



November 5<sup>th</sup>, 2021

JDE Project 21113

**DataTamer Inc.**

15 Corner Brook Trail  
Innisfil, ON L9S 1P5

**RE: Professional Engineering Services – Construction Management and Parking Plan  
157 Ardagh Road, City of Barrie**

**JD Northcote Engineering Inc.** [JD Engineering] is pleased to submit the following construction management and parking plan in support of the proposed residential development at 157 Ardagh Road in the City of Barrie [City].

**1.0 BACKGROUND**

The subject site is located on the south side of Ardagh Road, between Snowshoe Trail and Elizabeth Street.

The proposed development includes the rezoning of the property to permit the construction of two semi-detached units on separate lots. The developer has further expressed interest in providing secondary suites in the basement of each unit, and an additional detached accessory building. The Conceptual Site Plan is provided in the **Appendix**.

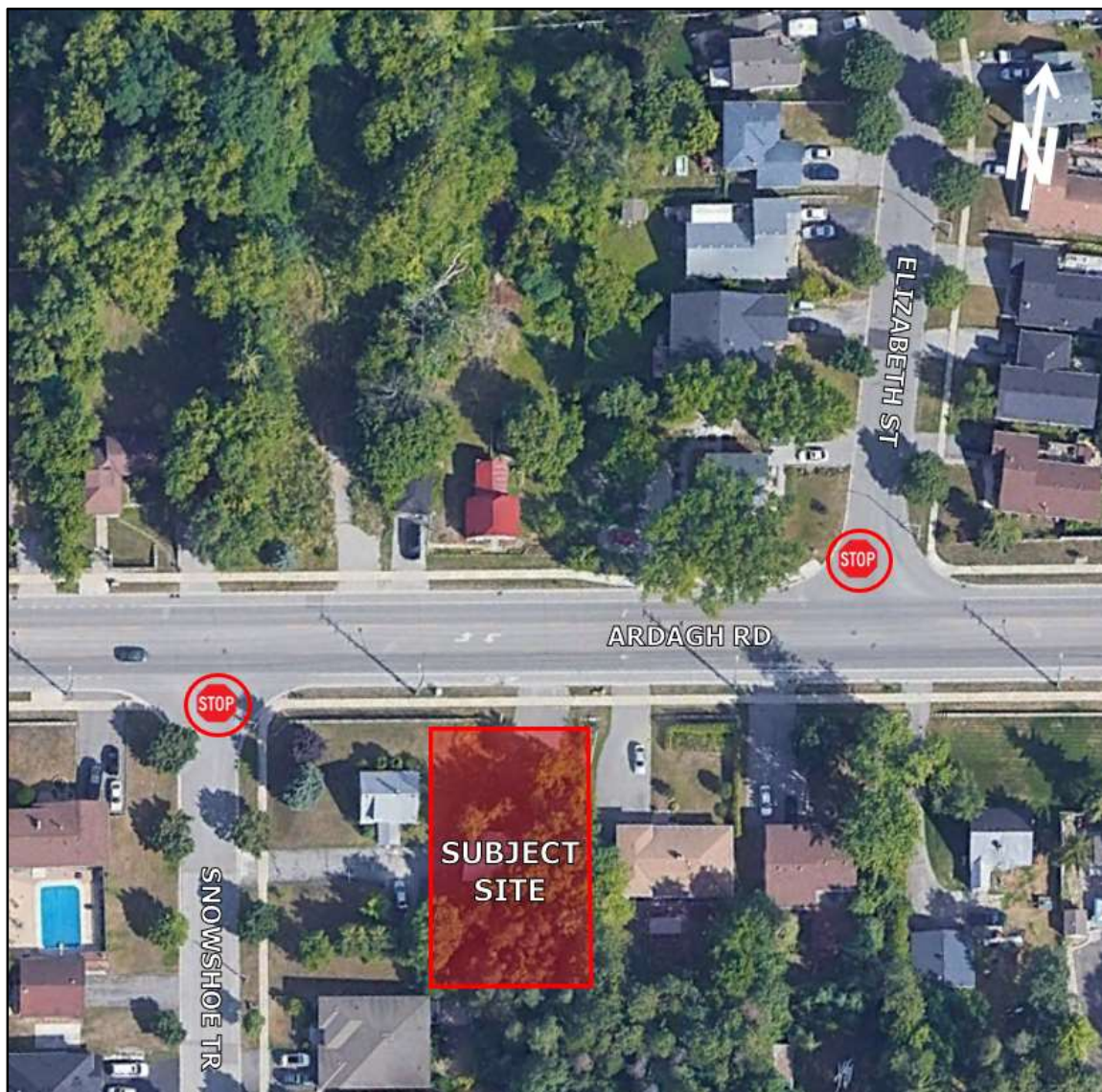
Access to the development will be provided via driveway connections to Ardagh Road [Site Driveways]. A parking provision of 4 spaces per lot will be provided.

