale. During this time, the

fermenting vessel is kept at about room temperature using a glycol cooling jacket system. Then, using the glycol system, the beer is "cold crashed" to about 3C to aid in dropping yeast out of suspension, thus clearing the beer and ceasing any fermentation activity that may remain. The beer is then transferred to a Brite Beer Tank (BBT), where it is injected with CO<sub>2</sub> and further conditions at cold (3C) temperatures. The beer will be kegged straight from the BBT and will be served on premises to guests or delivered to tap accounts. All tanks and fittings will be stainless steel and food-grade. The fermenting vessels, BBT, plate chiller, kegs, and ancillary equipment are all cleaned with each use, using either a caustic solution (sodium hydroxide) or an environmentally friendly product called Powdered Brewer's Wash (PBW).

#### Taproom:

A portion of the main and second floors, and a patio, will include bar and table seating for patrons. We will have at least one main-level, accessible, gender neutral washroom, and a second gender neutral washroom on the second floor. The tap room will be open about 10 hours daily in summer months (May through October) and on a to-be-determined limited basis during other months. Maximum occupancy will be 55 patrons. Parking to accommodate taproom guests will be shared with existing Coaker Foundation businesses (within 200 m of entrance) with accessible parking available within two metres of the entrance.

#### Airborne emissions:

A possible airborne emission is dust produced during grain milling. A grain room (15 x 17 ft) will be constructed adjacent to the brewhouse area, thus restricting the small amount of airborne dust to one area. Grain milling will take place only on brew days, which will be about 5 days per month. Airborne dust due to milling occurs in very low concentrations, and can easily be ventilated simply through an open window. In fact, the Brewer's Association suggests the best practice for mitigating effects of airborne dust is regular housecleaning, simply cleaning dust from the room and from the mill itself every time you mill grain ([Brewer's Association 2019](#)). Staff will be instructed to wear dust masks during grain handling and milling to eliminate potential health impacts.

A second possible airborne emission is steam produced during wort boiling. Again, this takes place only on brew day; about 5 days per month. About 5 percent of wort volume is lost to evaporation over the course of about a 60-minute boil. This steam contains an aroma and will be vented outside, and only detectable within a few metres of the vent.

#### Liquid effluents:

Possible liquid effluents draining into the municipal sewer system include organic (wort, beer, and yeast) and inorganic (water, caustic cleaning solutions, acidic sanitizing solutions) sources. Brewing activities inevitably include some wasted wort, spent yeast, and beer itself. For organic materials, an effective mitigation measure will be to install fine mesh screens in the floor drains, reducing particulate escaping into the municipal sewer system. Assuming waste water

equals five times beer produced ([Palmer and Kaminski 2013](#)), brewing activities will produce an average of 1300 litres waste water per day (assuming production of 7800 litres of beer per month), with the highest loads occurring on brew days. Caustic cleaning agents (1-3% sodium hydroxide, Ecolab product AC-101) are used to clean stainless steel vessels and ancillary equipment in the brewery. Prior to discharging down the drain, the caustic solution will be neutralized to pH between 5.5 and 9, to adhere to Provincial wastewater guidelines. Fortunately, the no-rinse sanitizer (1-3% peracetic acid, Ecolab Product Oxonia Active 150) used in brewing serves to neutralize the caustic solution, and is always used directly after the caustic wash. Runoff from the caustic wash will be saved and discharged down the drain at the same time as the peracetic acid.

Solid waste materials:

The main source of solid waste in brewing is spent grain – primarily barley and wheat. Spent grain will be donated to local farmers as cattle feed. Other solid wastes include spent yeast and trub. Trub consists of hop material and precipitated proteins formed during the wort boil. Spent yeast and trub will be side-streamed away from drains and used as compost, cattle feed, and disposed of as solid waste. Per 800 litre batch, we expect about 200 kg of spent grain, 25 litres spent yeast, and 60 litres of spent trub.

Water demand/ usage:

Brewing: During brewing and cleaning processes we expect to use about 3200 litres of water per batch of beer produced. The highest demand will occur on brew days, about five days a month, where we could use a maximum of 2800 litres per day. Our water source will be municipal water, passed through a filter to treat it for brewing.

