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**P R O J E C T M E M O**

**Project:** P3277 – Ferox Winery  
**Date:** April 18, 2025  
**Attention:** Fabian Riens, Owner, Ferox Winery  
**Copy:** Robert Smit, Planner, NPG Planning Solutions  
**Pages:** 9 pages total  
**From:** Kevin Clark, P. Eng., Engineering Manager  
Rahul Pillai, Project Coordinator  
**Subject:** Review of on-site septic and production waste systems at Ferox Winery in Niagara on The Lake

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Fabian:

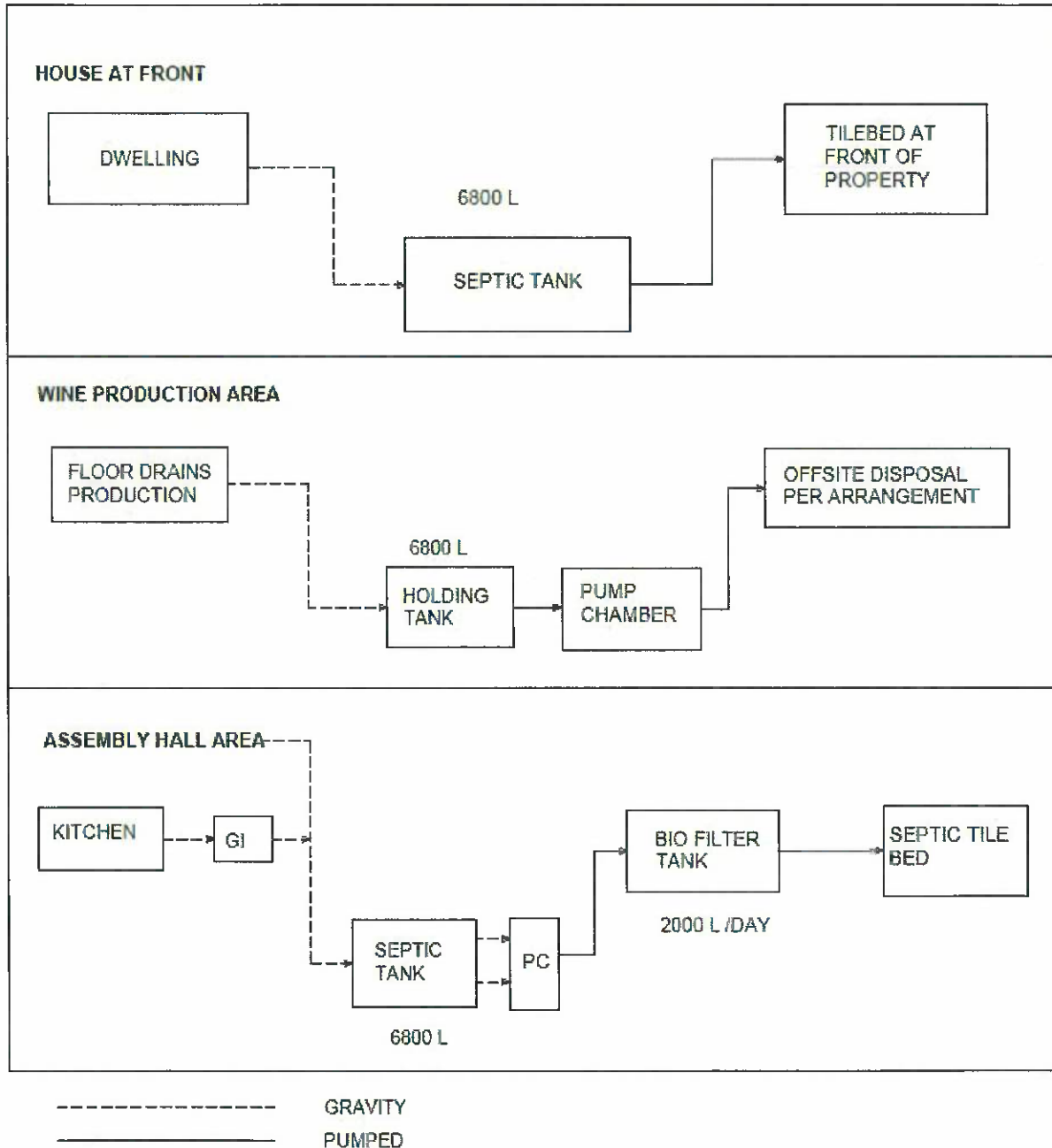
Ancam Management & Engineering Consulting, Professional Services Division of Ancam Solutions Company Ltd. (ANCAM), was contracted to complete desktop review and assessment of the septic systems in place at the Ferox Winery (Ferox) located at in Niagara On The Lake, ON. The purpose of this review was to summarize existing systems capacities to allow for Ferox Winery to operate as an Estate Winery, evolving from a Farm Gate Winery with additional space classified as assembly space which includes a patio between two existing structures and a small dining area within the existing Production Barn. The plans we received and reviewed that showed the intended layout and usage were produced by Kaegan Walsh Architect and are dated 2025-02-07.