**Figure 1** illustrates the location of the subject site in relation to the surrounding area.



**JD Engineering**  
Phone: 705.725.4035  
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**Figure 1 – Proposed Site Location and Study Area**



## 2.0 INFORMATION GATHERING

**Ardagh Road** is a three-lane arterial road with an urban cross-section through the study area. Ardagh Road has sidewalk and bike lanes on both sides of the road. Ardagh Road is under the jurisdiction of the City and has a posted speed limit of 50km/h.

As an arterial road, Ardagh Road has an assumed planning capacity of 850 vehicles per hour per lane (vphpl).

### 3.0 EXISTING TRAFFIC CONDITIONS

Detailed turning movement traffic and pedestrian counts at the intersection of Ardagh Road / Snowshoe Trail were obtained from the *158 Ardagh Road Traffic Impact Study* (September 25<sup>th</sup>, 2019), previously completed by JD Engineering. **Table 1** summarizes the traffic count data. Detailed traffic count data can be found in the **Appendix**.

**Table 1 – Traffic Count Data**

Road (E-W Street / N-S Street)	Count Date	Weekday AM Peak Hour	Weekday PM Peak Hour
Ardagh Road / Snowshoe Trail	Thursday February 21, 2019	07:30 – 08:30	16:45 – 17:15

In developing the existing year peak hour volumes on Ardagh Road, a conservative annual growth rate of 4% per annum has been utilized to consider background traffic growth (typically 2% per annum), in addition to development traffic.

The estimated peak hour volumes on Ardagh Road are provided in **Table 2**

**Table 2 – Estimated Peak Hour Volumes**

Road	2019 Peak Hour Volumes		Assumed Growth	2021 Peak Hour Volumes	
	AM	PM		AM	PM
Ardagh Road	506 E / 283 W	337 E / 634 W	4% per annum	547 E / 306 W	365 E / 686 W

As previously mentioned, Ardagh Road has an assumed capacity of 850 vphpl. Considering the estimated 2021 peak hour volumes, the road is operating at approximately 81% of capacity or less. As such, Ardagh Road is operating below capacity, with the ability to accommodate additional growth.

### 4.0 TRAFFIC GENERATION

The traffic generation for proposed development has been estimated based the type of land use, development size and data provided in the Institute of Transportation Engineers [ITE] Trip generation Manual (11<sup>th</sup> Edition) [ITE Trip Generation Manual]. The following ITE land use has been applied to estimate the traffic for the proposed development:

- ITE land use 215 (Single Family Attached).

The estimated trip generation for the proposed development is illustrated below in **Table 3**. In order to remain conservative, the unit count has been increased to 6, in order to provide a conservative estimate of the traffic generation for a secondary suite and detached accessory buildings within each lot.

**Table 3 – Estimated Traffic Generation of Proposed Development**

Land Use	Trip Basis / Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Attached ITE Land Use: 215	rate (units)	0.15	0.33	0.48	0.33	0.24	0.57
	6 units	1	2	3	2	1	3
Total Trips		1	2	3	2	1	3

As shown, the proposed development is expected to generate 3 trips during both the weekday AM and PM peak hours.

## 5.0 TRAFFIC OPERATIONS

Considering the excess traffic capacity on Ardagh Road and relatively minimal volumes generated by the proposed addition, the proposed development will not adversely affect the traffic capacity on Ardagh or result in any traffic safety issues with the study area. The development traffic will have negligible impact to the existing traffic operations on Ardagh Road.

## 6.0 PARKING

In review of the City's Zoning By-Law 2009-141 (January 2021), the parking requirement for a residential building is 1.5 spaces per unit. Furthermore, for a property containing a secondary suite and/or detached accessory building, an additional 1.0 space per unit is required. Consequently, with consideration for the potential secondary suite and detached accessory buildings, the proposed development will require 3.5 spaces for each lot.

