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Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

NOISE IMPACT STUDY – **Project: 22284.00**

3650 Eglington Avenue West

Mississauga, Ontario

Prepared for:

Sangar Construction

Prepared by:

Nicholas Zomparelli, M.Eng., EIT

Derek Flake, M.Sc., P.Eng.

December 11, 2023

Revision History

Version	Description	Author	Reviewed	Date
1	Initial Report	NZ	DF	December 11, 2023

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1 Introduction

Sangar Construction has retained the services of Aercoustics Engineering Limited to prepare a Noise Impact Study for a proposed commercial development located at 3650 Eglington Avenue West in Mississauga, Ontario, for the purposes of supporting an Official Plan Amendment, Zoning By-law Amendment and Draft Plan of Subdivision application.

The purpose of this study was to examine the existing noise environment in the development area and examine the impact of the proposed development on existing noise sensitive receptors off-site. This report also investigates the noise control features that are required for the development to meet the noise guidelines of the Ontario Ministry of the Environment and Climate Change (MECP) and to satisfy the requirements of the City of Mississauga. This report considers the MECP guideline NPC-300 “Stationary and Transportation Sources – Approval and Planning” (August 2013).

The proposed development will consist of a 2-storey building divided into multiple units that are to be used for commercial purposes.

The site is located at 3650 Eglington Avenue West and adjacent to a commercial retail mall. Figure 1 provides a key plan showing the location of the proposed development. Figure 2 shows daytime and nighttime noise impact from proposed on-site stationary sources at adjacent worst-case residential receptors. Figures 3 and 4 provide daytime and nighttime noise contours at a height of 4.5 m, respectively.

The site is currently zoned Development – Existing Use (D) and features an existing 2-storey dwelling. The site is adjacent to a commercial retail mall to north, east and south (zoned General Commercial – C3), greenlands to the northwest (zoned Natural Features – G2) and residential developments to the west (zoned Residential Townhouse – RM5-42). A zoning map is presented in Appendix A.

This report is based on the following information:

- “Eglington Office Building” architectural plans dated November 2023 and prepared by Caricari Lee Architects.

The dominant road traffic sources in the subject study area are Eglington Avenue West to the north and Ridgway Drive to the east.

This site is not affected by rail or air traffic.

2 Guidelines and Criteria

2.1 Stationary Noise Sources

The guidelines of the MECP for planned stationary sources adjacent to noise sensitive points of reception were used to address the potential impact of noise associated with the proposed development onto the nearby residential developments. These guidelines are summarized in the MECP document NPC 300 "Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning", dated August 2013.

The noise level limits pertaining to stationary noise sources measured at noise sensitive points of reception have been established based on the MECP Publication NPC-300. The MECP defines a Class 1 area as an area with an acoustical environment where the background noise is dominated by manmade noises and the activity of people. Due to existing road traffic associated with nearby commercial uses, all residential receptors in this study are Class 1. In this case, road traffic noise from Eglington Avenue West and Ridgeway Drive are the primary determinant of the background sound level for the area. The sound level limit at a point of reception is set as the higher of either the applicable exclusion limit, or the minimum background sound level.

The MECP stationary source exclusion limits are summarized in Table 1 below.

Table 1: Noise Exclusion Limits Due to Stationary Sources - Class 1

Time of Day	Sound Level Exclusion Limit Plane of Window	Sound Level Exclusion Limit Outdoors
Day (07:00 to 23:00)	50 dBA	50 dBA
Night (23:00 to 07:00)	45 dBA	-

3 Noise Prediction Methodology

3.1 Stationary Noise Source Analysis

The noise prediction model was generated using Datakustik's CadnaA Noise Prediction Software. This model is based on established noise prediction methods outlined in the ISO 9613-2 standard entitled "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method and calculation". Noise levels were predicted assuming conditions of downwind propagation and hard ground.

3.1.1 Stationary Noise Sources: Proposed On-Site

At this stage of the development's design mechanical equipment selection has not been completed, therefore assumptions were made based of Aercoustics' experience with similar developments. Given the number of commercial units and their footprint it was assumed that the development will be serviced by twelve five-ton capacity rooftop units.

In the noise prediction model for the development these units are distributed across the roof slightly biased towards the closest noise sensitive point of reception. Duty cycles of 100% during the daytime and 75% during the nighttime were assumed for each rooftop unit.

