



October 9th, 2019

JDE Project 19097

2591451 Ontario Inc.

c/o Innovative Planning Solutions
647 Welham Road, Unit 9
Barrie, ON L4N 0B7

**RE: Traffic Letter
829 Essa Road, City of Barrie**

On behalf of **2591451 Ontario Inc.** [the Client], **JD Northcote Engineering Inc.** [JD Engineering] is pleased to submit the following Traffic Letter associated with the proposed residential development at 829 Essa Road , in the City of Barrie [City].

1.0 Project Background

The subject site is located at the northwest corner of the intersection of Essa Road / Athabaska Road. The proposed development will consist of 10 townhouse units with direct access onto Athabaska Road. **Figure 1** illustrates the location of the subject site in relation to the surrounding area.

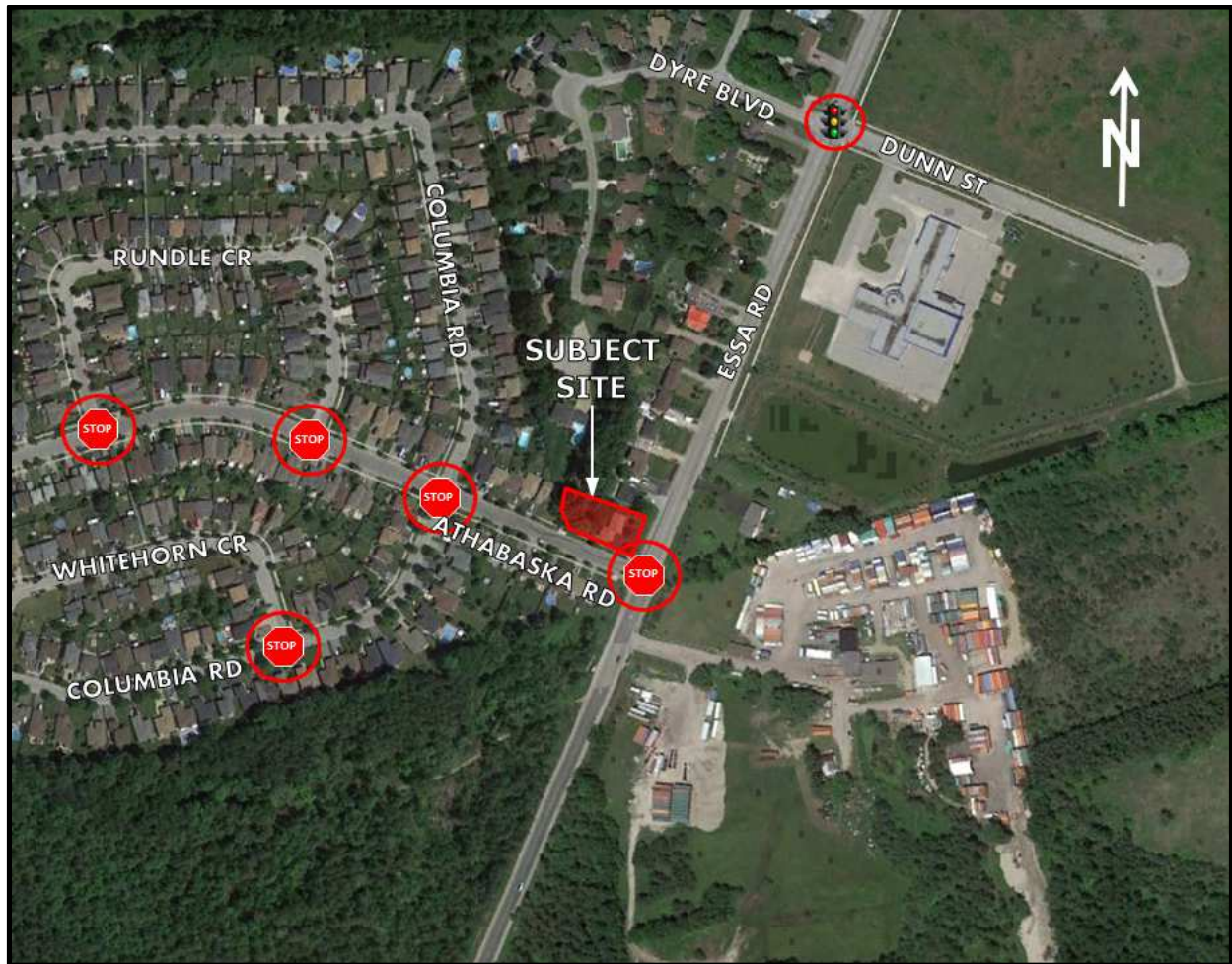
The Site Plan for the proposed severance is provided in the **Appendix**.

