Ref. No. 111-26137

May 9, 2016

Mr. M. Sooriyakumaran, P. Eng.
CKM Engineering Inc.
202 - 89 Waterfront Drive
BEDFORD NS B4A 4K4

RE: Traffic Impact Statement - Proposed Raines Mill Residential Development
St. Margaret's Bay Road, Lakeside, NS

Dear Soori:

Parkdale Developments Limited is preparing plans for a residential development on a cul-de-sac on the north side of St. Margaret's Bay Road in Lakeside (Figure 1). The development, which is expected to be completed by 2018, will include 41 single family homes and a 40-unit apartment building. This is the Traffic Impact Statement (TIS) required to accompany the development application.

Description of Site Access - Site access is planned at a new intersection on the north side of St. Margaret's Bay Road opposite Oliver Street and approximately 200m east of Raines Mill Road.

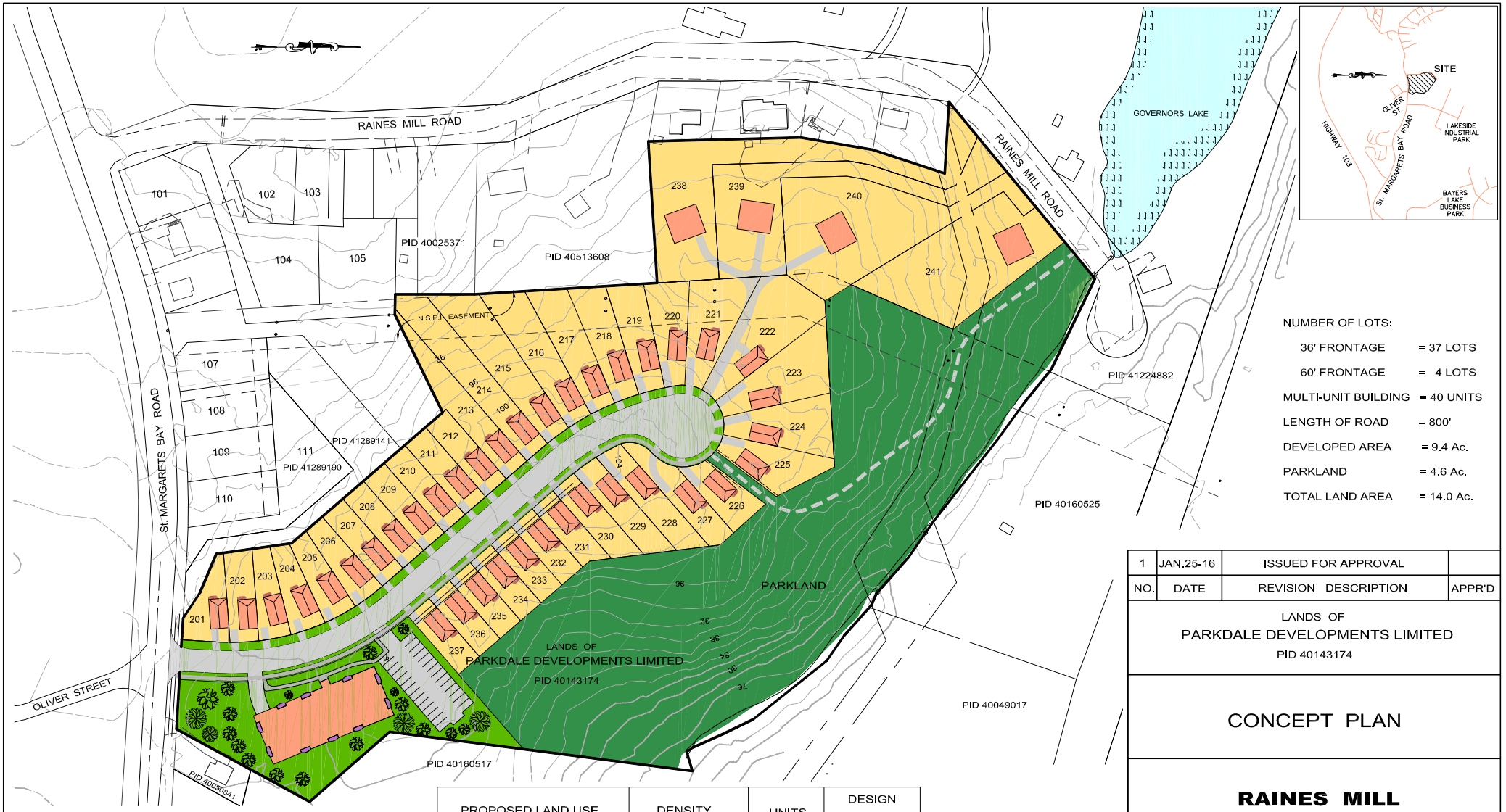
St. Margaret's Bay Road is a collector street with a 50 km/h posted speed limit. Sidewalk with curb and gutter are present on the north side of the street and the south side has gravel shoulders, as shown in Photos 1 and 2.

Photo 1 - Looking east on St. Margaret's Bay Road from the proposed new street intersection.

Photo 2 - Looking west on St. Margaret's Bay Road from the proposed new street intersection.

