Jason Hynes
PO Box 131
Port au Port East, NL, A0N1T0

May 26, 2017

Honourable Perry Timper
Minister of Environment and Climate Change
PO Box 8700
St. John's NL A1B 4J6

RE: Secret Cove Brewing Company - Microbrewery

Dear Honourable Trimper;

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

Please contact me at 709-649-2064 if you have any questions. I look forward to hearing from you.

Sincerely,
Jason Hynes

REGISTRATION

Pursuant to s. 37 of the Environmental Protection Act, SNL 2002, cE -14.2

UNDERTAKING:

Micro Brewery

LOCATION:

311, Route 462, Port au Port East, Newfoundland

SUBMITTED BY:

Jason Hynes on behalf of
Secret Cove Brewing Company LTD.

SUBMISSION DATE:

May 22, 2017

Name of Undertaking:

Microbrewery: Secret Cove Brewing Company Ltd., "The Well" Taproom

Proponent:

1) **Name of Corporate body:**
Secret Cove Brewing Company Ltd., "The Well" Taproom

2) **Address:**
P.O. Box 131,
311, Route 462,
Port au Port, NL. A0N 1T0

3) **Chief Executive Officer:**
Name: Jason Hynes
Official Title: Director
Address: P.O. Box 131,
311, Route 462,
Port au Port, NL. A0N 1T0
Telephone: 709-649-2064

4) **Principle Contact Person for the purpose of environmental assessment**
Name: Jason Hynes
Official Title: Director
Address: P.O. Box 131,
311, Route 462,
Port au Port, NL. A0N 1T0
Telephone: 709-649-2064

The Undertaking:

1) Nature of the undertaking:

Jason Hynes and Dr. Sheila Dwyer, the owners of Secret Cove Brewing Co. , "The Well" Taproom, are presently seeking approval to develop a 2500 sq foot single story building located at 311, Route 462, Port au Port to operate a small 7-barrel capacity microbrewery along with a tap room ("The Well" Taproom). The beer produced will be small batch, hand crafted beer made from all natural ingredients (water, yeast, grain and hops) and no added preservatives.

In 2014 Canadians consumed more than 220,000,000 litres of beer, a quantity that superceded any other alcoholic beverage. Of this quantity, 84% was Canadian produced. More than 520 breweries now exist in Canada and this number continues to grow yearly. Newfoundland and Labrador has lagged behind this trend. To date, there

exists six small scale breweries on the Island. The Bay St.George / Stephenville / Port au Port area boasts no independent microbreweries at this time.

A microbrewery is a very small brewery. We plan to produce less than 15,000 barrels of beer per year, thus falling in the microbrewery categry. In comparsion, we are significantly smaller than traditional major breweries such as Labatts or Coors which can brew up to 10,000,000 barrels per year. We will operate as a very small brewery with a seasonal schedule.

2) Purpose/Rationale/Need for the Undertaking

The Bay St. George and surrounding area is home to approximatley 28,000 residents. Each year, tourists come and visit the area where they stay and enjoy the beauty of the region. A small craft brewery in the area will boost tourism and provide local residents and tourists alike, with a place to visit, tour and taste locally made hand crafted small batch beer.

Craft brewing has exploded across the country in recent years. Many of the new microbreweries opening up are based in rural locations where visitors can take in the scenery and beauty of the region while enjoying a locally made product. In Nova Scotia alone, there are over 40 craft breweries in operation across the province.

There is a great opportunity in the tourism sector alone for the Stephenville and Port au Port area to make a local hand crafted beer while providing a unique "experience" to each visitor. We plan to provide small tours of the brewery whereby the brewmaster can discuss the various brewing processes and styles of each beer made in house.

Description of the Undertaking:

1) Geographic Location:

The site (building structure) will be located on privately owned property in the town of Port au Port East approximatley 5.5KM North East from Route 460, (Main street) Port au Port East. The Town is welcoming the business venture and has provided a approval letter of support (The area is zoned for business). The microbrewery itself will reside on 32 acres of deeded, surveyed land in a rural location of Port au Port East. Access to the property is along Route 462. The current owners have already built a 1200 sq foot home on the property, and worked with Newfoundland Power to supply Single Phase electricity to the site.