The Client has retained JD Engineering to prepare this Traffic Letter in support of the proposed rezoning application.



JD Engineering Inc.
Phone: 705.725.4035
Email:Info@JDEngineering.ca

Figure 1 – Site Location and Study Area



2.0 Street and Intersection Characteristics

Essa Road is a two-lane arterial road with a rural cross-section and no sidewalk in the study area. Essa Road includes a paved shoulder on the west side of the road, which is currently used in lieu of a formal sidewalk. There is an existing northbound left turn lane and southbound right turn lane on Essa Road at Athabaska Road. Within the study area, Essa Road will be widened from the existing two-lane rural cross-section to a three-lane urban cross-section. The City's Transportation Master Plan (2019) recommends a sidewalk on the west side of the road and an in-boulevard pathway on the east side of the road. The detailed design for this section of the road is currently underway (approximately 30% complete) and the specifics will be confirmed as part of that design process. Watermain reconstruction is currently underway along Essa Road, which is to be completed by November 2019. The above-noted road reconstruction is currently planned to be completed in 2023, for the section between Athabaska Road and Mapleview Drive West, and in 2024 for the section south of Athabaska Road.

Essa Road has a posted speed limit of 60km/h; however, the study area is within a community safety zone, which has a reduced speed limit of 40km/h on weekday mornings and afternoons, during school drop-off and pick-up periods.

Essa Road is under the jurisdiction of the City.

Athabaska Road is a two-lane (11 metre wide) local road with an urban cross-section and a sidewalk on both sides of the road. On-street parking is permitted on both sides of Athabaska Road, in the study area. Athabaska Road has an assumed (unposted) speed limit of 50km/h and is under the jurisdiction of the City.

Barrie Transit provides service within the study area via the Route 8 Georgian College loop. Route 8 provides service to number of transit hubs, including the Allandale Waterfront Station and the Downtown Terminal. Route 8 generally operates between 4:55 – 23:55 with weekday daytime service every 30 minutes, between 07:25 – 23:55 on Saturday with daytime service every 30 minutes and between 08:55 – 21:55 on Sunday with service every hour. There is an existing bus stop (with bus shelter) for the westbound route on the north side of Athabaska Road, within the frontage of the subject site.

3.0 Development in the Study Area

There is a significant amount of development currently planned south of the subject site, within the Salem Secondary Plan area and along Essa Road, which the City has identified as a Secondary Intensification Corridor. As noted in the Planning Justification Report (IPS April 2019), the following summarizes development in the immediate area:

North

North of the subject site is a residential subdivision mainly made up of single-detached housing units. To the north also exists two institutional uses (private schools). Further north, at Maplevue Drive West, there is commercial development, including a variety of retail stores and eateries.

South

Directly south are existing single detached dwellings. Further south is a woodland and Environmental Protection area. Further south along Essa Road is the Emmanuel Baptist Church and an approved subdivision that is currently under construction (Bear Creek) located within the Salem Secondary Plan area.

East

Lands directly to the east of the subject property are occupied by a self-storage facility and residential uses. The light industrial use is intended to be redeveloped under the Intensification policies of the Official Plan for being located along an Intensification corridor.

West

West of the subject property is an existing residential subdivision primarily characterized by single and multiple housing units. Further to the West contains an elementary school and Loughheed Park.

