Ref. No. 151-00564 Task 11

September 9, 2015

Mr. Cesar Selah, P. Eng.,
VP Planning and Design
WM Fares Group
3480 Dutch Village Road, 5th Floor
HALIFAX NS B3L 4H7

RE: Traffic Impact Statement, Proposed Additional Apartment Units, 669 to 701 St. Margaret's Bay Road, Halifax

Dear Mr. Selah:

Cornerstone Developments Limited is completing plans to add two apartment units to each of the existing four unit apartment buildings at 669, 677, 685, and 701 St. Margaret's Bay Road (Figure 1). This will result in addition of eight apartment units to the existing total of 16 units in four buildings. This is the Traffic Impact Statement needed to accompany the development application.

Study Area - The development is on the north side of St. Margaret's Bay Road approximately 200 meters east of the North West Arm Drive overpass (Figure 1). St. Margaret's Bay Road is a two lane arterial street with a posted speed limit of 50 km/h at this location. The street has curb, gutter and sidewalk on the south side opposite the development, and a gravel shoulder on the north side adjacent to the site (Photos 1 to 4). Parking is not permitted on either side of the street at this location. Visibility is adequate on both eastbound and westbound approaches to the development as illustrated in Photos 1 to 4.

Photo 1 - Looking east on St. Margaret's Bay Road towards the Armdale Roundabout from Civic # 669.

Photo 2 - Looking west on St. Margaret's Bay Road towards the other apartment buildings and North West Arm Drive overpass from Civic # 669.

Photo 3 - Looking east on St. Margaret's Bay Road towards the other apartment buildings and the Armdale Roundabout from Civic # 701.

Photo 4 - Looking west on St. Margaret's Bay Road towards the North West Arm Drive overpass from Civic # 701.

1 Spectacle Lake Drive, Dartmouth, Nova Scotia, Canada B3B 1X7
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Figure 1
Traffic Impact Statement 669-701 St Margarets Bay Road
September 2015

Traffic Volumes - A manual turning movement count obtained at the St. Margaret's Bay Road and Albert Walker Drive intersection just west of the North West Arm Drive overpass during mid-September, 2012, indicated St. Margaret's Bay Road two-way volumes of 1175 vehicles per hour (vph) during the AM peak hour and 1450 vph during the PM peak hour.

Transit Service - Halifax Transit provides service with Route 23 past the site (bus stops in front of Civic # 701) and Routes 6 and 22 at Quarry Road approximately 250 meters east of Civic # 669.

Trip Generation - Trip generation estimates (Table 1) for the proposed and existing land uses, prepared using published trip generation rates from *Trip Generation, 9th Edition*, indicate that the proposed additional eight apartment units are estimated to generate 3 additional two-way vehicle trips (0 entering and 3 exiting) during the AM peak hour and 5 additional two-way vehicle trips (4 entering and 1 exiting) during the PM peak hour.

Table 1 - Trip Generation Estimates for Proposed and Existing Developments

Land Use [1]	Units [2]	Trip Generation Rates [3]				Trips Generated [3]			
		AM Peak		PM Peak		AM Peak		PM Peak	
		In	Out	In	Out	In	Out	In	Out
Trip Generation Estimate for the Proposed Development with Six Units in Each Building									
Apartment (Land Use 220)	24 Units	0.10	0.41	0.40	0.22	2	10	10	5
Trip Generation Estimate for the Existing Development with Four Units in Each Building									
Apartment (Land Use 220)	16 Units	0.10	0.41	0.40	0.22	2	7	6	4
Estimated Additional Trips Generated by the Redeveloped Site									
Additional Vehicle Trip Estimates for the Redeveloped Site [7]						0	3	4	1

NOTES:
1. Rates are for the indicated Land Use Codes, *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.
2. Numbers of apartment units
3. Rates are 'vehicles per hour per unit'; trips generated are 'vehicles per hour for peak hours'.
4. These are the estimated additional trips that will be generated by the redeveloped site after consideration of the 'credit' for trips generated by the existing land uses on the site.

Summary -

1. The proposed development will include addition of two apartment units to each of the existing four unit apartment buildings at 669, 677, 685, and 701 St. Margaret's Bay Road which will result in eight additional apartment units to the existing 16 units in the development.

2. Visibility is good for the St. Margaret's Bay Road approaches to the existing site driveways.

3. It is estimated that the proposed additional eight apartment units will generate 3 additional two-way vehicle trips (0 entering and 3 exiting) during the AM peak hour and 5 additional two-way vehicle trips (4 entering and 1 exiting) during the PM peak hour.

4. Halifax Transit provides service with Route 23 past the site (bus stops in front of Civic # 701) and Routes 6 and 22 at Quarry Road approximately 250 meters east of Civic # 669.

5. St. Margaret's Bay Road two-way volumes adjacent to the site include approximately 1175 vehicles per hour (vph) during the AM peak hour and 1450 vph during the PM peak hour.

Conclusion -

6. While St. Margaret's Bay Road volumes are high, the low numbers of additional vehicle trips generated by the proposed eight apartment units will not have any noticeable effect on the operation the street, intersections or the regional street system.

If you have any questions or comments, please contact me by Email to ken.obrien@wspgroup.com or telephone 902-443-7747.