The drawing set indicates a dedicated space for loading at the southeast end of the development. It was conservatively assumed that four truck deliveries per hour would occur at the loading area in a worst-case hour. Further, two idling trucks were also modelled. The City of Mississauga's Idling Control By-law 0194-2009 indicates that idling cannot occur for more than three consecutive minutes however it was conservatively assumed that the trucks would be idling for a total of thirty minutes in a worst-case hour. Both daytime and nighttime truck deliveries were assumed to be permitted.

4 Noise Predictions

4.1 Stationary Noise Source Predictions

4.1.1 Stationary Sources: Proposed On-Site

Table 2 below lists the daytime and nighttime sound levels due to proposed stationary sources associated with the proposed development at the closest identified noise sensitive points of reception.

Table 2: Predicted Unmitigated Noise Levels Due to Proposed On-Site Stationary Sources

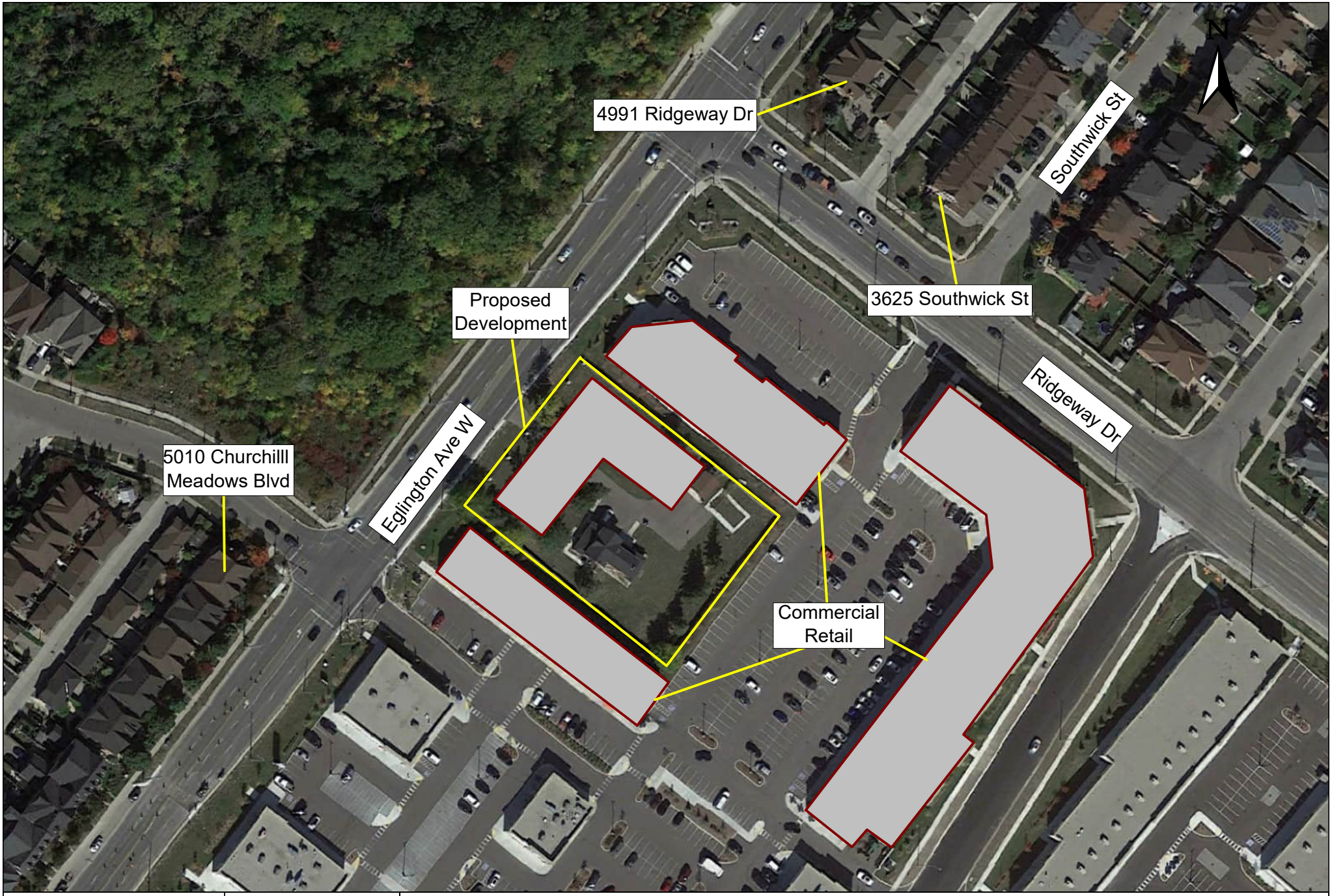
Receptor Location (Figure 2)	Receptor Height (m)	Description	Calculated L_{eq} (dBA)		L_{eq} Limit (dBA)		Compliance
			Day	Night	Day	Night	
R1	4.5	5010 Churchill Meadows Blvd (2-storey dwelling)	42	40	50	45	Yes
R1g	1.5	5010 Churchill Meadows Blvd (backyard)	40	-	50	-	Yes
R2	4.5	4991 Ridgeway Dr (2-storey dwelling)	41	40	50	45	Yes
R2g	1.5	4991 Ridgeway Dr (backyard)	39	-	50	-	Yes
R3	4.5	3625 Southwick St (2-storey dwelling)	42	42	50	45	Yes
R3g	1.5	3625 Southwick St (backyard)	41	-	50	-	Yes

