

Memorandum

To: Steve Oliver, EIT, Engineering Intern
Copies To: File
From: Bashar Dhahir, P. Eng., PMP, Mohammad Ramezani, P. Eng.
Date: June 20, 2023
Reference: Fawcettville Subdivision TIS
Ainley File No.: 17533-1

1. Background

Ainley Group has been retained to conduct a traffic impact study (TIS) in support of the proposed development located at Fawcettville Subdivision (part of lot 64), County of Prince Edward, Ontario. The proposed development is located to the east of the Millennium Trail, to the west of County Road 49, and bounded by open areas from the north and south as shown in **Figure 1**.



Figure 1: Site Location

The proposed residential development includes 31 single detached lots, 54 townhouses, and a stormwater facility. The total area of the proposed development is 5.49 ha as shown in **Figure 2**.

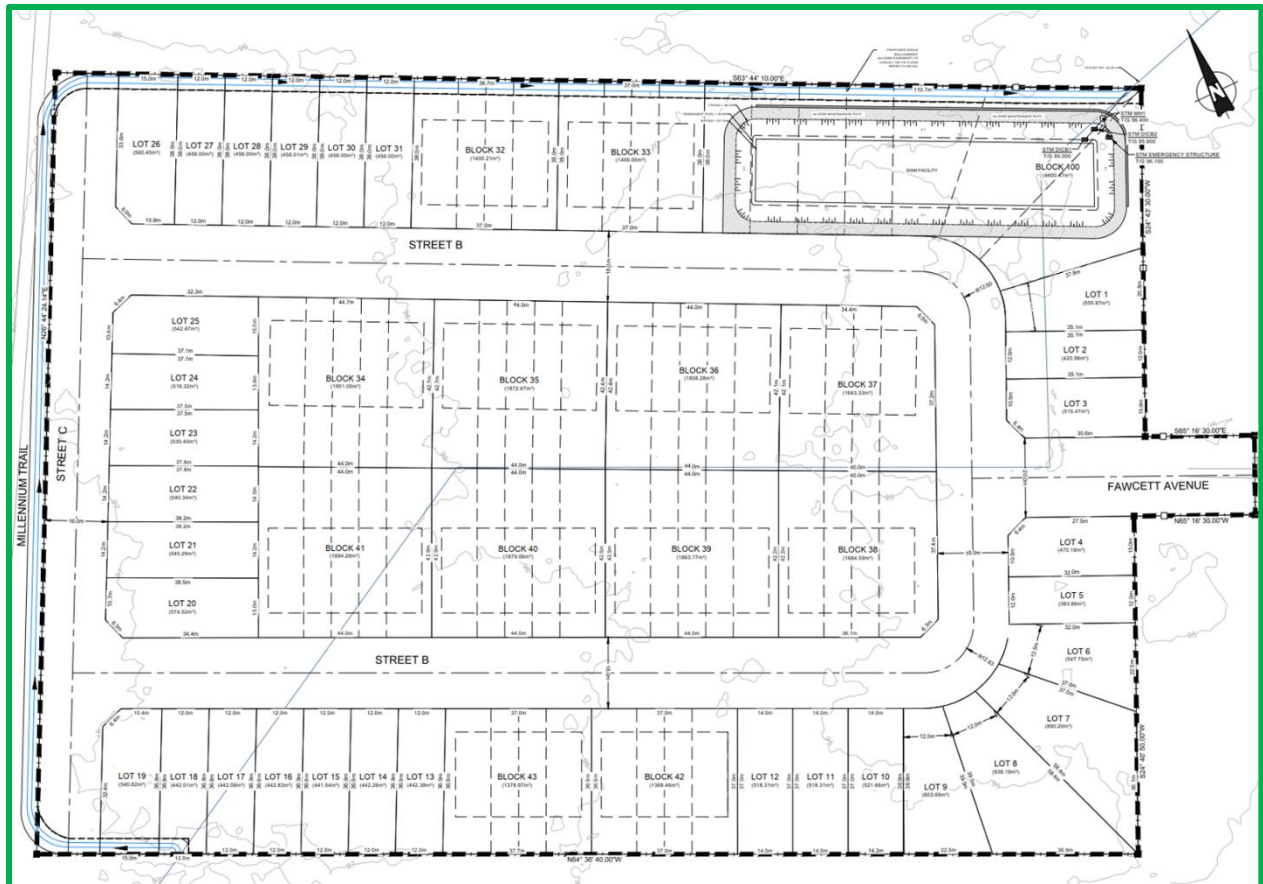


Figure 2: Proposed Development Site Plan

2. Existing Road Network

The proposed development will be connected to the roadway network via Fawcett Avenue (posted speed of 40 km/h), a two-lane local road with a rural cross-section and a ditch on both sides. Fawcett Avenue is connected to County Road 49 (CR 49) by a stop-controlled intersection. It should be noted that traffic on CR 49 is moving at high headway (low delay) during the weekdays and weekends as shown in **Figure 3**, which suggests low traffic volumes and high level of service (LOS) on the CR 49 within the study area.