4.0 Proposed Development Traffic Generation

The traffic generation for the proposed development has been estimated based on the Institute of Transportation Engineers [ITE] *Trip Generation Manual* (10th Edition) [ITE Trip Generation Manual]. The following ITE land uses have been applied to estimate the traffic from the proposed severed lot:

- ITE land use 220 (Multifamily Housing (Low-Rise)) – General Urban / Suburban Setting

The estimated trip generation for the proposed development is illustrated below in **Table 1**. For the purpose of this analysis, we have assumed that the AM and PM peak traffic generation for the residential component of the proposed development will generally align with the AM and PM peak hour on the adjacent roads; consequently, we have applied the peak hour generator values provided in the ITE Trip Generation Manual.

Table 1 – Estimated Traffic Generation of Proposed Development

Land Use	Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Multifamily Housing (Low-Rise) ITE Land Use: 220	10 units	2	5	7	5	4	9

5.0 Traffic Counts

Detailed turning movements traffic and pedestrian counts were retrieved from the City for the intersections of Athabaska Road / Essa Road.

Table 2 summarizes the traffic count data collection information.

Table 2 – Traffic Count Data

Intersection (N-S Street / E-W Street)	Count Date	AM Peak Hour	PM Peak Hour	Source
Essa Road / Athabaska Road	Thursday, December 6 th , 2018	07:30 – 08:30	16:15 – 17:15	City

Detailed traffic count data can be found in the **Appendix**. The peak hours of traffic generation for the study area intersections generally aligned with the anticipated peak hour of traffic generation by the proposed development.

Based on this data, the existing volume of traffic on Essa Road, north of Athabaska Road is as follows:

AM Peak Hour

Northbound – 220 vehicles / hour
Southbound – 204 vehicles / hour

PM Peak Hour

Northbound – 341 vehicles / hour
Southbound – 282 vehicles / hour

The existing volume of traffic on Athabaska Road, west of Essa Road is as follows:

AM Peak Hour

Westbound – 30 vehicles / hour
Eastbound – 117 vehicles / hour

PM Peak Hour

Westbound – 160 vehicles / hour
Eastbound – 78 vehicles / hour

JD Engineering staff also completed a site visit on Wednesday October 9th, 2019, during the AM peak hour and found that the above-noted traffic counts provided a reasonable estimate of the traffic observed during the noted period.

6.0 Traffic Impact Analysis

Based on our observation of the traffic operations at the intersection of Athabaska Road / Essa Road, the additional traffic generated by the proposed development will have a negligible impact on the existing traffic operations. Furthermore, there is sufficient additional capacity in the local road network to accommodate the additional traffic generated by the proposed development.

Traffic volume on Essa Road is anticipated to increase as a result of the planned development in and around the area. The City Transportation Master Plan included a review of the future traffic operations in the area, with consideration for the future development and the associated traffic volume. The additional traffic generated by the proposed development will have a negligible impact on the overall traffic operation in the area and would not trigger the warrant for any additional transportation infrastructure improvements at the intersection of Athabaska Road / Essa Road.

During our field observations, we did not observe long delays for eastbound traffic on Athabaska Road turning onto Essa Road. The control delay was less than 10 seconds for the majority of the eastbound movements and no turning movements had a control delay longer than 20 seconds.

During our field observations, we noted an accessible school bus that stopped for a pick-up on the south side of Athabaska Road, approximately 35 metres west of Essa Road. During this period, traffic is stopped in both directions on Athabaska Road, which results in some delay and queuing (approximately six vehicles were observed in the queue during our site visit). Once the pick-up is complete, there is temporary queuing at Essa Road; however, all six vehicles were able to clear the intersection within 15 seconds (total).

The proposed development will not impact the existing sidewalk on the north side of Athabaska Road, nor will it impact the existing pedestrian crossing on Athabaska Road at Essa Road. The proposed development may contribute to the number of pedestrians using the existing paved shoulder on the west side of Essa Road; however, the increase in pedestrian trips is anticipated to be relatively low. It is recommended that the City continue to prioritize providing formal active transportation infrastructure on Essa Road in the study area to address the existing infrastructure gap.

