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January 7, 2020

Reference No. 192095

Kevin W. Riles
KWR Approvals Inc.
P.O. Box 44153
Bedford, NS B4A 3Z8

Re: The Courtyard Townhomes of Lake Thomas, Fall River, NS – Traffic Impact Statement

Mr. Riles,

Harbourside Transportation Consultants has completed a traffic impact statement, as per Halifax Regional Municipality (HRM) requirements, to support the development application for the redevelopment of 3124 and 3134/3136 Trunk 2 in Fall River, Nova Scotia.

Site Context: The development site is located on Nova Scotia Trunk 2 north of the Highway 102 interchange (Figure 1). Nova Scotia Trunk 2 is an arterial roadway that runs north-south parallel to Highway 102. In the vicinity of the development, Nova Scotia Trunk 2 has a two-lane cross section with sidewalk on the east side of the roadway (Figure 2). Nova Scotia Trunk 2 is a designated bike route and has a posted speed limit of 60 km/h.

The immediate area is not serviced by Halifax Transit. The Fall River Park and Ride is located approximately two kilometers from the development; Route 320 Airport/Fall River MetroX provides express regional service between the Halifax Stanfield International Airport, the Bridge Terminal in Dartmouth and Albemarle Street in downtown Halifax.

Existing Site Land Use: Civic No. 3124 currently includes an office building operated from a former residential home, the office building includes a massage therapy clinic and the offices of a general contractor. Civic No. 3134/3136 currently includes a single-family detached house. There is one existing shared access to the site. The redevelopment will include the demolition of the office building; the single-family detached house will be maintained.

Proposed Development: The proposed development plan includes the existing single-family detached house and six low-rise residential buildings with three townhouse units per building for a total of 18 townhouse units (Figure 3). The development will feature a courtyard to create a courtyard townhouse neighbourhood.

The site access will be relocated north of the existing access on Nova Scotia Trunk 2. The access will be shared by the townhouses and the existing the single-family detached house.