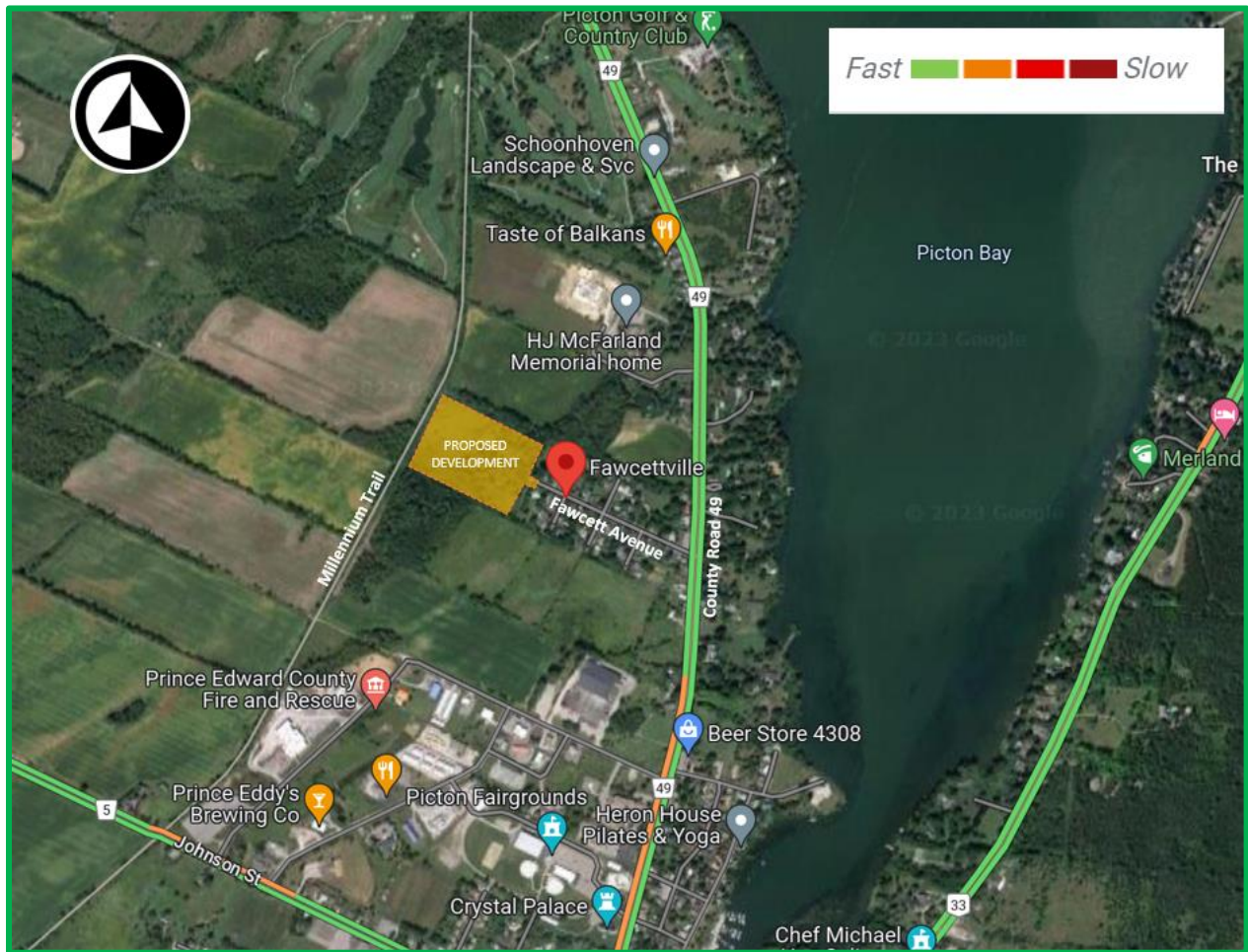


Figure 3: Traffic Conditions in the Study Area

3. Trip Generation

Based on the *Institute of Transportation Engineer's (ITE) Trip Generation Manual (11th edition)*, which is nationally recognized and locally accepted as a method for predicting generated trips, the trip rates to a Single-Family Detached Housing category (ITE land use code 210) and Multifamily Housing (Low-Rise) – Not Close to Rail Transit (ITE land use code 220) were used. The proposed development is expected to generate 66 and 77 Auto trips in the AM and PM peak hours (both inbound and outbound trips), respectively. The average rates and trip distribution are shown in **Table 1**.