5 Conclusions

Sangar Construction has retained the services of Aercoustics Engineering Limited to prepare a Noise Impact Study for a proposed development at 3650 Eglington Avenue West in Mississauga, Ontario, for the purposes of supporting an Official Plan Amendment, Zoning By-law Amendment and Draft Plan of Subdivision application.

From the assumed stationary sources based on typical equipment for the proposed development and their potential impact on surrounding worst-case residential receptors, no noise mitigation is required. However, this should be confirmed when detailed mechanical plans and equipment selections for the proposed development become available. Sound data for all stationary sources used in the noise prediction model is presented in Appendix C.

Should any of the plans or information used in the completion of this report change or further information become available, a detailed review should be completed by an acoustical consultant to ensure the sound level limits are met.



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Scale: NTS
Drawn by: NZ
Reviewed by: DAF
Date: Dec 8, 2023
Revision: 1

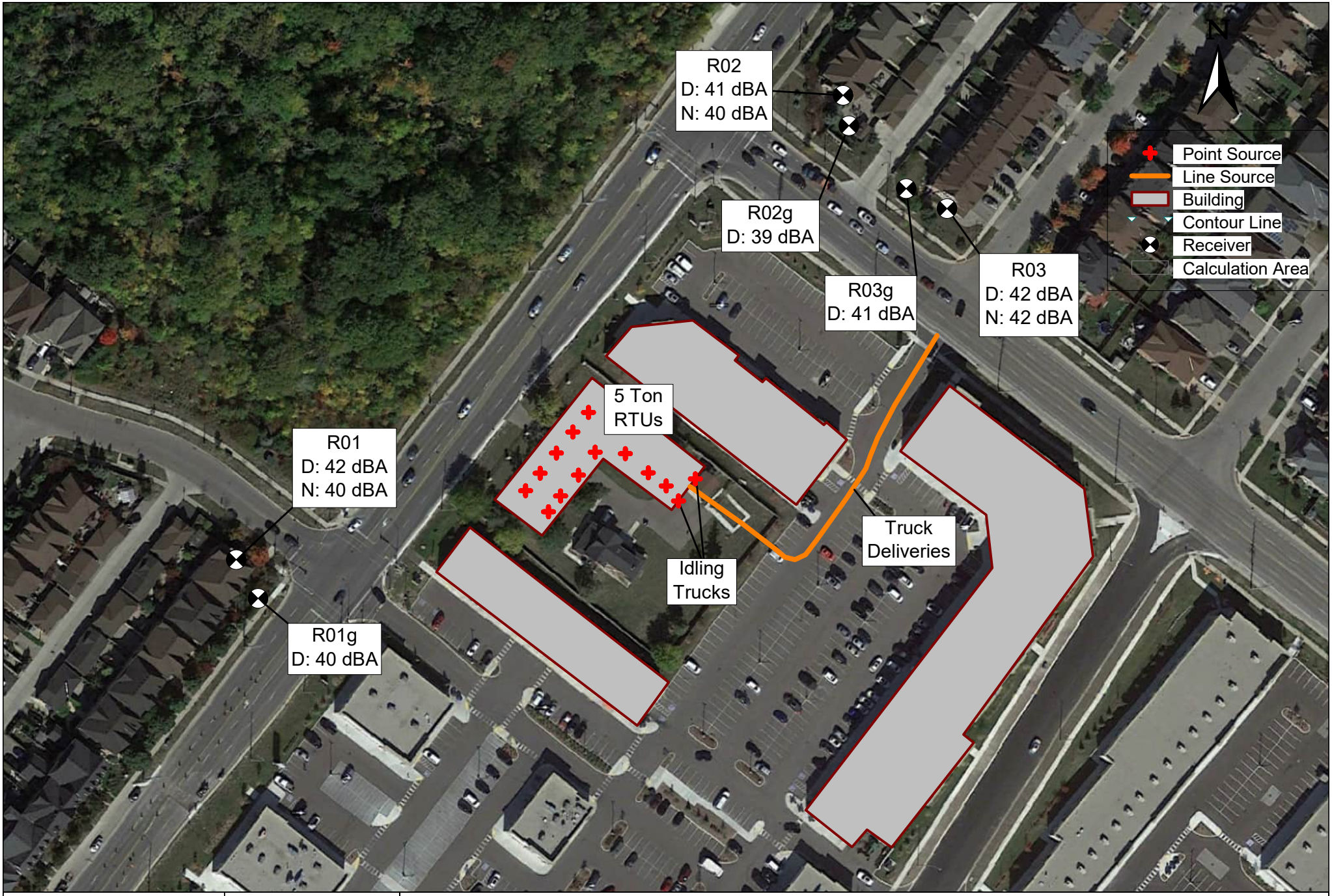
Project Name

3650 Eglington Avenue West

Figure Title

Key plan showing site, adjacent roads and buildings

Figure 1



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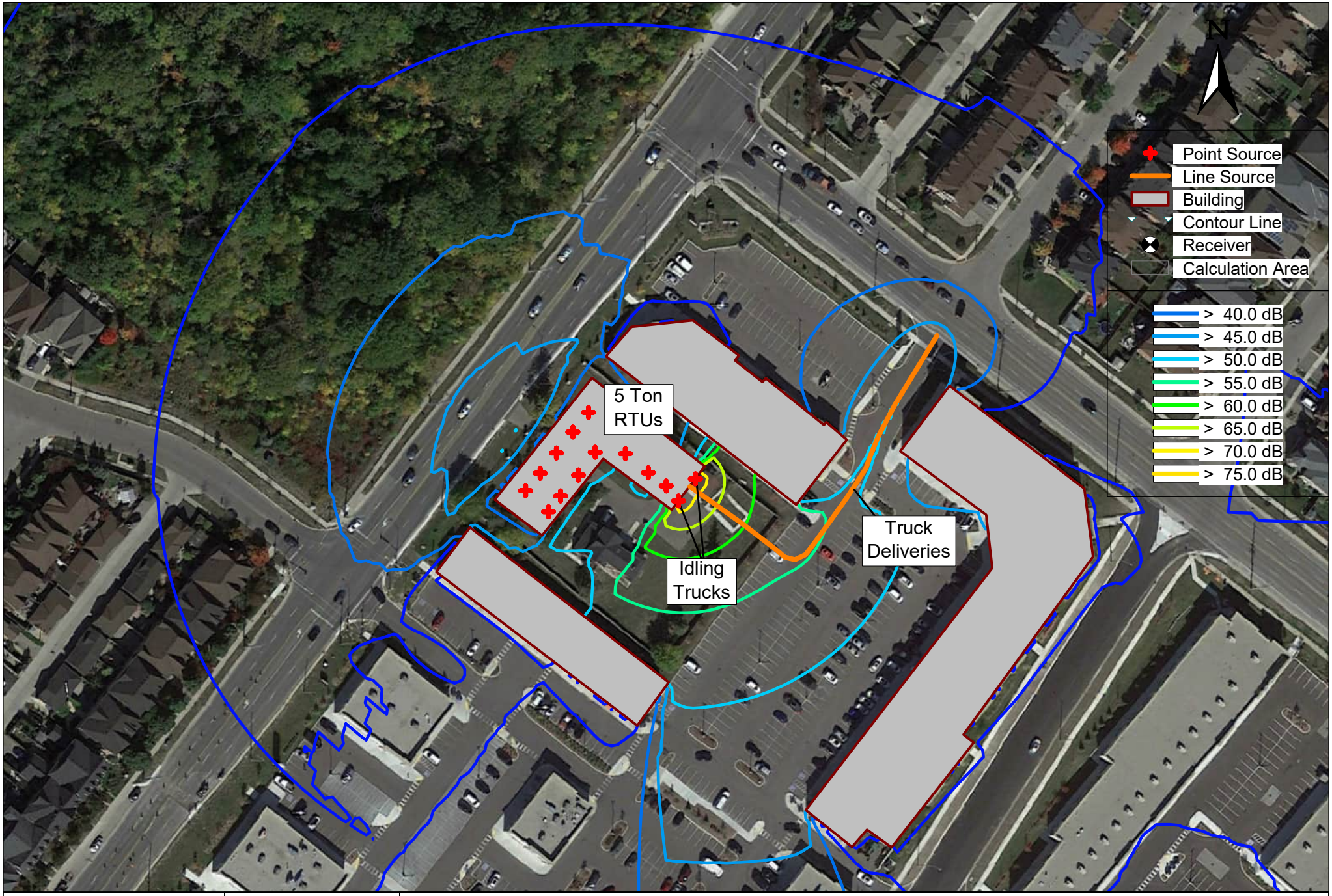
3650 Eglington Avenue West