There are 3 effluent waste systems in place on the property located at 1828 Concession 4 Road, Niagara On The Lake, ON. These are summarized below for clarification:

- ◆ There is a residential system in place which treats the effluent produced by the house at the front of the property. This is not applicable to the application by Ferox to achieve Estate Winery status in the Niagara Region.
- ◆ The winery production waste is collected in a 6,800 l (1,500 Gal) concrete holding tank and all production waste is pumped out of this tank without any interaction with septic systems on the property. We note that information reviewed indicated a high-level alarm for this tank which activates at 75% – 80% of tank capacity to allow for pumping per the holding tank agreement in place for this infrastructure component.
- ◆ The winery septic system consists of a septic tank, a pump chamber and a Waterloo Biofilter Gen 1 treatment system that has a 2,000l/day capacity. Effluent is dispersed in a tile bed adjacent to the biofilter system at the back of the production building. Upstream of the septic bed and treatment is a pump chamber, a 6,800l (1,500 Gal) two compartment septic tank, and then several plumbing fixtures within the Ferox facilities.

We have prepared a schematic diagram of these systems for clarification as shown below:

SEPTIC SYSTEM IN PLACE AT 1829 CONCESSION ROAD 4



**Changes at Ferox Winery**

The changes proposed at Ferox Winery include A2 assembly areas where up to 5 staff, and up to 45 patrons will enjoy wine tasting and light foods prepared onsite in the limited kitchen that will be equipped with a grease interceptor to prevent kitchen waste from entering the biofilter treatment system. We understand that Ferox is a boutique, high-end winery that is not seeking or attracting large volumes of patrons. All areas where there is customer interaction will be considered A2 assembly areas with a capacity of up to 45 patrons, and up to 5 staff. The existing sewage septic system capacity at 2,000 l/d is acceptable for this area classification due to the exclusive nature of the wine products created at Ferox Winery.

The existing system capacity is provided below for reference:

Permitted Item	Limits	Count	Current Effluent Flows
Office Area	75 l per day	4	300
Employees	75 l per day	4	300
Water Closets	950 l per day	1	950
		Total Flows	1,550 litres per day

Changing the building classification to an Assembly Hall with limited food service to align with an Estate Vineyard requirements per the drawings provided with capacity for 5 Ferox Winery staff and up to 45 patrons in any area of the building.

Planned Item	Limits	Count	Planned Effluent Flows
Employees (office /factory)	75 litres/day	5	375
Assembly hall patrons	36 litres/person	45	1,620
		Total Flows	1,995 litres per day

We also note that as an estate winery, Ferox will operate on a limited schedule such that a full capacity tasting event is not likely to occur daily, or weekly; this is likely to be a limited and exclusive event that is attended by Ferox wine club members monthly or less frequently. The septic system will be able to recover during periods of time when it is not operating at a high-capacity rate. Further, retail spaces have not been considered in the septic flow calculations, as sales will be based on tastings which may occur at any location in the premises to any of up to 45 patrons by any of up to 5 employees of Ferox.

A copy of the original septic system permit application from 2005 is included in **Exhibit 1** of this memorandum for ease of reference. It is our opinion that the existing system capacity at 2,000 l/d is suitable for the planned Estate Winery classification. If additional services are added or expanded, this septic system capacity may not be suitable so that existing systems would require alteration to keep up to different usages.

It is our understanding that this system has been serviced regularly and is maintained as required to ensure it is operating in a compliant manner. This memorandum does not consider the system condition, maintenance or operations.

If you have any questions or comments regarding this memo, please do not hesitate to contact the undersigned below directly at 905-339-0634.