Taproom: Assuming a maximum occupancy of 55 patrons, and using the formula maximum daily water usage = maximum occupancy\* 25 litres \* 2, maximum daily water usage due to the taproom will be 2750 litres.

Thus, on brew days and days where the taproom has maximum occupancy, our maximum daily water usage is expected to be 2800 + 2750 = 5550 litres. Most days water usage will be about half of 5550 litres, or 2775 litres.

(v) Occupations:

It is expected a construction crew of about five people will be contracted to complete renovations prior to opening. The duration of this employment will be about four months. The two owners will run operations in the first year of business, expecting to hire at least two serving staff (National Occupation Code 6453) and one assistant brewer (National Occupation Code 9461) in year two. In year two, employment for one server and the production assistant will be full-time and year-round. Employment for the second server will be full-time, seasonal, to provide human resources during the busy tourism season. As two young women ourselves,

Union Electric Brewing Inc.

the owners are committed to age and gender equity in the workplace. We will orient all staff on tolerance in the workplace upon hiring.



**APPROVAL OF THE UNDERTAKING:**

The following is a list of permits, licences, and approvals needed for the undertaking, in no particular order.

- Excise Duty from the Canada Revenue Agency
- Food Establishment License from Service NL
- Leasehold Agreement with the Sir William Ford Coaker Heritage Foundation Inc.
- Written Municipal Approval
- Written Approval from Provincial Fire Commissioner’s Office
- Written Approval from Buildings Accessibility and Fire & Life Safety from Service NL
- Brewery License from the Newfoundland and Labrador Liquor Corporation

**SCHEDULE**

The earliest date to commence construction is assumed to be 1 June 2019. This date is chosen as it gives ample time to complete ongoing processes of securing start-up capital, working with Service NL to confirm floor plans and design, and securing a contracting company.

The latest date to commence construction is assumed to be 1 July 2019. This date is chosen in case there are gross delays in any of the above listed processes: securing start-up capital, working with Service NL to confirm floor plans and design, and securing a contracting company.

**FUNDING**

A portion of our start-up capital will be financed through the Canada Small Business Financing Loan program. The partners involved in federally administered program are the Business Development Bank of Canada (BDC; 215 Water Street, St. John’s, NL, A1C 6C9) and RBC bank (226 Water Street, St. John’s, NL, A1C 1A9).

13 March 2019

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Date



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Signature of Chief Executive Officer

Union Electric Brewing Inc.

## References

Brewer's Association. 2019. *Best Practices for brewery grain dust management*.  
<https://www.brewersassociation.org/safety/best-practice-for-brewery-grain-dust-management/>. Accessed 2 Jan. 2019.

Palmer and Kaminski. 2013. *Water: A Comprehensive Guide for Brewers*. Brewers Publications. 2013.

Sir William Ford Coaker Heritage Foundation Inc. 2019.  
<https://www.historicportunion.com/en/foundation.html>. Accessed 2 Jan. 2019.