Figure Title

Proposed on-site stationary sources and worst-case receptors for noise impact

Figure 2



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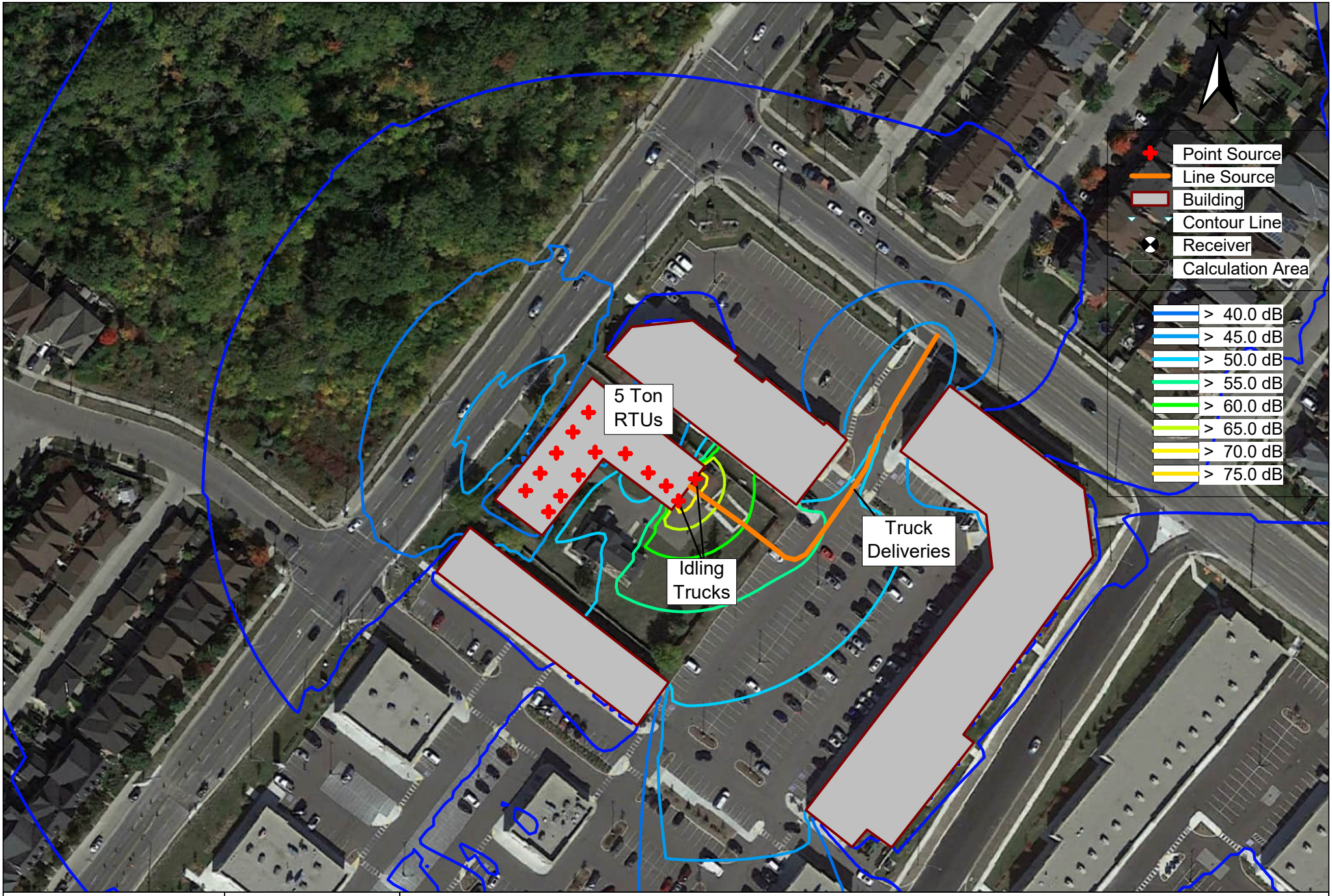
3650 Eglington Avenue West