**ANCAM MANAGEMENT & ENGINEERING CONSULTING\***

Prepared by:

Reviewed by:

Kevin Clark, P. Eng.  
Engineering Manager

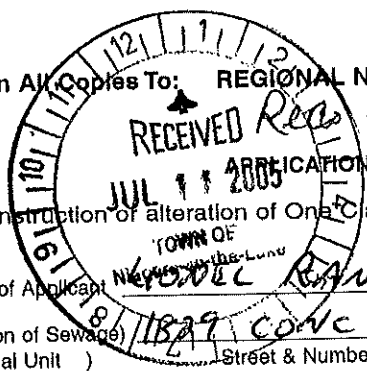
*Per* Rahul Pillai  
Project Coordinator



**E X H I B I T 1**

**Exhibit 1 – Copy of Reference Materials for the Ferox  
Winery Site**

6 Pages Total



APPLICATION FOR A CERTIFICATE OF APPROVAL AND A USE PERMIT  
 for construction or alteration of One Class 2 - 6 Sewage System in NIAGARA (Municipality)

Name of Applicant: RODOLPHE RANCOURT Address: 1829 CONC #4 Tel. No. 468-0522

Location of Sewage Disposal Unit: 1829 CONC #4 Street & Number Subdivision Lot No. Plan or Conc. Roll No. (Vacant Land)

NOTE: FOR SITE PLAN DETAILS SEE INSTRUCTIONS ON REVERSE SIDE OF THIS FORM

Type of Bldg. 2000 sq ft RETAIL OFFICE (Dwelling-No. of Bedrooms 6)  
 Size of Lot 10.5 ACRES Square Metres (Restaurant-No. of Seats 6)  
 Frontage 1300 Metres Depth (Other - No. of Persons 2)  
 Type of Soil SANDY LOAM (No. of Toilets and or Urinals 2)  
 Type of Disposal Unit: Septic Tank & Disposal Bed  (No. of Bathtubs and or Showers 2)  
 Holding Tank  Aerobic System  Type of Water Supply: Dug or Bored Well   
 Drilled Well  Municipal  Other   
 Proposed  or Existing

AGREEMENT

(THIS SECTION TO BE READ AND SIGNED BY APPLICANT)

I agree to follow the specifications as noted by the Regional Niagara Public Health Department, pursuant to the BUILDING CODE ACT, S.O. 1992 and O. Reg. 22/98 and will NOTIFY THE PUBLIC HEALTH DEPARTMENT WHEN THE SEWAGE DISPOSAL UNIT IS READY FOR INSPECTION. No portion of the disposal system will be covered until it has been inspected, and I will not allow it to be used until written approval is granted for operation by the Regional Niagara Public Health Department. **IMPORTANT - AT LEAST 48 HOURS NOTICE IS REQUIRED** - either by phone or writing, when a septic tank or disposal bed is ready for inspection. Three soil percolation test holes plus a hole 1.5 metres deep for watertable & rock formation depth will be provided by the applicant. I certify that the above information is complete and correct and that, if approved, the work will conform with Provincial requirements for sewage systems and local Municipal By-Laws. (Attach fee for Class 4, 5, and 6 systems).

Date: APRIL 29 2005 Signature of Owner or Agent: [Signature]

Name of Agent: CORNY'S EXC. LTD. Tel No. 905-688-1512

TO BE FILLED IN BY PUBLIC HEALTH DEPARTMENT  
 SPECIFICATIONS FOR A CLASS 4, 5, 6 SEWAGE SYSTEM

SEPTIC TANK shall consist of TWO COMPARTMENTS and must be of poured concrete or other approved material.  
 1st Compartment: Minimum liquid capacity 1500 gallon Litres  
 2nd Compartment: Minimum liquid capacity 1500 gallon Litres

- 1) Baffles or tees are required on inlet & outlet of 1st comp. & outlet of 2nd comp.
- 2) All household sewage to enter septic tank, including laundry waste water.
- 3) Provision must be made (manhole or such) for entrance to each compartment.

DISPOSAL BED: Minimum Length of weeping tile 1.5 metres in a WATERLOO BIO FILTER SYSTEM cm. wide trench. AS PROPOSED BY CORNY'S EXCAVATING APRIL 25/05

CERTIFICATE OF APPROVAL

Application approved and this Certificate of Approval under The Building Code Act, S.O. 1992 and O.Reg. 22/98 is hereby issued for the proposal outlined on the application and its attachments as amended by the requirements and conditions provided that the sewage system shall be completed and a USE PERMIT issued with 12 months of the issue hereof or such extended period as the Director on application allows. DO NOT OPERATE THE SYSTEM UNTIL A USE PERMIT IS ISSUED.

