

# 84 CANNIFTON ROAD NORTH

## SERVICING BRIEF TO SUPPORT REDEVELOPMENT

May 24, 2022

**WSE Consulting Inc**

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## **1.0 INTRODUCTION**

WSE has been retained to complete a servicing brief in support of the redevelopment of 84 Cannifton Road, Belleville.

The purpose of the report is to summarize the servicing requirements for the proposed development. The following services have been considered in this report.

- Transportation System
- Grading
- Stormwater Management
- Water Distribution System
- Sanitary and Storm Sewer Collection System

In addition, brief comments regarding individual utility distributions have also been provided.

## **2.0 SITE DESCRIPTION**

### **2.1 Existing Conditions**

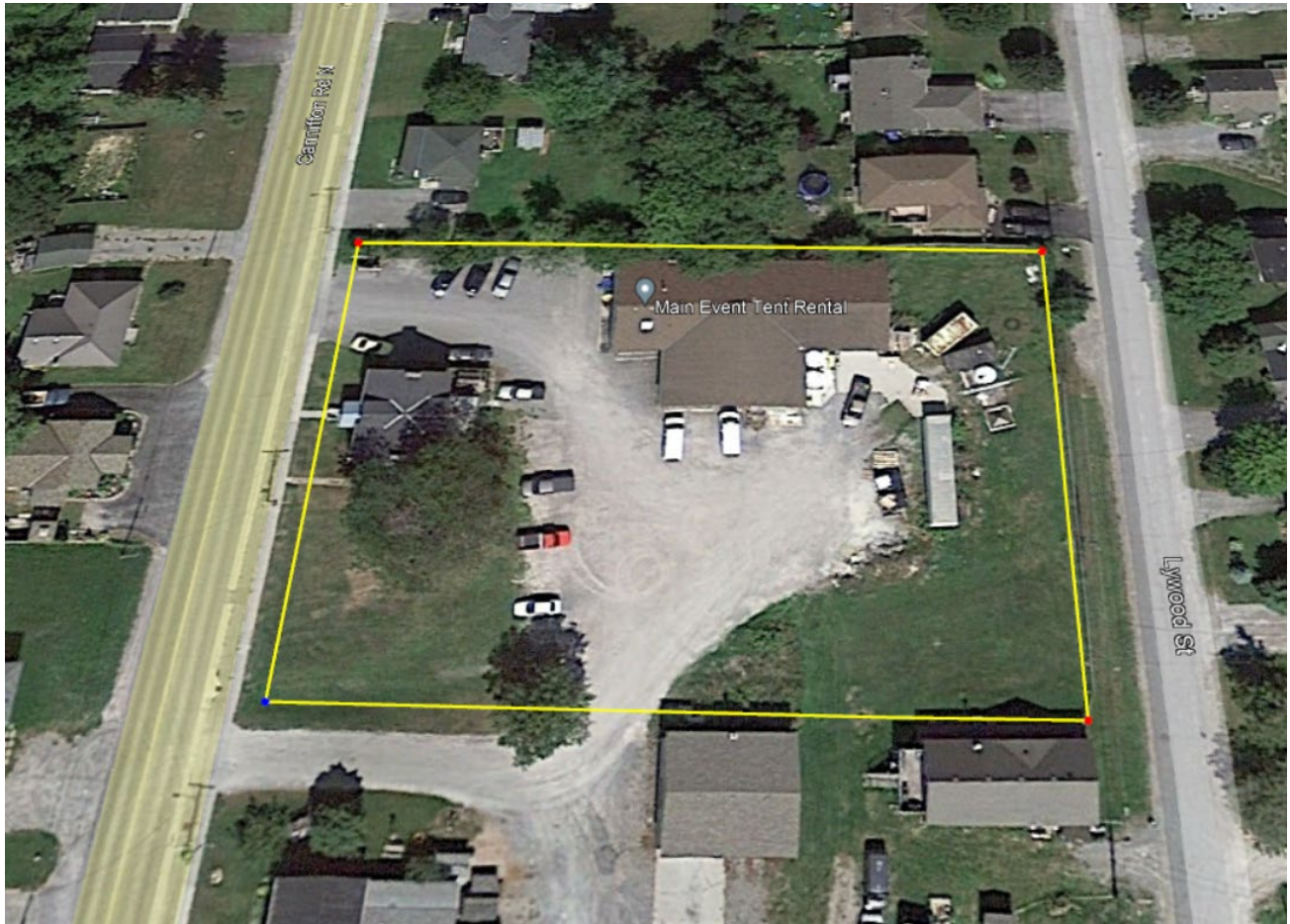
The property is legally described as Lot 5 and Part of Lot 6, West of Centre Street, Lot 6 and Part of Lot 7, East of Front Street, Registered Plan 36, Village of Cannifton, Geographic Township of Thurlow, now in the City of Belleville, County of Hastings.

