November 16, 2022

Zzap
1 Canal Street
Dartmouth, NS
B2Y 2W1
Attention: Connor Wallace, MCIP, LPP - Principal

RE: 1146 St. Margaret's Bay Road – Traffic Impact Statement

DesignPoint Engineering & Surveying Ltd. is pleased to submit this traffic impact study for a residential development project at 1146 St. Margaret's Bay Road. This project replaces one single-family home with four townhouse units, each with a secondary or backyard suite, for a total of eight residential units.

Site Location

The site is located at 1146 St. Margaret's Bay Road, approximately 80 metres east of Beech Tree Run. An existing driveway serves two single-family homes (civics 1146 and 1152).

Figure 1: Location of the proposed development

St. Margaret's Bay Road

St. Margaret's Bay Road is a two-lane arterial street with a posted speed limit of 50 km/h. A concrete sidewalk runs on the south side of the street along the frontage of the development site. An inbound transit stop is located 40 m east of the site, and an outbound stop is located directly across the street, served by routes 21 and 123.

Site Description

This proposal involves replacing the existing single-family home at 1146 St. Margaret's Bay Road with four townhouses, each with a secondary or backyard suite for a total of eight residential units. The site will have 13 parking stalls shared between the eight units. The existing right-of-way easement to civic 1152 will remain and share the driveway. A walkway will connect the new units to the St. Margaret's Bay Road sidewalk.

Figure 2: Proposed site plan

Trip Generation

Site generated trips have been estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 11th edition. The land use code for detached single-family homes has been used for all townhouse and suite units. The expected traffic volumes for the existing single-family home have been removed from the estimated trip generation. The development is expected to generate six two-way trips during the AM peak hour and seven two-way trips during the PM peak hour.

Table 1: Trip generation calculations per ITE Trip Generation Manual, 11th edition.

Land Use	Land Use Code	Units	Trip Generation Rates[1]						Trips Generated			
			AM Peak			PM Peak			AM Peak		PM Peak	
			Rate	In	Out	Rate	In	Out	In	Out	In	Out
Single-Family Detached Housing[2]	210	9	0.7	0.26	0.74	0.94	0.63	0.37	2	5	5	3
Single-Family Detached Housing (Reduction)[3]	210	1	0.7	0.26	0.74	0.94	0.63	0.37	0	1	1	0
Estimated Site Generated Trips									**2**	**4**	**4**	**3**
Notes:	1. Trip generation rates from ITE *Trip Generation Manual*, 11th Edition. 2. Includes existing home (civic 1152) 3. Reduction for the existing single-family home being removed											

Access

The eight residential units will share a single driveway, also used by civic 1152. The driveway will be in the existing driveway's general location, 80 m east of Beech Tree Run. A site visit was completed to confirm stopping sight distances.

Figure 3: View from access location to the west

Figure 4: View from access location to the east

The critical sight distance for low volume driveways is stopping sight distance. Stopping sight distance is the distance travelled during the perception and reaction time and the braking distance. Minimum stopping sight distances are defined by the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads*. A summary of the minimum stopping sight distances and measured stopping sight distances for the access location is provided in Table 2. The access location exceeds the minimum stopping sight distance for a 50 km/h design speed in each direction.

Table 2: Summary of stopping sight distances for the proposed access

Direction of Travel	Minimum Stopping Sight Distance (m)	Measures Stopping Sight Distance (m)	Result
Eastbound	65	150 +	Pass
Westbound	65	90 +	Pass

Conclusion

This proposed development replaces one single-family home with eight single-family residential units. The access location will effectively remain in its current location on St. Margaret's Bay Road, 80 m east of the Beech Tree Run intersection. The stopping sight distances for the access location exceed the minimum requirements in both directions of travel. The development is expected to add six vehicle trips to St. Margaret's Bay Road during the AM peak hour and seven vehicle trips during the PM peak hour. The traffic added by this development will have a negligible impact on the traffic operations of the surrounding street network. Neither the additional traffic nor the access location creates safety concerns. No upgrades to St. Margaret's Bay Road or the proposed access needed to accommodate the proposed development are required.

If you have any questions about this traffic impact statement, please contact me at [redacted].

Thank you,
DesignPoint Engineering & Surveying Ltd.
[redacted]
Harrison McGrath, P.Eng.
Transportation Engineer