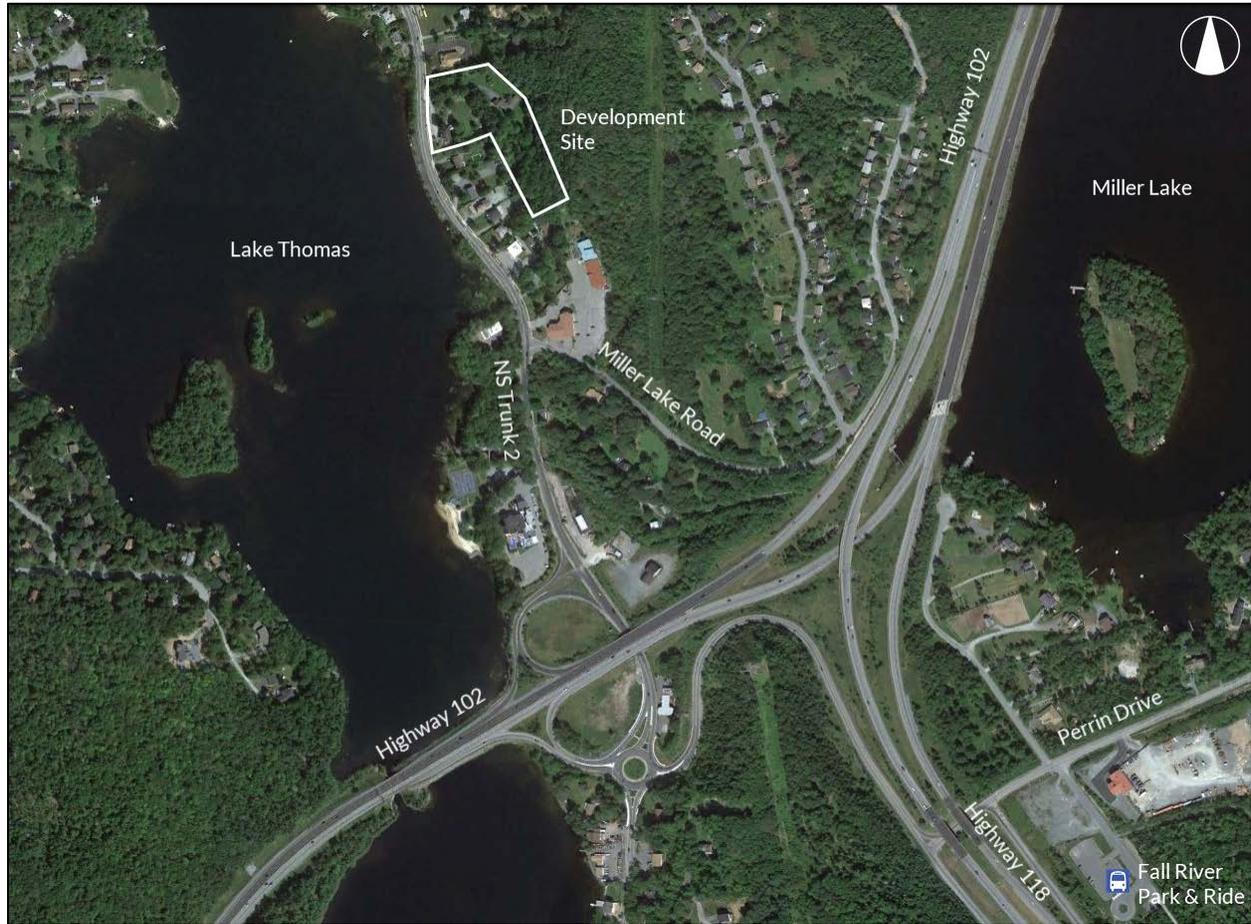


Figure 1: Site Context



Figure 2: Nova Scotia Trunk 2

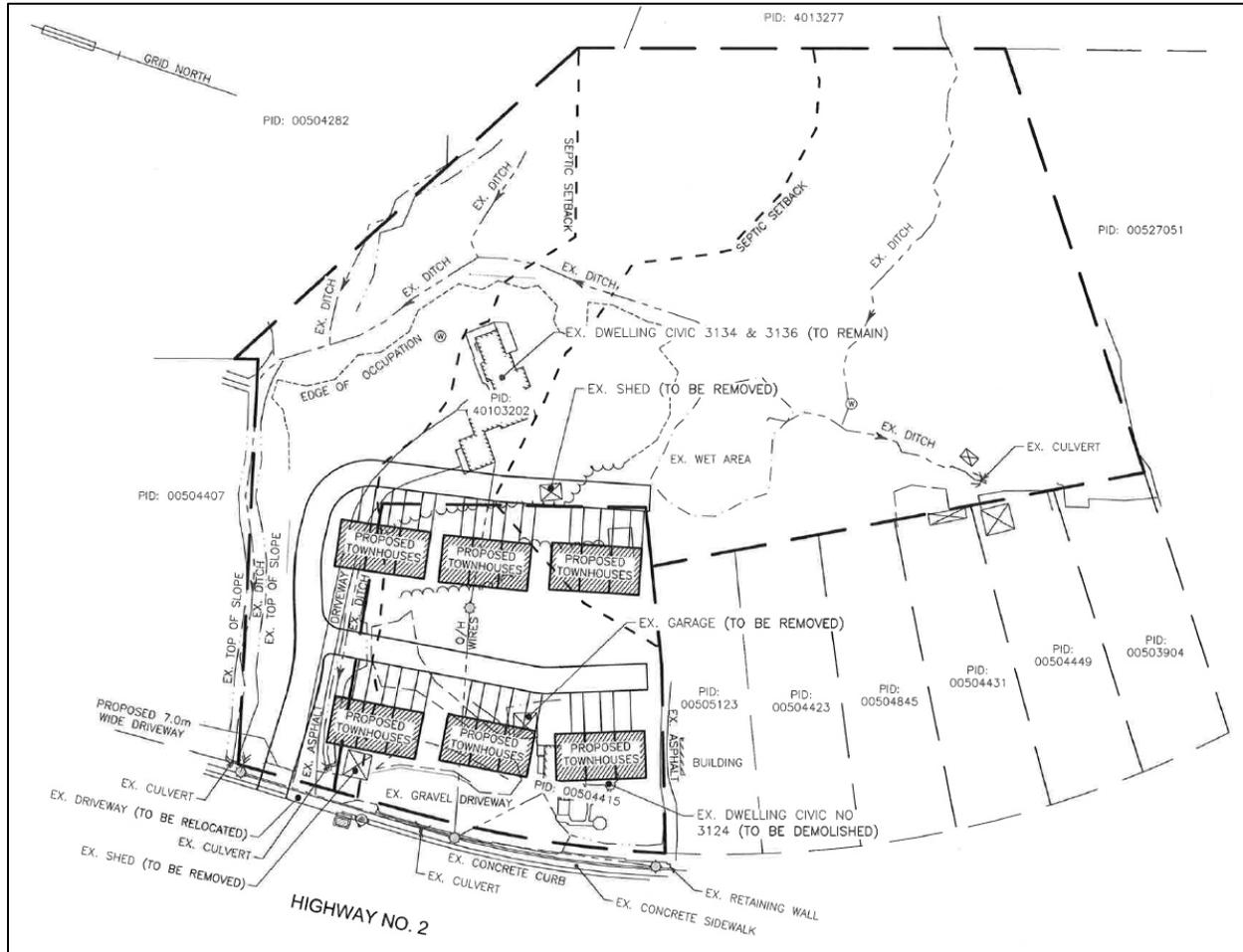


Figure 3: Site Development Plan

Sight Distance: The sight distance at the approximate location of the relocated access was reviewed to ensure the required sight distance is available. For arterial roadways, the HRM *Municipal Design Guidelines* (2013) specifies that the minimum stopping sight distance and minimum turning sight distance should meet the requirements of the Transportation Association of Canada's (TAC) *Geometric Design Guide for Canadian Roads*. The following sight distance requirements are specified for a design speed of 60 km/h:

- Minimum stopping sight distance = 85 metres
- Minimum turning sight distance – left-turn from stop = 130 metres
- Minimum turning sight distance – right-turn from stop = 110 metres

Approximate measurements for sight distance at the proposed site access indicate that the stopping sight distance requirements are met along Nova Scotia Trunk 2. The turning sight distance requirements will be met looking to the right of the access (Figure 4). The turning sight distance looking to the left of the access is restricted to approximately 65 metres by the retaining wall along the frontage of the property (Figure 5). While the turning sight distance requirements will not be met, the relocation and reconfiguration of the access will improve the sight distance in comparison to the existing access (approximately 85 metres).



Figure 4: Right of Proposed Access Location



Figure 5: Left of Proposed Access Location

Trip Generation: The vehicle trip generation estimates for the development were quantified using trip generation rates from the 10th edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The weekday morning (AM) and afternoon (PM) peak hour trip generation estimates for the proposed development are summarized in Table 1. On a typical weekday, the proposed development is expected to generate 9 vehicle trips in the morning peak hour (2 trips in/7 trips out) and 11 vehicle trips in the afternoon peak hour (7 trips in/4 trips out).



