

October 31, 2020

Reference No. 202086

Cesar Saleh
WM Fares Architects
3480 Joseph Howe Drive, Suite 500
Halifax, NS B3L 4H7

Re: St. James Church Crestfield Drive, Hammonds Plains, NS – Traffic Impact Statement

Mr. Saleh,

Harbourside Transportation Consultants has completed a traffic impact statement, as per Halifax Regional Municipality (HRM) requirements, to support the development application for a residential development on Crestfield Drive in Hammonds Plains, Nova Scotia.

Site Context: The development site is located on the west side Crestfield Drive near the intersection with Hammonds Plains Road. The site context is shown in Figure 1.

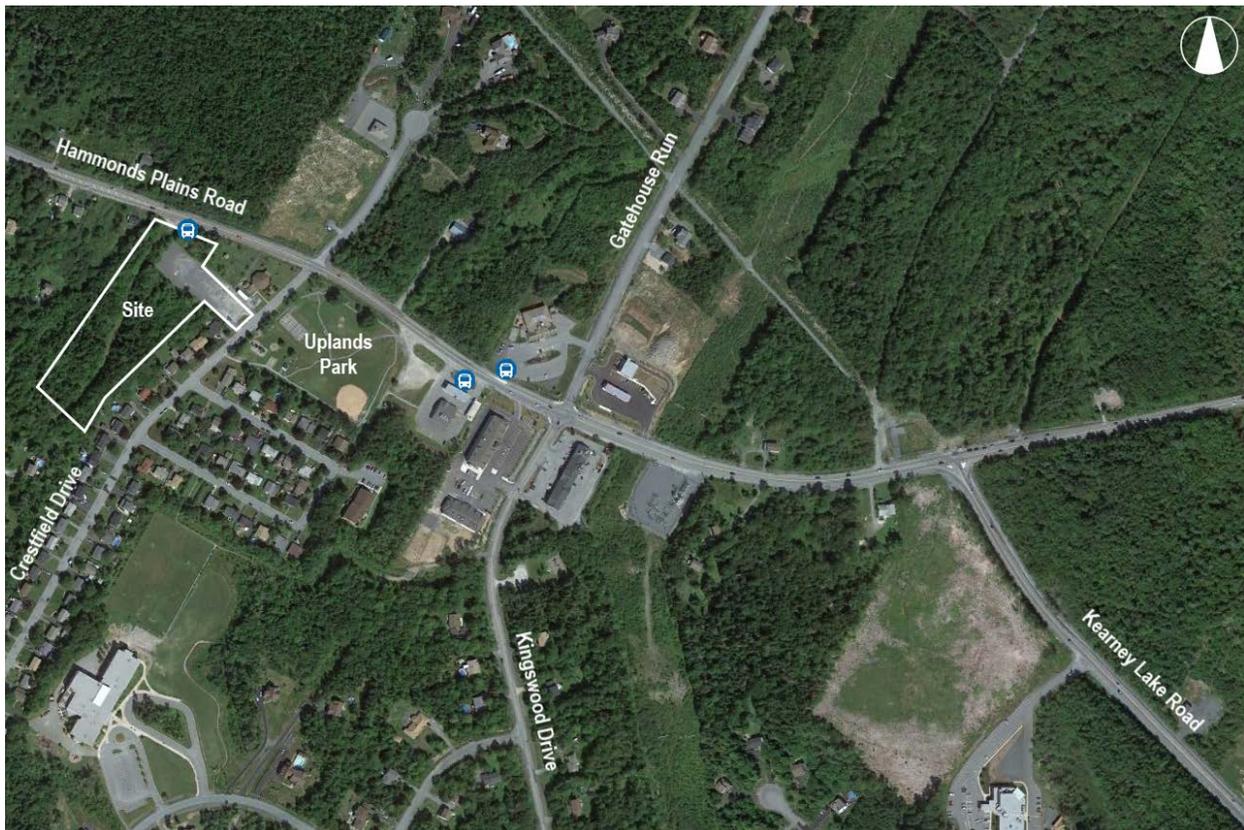


Figure 1: Site Context



Crestfield Drive, Hammonds Plains, NS Traffic Impact Statement

Crestfield Drive is a north-south local cul-de-sac roadway accessed from Hammonds Plains Road. Crestfield Drive has a two-lane cross section and a posted speed limit of 50 km/h. Crestfield Drive is a traffic calmed street with speed humps. There are no active transportation facilities on Crestfield Drive. Parking is prohibited on the west side of the roadway along the St. James Church and the development site frontage; parking is permitted on the east side of the roadway along Uplands Park. The Crestfield Drive cross section is shown in Figure 2.

