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August 7, 2018

Ms. Meaghan Macdonald  
Habitat for Humanity  
764 Division Street,  
Cobourg, ON  
K9A 5V2

**Reference:** Residential Apartment Units Addition  
Cobourg, ON  
Traffic Brief & Site Circulation  
Project N° 2061-18

Dear Ms. Macdonald,

Asurza Engineers Ltd. was retained by the developer to undertake a traffic review for the proposed residential expansion located at 22-24 University Avenue W. in Cobourg, Northumberland County. This analysis is required to meet the Cobourg requirement for such in relation to the developer application for the proposed expansion.

This letter provides an overview of traffic generation and will determine if the proposed expansion will generate impacts to the current traffic operations on the adjacent road and intersections.

## **Background**

University Avenue W. is an east-west two-lane roadway (one lane per direction). Within the study area, University Avenue W. shows an urban cross-section with concrete curb & gutter, catchbasins, street lights and sidewalks at both sides of the road. Within the study area, the posted speed is 40 km/h.

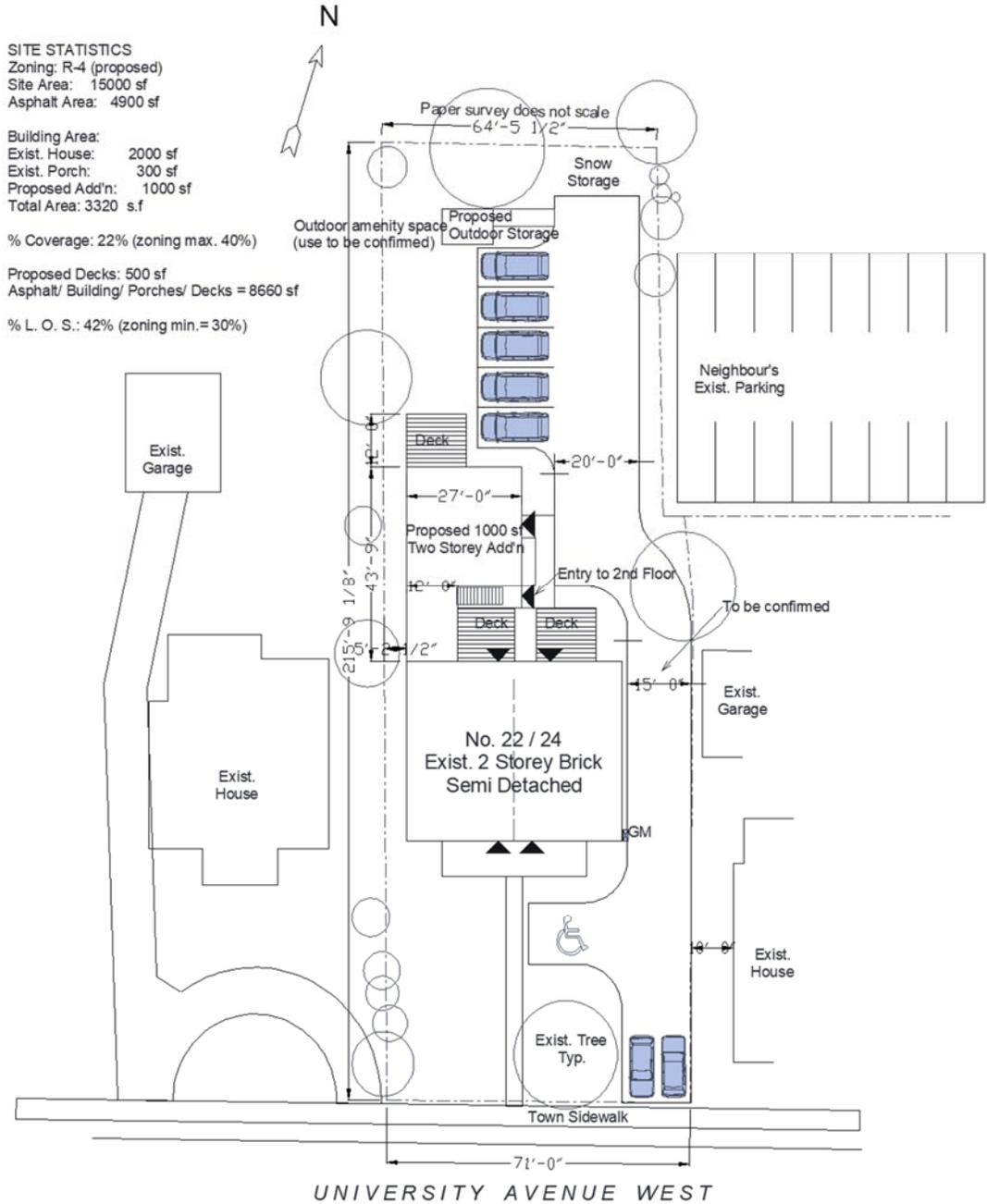
University Avenue W. is a designated bicycle route and shares the road with vehicles for the eastbound and westbound directions.