**Appendix A: Site Images**

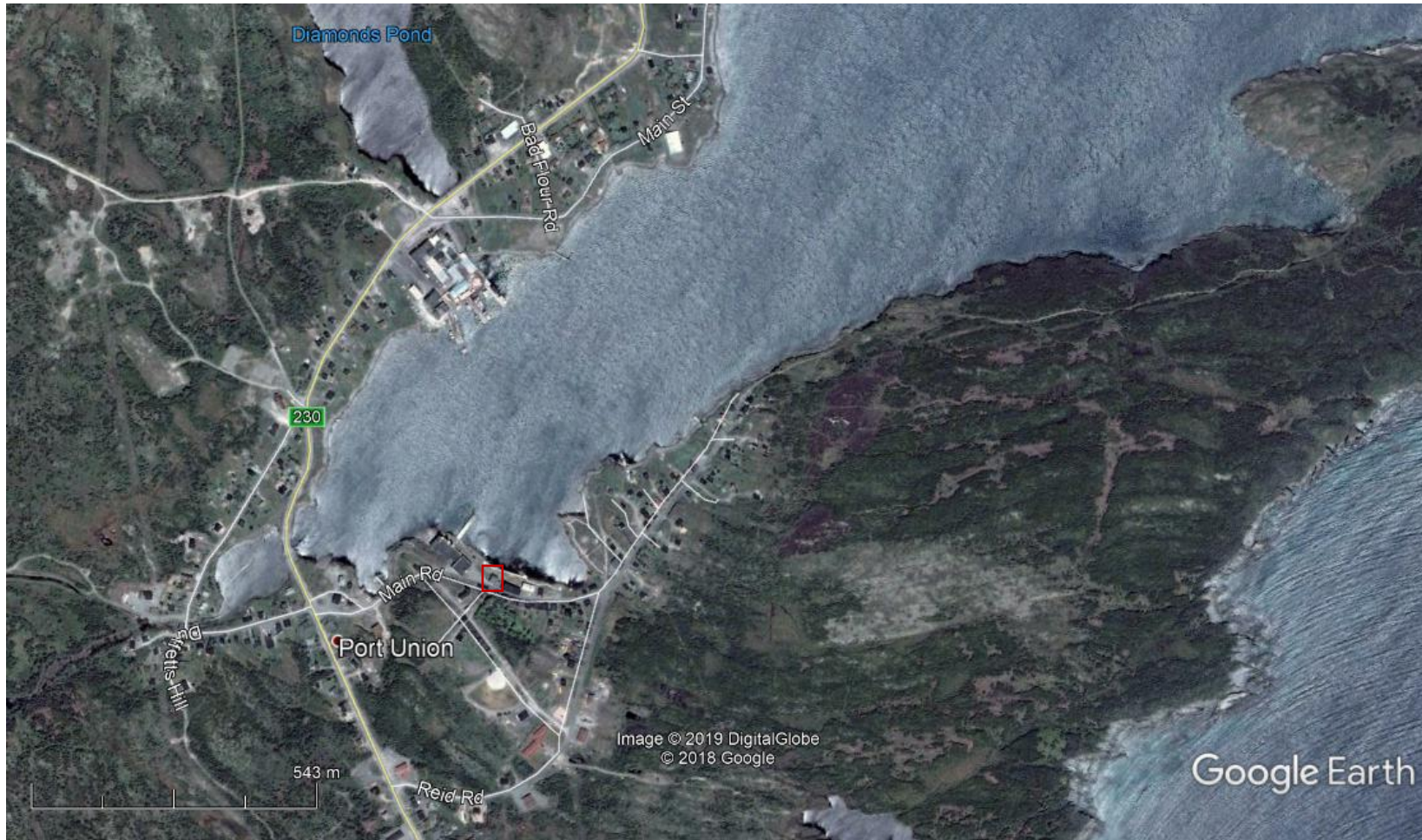


Figure 1: Approximate location of boundaries of Union Electric Building (red rectangle) at 49 – 53 Main Rd, Port Union, NL. See [Figure 2](#) for smaller scale view, [Figure 3](#) for a street - level view, and [Figures 4](#) and [5](#) for site survey.



Figure 2: Small scale image of approximate location of boundaries of Union Electric Building (red rectangle) at 49 – 53 Main Rd, Port Union, NL. Black line indicates position of access road to be constructed. See [Figure 1](#) for larger scale view, [Figure 3](#) for street - level view, and [Figures 4](#) and [5](#) for site survey.



Figure 3: Street - level view of the main entrance at the Union Electric building at 49 – 53 Main Rd, Port Union, NL.

Schedule "E" 99

**W. HARRIS SURVEYS LTD.  
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B.D.

**DESCRIPTION**

All that piece or parcel of land situate and being at Port Union, in the Electoral District of Trinity North in the Province of Newfoundland and Labrador, Canada, abutted and bounded as follows, that is to say:

BEGINNING at a point in the northwestern limit of Main Street, the said point having NAD 83 Co-ordinates of N5,373,346.896 meters and E298,774.298 meters of the Modified 3' Transverse Mercator Grid Projection for the Province of Newfoundland.

THENCE running by land of the Fishermans Union Trading Company north forty eight degrees twenty five minutes twenty one seconds east thirty five decimal five zero zero meters.

THENCE running along the shoreline of the Waters of Catalina Harbour south sixty four degrees sixteen minutes eighteen seconds east twenty nine decimal nine nine nine meters.

THENCE running by land of the Sir William F. Coaker Heritage Foundation south twenty degrees thirty one minutes fifty one seconds west twenty nine decimal three seven three meters.