Inspected and Recommended by: [Signature] Inspector Date: MAY 10/05  
 Issued: [Signature] Director Date: MAY 10/05

FOR CLASS 4, 5, 6 SEWAGE SYSTEMS

Work authorized by the Certificate of Approval has been satisfactorily completed.  
 Inspected and Recommended by: [Signature] Inspector Date: JUNE 13/05  
 Permit issued by: [Signature] DIRECTOR DATE ISSUED: JUNE 14/05

**ATTACH A LOT DIAGRAM AND SEWAGE SYSTEM PLAN:** - Draw to scale indicating north point and showing:  
 a) Location of sewage system components (e.g. tanks, leaching bed). Locate and show horizontal distances from system to adjacent existing or proposed buildings, water supplies (including neighbours), existing on-site sewage systems, driveways, property lines, lakes rivers, water courses, swimming pools.  
 b) Lot dimensions, topographic features (e.g. swamps, steep slopes) near system.  
 c) If any part of proposal conforms to a specific standard drawing, give reference number(s).

<b>INSPECTOR'S REPORT</b>		Inspection Time and Date _____ AM _____ PM _____ 19 _____		Sub-Surface Conditions Encountered	
Weather	Representing Owner	Leaching Bed Design Criteria		Rock & G.W.T.	Elevation: cm. 0 30.4 60.9 91.4 121.9 152.4
		Depth to Rock ..... m.	Design H.W.T. ..... m.		
<b>REQUIREMENTS</b>	Lineal metres of Distribution Pipe. <u>WATER 100.610KILTS</u>	Working Capacity of Septic/Holding Tank Litres <u>1500 gallon</u>		Percolation Rate ..... Min.	

Conditions of Approval and Reasons (e.g. fill, grading, drainage improvements, design sewage flows)

OR  
 Reasons where Proposal not Acceptable (add additional pages if required)

S7570M... 70... 3E... 1.4.7.1.1.1.1... D.S. PER. 0.016W...  
 SUBMIT. 7.07... APRIL 25/05... BY... CORN'S EXCAVATING...

**INSPECTOR'S REPORT ON INSTALLATION**

a) Septic tank/holding tank of working capacity of 1500gallon Litres constructed of steel  concrete  fibreglass  on site  or prefabricated  to serve \_\_\_\_\_ (no. of bedrooms or units).

Installer's name: CORN'S EXCAVATING

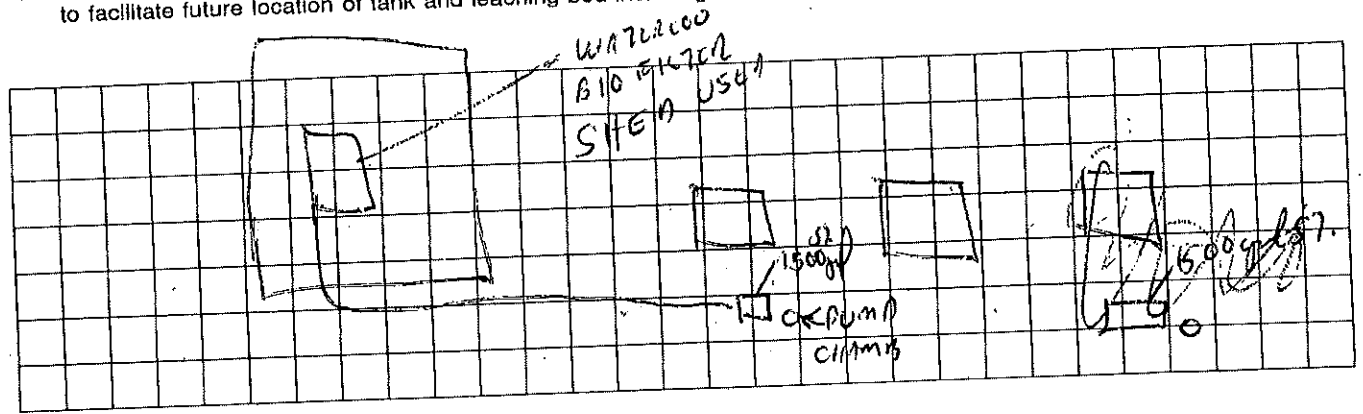
Address: \_\_\_\_\_  
 b) Leaching bed of total \_\_\_\_\_ lineal metres of \_\_\_\_\_ cm. diameter distribution pipe of \_\_\_\_\_ (type and product description e.g. PVC or CSA Approved Pipe) laid in \_\_\_\_\_ runs and fed by \_\_\_\_\_ (gravity, pump).

c) Proprietary Aerobic System: (Manufacturer) \_\_\_\_\_ (Model) SHED USED

d) Other details \_\_\_\_\_

**Location**

a) System components installed as shown on application supporting Certificate of Approval   
 b) If located other than in (a) use space below for sketch and dimensions from permanent points of reference sufficient to facilitate future location of tank and leaching bed including orientation of pipe runs.