Sincerely:

Original Signed

Ken O'Brien, P. Eng.
Senior Traffic Engineer
WSP Canada Inc. Sincerely:

Original Signed

Ref. No. 171-00927 Task 7

July 5, 2017

Mr. Cesar Selah, P. Eng.,
VP Planning and Design
W M Fares Architects
3480 Dutch Village Road, 5th Floor
HALIFAX NS B3L 4H7

RE: Addendum Traffic Impact Statement, Proposed Additional Apartment Units, 651 and 661 St. Margarets Bay Road, Halifax
: *Traffic Impact Statement, Proposed Additional Apartment Units, 669 to 701 St. Margarets Bay Road, Halifax, WSP Canada Inc., September 9, 2015*

Dear Mr. Selah:

This is the Addendum Traffic Impact Statement that you have requested to consider the traffic impacts of adding two apartment units to each of the existing four unit apartment buildings at 651and 661 St. Margarets Bay Road (Figure 1A). This will result in addition of four apartment units to the existing total of eight units in the two buildings.

Background - *Cornerstone Developments Limited* has constructed seven apartment buildings between 651 and 701 St. Margarets Bay Road (Figure 1A). The impacts of adding two apartment units to each of the four unit apartment buildings at 669, 677, 685, and 701 St. Margarets Bay Road were considered in *Traffic Impact Statement, Proposed Additional Apartment Units, 669 to 701 St. Margarets Bay Road, Halifax (WSP Canada Inc., September 9, 2015). Cornerstone Developments Limited* is now planning to add two apartment units to each of the existing four unit apartment buildings at 651and 661 St. Margarets Bay Road (Figure 1A).

Figure 1A - *Cornerstone Developments Limited* apartment development 651 to 701 St. Margarets Bay Road

1 Spectacle Lake Drive, Dartmouth, Nova Scotia, Canada B3B 1X7
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Study Area - The two buildings at 651 and 661 St. Margarets Bay Road are served by an existing single driveway between the two buildings. Visibility is adequate on both eastbound and westbound approaches to the development as illustrated in Photos 1A and 2A.

Photo 1A - Looking east on St. Margarets Bay Road towards the Armdale Roundabout from the shared driveway for 651 and 661 St. Margarets Bay Road.

Photo 2A - Looking west on St. Margarets Bay Road towards the North West Arm Drive overpass from the shared driveway for 651 and 661 St. Margarets Bay Road.

Trip Generation - Trip generation estimates (Table 1A) for the proposed and existing land uses, prepared using published trip generation rates from *Trip Generation, 9th Edition,* indicate that the proposed additional four apartment units are estimated to generate 2 additional two-way vehicle trips (0 entering and 2 exiting) during the AM peak hour and 3 additional two-way vehicle trips (2 entering and 1 exiting) during the PM peak hour.

Table 1A - Trip Generation Estimates for Apartment Buildings at 651 and 661 St. Margarets Bay Road

Land Use [1]	Units [2]	Trip Generation Rates [3]				Trips Generated [3]			
		AM Peak		PM Peak		AM Peak		PM Peak	
		In	Out	In	Out	In	Out	In	Out
Trip Generation Estimate for the Proposed Development with Six Units in Each Building									
Apartment (Land Use 220)	12 Units	0.10	0.41	0.40	0.22	1	5	5	3
Trip Generation Estimate for the Existing Development with Four Units in Each Building									
Apartment (Land Use 220)	8 Units	0.10	0.41	0.40	0.22	1	3	3	2
Estimated Additional Trips Generated by the Redeveloped Site									
Additional Vehicle Trip Estimates for the Redeveloped Site [4]						0	2	2	1

NOTES:
1. Rates are for the indicated Land Use Codes, *Trip Generation*, *9th Edition*, Institute of Transportation Engineers, 2012.
2. Numbers of apartment units
3. Rates are 'vehicles per hour per unit'; trips generated are 'vehicles per hour for peak hours'.
4. These are the estimated additional trips that will be generated by adding two apartment units to each of the two buildings.

Summary -

1. The proposed development will include addition of two apartment units to each of the existing four unit apartment buildings at 651 and 661 St. Margarets Bay Road which will result in four additional apartment units to the existing eight units in the two buildings.

2. Visibility is good for the St. Margarets Bay Road approaches to the existing shared site driveway for 651 and 661 St. Margarets Bay Road.

3. It is estimated that the proposed additional four apartment units will generate 2 additional two-way vehicle trips (0 entering and 2 exiting) during the AM peak hour and 3 additional two-way vehicle trips (2 entering and 1 exiting) during the PM peak hour.

Conclusion -

4. While St. Margarets Bay Road volumes are high, the low numbers of additional vehicle trips generated by the proposed four apartment units will not have any noticeable effect on the operation of the street, intersections or the regional street system.

If you have any questions, please contact me by Email to ken.obrien@wsp.com or telephone 902-452-7747.

Sincerely:

Original Signed

Ken O'Brien, P. Eng.
Senior Traffic Engineer
WSP Canada Inc.

REGISTERED PROFESSIONAL ENGINEER
July
DATE 5/17
Original Signed
K. R. O'Brien
2210
PROVINCE OF NOVA SCOTIA