The property on each side of the owners property is currently vaccant, undeveloped and unoccupied. There are no adjacent water wells or septic systems nearby on the neighboring properties in the surrounding area. There is no farming activity in the immediate area.

Attached to this document (Appendex 1) is an aerial image of the present location and the proposed location of the microbrewery.

2) Physical Features:

As mentioned above the business owners have a small home built on the property that has a private well and septic field system to service the home. The water well will be shared with the brewery due to the quality and quanty of water it provides. There will be a new septic system installed greater than 100 feet from the water source that will service the microbrewery. The new septic system will be commercially approved (1000 L capacity tank). It will serve 2 bathrooms in the brewery and will be used to discharge water from the floor drains. A local certified septic designer will design the septic for commercial use and later Service NL will approve the septic system.

No new roads will be cut or developed to gain access to the proposed microbrewery site. The existing road to the homeowners home will be used. Upgrades have already been made to the road to service delivery trucks. Parking will take place directly across from the brewery site.

While the physical structure of the planned brewery is 2500 sq feet in size, this space will not only contain the brewery, but also the tasting room/taproom "The Well". The affected area of land that contains the brewery (ocean side of Route 462) has already been surveyed and registered with deeds, and is approximatley 9 acres in size or 329,000 sq feet total size. Total property size is 32 acres, room for potential future expansion.

The area affected is flat, has an effective water draining system and is already landscaped with access from main driveway. The vacant lot on each side of the property has trees (alders). There are no water ways, rivers or bodies of water nearby. The ocean is several hundred feet away from the brewery and is not impacted by this project. There is no commercial or residental farming in the surrounding area. There are no residental water wells in the surrounding vicinity aside from the home owners private well, previously mentioned will be used by the brewery.

3) Construction

The commercial building that will be constructed will be aproved by Council of Port au Port East and have a current building permit in place prior to construction. The building will be 2500 sq ft, 36' x 70' and will be contructed by local, professional contractors (Capenters 7271, Electricians 7202, Plumber 7251). The floorplan of the taproom/brewery and any retail area is provided in the Appendex1. Building contractors will be required to follow provincial occupational health, safety and environmental standards and guidelines throughout the construction work.

Construction will commence after all approvals are in place. The estimated start date for construction is late July 2017. The project is estimated to take 3-4 months to complete. An outline of the project highlights are as follows:

- ✧ 200 amp service (single phase) brought to the building, all electrical systems will be installed by licensed contractor. Connection to exisiting power will be made via power poles already exisiting on site. A new service will be provided by NL Power.
- ✧ Slab on grade concrete, with floor drains for brewery connected to approved septic. Plumbing will be provided by professional contractors.
- ✧ Installation of fixtures and other finishing work to two bathrooms. One is wheelchair accessible.
- ✧ Other construction and finishing work such as installation of a wheel chair ramp, fire-rated dry wall, industrial hand-washing sinks, 3 compartment sinks will meet building codes to obtain all the necessary permits and approvals (e.g. Building Accessibility and Life & Fire Safety, Food Establishment Licence, Newfoundland Liquor Corporation licences, etc.).
- ✧ The interior of the building in the brewery room section will be industrial in design, with walls and floors that can be easily washed. Any grain milling will be in a separate room adjacent to the brewing area, and enclosed with proper ventilation and separate from public space. Walls in the graining section will be reinforced with proper ventalation to the outside of the building.
- ✧ The brewery room area will be enclosed with glass windows so people can view the stainless tanks, but will be closed to public access.
- ✧ The only potential sources of pollutants during the construction period would be the possible spillage of any diesel fuel or lubricants related to the use of any machinery, such as an excavator. Although the use of such equipment will be very minimal, we will purchase a BrenKir (from Mount Pearl) spill kit to have on site. Equipment will be fueled off-site and should not need to be re-fueled at our location due to the short nature of the work requiring such equipment.

