

# memo

## WSE Consulting

To: Prince Edward County

From: Adam Wilson, P.Eng

CC:

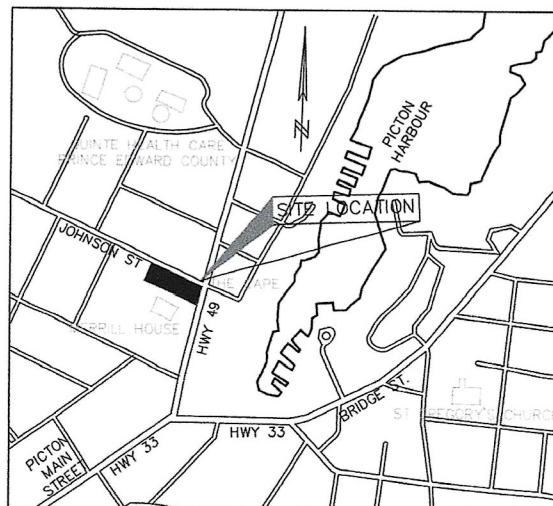
Date: December 19, 2023

Re: The Cape Expansion

Servicing Overview

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WSE has been retained to prepare a servicing review in support of the application for re-zoning and the proposed expansion of The Cape at 347 Main Street, Picton. The site is located at the intersection of Picton's Main Street and Johnson Street, as outlined below in **Figure 1**.



**Figure 1 – Site Location**

The following has been considered in this review:

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

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

**Existing Conditions**

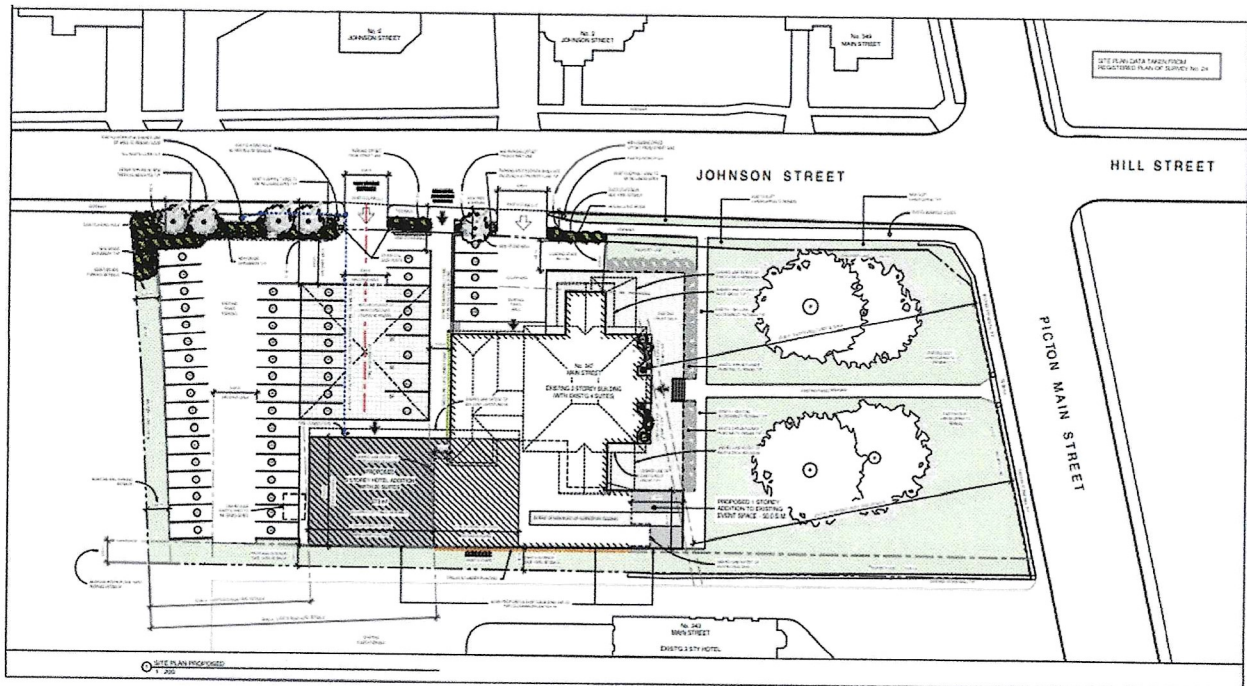
The property is currently a two-story event space with four residential suites and is in maintained condition with a paved parking lot and a grassed lawn with some trees.

The site is predominantly flat. Drainage is generally conveyed to the municipal drainage system within Main Street and Johnson Steet.

**Proposed Conditions**

The property is proposed to undergo a site expansion which includes building renovations and the addition of a 3-story hotel addition with 20 suites, for a total of 24 suites.

A development plan has been prepared by Kearns Mancini Architects, as shown in **Figure 2**.



**Figure 2 – Development Plan**

**Access to Services**

There is an existing sanitary sewer, storm sewer, and watermain located within the existing roads surrounding the property.

The existing building is currently serviced by water (50mm installed circa 2019) and sanitary both from Johnston Street.

It is recommended that these services be maintained and used for the servicing of the proposed building expansion.

### Water Distribution System

A hydraulic load review based on OBC 7.6.3.2.A. has been completed, see below **Table 1**, and concluded a total hydraulic load of 99.3. Based on OBC 7.6.3.4 the minimum water service size is 2.0" (50mm). As such the existing water service is adequate for the proposed site use.

Fixture Type	Hydraulic Load	# units	Total
Hotel Suite Bathroom Group (6Lpf tank)	3.6	24	86.4
Public Lavatory	0.7	7	4.9
Kitchen (dishwasher/sinks)	8	1	8
<b>Total</b>			<b>99.3</b>

**Table 1 – Hydraulic Load Calculation**

There is a fire hydrant approximately 45m from the proposed building (new Siamese connection) along the North West property line on Johnson Street

### Sanitary Collection System

The existing sanitary lateral to the site is assumed to be a 150mm, based on the below evaluation it is recommend that this service is suitable for use of the proposed development.

**Table 2 – Estimate of Sanitary Demand**

Use	Flow	Unit	Total
Hotel Area	250 L/bed	24	5400
Assembly Space	36/seat	100	3600
Office Space	75/employee	10	750
			<b>9750</b>
			<b>0.113</b>
			<b>L/day</b>
			<b>L/s</b>

**Table 3 – Evaluation of Sanitary Service size**

			SEWER DATA						
FLOWS			PIPE DIAMETER		SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	Q/Qcap (%)
RES Qp (L/s)	EXTRAN Qi (L/s)	TOTAL Qt (L/s)	NOMINAL (mm)	INNER (mm)					
0.11	-	0.11	150	150.0	1.00	-	15.2	0.86	0.74%

Based on the above the existing sanitary service is suitable for use for the proposed buildout and will operate at 75% capacity.

**Stormwater Management**

The proposed expansion will result in minimal increase in imperviousness and runoff. As such no stormwater management quantity or quality control is recommended.

Further detail is provided in the stormwater memo under separate cover.

**Transportation System**

The proposed development will be accessed from the existing parking lot on Johnson Street and no external works are anticipated.

**Utility Distributions**

The electrical, telephone, gas and cable services for the proposed addition will be installed at the direction of the individual providers. It is expected this process will be completed as part of the building permit process.

Sincerely,

**WSE Consulting Inc.**

Adam Wilson, P.Eng.

Principle/Senior Engineer

