

August 14, 2025

Nova Scotia Department of Public Works
Email: Alexander.Macdonald2@novascotia.ca

Dear Mr. Macdonald:

RE: West Petpeswick Development (PID 00334953)
Traffic Impact Statement
DesignPoint File: 25-018

Background

DesignPoint Engineering & Surveying has been retained to complete the traffic impact statement for a proposed residential development located on a 44-acre parcel in West Petpeswick, NS (Civic 808). The development will consist of 13 x 4 townhouses, 8 x 6 unit townhouses, for a total of 100 units across 21 buildings.

. The TIS is in support of a concept application. The proposed site location is shown in Figure 1.



Figure 1 - Site Location

The proposed site is located just off West Petpeswick Road, approximately four (4) kilometres south of the intersection with Highway 7. The latest site plan is shown in Figure 2.

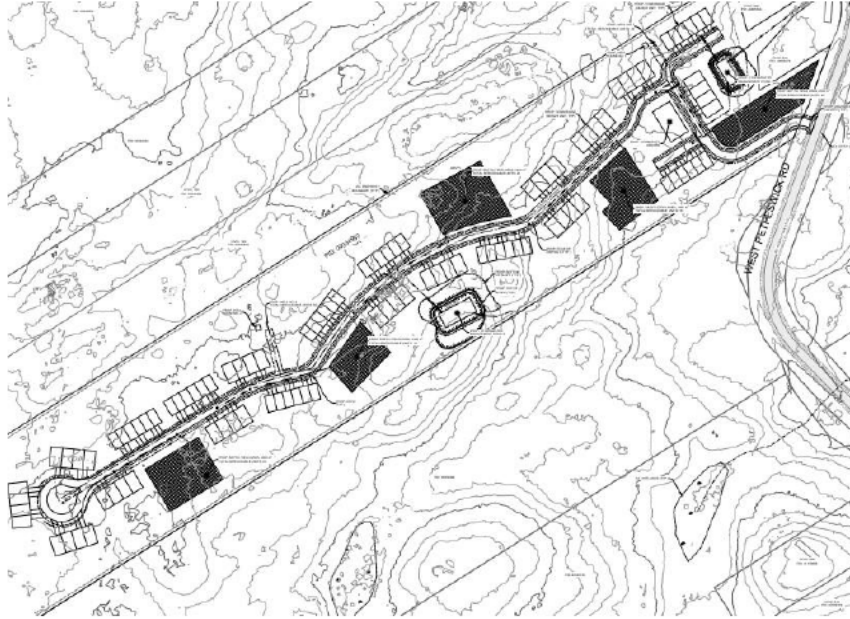


Figure 2 - Site Plan

Study Area

West Petpeswick Road

West Petpeswick Road is a two-lane local rural highway that runs north-south. It links Musquodoboit Harbour to East Chezzecook.



Existing Conditions

Traffic volume data for West Petpeswick Road was not available. To gain an understanding of the traffic flows in the area, a noon hour count was carried out on July 10th 2025, in the vicinity of the proposed development. While it is common to collect AM and PM peak hour volume data as an indicator of design hour volumes, noon hour traffic volumes often represent a secondary peak during a typical weekday.

The noon hour two-way traffic volume was 19 vph.

Site Traffic Generation

Site traffic generation will be estimated using the ITE Trip Generation Manual, 11th edition. The preliminary estimates are shown below:

Table 1 - Trip Generation

Land Use	Code	Units	Variable	Trip Generation Rates ¹						Trips Generated			
				AM Peak			PM Peak			AM Peak		PM Peak	
				Rate	In	Out	Rate	In	Out	In	Out	In	Out
Townhouse	220	100.0	units	0.54	24%	76%	0.64	63%	37%	13	41	40	24
Total Estimated Site Generated Trips										54		64	
Notes:	1. Trip generation rates from ITE <i>Trip Generation Manual</i> , 11th Edition.												

Level of Service Analysis

Given that the projected peak hour vehicle trips are so low, we do not believe that a Highway Capacity Manual (HCM) level of service (LOS) analysis is warranted for this development.

Access Review

Access to the proposed development will be a driveway connection to the West Petpeswick Road near Civic 808.

Stopping sight distance (SSD) is the minimum requirement for sight distances at driveways and intersections. It is the distance a vehicle takes to avoid encountering an obstacle at the relative speed. It is the combination of the distance travelled during the perception and reaction time, the time it takes a driver to determine the need to stop, and the braking distance, which is the distance travelled once the brakes are applied to when the vehicle comes to a stop.

Given the complex situations that drivers often encounter at intersections, it is desirable to provide more than the minimum stopping sight distance to enhance safety.

Intersection sight distance (ISD) is defined as the sight distance available from a point where vehicles are required to stop on the road, while drivers are looking left and right along the major road, before entering the intersection. In previous studies NSDPW has advised that ISD is the minimum requirement for this study.