4) Operations

Microbrewery Operations:

The operation of the microbrewery will consist of:

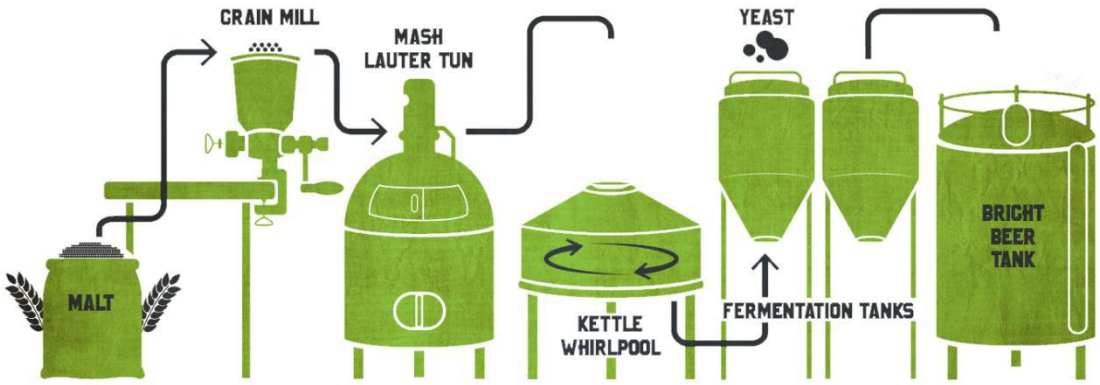
(i) milling grain;
(ii) the brewing process, which is carried out once a week with fermentation and conditioning over two-three week period;
(iii) kegging (minimal bottling);
(iv) clean up;

i) Milling the Grain:

Small amounts of grains will be milled prior to brewing and will be done in a small enclosed room with explosion-proof fixtures, emergency stops, and proper ventilation.

ii) the brewing process

A schematic of the brewing process is as follows:



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

- Heating, electrical elements heat approximately 600 L of water in a large stainless steel tank to a temperature of 75C.

- The heated water is transferred via pump and hose to a second stainless steel insulated tank where malted barley/grain is added. The grains are "steeped" in the hot water (63 C) for approximately 1 hour. Additional water (approximately another 150 –200 L, depending on the recipe) is added to sprinkle over the grains to draw off more starches where possible.

- The liquid ("wort") is pumped from tank via a hose and transferred into a stainless steel tank fitted with electrical elements. The wort is heated to 100 C and
- boils for approximately 1.5 hour. During the boil, hops (the female flower of the hop plant, Humulus lupulus) are added giving the beer its bitterness along with 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 on cold water. In the plate chiller, the wort passes alongside cold running water to cool it down to room temperature.

- The wort then leaves the plate chiller and enters a fermentation tank that contains a glycol jacket. Dry brewer's ale yeast is added to the wort in this tank. The temperature of the tank is controlled to hold the wort at a consistent 18-21 degrees Celsius for 14 days. Glycol circulates throughout the outside of the tank

(via the "jacket") to keep the temperature consistent. The glycol is kept cool via the operation of a small glycol chiller.

- ✧ After the fermentation is complete, the liquid (now alcohol beer) is cooled in the same tank over a 12-24 hour period to reach a temperature of 4 degrees Celsius. The beer is then transferred via pump and hose to a carbonating/conditioning tank that is also glycol-jacketed.

- ✧ During the brewing process, we will be operating two - 2.5 HP mobile variable frequency drive pumps that will perform all of the above transfers of liquid via hose.

- ✧ The temperature of the carbonating/conditioning tank is held at 3-4C during which is carbonated via the addition of CO2.

iii) Kegging:

- ✧ The carbonated beer is then transferred into kegs or served directly from serving/conditioning tanks or kegs in a cold storage room.

- ✧ Bottling (limited activity to several times a year): Bottling is carried out over a couple of hours and consists of transferring beer from kegs into a small bottling machine that is also connected to a source of CO2. The bottling machine has ports for filling 1-2 bottles at a time. The footprint of bottling is very small and operates via electricity.

iv) Clean up:

- ✧ The tanks and equipment are cleaned and sanitized after every use utilizing a clean-in-place (CIP) system with non-caustic (alkaline) cleaner and sanitizer. Less frequently on an as-needed basis, diluted caustic cleaners are used to remove scale and stone from inside the tanks. The cleaners will be discussed further below.