The parcel of land is approximately 0.48 hectares. The property is bounded to the north and south by existing residential, to the east by Lywood Street, and to the west by Cannifton Road North.

The property currently has one (1) single family residential dwelling and a large retail/commercial building on it. The below figure represents the current site conditions.

The site is predominately flat with a slope to the west.

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**Figure 1 – Existing Site Conditions**

## 2.2 Proposed Conditions

The property is proposed to be developed with the following:

- Four (4) single family residential lots,
- Six (6) semi-detached lots.

RFA Planning Consultants has prepared the below concept plan.

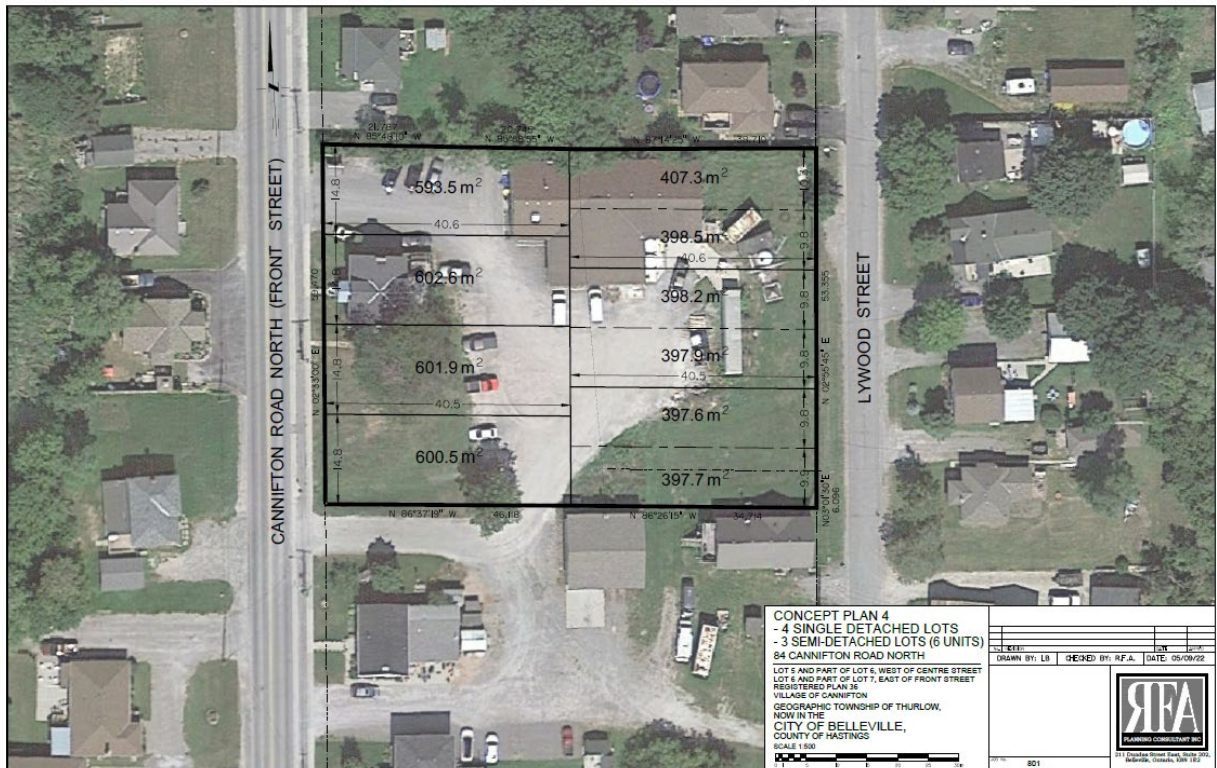


Figure 2 – Proposed Development Plan

### 3.0 TRANSPORTATION SYSTEM

The proposed residential units will be accessed with private driveways to each unit from Cannifton Road North or Lywood Street.

Lywood Street is a local roadway with a posted speed limit of 40km/hr. There are good site lines in both directions in excess of 150m. The creation of 6 new private accesses conforms with the surrounding land use and will not have any impacts to the function of Lywood Street.

Cannifton Road has a posted speed limit of 50km/hr. There are good sight lines in both directions in excess of 200m. The creation of 2 new private accesses and the change in use of the existing commercial access to a residential access for a total of 4 residential accesses conforms with the surrounding land use and will not have any impacts on the function of Cannifton Road North.