The following work remains to be completed:-

- Backfill System and Complete
- Stabilize All Sloped Surfaces
- Finish Grading to Shed Run-off and Divert Water Around Leaching Bed
- Other \_\_\_\_\_

Date June 9/05 Inspector: [Signature] C.P.H.I.(C)

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St.Catharines ON  
L2R 6P9

Phone: 905.684.6639  
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Website: [www.cornys.net](http://www.cornys.net)



May 6, 2024  
Revision 2 Feb 5, 2025

Ferox by Fabian Reis  
Fabian Reis  
1829 Concession Rd 4,  
NOTL, ON L0S 1J0  
905-468-2271

Re: Existing septic systems and conditions on site.

This report is to outline the existing conditions of each septic system at the above noted address. There are three systems on the property and are described as follows:

1. House system at the front of the property along the roadside of 1829. This system has a dual compartment poly tank with an approximate volume of 4,500 ltrs. (1,000 Gal) with a filter present on the outlet side of the tank. It has its own septic bed in front of the house towards the road. The system is gravity and is operating at the correct level to suggest it is functioning as intended. There are no signs of wet spots, or sink holes around the bed, it appears uniform which also indicates that the system is functioning normally.
2. Winery Septic system facilitates the wine store and production building. This system has a two compartment concrete tank with an approximate volume of 6,800 ltrs. (1,500 Gal) followed by a poly pump chamber. The septic bed is located behind the winery production building, it is a Gen 1 Waterloo bio filter bed with an above ground shed mounted filtration system. This system is designed for an approximate daily flow rate of 2,000 ltrs. The tank appears structurally sound, it does have a baffle in place on the outlet side of the tank. The system appears to be operating without any signs of overloading on the bed, which suggests it is functioning as intended.
3. Winery Production waste is located at rear of the production building. It consists of a 1,000 ltrs. (250 Gal) Concrete pump chamber and 6,800 Ltrs. (1,500 Gal) concrete holding tank. The winery Produces approx. 8,000-10,000 cases of wine annually of which all production waste from the building is captured here and does not enter the winery

septic system. The tank does have a level indicator installed and appears to be in working order. The indicator activates at approx. 75-80% capacity as required by the holding tank pumping agreement.

- The proposed hospitality space with regards to the septic, is considered to be an assembly hall in which up to 45 patrons can be accommodated. As there are several hospitality spaces shown on the drawings please take note that the 12 seats inside the production building will not be used in tandem with the remaining areas. A detailed outline of flow is provided below.

The addition of the new area in the production building will be accommodated by the winery septic system which has a total daily flow rate of approx.. 2,000ltr/day. It is understood that their current flow rate is approx. 1,550 ltrs./day peak. This is comprised of the following:

Current Configuration

Item	Units	Count	total Ltrs./day
Office Building	75 ltrs./ 9.3M2	4	300
Employees	75 ltrs. / ea	4	300
Water closets	950 ltrs./ day	1	950
			1,550

The proposed addition of food service to the winery now classifies it as an assembly hall. Which requires the daily flow rate to be calculated using a more appropriate section of OBC Section 8, using table 8.2.1.3.B, guidelines for an assembly hall. It is important to note that the hospitality areas with food service will be operated outside of retail store hours. As well the 12 seats in the production barn hospitality area are designated for use in the off-season months from November to April when the outdoor hospitality areas are closed. The proposed total peak daily flow rate will be approx. 1,995 ltrs. / day. As shown in the table below:

New Configuration

Item	Units	Count	total Ltrs./day
Employees	75 ltrs./ea	5	375
Assembly Hall Patrons	36/ ltrs./ea.	45	1,620
			1,995

As the assembly hall flow rate is greater than the existing flow rate calculation this flow rate will govern for approvals. The system's daily flow rate capacity is 2,000 ltrs. / day. This will limit the allowable number of patrons as shown on the table above.

Please be advised that our professional opinions and recommendations are based on the existing site conditions at the time of the service call, in conjunction with the symptoms, if any present or observed by the property owner.

Sincerely,

Khemran Ablack  
President  
Corny's Honey Wagon Ltd.