7.0 Driveway Spacing Analysis

The first driveway is located 6.1 metres west of the end of the radius at the Athabaska Road / Essa Road intersection, which is greater than the minimum spacing requirement identified in the City's Transportation Design Manual and similarly the Transportation Association of Canada Geometric Design Guide for Canadian Roads (2.0m spacing for a residential driveway on local road). Based on our review of the preliminary design configuration for Essa Road, the planned road reconstruction would result in a slight shift of the northwest corner of the intersection of Essa Road / Athabaska Road (to the east). Consequently, the driveway spacing is acceptable for the existing configuration of Essa Road and for the future planned configuration of Essa Road. According to the City's Transportation Master Plan, no additional road widening is planned on Essa Road, which includes traffic projections to the 2041 horizon year.

8.0 Parking

The proposed development includes two tandem parking spaces per unit, which exceeds the zoning by-law requirement (1 space per unit). The peak visitor parking demand for the proposed development would not typically exceed 2-3 vehicles at any time. This value is conservatively estimated based on our experience with similar developments and current industry standards. Based on our review of the available on-street parking supply in the area, and accounting for the fact that the proposed parking supply exceeds the zoning by-law requirement, the proposed development will have a negligible impact on the existing on-street parking supply.

Based on the proposed driveway spacing for the subject site, on-street parking will not be permitted along frontage of the subject site.

9.0 Conclusion

This chapter summarizes the conclusions and recommendations from the study.

- 1) The additional traffic generated by the proposed development is expected to have a negligible impact on the existing traffic operations in the study area;
- 2) No infrastructure improvements are required on Athabaska Road or Essa Road as a result of the proposed development;
- 3) The proposed driveway spacing meets the applicable City standards;
- 4) The proposed parking supply exceeds the zoning by-law requirement;
- 5) The proposed development will have a negligible impact on the existing on-street parking supply in the area; and
- 6) It is recommended that the City continue to prioritize providing formal active transportation infrastructure on Essa Road in the study area, to address the existing infrastructure gap.

We trust you will find this submission acceptable. Should you have any questions or concerns or require any additional information in this regard, please contact our office.