Intersection Sight Distance - The proposed intersection location is on a crest with approach grades of approximately +4% westbound and +7% eastbound. Stopping sight distance (SSD), measured from a driver eye height of 1.05 m to a 150 mm object, indicated 62 meters on the westbound approach (Photo 1) and 61 m on the eastbound approach (Photo 2) to the proposed intersection. SSDs on both approaches to this location are greater than the required 58m and 59m for a 50 km/h approach speed with +4% and +7% grades, respectively.

The intersection is expected to have adequate turning sight distance since this is measured from an exiting drivers eye height of 1.05 m to an approaching object height of 1.15 m.



NUMBER OF LOTS:

36' FRONTAGE	= 37 LOTS
60' FRONTAGE	= 4 LOTS
MULTI-UNIT BUILDING	= 40 UNITS
LENGTH OF ROAD	= 800'
DEVELOPED AREA	= 9.4 Ac.
PARKLAND	= 4.6 Ac.
TOTAL LAND AREA	= 14.0 Ac.

PROPOSED LAND USE	DENSITY	UNITS	DESIGN POPULATION
RESIDENTIAL (R-1 UNITS)	3.35 ppu	41	138
MULTI-UNIT DWELLING	2.25 ppu	40	90
	TOTAL	81	228

LAND AREA = 14 AC.
POPULATION DENSITY = 18 ppa
ALLOWABLE POPULATION = 252

NO.	DATE	REVISION DESCRIPTION	APPR'D
1	JAN.25-16	ISSUED FOR APPROVAL	

LANDS OF
PARKDALE DEVELOPMENTS LIMITED
PID 40143174

CONCEPT PLAN

RAINES MILL

LAKESIDE NOVA SCOTIA

DRAWN D.M.	DATE JANUARY 25, 2016
SCALE 20 0 10 20 30	DWG NO. 16-129-01

ckm engineering inc.
FALL RIVER, NOVA SCOTIA

Manual Traffic Count - Using a 1.5% annual traffic volume increase (considered reasonable for this location) and a turning movement traffic count obtained by HRM Traffic & Right of Way Services at the Lakeside Park Drive intersection during October 2010, it is estimated that 2016 two-way traffic volumes on St. Margaret's Bay Road at the site include approximately 1000 vehicles during the AM peak hour and 1300 vehicles during the PM peak hour.

Trip Generation Estimates Trip generation estimates have been prepared using published data from *Generation*, *9th Edition* (Institute of Transportation Engineers, 2012). It is estimated (Table 1) that the proposed 41 single family residential units and 40 apartment units will generate about 51 two-way vehicle trips (12 entering and 39 exiting) during the AM peak hour and 66 two-way vehicle trips (42 entering and 24 exiting) during the PM peak hour.

Table 1 - Trip Generation Estimates for the Proposed Development

Land Use	Number Units [2]	Trip Generation Rates [1]				Trips Generated [3]			
		AM Peak		PM Peak		AM Peak		PM Peak	
		In	Out	In	Out	In	Out	In	Out
Single Family Residential (Land Use Code 210)	41	0.19	0.56	0.63	0.37	8	23	26	15
Apartment (Land Use Code 220)	40	0.10	0.41	0.40	0.22	4	16	16	9
Total Estimated Trips						**12**	**39**	**42**	**24**

NOTES:
1. Trip generation rates are 'vehicles per hour per unit' for the indicated land use which have been prepared using published rates from *Trip Generation, 9th Edition* (Institute of Transportation Engineers, 2012).
2. Units are number of residential units.
3. Vehicles per hour for peak hours.

Transit Service - Metro Transit provides service with Routes 21 and 23 on St. Margaret's Bay Road with stops conveniently located near the proposed intersection.

Summary -

1. The proposed development will include approximately 41 single family residential lots and a 40-unit apartment building. Site access to St. Margaret's Bay Road is proposed at a new intersection opposite Oliver Street, approximately 200m east of Raines Mill Road.

2. Stopping sight distances (SSD) on both approaches to the proposed intersection are greater than the required 58m and 59m for a 50 km/h approach speed with +4% and +7% grades, respectively. While the vertical alignment reduces SSD, the intersection is expected to have adequate turning sight distance since this is measured from an exiting drivers eye height of 1.05m to an approaching object height of 1.15m.

3. Trip generation estimates for the development include 51 two-way vehicle trips (12 entering and 39 exiting) during the AM peak hour and 66 two-way vehicle trips (42 entering and 24 exiting) during the PM peak hour.

4. Projected 2016 two-way traffic volumes on St. Margaret's Bay Road adjacent to the proposed intersection are estimated to include 1000 vehicle per hour (vph) during the AM peak hour and 1300 vph during PM peak hours.

Conclusion -

5. While St. Margaret's Bay Road volumes are moderate to high during peak hours, the low number of site generated trips is not expected to have any significant impact on the level of performance of St. Margaret's Bay Road at this location.

If you have any questions or comments, please contact me by Email to greg.obrien@wspgroup.com or telephone 902-835-9955.

Sincerely:

Original Signed

Greg O'Brien, P. Eng.
Atlantic Practice Manager, Traffic Engineering and Transportation Planning
WSP Canada Inc.