### 4.0 WATER DISTRIBUTION SYSTEM

The proposed lots fronting Cannifton Road North will be serviced by the existing 300mm municipal watermain within the roadway.

## Servicing Brief – 84 Cannifton Road North

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The lots fronting Lywood Street will be serviced by the existing 200mm municipal watermain within Centre Street.

The estimate demand from the proposed lots has been estimated as follows;

Assumptions;

- 3 persons per single family unit
- 2.5 persons per semi-detached unit
- 350L/day/person

The expected demand is **9,450L/day** (0.109L/s).

The creation of 3 new single family units, 6 new semi-detached units, in addition to the existing single residential unit and abandonment of the commercial service is not expected to have any impacts on the function of the existing water system within Cannifton Road North or Lywood Street.

### 5.0 SANITARY COLLECTION SYSTEM

The proposed lots fronting Cannifton Road North will be serviced by the existing 450mm municipal sanitary sewer within the roadway.

The lots fronting Lywood Street will be serviced by the existing 200mm municipal sanitary within Lywood Street.

A review of the City's record drawings for both streets indicates that the existing sanitary sewers are of sufficient depth to allow for gravity servicing connections to allow for full basement servicing of the proposed residential units.

It is understood that the downstream collection in its current state is not sufficient for full build out of the urban area catchment (Greer Galloway, 2013). The area includes the full limits of several projects still under construction (i.e. Riverstone, Canniff Mills) and lands yet to be developed (i.e. the former Corby Distillery lands). It is understood that as those areas develop further review of the system will be done and upgrades completed as necessary.

The existing development on 84 Cannifton Road North generates the following sanitary demands;

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**Servicing Brief – 84 Cannifton Road North**

SANITARY SEWER DESIGN SHEET																	
LOCATION		DESIGN FLOWS								SEWER DATA							
STREET	FROM MH	TO MH	INDIVIDUAL		ACCUMULATIVE		PEAKING FACTOR (M)	FLOWS			PIPE DIAMETER		SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	Q/ Qcap
			# of UNITS	POP (persons)	AREA (ha)	POP (persons)		AREA (ha)	RES Qp (L/s)	EXTRAN Ql (L/s)	TOTAL Qt (L/s)	NOMINAL (mm)					
<b>Existing</b>																	
Residential			1.0	3.0	0.04	3.0	0.04	4.45	0.05	0.01	0.07						
Commercial					0.44		0.42				0.44						
											0.51						
<b>Proposed</b>																	
Single Family			4.0	12.0	0.24	12.0	0.24	4.41	0.21	0.07	0.28						
Town			6.0	15.0	0.24	15.0	0.24	4.40	0.27	0.07	0.33						
											0.62						

It can be seen in the above table that the proposed re-development will result in a small increase in the sanitary demand of the property. The minor increase in peak sanitary flows of 0.09L/s is not expected to have an impact on the existing system.

The creation of 3 new single family units, 6 new semi-detached units, in addition to the existing single residential unit and abandonment of the commercial service is not expected to have any impacts on the function of the existing sanitary collection system within Cannifton Road North or Lywood Street.

**6.0 STORMWATER MANAGEMENT**

A review of the existing and proposed impervious cover of the site has been completed, see below charts. It has been estimated that the impervious cover will remain at generally the same percentage and as such no quantity or quality mitigation measures are warranted.

Estimate of Impervious Cover - Existing Condition			
<b>Total Area</b>		<b>0.4796</b>	ha
	<b>Area (m2)</b>		
asphalt/concrete	611.80	611.80	m2
gravel	1251.90	1251.90	m2
rooftop	645.10	645.10	m2
		<u>2508.80</u>	m2
	<b>Total Impervious =</b>	<u>2508.80</u>	m2
		52.31	%

<b>Estimate of Impervious Cover - Proposed</b>				
<b>Total Area</b>			<b>0.4796</b>	ha
	<b>#units</b>	<b>Area (m2)</b>		
driveways	10	30	300.00	m2
Semi's	6	180	1080.00	m2
singles	4	270	1080.00	m2
			<u>2460.00</u>	m2
			2460.00	m2
		Total Impervious =	<u>2460.00</u>	m2
			51.29	%

## 7.0 GRADING

It is recommended that the existing grading pattern be generally maintained. There is an existing ditch inlet located at the southwest corner of the site that captures all runoff from the property and discharges it into the existing stormsewer system on Cannifton Road North.