As illustrated in the **Appendix**, the proposed development will provide 4 parking spaces per lot, satisfying the City's requirement.

## 7.0 SIGHT DISTANCE REVIEW

A review of the available sight distance for the proposed Site Driveways was completed as part of this analysis.

The sight distance east and west on Ardagh Road at the Site Access is greater than the minimum stopping and intersection sight distance requirements as per the TAC Guidelines for a design speed of 60 km/h (85 and 130 metres, respectively).

There are no issues with the sight distance available for the proposed Site Driveways.

## 8.0 ACCESS REVIEW

The Transportation Association of Canada Design Guide for Canadian Roads (2017) [TAC Guidelines] recommends 1.0 metre spacing for residential driveways on local and collector roads (Figure 8.9.2 - Driveway Spacing Guidelines – Locals and Collectors) and a 35 metre spacing for a public lane or driveway adjacent to an unsignalized intersection (Figure 8.8.2 - Suggested Minimum Corner

Clearances to Accesses or Public Lanes at Major Intersections). For the purpose of our review, we have applied the 1.0 metre spacing criteria for the spacing of adjacent residential driveways.

The proposed spacing between the Site Driveways and the closest residential driveways to the east and west are greater than the above-noted criteria. The proposed spacing between the Site Driveways and Snowshoe Trail to the west is also greater than the above-noted criteria.

The Site Access driveways provide entrance widths of approximately 5.4 metres, satisfying the TAC Guidelines – Table 8.9.1 (Typical Driveway Dimensions) – 2.0 – 7.3 metres for residential land uses.

In consideration of the type and volume of vehicles accessing the site, the existing access configuration and internal site layout is considered appropriate.

## **9.0 CONSTRUCTION MANAGEMENT**

A construction staging plan was reviewed as it relates to parking of trades people, delivery of construction material, maintenance of adjacent property access, pedestrian movements, impact to City infrastructure, etc. The preliminary construction staging plan is illustrated in **Figure 2**.

Access to the subject site will be provided via the existing driveway entrance onto Ardagh Road. The existing driveway will be the primary access throughout the entire of construction (i.e. demolition, site preparation, servicing and erection etc.).

Delivers and trades parking can be accommodated on-site, with any temporary overflow parking diverted off of Ardagh Road and onto local roads (Snowshoe Trail). Construction work will occur within the property limits and outside of the boulevard. Pedestrian movements adjacent the subject site will be unaffected by the construction of the proposed development. No sidewalk closures are expected.

The preliminary construction staging plan is not expected to impede or prevent access to the neighbouring subdivisions.

Construction activities within the site (including start-up and warm-up of equipment) will only occur between 07:00 and 19:00 on weekdays and Saturdays, per City of Barrie by-law. No construction activities will occur outside the above-noted periods without approval from the City.

Signage shall be posted at all site access points and as required, notifying visitors that check-in at the site office is mandatory. Signage will also be provided to identify the area as a 'construction site', requiring all visitors be equipped with personal protection equipment suitable for a construction zone (hard hat, footwear, high visibility gear). Signage will also be provided informing that access to the site is limited to authorized personnel only.



**Figure 2 – Construction Staging Plan**



## 10.0 CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the conclusions and recommendations from the study.

- 1) No additional infrastructure improvements are recommended within the study area as a result of the proposed development.
- 2) The preliminary construction staging plan is not expected to impede or prevent access to the neighbouring subdivisions. Pedestrian movements adjacent to the subject site will be unaffected by the construction of the proposed development.

157 Ardagh Road  
City of Barrie

Construction Management  
and Parking Plan

Date: 11/05/21  
Project No.: 21113

We trust that you find this proposal satisfies your requirements.