Yours truly,

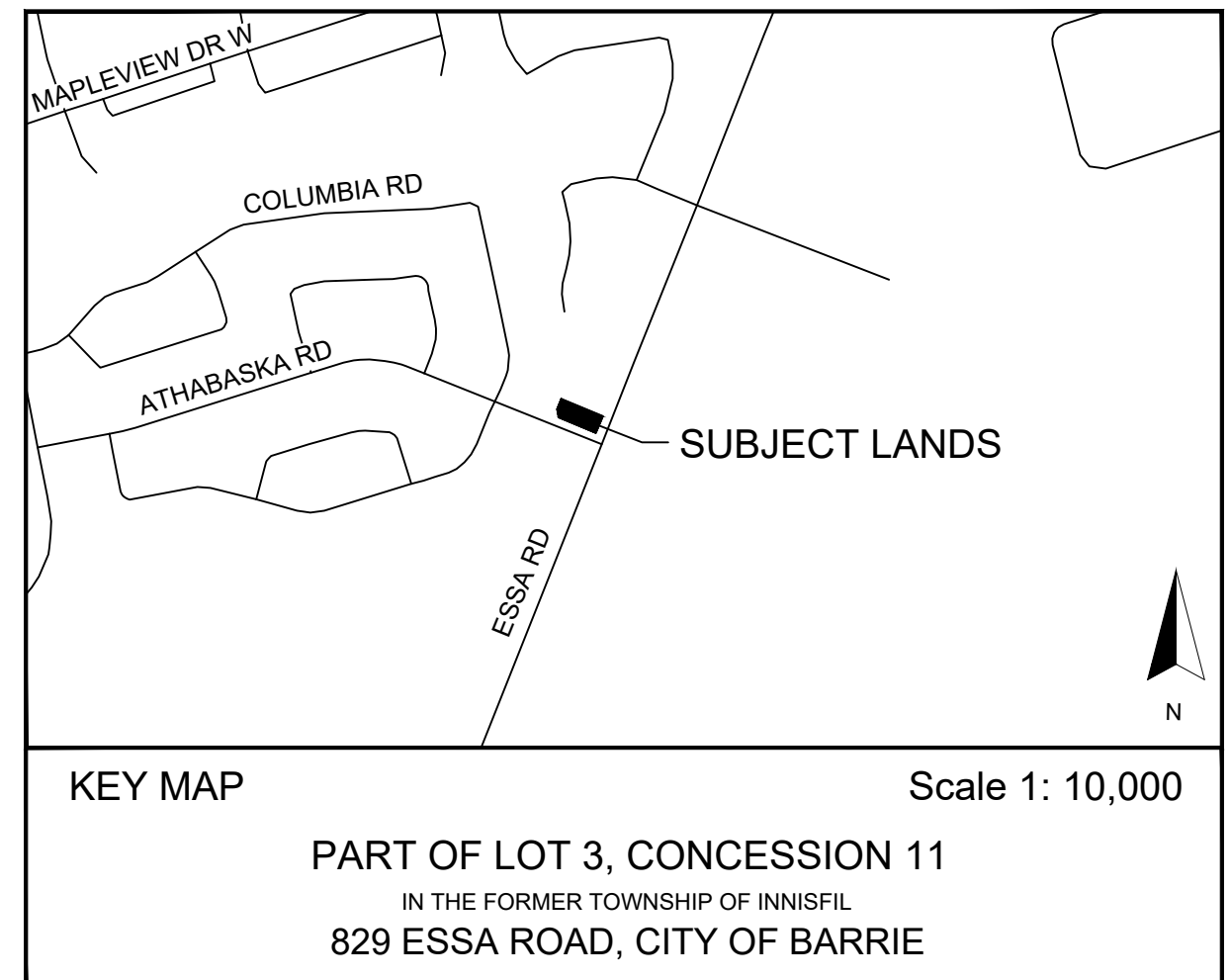
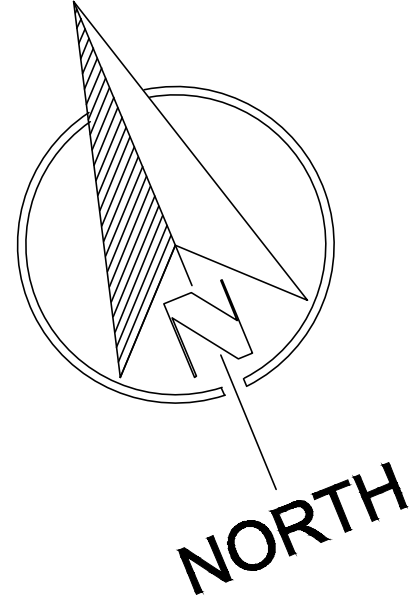
JD Northcote Engineering Inc.



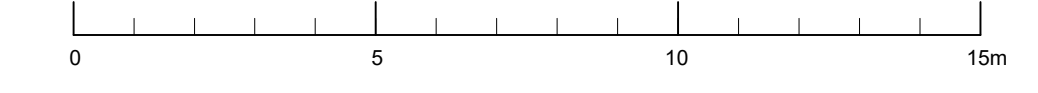
John Northcote, P.Eng.
President



APPENDIX



CONCEPTUAL SITE PLAN



LEGEND

- SUBJECT LANDS
Area: ±0.143ha (0.35ac)
- 10 TOWNHOUSE UNITS
- EXISTING WATER SERVICES
- EXISTING STORM SERVICES
- EXISTING SANITARY SERVICES
- EXISTING HYDRANT

ZONING TABLE

PROVISION	REQUIRED MUZ ZONE	PROVIDED
Lot Area	-	118.95m ²
Lot Frontage	-	4.88m
Setbacks		
Front Yard	1m for 75% (min) 5m fro 25% (max)	4.5m
Interior Side Yard	3.0m (max)	3.0m
Exterior Side Yard	3.0m (min)	5.37m
Rear Yard	7.0m (min)	5.00m
Lot Coverage	-	65.3%
Landscaped Open Space	-	23.0%
G.F.A. % of Site	-	141.4%
Dwelling Unit Area	35m ² (min)	±160m ²
Height	7.5m (min) - 16.5m (max)	<16m
Driveway Length	-	7.65m
Parking Spaces	1 / unit	1 parking space + 1 tandem space
Max. Units per Row	-	10
Street Level Floor Height (min.)	4.5m	3.0m
Front Yard Parking Coverage	-	63.1%

Source: Concept plan prepared by Patrick Markus Luckie, Architect.
Note: Information shown is approximate and subject to change.