It is recommended that a common rear yard swale be installed along the entire length of the proposed lots draining to the southern limits and continued along the southern limits of the southern single lot to the ditch inlet as outlined in the below Figure.

The existing ditch along Centre Street should be maintained and entrance culverts installed for each driveway.

## Servicing Brief – 84 Cannifton Road North

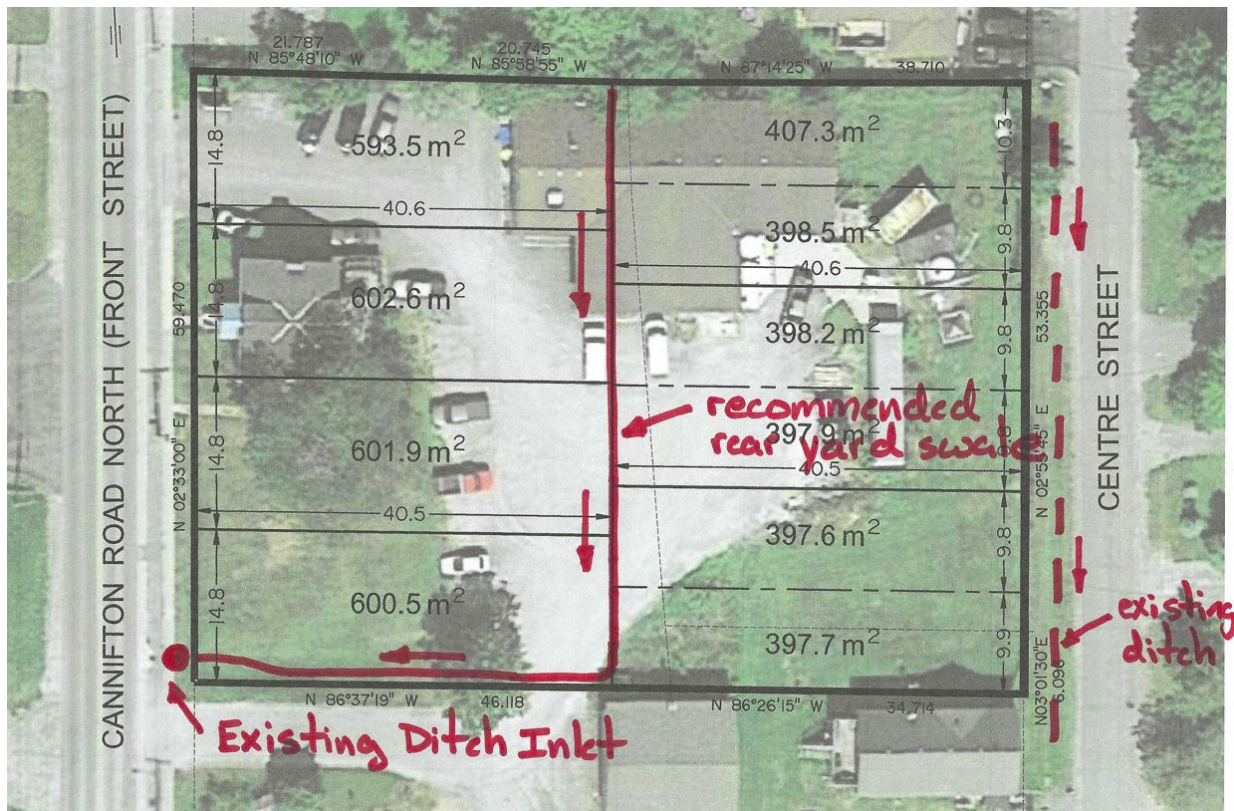


Figure 3 – Recommended Drainage Features

## 8.0 UTILITY DISTRIBUTIONS

All electrical, telephone, gas and cable services will be designed by the various agencies and installed in accordance with their specifications. It is not anticipated that any new infrastructure will be required within the Municipal right of way (i.e. new mainline gas or electrical primary cables), only new secondary lines are expected to service each individual unit.

## 9.0 CONCLUSIONS

- 4 single family residential lots, and 6 semi-detached lots are proposed to replace the existing single family home and commercial building on the property
- The development will be accessed from Cannifton Road North and Lywood street with new private driveways.
- Stormwater management for quantity and quality control is not required.



**Servicing Brief – 84 Cannifton Road North**

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- The development will be serviced by the existing sanitary and watermains.
- Natural gas, electrical, telephone and cable utilities are available to service the lots.

We trust the above information meets your needs at this time and should you have any further questions or concerns, please do not hesitate to contact our office.

Sincerely,



Adam Wilson, P. Eng.  
Principal\Senior Engineer  
WSE Consulting Inc.

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