Other Operations

- ✧ There will be a walk-in cooler on the premises for keg, brite tank and hop storage. There will also be a tasting area (The Well), which will be a licensed lounge area, including a ground level fenced patio. There will be a small retail are offering merchandise (T-shirts, Hats) and packaged beer for off-site consumption.

Water Demand/Usage

During brewery operations, water demand will fluctuate daily. Aside from regular washroom use of patrons/visitors, the only times water will be required will be:
1) On brew days
2) On cleaning days

On a brew day, the water demand is approximately 850 litres (224 gallons) for the brewing process. During cleaning days (which follows a brew day), approximately 150 litres (40 gallons) is used. Working with Fire & Life Safety and Service NL, the plan is for a 50-person maximum occupancy. Using this number for formulation for water useage for a lounge/bar whereby "max. occupancy "2 x 25 litres" to determine our maximum water usage for regular washroom use. This works out to "50 x 2 x 25 litres" = approximately 2500 litres (660 gallons).

Therefore, the maximum water demand possible in one day, a brew day, a cleaning day and maximum capacity of occupants, would be ~3,500 litres (924 gallons).
The possibility of this occuring is only once every 4 or 5 days (a brew day) and at max capacity. In this scenario a cleaning day would occur on the following day to spread out our water demand.
The brewery will be using a hot water tank (HLT) as a storage tank to collect brewing water over time so that on a brew day there will already be 850 litres (224 gallons) of water ready, eliminating the need to draw that water that day.

Period of Operations:

Initially, the brewery and tasting room "The Well" (lounge area) will be open to the public on a seasonal basis from May until October. This is the peak time that the microbrewery will operate as well; however, there will be some brewing throughout the winter season.

Potential Sources of Pollutants

Airborne Emissions:

There is only a small potential for airborne emissions:

1) steam vented during the brewing process;
2) grain dust during the milling process;

Both of the above will result in very little to no actual air emissions and all are 100% natural and will contain no chemicals or toxic substances.The vented steam occurs during the brewing (boiling) process. Water that has steeped in malted barley/wheat is drawn off and put into a boil kettle. It is boiled for approximately 1 hour and hops (a natural plant grown in the U.S. and Europe) are added at various stages of the boil to give the beer more bitterness and aroma. 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 odour, consisting only of water, barley and hops. The steam will be vented to the outside of the building. Due to the very small production capacity of the brewing equipment, the odor will be very minor (if at all) and only detected if one was standing very close to the exterior vent (on the roof). The brewery system is simply too small to create any significant air emission or obnoxious smell. We confirm that there are no chemicals or toxic substances that will be emitted. There will also be a very small amount of airborne grain dust when milling the grains. To address this the

grain will be milled in a small fully-enclosed room with an exterior wall with direct ventilation to the outside to vent out the dust. Explosion-proof fixtures and motor will be used for the mill as well.
We confirm, the emission of grain dust will be very minimal in nature, all-natural (non-toxic, no chemicals of any nature) and will dissipate in the air within a meter or two from the exterior vent away from public or persons.

Solid Waste and Liquid by-product:

All waste produced during the entire brewing process is organic material, which therefore has the potential to be recycled, reused or composted. The goal is to operate as environmentally-friendly as possible. Given the very small scale of the operations, a fully sustainable operation is attainable. The wastes produced during the brewing process of a single batch of 800 litres of beer and subsequent cleaning of the equipment, consist of:

a) Water
b) Waste Beer
c) Spent grains
d) Spent Hops/Kettle Trub
e) Yeast/Fermentation Trub

a) Water (varies, approx. 150 litres)

Athough the majority of water used makes up the beer product, a considerable amount of water will also be used to cool the beer through the plate chiller and used in cleaning the equipment. The plan is to recapture the water used in the plate chiller for the cleaning process to dilute and rinse the cleaners. Upon completion of the cleaning process, it will become an effluent discharge.