Figure Title

Proposed on-site stationary sources - Daytime noise contours at 4.5m

Figure 3



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3650 Eglington Avenue West

Figure Title

Proposed on-site stationary sources - Nighttime noise contours at 4.5m

Figure 4

Appendix A
Zoning Map and Proposed Site Plan


MISSISSAUGA
Zoning Information Map
Search...
I want to...
Tools
Proposed Development
D
G2
OS1
R7-5
RM2-18
RM5-37
RA2-39
R6-1
R6
C3
C3-59
E2
E2-102
CHURCHILL MEADOWS BLVD
RIDGEWAY DR
SOUTHWICK ST
AQUINAS AVE
FORTUNE PL
STONECUTTER CRES
NIGHTSTAR DR
LUXOR LANE
INTREPID DR
STARDUST DR
PLATINUM DR
Basemaps
Scale 1: 2,257
Go
0 20 40m
© Geospatial Solutions MISSISSAUGA

ZONING BY–LAW 0225–2007

ZONING CATEGORIES		ZONES
Residential	R1 - R16	Detached Dwellings
	RM1, RM2, RM3	Semi-Detached
	RM7	Detached, Semi-Detached, Duplex and Triplex
	RM4, RM5, RM6	Townhouse
	RM8 - RM12	Back to Back, Stacked Townhouses
	RA1 - RA5	Apartment, Long-Term Care, Retirement Buildings
Office	O1	Minor Office
	O2	Major Office
	O3	General Office
Commercial	C1	Convenience Commercial
	C2	Neighbourhood Commercial
	C3	General Commercial
	C4	Mainstreet Commercial
	C5	Motor Vehicle Commercial
Downtown Core	CC1	Core Commercial
	CC2, CC4	Mixed Use
	CC3	Mixed Use - Transition Area
	CCO	Office
	CCOS	Open Space
Employment	E1	Employment in Nodes
	E2	Employment
	E3	Industrial
Open Space	OS1	Community Park
	OS2	City Park
	OS3	Cemetery
Greenlands	G1	Natural Hazards
	G2	Natural Features
		Greenlands Overlay
Parkway Belt	PB1, PB2	Parkway Belt
Utility	U	Utility
Institutional	I	Hospital and University / College
Development	D	Existing Use
Buffer	B	Buffer, Berm, Fence
Airport	AP	Lester B. Pearson International Airport