Yours truly,  
**JD Northcote Engineering Inc.**

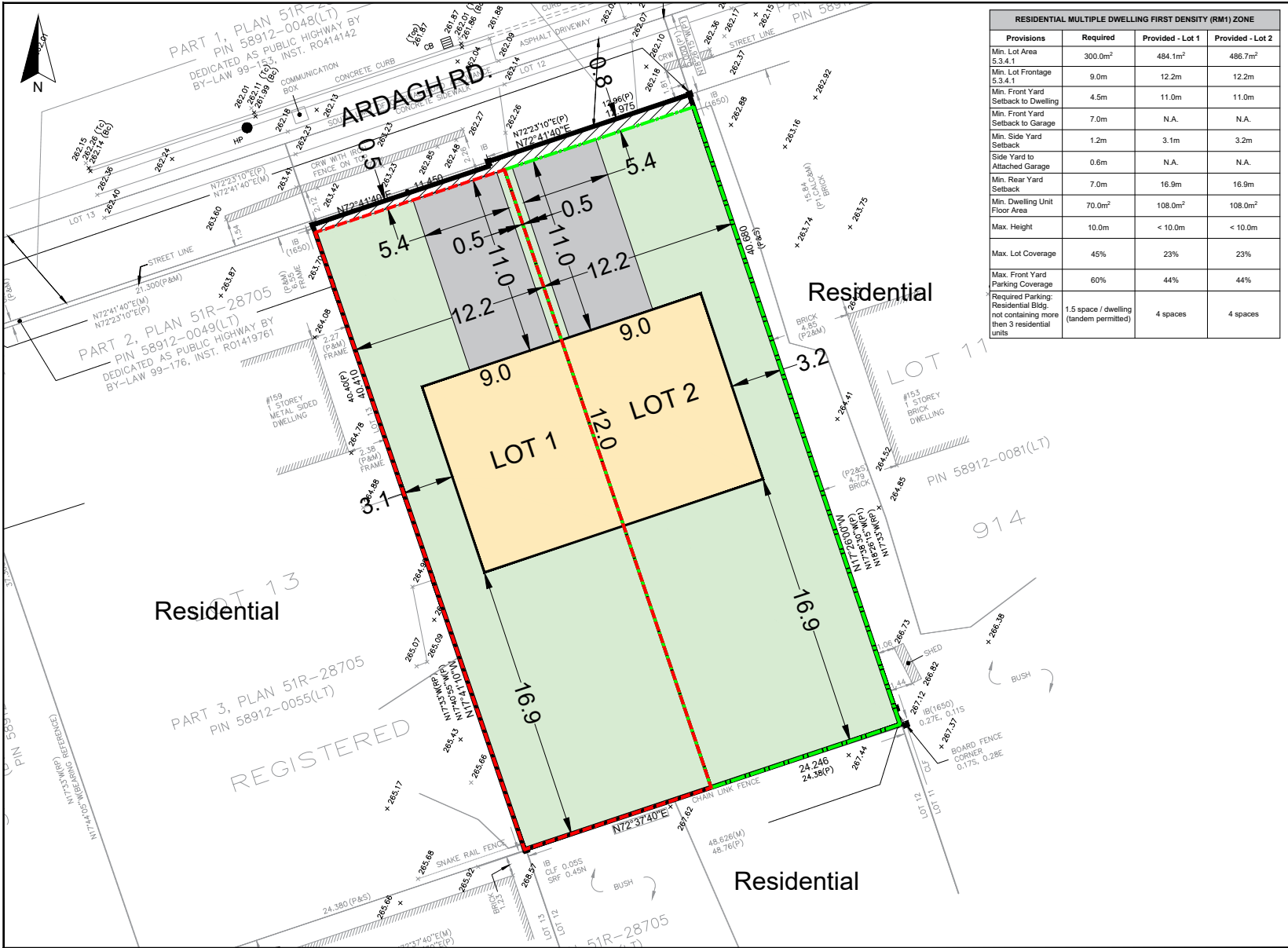


John Northcote, P.Eng.  
President



## **APPENDIX**





RESIDENTIAL MULTIPLE DWELLING FIRST DENSITY (RM1) ZONE			
Provisions	Required	Provided - Lot 1	Provided - Lot 2
Min. Lot Area 5.3.4.1	300.0m²	484.1m²	486.7m²
Min. Lot Frontage 5.3.4.1	9.0m	12.2m	12.2m
Min. Front Yard Setback to Dwelling	4.5m	11.0m	11.0m
Min. Front Yard Setback to Garage	7.0m	N.A.	N.A.
Min. Side Yard Setback	1.2m	3.1m	3.2m
Side Yard to Attached Garage	0.6m	N.A.	N.A.
Min. Rear Yard Setback	7.0m	16.9m	16.9m
Min. Dwelling Unit Floor Area	70.0m²	108.0m²	108.0m²
Max. Height	10.0m	< 10.0m	< 10.0m
Max. Lot Coverage	45%	23%	23%
Max. Front Yard Parking Coverage	60%	44%	44%
Required Parking: Residential Bldg. not containing more than 3 residential units	1.5 space / dwelling (tandem permitted)	4 spaces	4 spaces