b) Waste beer (variable, ideal next to none)

This will be a minimal liquid effluent that will result from any accidental spillage.

c) Spent grains (approx. 225-275 lb)

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 used for baking or for animal feed. Any extra spent grains will be composted

d) Spent hops/Kettle Trub (approx. 14-15 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. The plan is to re-use it as a soil improver or composite.

e) Yeast/Fermentation Trub (approx. 18-22 litres)

This is the biomass left at the bottom of the fermentation tank upon removal of the liquid (beer). It is composed of mainly proteins and inactive yeast. A portion (5-7

litres) will be re-used for yeast propagation for a future next-batch and once its lifespan has expired, it will be composted.

Cleaning products (small amounts)

There are environmentally-friendly products available for the cleaning needs of the brewery. The cleaning product most used, particularly for every cleaning session will be PBW (Powdered Brewery Wash). This is a low alkaline, non-caustic, environmentally and user-friendly cleaner. There may be some instances where we have to use a peroxide-based acid cleaner has to 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, 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.

5) Occupations:

The brewery will operate on a seasonal basis to start, focusing on the tourism and local market. Because the brewery is small in size, there will not be any employees. It will be small enough to be operated by the two owners. All of the previously mentioned renovation work, maintenance will be completed by contracts with local suppliers. If the need arises for additional exployees there will be no discrimination based on age, gender or race.

APPROVAL OF THE UNDERTAKING:

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

Municipal

Municipal Approval
– Town of Port au Port East

Provincial

Food Establishment Licence(includes well & septic approval)
- Department of Health

Septic System Approval
– Service NL

Non-Domestic Well Permit
– Department of Environment and Conservation, Water Resources Management Division

Environmental Assessment Approval & Registration
–Department of Environment and Conservation

Building Accessibility & Fire and Life Safety Approval
– Service NL

Manufacturer's Licence (Brewery)
–Newfoundland Liquor Corporation

Lounge Licence
–Newfoundland Liquor Corporation

Patio Licence
–Newfoundland Liquor Corporation

Brewer's Agent Licence
–Newfoundland Liquor Corporation

Federal Excise Duty Licence
- Canada Revenue Agency

Labelling requirements
- Canadian Food Inspection Agency

Schedule

The startup of operations of Secret Cove Brewing Company are scheduled tentativley for January 2018.

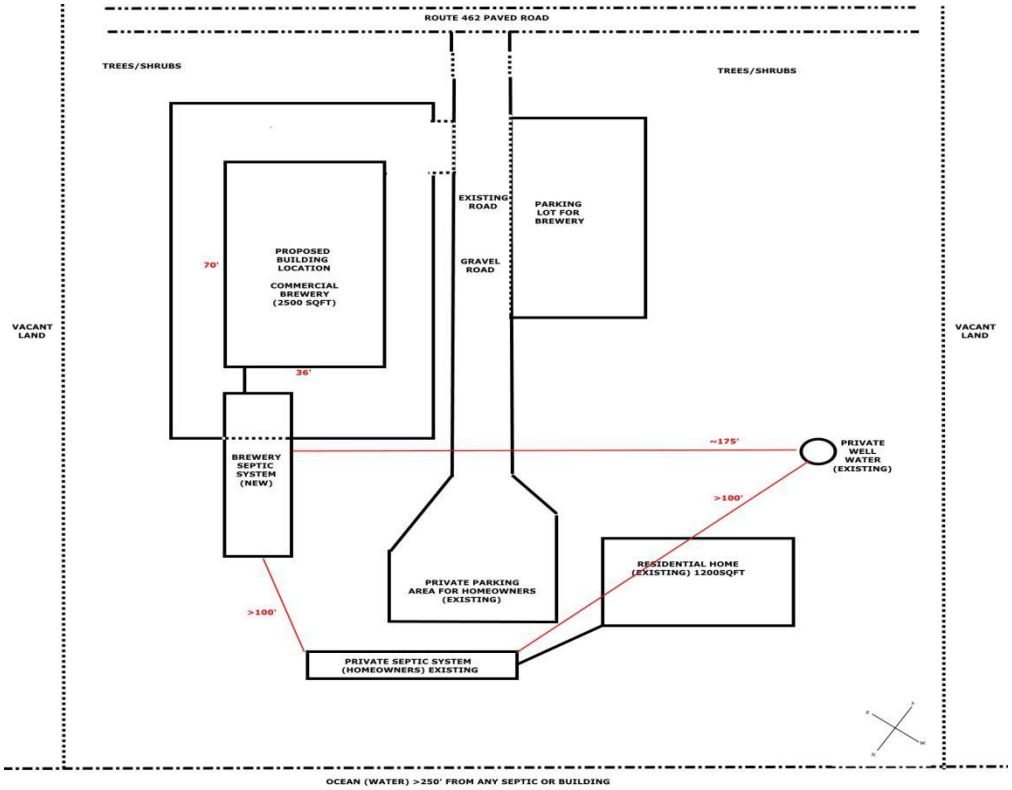
Funding:

Funding will be through ACOA, CBDC, and Private lenders. Estimated cost of the project is $303,192.00

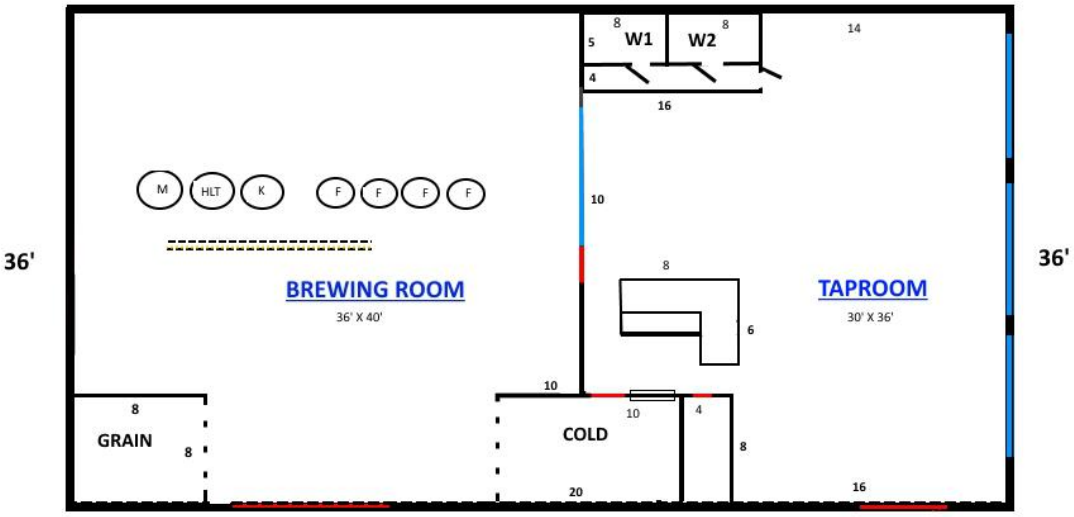
Date

Signature of Chief Executive Officer

Appendix 1:


ROUTE 462 PAVED ROAD
TREES/SHRUBS
TREES/SHRUBS
VACANT LAND
VACANT LAND
PROPOSED BUILDING LOCATION
COMMERCIAL BREWERY (2500 SQFT)
70'
36'
EXISTING ROAD
GRAVEL ROAD
PARKING LOT FOR BREWERY
BREWERY SEPTIC SYSTEM (NEW)
~175'
PRIVATE WELL WATER (EXISTING)
>100'
>100'
PRIVATE PARKING AREA FOR HOMEOWNERS (EXISTING)
RESIDENTIAL HOME (EXISTING) 1200SQFT
PRIVATE SEPTIC SYSTEM (HOMEOWNERS) EXISTING
OCEAN (WATER) >250' FROM ANY SEPTIC OR BUILDING

70'


8
5
W1
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W2
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4
16
M
HLT
K
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10
36'
36'
8
BREWING ROOM
36' X 40'
TAPROOM
30' X 36'
6
10
10
4
8
GRAIN
8
COLD
8
20
16

70'