MISSISSAUGA

Revised: 2021 March 31

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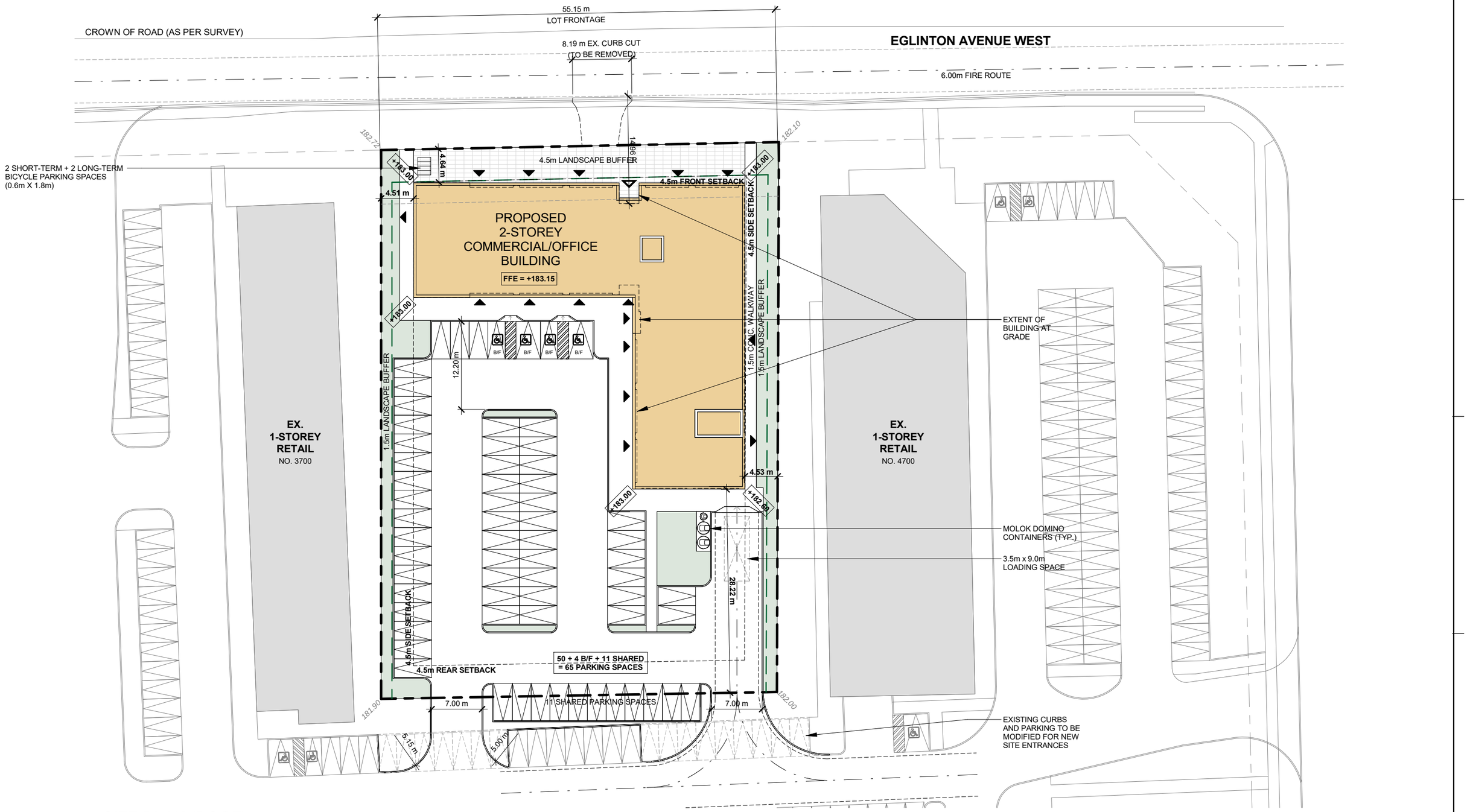

1 SITE PLAN (ROOF)
1 : 500

CARICARI LEE ARCHITECTS

113 Miranda Avenue
Toronto, ON M6B 3W8
t/ 416 962 9670 f/ 416 962 9671
e/ info@caricarilee.com
www.caricarilee.com

CLA

PROJECT NAME
EGLINTON OFFICE BUILDING
3650 EGLINTON AVENUE W, MISSISSAUGA, ON

DRAWING TITLE
SITE PLAN

No.	Date:	Issued / Revision:	By:

SCALE	1 : 500
PROJECT NO.	22032
DATE	NOV 2023
DRAWN BY	AL
CHECKED BY	MNG

NORTH: PN TN

DRAWING NO.
A 1.30

11/27/2023 11:48:29 AM

Appendix B
Sound Data for Stationary Sources

Name	Source	Octave Spectrum (dB)								
		63	125	250	500	1000	2000	4000	8000	dBA
5-Ton Rooftop Unit	5-Ton Carrier RTU	57	76	72	73	75	75	71	69	**80**
Truck Passby and Idling	Aercoustics Database	97	101	100	97	93	90	83	76	**99**

End of Report