The Transportation Association of Canada Geometric Design Guide for Canadian Roads provides a minimum stopping and intersection sight distances for various design speeds. It was assumed that the design speed for the West Petpeswick Road was 60 km/h.

A site visit was carried out on July 10, 2025, to measure SSD and ISD. The results are shown in Table 2 and Figure 3.

Table 2 - Sight Distance

Main Entrance at West Petpeswick Road					
Approach	Design Speed (km/h)	Min SSD (m)	Min ISD for right turns	Min ISD for left turns	Measured Sight Distance
From the South	60	85	110	130	120m + \-
From the North					110m +

The results indicate that there is sufficient intersection sight distance for a vehicle making a right turn to a vehicle approaching from the north.

For vehicles turning left, the required intersection sight distance is 130 metres. The measured sight distance in the field was approximately 120 metres.

There is a curve warning sign with a speed advisory of 45 km/h just south of the proposed driveway. If we assume that vehicles approaching from the south slow down to 50 km/h from 60 km/h, the required intersection sight distance for a vehicle turning left is lowered to 105m. This would indicate that there is sufficient intersection sight distance.

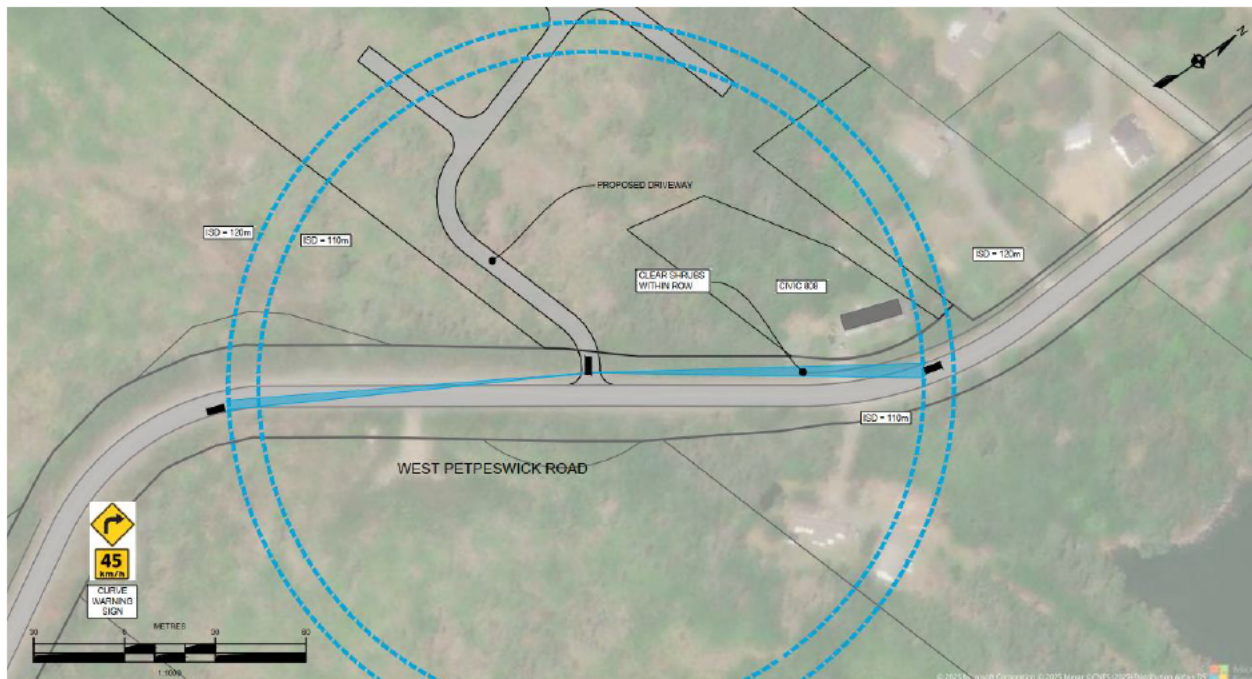


Figure 3 - Sight Distance



Figure 5 - West Petpeswick Road Looking North



Figure 4 - West Petpeswick Road Looking South

Summary

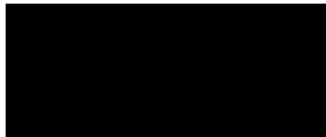
- DesignPoint Engineering and Surveying has been engaged to prepare the traffic impact statement for a proposed residential development near Civic 808 West Petpeswick Road.
- The development will consist of 100 townhouses.
- The existing noon hour traffic volume on July 10, 2025 was 19 vph
- The proposed development is expected to generate 54 AM Peak and 64 PM peak hour trips.
- There appears to be sufficient intersection sight distance.

Recommendations

1. Existing vegetation within the right-of-way should be removed and the intersection sight distance should be reconfirmed during detailed design.

If you have any questions on the contents of this report, please do not hesitate to contact me directly.

Thank you,
DesignPoint Engineering & Surveying Ltd.



Paul. V. Burgess, M.Eng., P.Eng
Senior Transportation Engineer

cc Ashley Blissett, P.Eng., Halifax Regional Municipality