CONCEPTUAL SITE PLAN - 10 UNITS

829 ESSA ROAD - CITY OF BARRIE

RESIDENTIAL	CURRENT OP LAND USE DESIGNATION
R1	CURRENT ZONE

SCHEDULE OF REVISIONS			
No.	Date	Description	By

IPS INNOVATIVE PLANNING SOLUTIONS
PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS
150 DUNLOP STREET EAST, SUITE 201, BARRIE, ONTARIO L4M 1B1
Tel: 705-812-3281 Fax: 705-812-3438 E: info@ipsconsultinginc.com www.ipsconsultinginc.com

Date: December 13, 2013 Scale: 1:125
File: 18-803 Drawn By: AM





Turning Movement Count Diagram



Intersection: Essa Road & Athabaska Road
 Municipality: Barrie, Ontario

Intersection ID:
 Date: Thursday December 6, 2018

AM Peak Hour: 7:30 to 8:30



MD Peak Hour: 13:00 to 14:00



		Essa Road						
North Total	424				East Total	0		
North Entering	204	Cyclists	0	0	0	East Entering	0	
North Receiving	220	Truck	2	6	0	East Receiving	0	
North Peds	0	Cars	18	178	0	East Peds	0	
								
Athabaska Road		0	2	77	↑	0	0	0
		0	0	0	→	0	0	0
		0	0	38	↓	0	0	0
								
West Total	147	10	133	0	South Total	373		
West Entering	117	0	8	0	South Entering	151		
West Receiving	30	0	0	0	South Receiving	222		
West Peds	6				South Peds	1		

		Essa Road						
North Total	398				East Total	0		
North Entering	209	Cyclists	0	0	0	East Entering	0	
North Receiving	189	Truck	2	4	0	East Receiving	0	
North Peds	0	Cars	45	158	0	East Peds	0	
								
Athabaska Road		0	3	36	↑	0	0	0
		0	0	0	→	0	0	0
		0	1	12	↓	0	0	0
								
West Total	113	14	142	0	South Total	339		
West Entering	52	0	8	0	South Entering	164		
West Receiving	61	0	0	0	South Receiving	175		
West Peds	0				South Peds	5		

PM Peak Hour: 16:15 to 17:15

Total 8-Hour Count

		Essa Road						
North Total	623				East Total	0		
North Entering	282	Cyclists	0	0	0	East Entering	0	
North Receiving	341	Truck	3	4	0	East Receiving	0	
North Peds	0	Cars	106	169	0	East Peds	0	
								
Athabaska Road		0	2	57	↑	0	0	0
		0	0	0	→	0	0	0
		0	0	19	↓	0	0	0
								
West Total	238	50	280	0	South Total	525		
West Entering	78	1	2	0	South Entering	333		
West Receiving	160	0	0	0	South Receiving	192		
West Peds	3				South Peds	2		

		Essa Road						
North Total	3667				East Total	0		
North Entering	1766	Cyclists	0	0	0	East Entering	0	
North Receiving	1901	Truck	17	38	0	East Receiving	0	
North Peds	2	Cars	460	1251	0	East Peds	0	
								
Athabaska Road		0	20	462	↑	0	0	0
		0	0	0	→	0	0	0
		0	1	143	↓	0	0	0
								
West Total	1273	166	1370	0	South Total	3022		
West Entering	626	4	49	0	South Entering	1589		
West Receiving	647	0	0	0	South Receiving	1433		
West Peds	12				South Peds	14		