It should be noted that the vehicle trips associated with the single-family detached house are existing trips. In addition, the office building's existing land uses generate vehicle trips during the morning and afternoon peak hours, once the property is redeveloped these trips will no longer exist. While the existing trips to the site were not quantified, the existing land use types typically do not generate a significant number of vehicle trips during the peak hours. A portion of the site generated trips will not be considered new trips along Nova Scotia Trunk 2 as they will replace existing trips to the site.

Table 1: Trip Generation Estimates

ITE Land Use Code	Units	Trip Generation Rates ¹						Trips Generated ²					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Rate	In	Out	Rate	In	Out	Total	In	Out	Total	In	Out
210 - Single-Family Detached Housing	1	0.74	25%	75%	0.99	63%	37%	1	0	1	1	1	0
220 - Multifamily Housing (Low-Rise)	18	0.46	23%	77%	0.56	63%	37%	8	2	6	10	6	4
Total Trips Generated								9	2	7	11	7	4
1. Trip generation rates are in 'vehicles per hour per unit.'													
2. Trips generated are in 'vehicles per hour.'													

Impact to Surrounding Roadways: All site generated vehicle traffic will travel along Nova Scotia Trunk 2. Nova Scotia Trunk 2 experiences high volumes of commuter traffic during the peak hours; the peak-direction of traffic is southbound during the morning peak hour (travelling towards Highway 102/Highway 118) and northbound during the afternoon peak hour. The Highway 102 and Highway 118 interchanges experience observable capacity issues during the peak hours.

The trip generation estimates indicate that the proposed development will generate less than 7 vehicle trips in the peak direction of traffic on Nova Scotia Trunk 2 during the peak hours; a portion of these trips will not be considered new trips due to existing site land uses. The new vehicle trips associated with the proposed development will result in a negligible increase in traffic volumes on Nova Scotia Trunk 2 and at the Highway 102 and Highway 118 interchanges. The development is not expected to significantly contribute to the deterioration of existing capacity issues in the study area. It should be noted that this consists of a high-level qualitative assessment, therefore no analytical capacity calculations have been completed to support the assessment.

If you have any questions or additional discussion, please feel free to contact the undersigned.

Regards,



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