Hammonds Plains Road is an east-west arterial roadway which runs from Upper Tantallon to Bedford, connecting to Highway 103 to the west and to Larry Uteck Boulevard, Highway 102 and the Bedford Highway to the east. Near Crestfield Drive, Hammonds Plains Road has a two-lane cross section and a posted speed limit of 70 km/h. There are no active transportation facilities on Hammonds Plains Road. The Hammonds Plains Road cross section is shown in Figure 3.

The area is serviced by Halifax Transit Route 433 - Tantallon. The route provides service to the Lacewood Terminal, where connections are available for 11 other transit routes. An inbound bus stop is located on Hammonds Plains Road along the frontage of the site, and an outbound bus stop is located on Hammonds Plains Road approximately 230 metres east of Crestfield Drive.



Figure 2: Crestfield Drive



Figure 3: Hammonds Plains Road

Existing Site Land Use: A large portion of the site near the St. James Catholic Church was likely used as a parking lot for the church, although it appears that the church building is no longer in use. There are two existing access points on Crestfield Drive for the gravel parking lot. The remainder of the site is undeveloped. The existing site is shown in Figure 4.

Proposed Development: The proposed development will include a single-family dwelling and a 36-unit mid-rise residential building. The multi unit building will include 50 parking spaces including 13 exterior surface parking spaces and 37 underground parking spaces. The proposed site development plan is shown in Figure 5.

Access: The development will include two access points on Crestfield Drive. The new access points do not align with the existing access points, so existing driveways will be removed. The north access will be a shared driveway for the multi-unit building and the St. James Catholic Church parking lot. A pedestrian connection will be provided along the driveway from Crestfield Drive to the multi-unit building. The south access will consist of the driveway for the single-family dwelling.