On-street parking is not permitted at all times along the westbound lane; on the eastbound lane, parking is permitted on Sundays from 7:30 am to 12:30 pm only. A catholic elementary school exist across the road of the subject site.

University Avenue W. intersects Division Street forming a four-leg intersection controlled by traffic signals, the intersection is located approximately 65 m east from the site. Another intersection approximately 145 m west from the site is formed by University Avenue W. and George Street, the intersections is also controlled by traffic signals.



The subject site currently holds an existing building with two (2) apartment units; the proponent is planning expansion of the existing building to the rear to include two (2) additional apartment units. The site will provide on-site parking area and a single entrance as noted in the concept plan below:



## Development Trip Generation and Trip Distribution

Estimation of trips generated by the proposed expansion were derived from the Trip Generation Manual, 9<sup>th</sup> Edition, published by the Institute of Transportation Engineers (ITE). The land use which most closely describes the proposed development is ‘Low-Rise Apartment - Land Use 221’; the trip rates and the estimated numbers of trips to be generated by the proposed apartments are shown in the following table:

TRIP GENERATION RATES BY LAND USE								
ITE Code	ITE Land Use	Unit of Measure	Weekday AM Peak Hr.			Weekday PM Peak Hr.		
			Rate/Eq	In	Out	Rate/Eq	In	Out
221	Low-Rise Apartment	N° of Occupied Dwelling Units	0.46	21%	79%	0.58	65%	35%

ESTIMATED NUMBER OF TRIPS BY LAND USE								
ITE Code	ITE Land Use	Total Units	Weekday AM Peak Hr.			Weekday PM Peak Hr.		
			Trips	In	Out	Trips	In	Out
221	Low-Rise Apartment	2	1	0	1	1	1	0

According to the ITE trip generation rates, it is estimated that the proposed two (2) additional apartment units will generate 1 additional trip during a typical weekday morning peak hour and 1 additional trip during a typical weekday afternoon peak hour.

During the morning peak hour, it is estimated that 1 trip is leaving the site. During the afternoon peak hour, it is estimated that 1 trip is entering the site.

It is clear that the number of estimated trips during peak hours based on an additional 2 apartment units is very minor and will not impact the current traffic operations for University Avenue W. and adjacent intersections.

## **Sightlines**

The provision of adequate sight distance for the exit maneuver from the proposed access is one of critical elements; therefore, visibility in both directions to the adjacent road shall be provided. According to the “Geometric Design Guide for Canadian Roads - TAC”, the sight distance required is determined in consideration of the design speed of the adjacent road.

According to comments provided by the Town in the letter dated August 1, 2018, the 40 km/h posted speed is due to an existing school in the area; however, the school is to be closed within the next few years; as such, the Town recommends the use of a 60 km/h speed for evaluation of stopping sight distance.

According to the “Geometric Design Guide for Canadian Roads – TAC”, the minimum stopping sight distance for 60 km/h design speed is 85 m.

For measuring the stopping sight distance, wooden poles with marks on them identifying the height of a driver eye at 1.05 and the height of a passenger vehicle at 1.3 m were used.

According to our field review, the stopping sight distance from the proposed access along University Avenues W. substantially exceed the minimum of 85 m; therefore, no issues are reported for sight lines.

## **Site Circulation**

Since the planned expansion refers to residential apartments, it is assumed that passenger cars will be the proper vehicle size for reviewing internal site circulation.

According to the Town of Cobourg Zoning By-Law (May 2013), parking dimensions for this site is expected to be not less than 2.75 m x 5.5 m and a minimum island width of 6.0 m.

A total of six (6) parking spaces are required according to the by-law (1.25 spaces per apartment units + 0.25 visitor space per dwelling unit). The site is planned to provide a total of six (6) parking spaces. Since the site is well served by transit and active transportation infrastructure, and commercial activity is within walking distance from the site (on Division Street, 300 m north of the site), the use of cars and the need for parking space may be reduced.

Vehicles will be able to circulate without causing conflicts within the site. However, due to the limited space, leaving the parking spaces will require drivers to make a couple of additional maneuvers to position the car for forward motion and be ready to leave the site (see enclosed vehicle turning path at the end of this letter).

## **Discussion**

The “Transportation Impact Analyses for Site Development – an ITE Recommended Practice”, from the Institute of Transportation Engineers (ITE), provides baseline guidelines to help in determining the need for a traffic impact analysis, one of them is the generation of additional 100 vehicles per hour by any proposed development which can create some traffic issues (i.e. reduction of capacity, extended queues, low level of service) if not well attended.

The publication also indicates that the 100 vehicles per hour should not be seen as a strict threshold for the initiation of a transportation impact analysis. Due to the sensitivity of densely populated areas where the environment includes diverse urban characteristics (i.e. high rise buildings with commercial areas), many jurisdictions tend to use lower thresholds; these threshold levels may vary among agencies in response to particular local conditions and priorities.