Table 1: ITE Trip Generation for AM and PM Peak Hours

Land Use	Rate	Total Trips	Distribution		Generated Trips			
			Entering	Exiting	Average Rate		Fitted Curve	
					Entering	Exiting	Entering	Exiting
Single-Family Detached Housing (ITE land use 210)	AM							
	0.7	22	25%	75%	5	17	6	20
	PM							
	0.94	29	63%	37%	18	11	21	12
Multifamily Housing (Low-Rise) - Not Closing to Rail Transit (ITE land use 220)	AM							
	0.4	22	24%	76%	5	17	10	30
	PM							
	0.51	28	63%	37%	17	11	28	16
Total Trips	AM				10	34	16	50
	PM				35	22	49	28

The proposed development is expected to be built in a single construction phase and to be occupied in 2025. The *Institute of Transportation Engineer's (ITE) Transportation Impact Analyses for Site Development*¹ recommended a practice threshold of 100 trips or higher to initiate a traffic impact study. The site generated peak hour traffic volume less than 100 veh/h typically:

- Do not have an appreciable effect on the level of service or volume to capacity ratio of an intersection approach.
- Can be accommodated without the need for auxiliary left or right-turn lanes and without adversely affecting through (non-site) traffic.

In addition, other Cities' thresholds for initiating a traffic impact study comply with the ITE reference mentioned above such as:

- City of Kingston (more than new 100 peak-hour vehicle trips)
- City of Hamilton (more than new 100 peak-hour vehicle trips)
- Durham Region (more than new 100 peak-hour vehicle trips)
- The Corporation of the City of Windsor (more than new 100 peak-hour vehicle trips)

¹ Institute of Transportation Engineer's (ITE), *Transportation Impact Analyses for Site Development*, 2010.

- City of London (more than new 100 peak-hour vehicle trips)
- Regional Municipality of Waterloo (more than new 100 peak-hour vehicle trips)

Accordingly, the addition of the expected 77 peak-hour vehicle trips to County Road 49, would have a negligible effect on traffic operations and therefore there is no need to conduct a full TIS. Furthermore, it is expected that even with the addition of the proposed development traffic volumes on Fawcett Avenue, the CR 49 and Fawcett Avenue intersection would continue to operate with acceptable/high LOS.

4. Sightlines Triangles

Based on the Prince Edward County website², the proposed development is located in zone FD (Future Development) zone type; however, the property will be rezoned to an urban residential (as part of the Draft Plan Approval process). Accordingly, the sightlines triangles required by the County of Prince Edward By-Law No. 1816-2006 - Section 4.24³ is 6.0m. The proposed development was assessed and found it complies with requirements as shown in **Figure 4**.

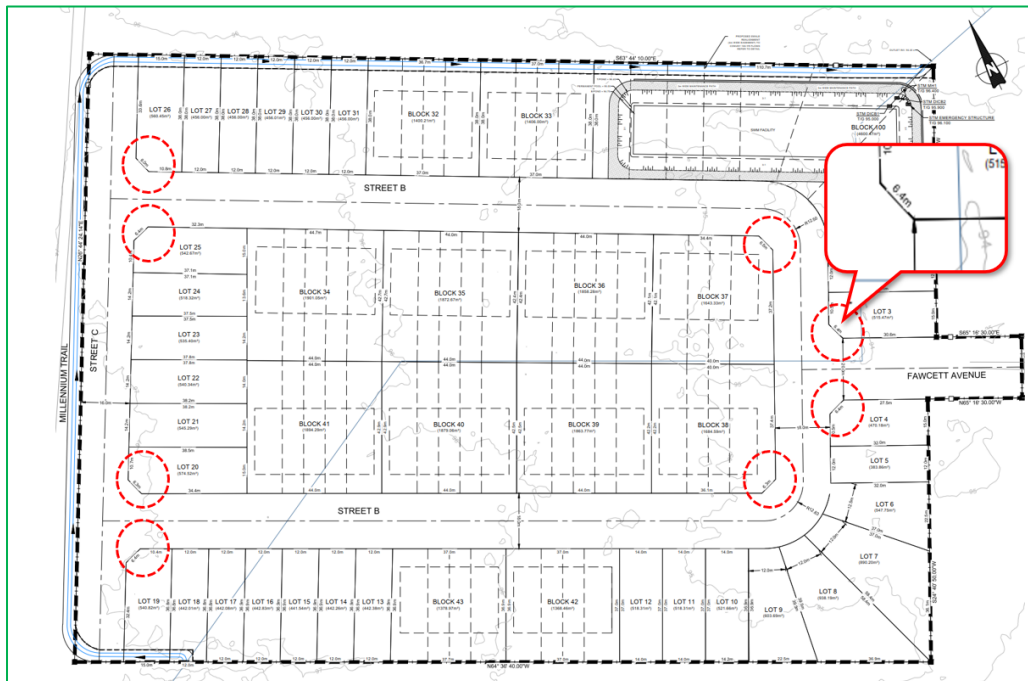


Figure 4: Sightlines Triangles Provision

² County of Prince Edward, Comprehensive Zoning By-law 1816-2006, October 23, 2006.

³ County of Prince Edward, Comprehensive Zoning By-law 1816-2006, October 23, 2006.

We trust that the above meets with your purpose. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,



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