# CONCEPTUAL SITE PLAN

Part Lot 12, Registered Plan 914  
City of Barrie,  
County of Simcoe



## LEGEND

- Subject Site
  - Area: 986.9m²
- Proposed Semi-Detached Dwelling
  - Dwelling G.F.A.: 108.0m² (1,162.5ft²) / floor
- Lot 1: Lands to be Severed:
  - Area: 484.1m²
  - Frontage: 12.2m
- Lot 2: Lands to be Retained:
  - Area: 486.7m²
  - Frontage: 12.2m
- Proposed Road Widening

Source: Zoning By-Law 2009 - 141  
Discover Barrie, 2020 Imagery  
C.A. MacDonald Surveying Inc., November 19, 2018  
Note: Information shown is approximate and subject to change.

## CONCEPTUAL SITE PLAN 157 ARDAGH RD., BARRIE

SCHEDULE OF REVISIONS			
No.	Date	Description	By

<b>IPS</b> INNOVATIVE PLANNING SOLUTIONS PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS 647 WELHAM ROAD, UNIT 2A, BARRIE, ON, L4N 6B7 tel: 705 • 812 • 3281 fax: 705 • 812 • 3438 e: info@ipsconsultinginc.com www.ipsconsultinginc.com	
Date: October 7, 2021	Drawn By: A.S.
File: 21-1079	Checked: G.B.

# Ontario Traffic Inc.

## Morning Peak Diagram

### Specified Period

**From:** 7:00:00

**To:** 9:00:00

### One Hour Peak

**From:** 7:30:00

**To:** 8:30:00

**Municipality:** Barrie

**Site #:** 1904400001

**Intersection:** Ardagh Rd & Snowshoe Trail

**TFR File #:** 16

**Count date:** 21-Feb-19

**Weather conditions:**

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Ardagh Rd runs W/E

East Leg Total: 789

East Entering: 283

East Peds: 0

Peds Cross: X

Heavys	Trucks	Cars	Totals
0	8	269	277

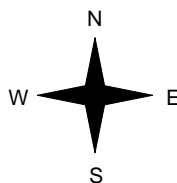


Ardagh Rd

Heavys	Trucks	Cars	Totals
0	9	461	470
0	0	4	4
0	9	465	



Snowshoe Trail



Cars	Trucks	Heavys	Totals
266	6	0	272
10	1	0	11
276	7	0	



Ardagh Rd

Cars	Trucks	Heavys	Totals
497	9	0	506

Peds Cross: X  
West Peds: 0  
West Entering: 474  
West Leg Total: 751

Cars	14
Trucks	1
Heavys	0
Totals	15



Cars	3	36	39
Trucks	2	0	2
Heavys	0	0	0
Totals	5	36	

Peds Cross: X  
South Peds: 1  
South Entering: 41  
South Leg Total: 56

## Comments

# Ontario Traffic Inc.

## Afternoon Peak Diagram

### Specified Period

**From:** 16:00:00

**To:** 18:00:00

### One Hour Peak

**From:** 16:15:00

**To:** 17:15:00

**Municipality:** Barrie

**Site #:** 1904400001

**Intersection:** Ardagh Rd & Snowshoe Trail

**TFR File #:** 16

**Count date:** 21-Feb-19

**Weather conditions:**

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Ardagh Rd runs W/E

East Leg Total: 971

East Entering: 634

East Peds: 0

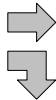
Peds Cross: X

Heavys	Trucks	Cars	Totals
0	5	592	597

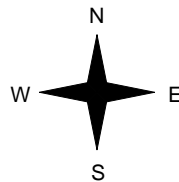


Ardagh Rd

Heavys	Trucks	Cars	Totals
0	3	320	323
0	0	7	7
0	3	327	



Snowshoe Trail



Cars	Trucks	Heavys	Totals
590	5	0	595
39	0	0	39
629	5	0	



Ardagh Rd

Cars	Trucks	Heavys	Totals
334	3	0	337

Peds Cross: X  
West Peds: 1  
West Entering: 330  
West Leg Total: 927

Cars	46
Trucks	0
Heavys	0
<b>Totals</b>	<b>46</b>



Cars	2	14	16
Trucks	0	0	0
Heavys	0	0	0
<b>Totals</b>	<b>2</b>	<b>14</b>	

Peds Cross: X  
South Peds: 6  
South Entering: 16  
South Leg Total: 62

## Comments