THENCE running along the said northwestern limit of Main Street north sixty eight degrees thirty five minutes eighteen seconds west forty six decimal four eight seven meters, more or less, to the point of beginning.

CONTAINING an area of 1173.93 sq. meters, more or less, and being more particularly shown on the diagram annexed hereto.

All bearings being referred to Grid North of the above mentioned Projection.



Figure 4: Site survey description.

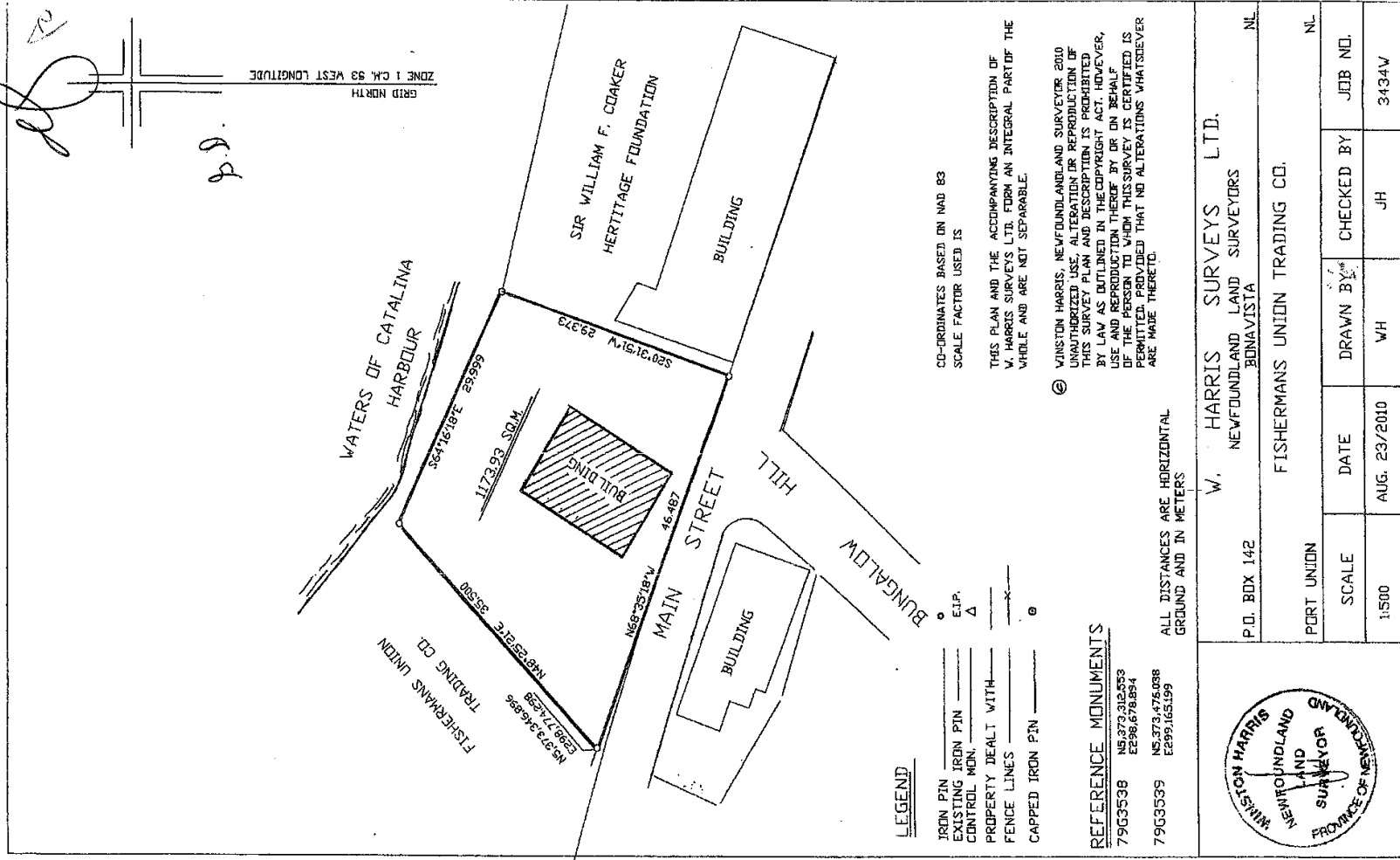


Figure 5: Site Survey.