It is determined that the number of generated trips do not reach any threshold to require an in-depth traffic analysis. Estimation of trip generation were done



however to illustrate and record the additional traffic volume to be generated by the proposed two (2) apartment units.

### **Conclusion**

Due to the very limited scale of the proposed expansion, the additional trips generated by the new two (2) apartment units will impose virtually no impact on University Avenue W. and adjacent intersections; any minor traffic impact as a result of the new trips will be negligible to the current traffic operations.

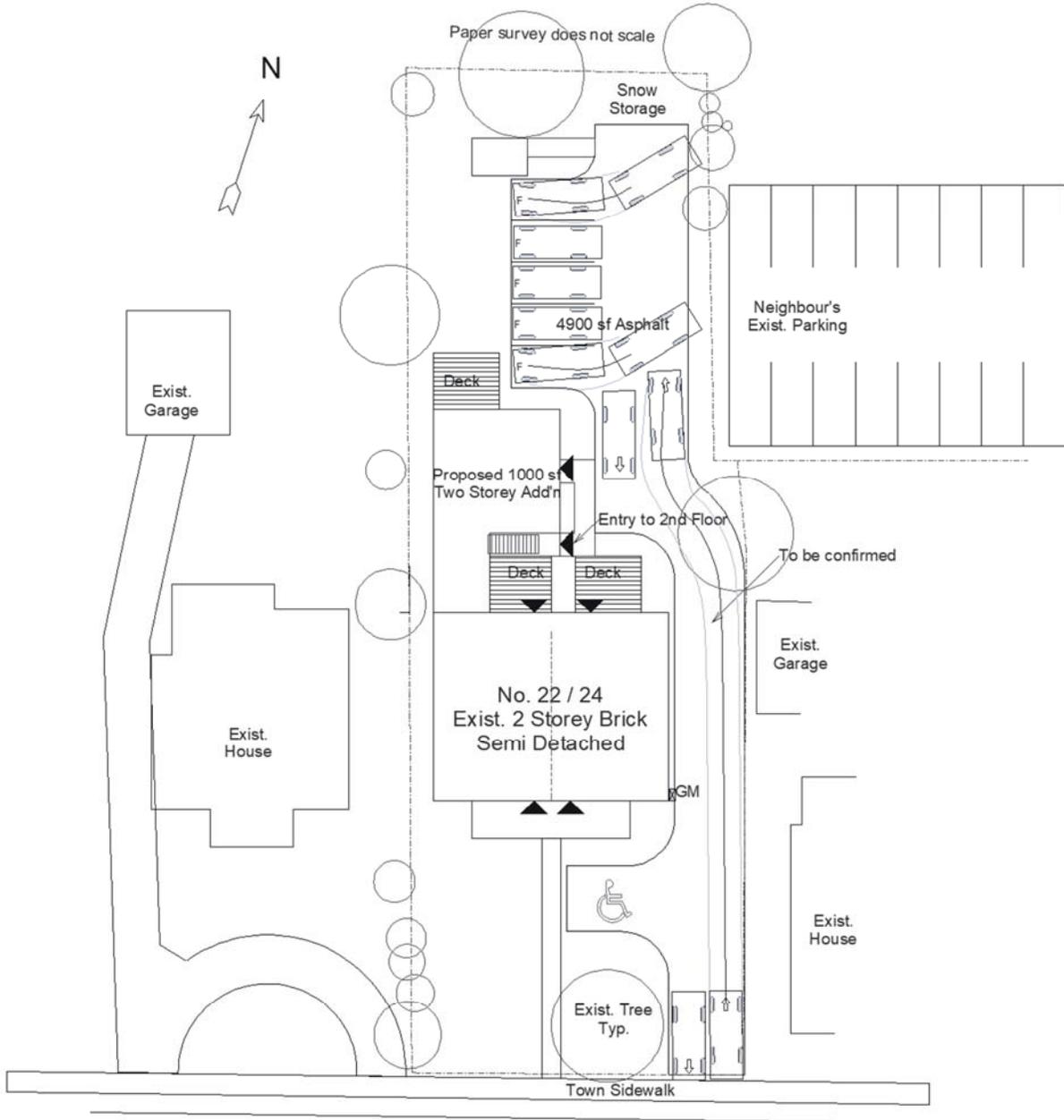
Should you require any further information in consideration of the above, please contact the undersigned.

Sincerely;

  
Martin Asurza, M.Eng, P.Eng.  
Senior Transportation/Traffic Engineer

A circular blue seal for a Licensed Professional Engineer in the Province of Ontario. The seal contains the text: 'LICENSED PROFESSIONAL ENGINEER' at the top, 'August 7, 2018' in the center, 'M.C. ASURZA AYVAR' below that, and '100128443' at the bottom. The outer ring of the seal reads 'PROVINCE OF ONTARIO'.

# Passenger Car - Swept Path



UNIVERSITY AVENUE WEST