Figure 4: Existing Site

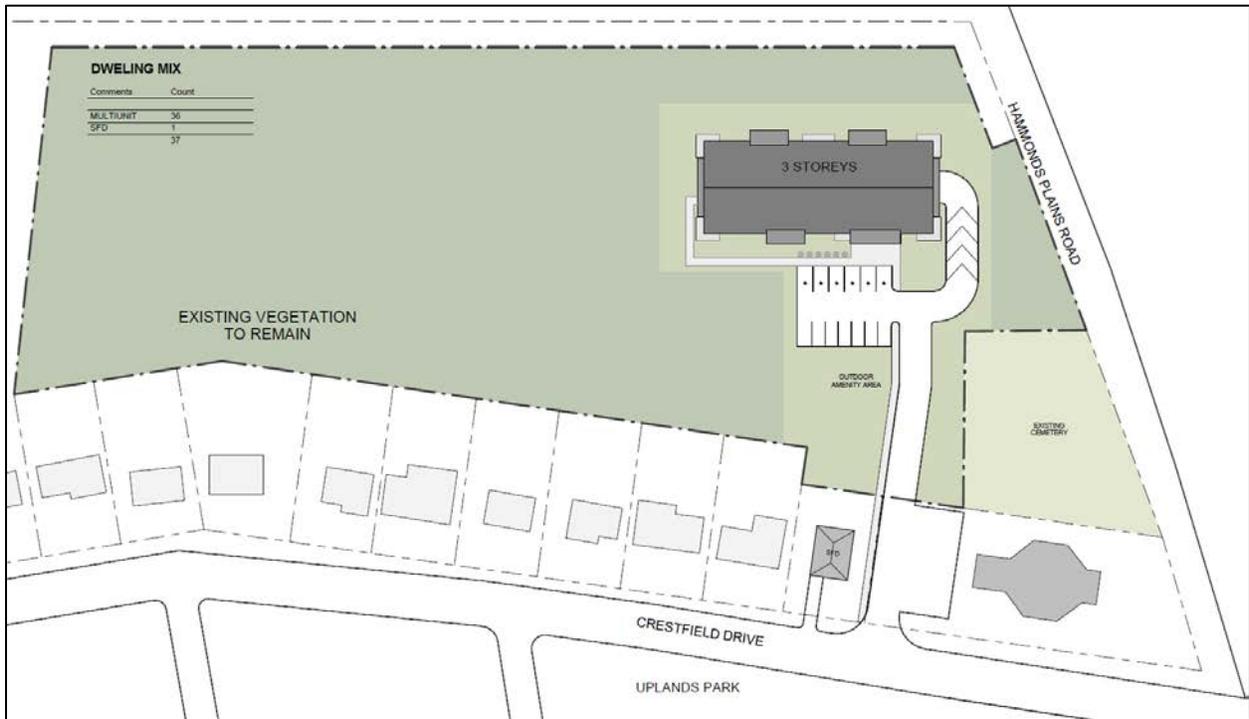


Figure 5: Site Development Plan



Sight Distance: The sight distance available at the north access was reviewed to ensure the driveway meets the minimum stopping sight distance and turning sight distance requirements of the Transportation Association of Canada’s (TAC) *Geometric Design Guide for Canadian Roads*.

The minimum stopping sight distance requirement for a two-lane roadway with a design speed of 50 km/h is 65 metres. There is approximately 75 metres of stopping sight distance available north of the access and approximately 150 metres of stopping sight distance available south of the access. The minimum stopping sight distance requirements are met in both directions on Crestfield Drive.

The minimum turning sight distance requirements for a two-lane roadway with a design speed of 50 km/h are:

- Minimum turning sight distance – left-turn from stop = 105 metres
- Minimum turning sight distance – right-turn from stop = 95 metres

Crestfield Drive terminates approximately 75 metres north of the access point at the intersection with Hammonds Plains Road. While the minimum turning sight distance requirements cannot be met north of the access point (looking to the left of the access), the intersection with Hammonds Plains Road is clearly visible from the access point. There is approximately 150 metres of turning sight distance available south of the access (looking to the right of the access). The minimum turning sight distance requirements are met south of the access point.

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 14 vehicle trips in the morning peak hour (3 trips entering/11 trips exiting) and 17 vehicle trips in the afternoon peak hour (11 trips entering/6 trips exiting).

Table 1: Trip Generation Estimates

Land Use	Quantity		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	Units	0.74	25%	75%	0.99	63%	37%	1	0	1	1	1	0
221 - Multifamily Housing (Mid-Rise)	36	Units	0.36	26%	74%	0.44	61%	39%	13	3	10	16	10	6
Total Trips Generated									14	3	11	17	11	6
1. Trip generation rates are in 'vehicles per hour per unit.'														
2. Trips generated are in 'vehicles per hour.'														

Impact to Surrounding Roadways: The site generated vehicle traffic will travel along Hammonds Plains Road. Peak hour traffic volumes on Hammonds Plains Road observed in 2018 immediately west of the signalized intersection with Kingswood Drive and Gatehouse Run are summarized in Table 2. The traffic count indicates that the peak-direction of traffic on Hammonds Plains is eastbound during the morning peak hour (travelling towards to Larry Uteck Boulevard and Highway 102) and westbound during the afternoon peak hour.



Table 2: Hammonds Plains Road Peak Hour Traffic Volumes West of Kingswood Drive (Apr-19-2018)

Traffic Volumes	Morning (AM) Peak Hour	Afternoon (PM) Peak Hour
Westbound	335 veh	998 veh
Eastbound	1034 veh	615 veh
Total	1369 veh	1613 veh

The majority of site generated vehicle traffic is expected to travel on Hammonds Plains Road in the peak direction of traffic. The trip generation estimates indicate that the proposed development will generate approximately 11 vehicle trips in the peak direction of traffic on Hammonds Plains Road during the peak hours. Based on 2018 traffic volumes, the proposed development will result in approximately a 1 percent increase in traffic volumes on Hammonds Plains Road during the peak hours. It is anticipated that the new vehicle trips associated with the development can be accommodated with a negligible impact on traffic operations. 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,

Original Signed

Michael MacDonald, P. Eng.
Senior Transportation Engineer, Principal
Tel: 902-405-4655
Email: mmacdonald@harboursideengineering.ca

