

Environmental Noise Assessment

3850 Cambrian Road
Ottawa, Ontario

Choice Properties Limited Partnership

The Weston Centre
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SLR Project No:

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1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by the Choice Properties Limited Partnership (Choice), hereinafter also referred to as the “Client”, to carry out an Environmental Noise Assessment of an undeveloped/vacant land parcel, located at 3850 Cambrian Road in Ottawa (Nepean), Ontario (hereinafter referred to as the “Site”). SLR understands that the Client requires this assessment for their site plan application (SPA) submission to The City of Ottawa as part of the proposed development of the Site.

1.1 Focus of Report

In keeping with the Ministry of the Environment, Conservation and Parks (MECP) requirements, this report examines the potential for impacts from the proposed Site on the surrounding environment, namely noise sensitive residential uses in the area. A separate application should be made to the MECP for any applicable permits that may be needed for this Site.

Vibration impacts have not been evaluated as there are no sources of vibration planned for the Site.

1.2 Nature of the Subject Lands

The property is located on north of Cambrian Road, between Apolune Street and future Greenbank Road. The site is currently a vacant lot.

The proposed site will have four commercial retail buildings (CRU A – CRU D). CRU A/CRU B are currently planned to be a Pharmacy, which includes a loading bay at the northwest corner to support deliveries. The site will be primarily paved with parking in between the commercial buildings. Copies of the site plan concept can be found in **Appendix A**.

1.3 Nature of the Surroundings

The lands surrounding the proposed Site consist of the following:

- Residential townhouse blocks to the north;
- Future Greenbank Road and residential townhouse blocks beyond to the east;
- Vacant industrial property at 3853 Cambrian Road and mixed-use lots at 3845 Cambrian Road to the south; and
- Residential townhouse blocks to the west.

The topography of the area is primarily flat in nature. A context plan of the area is provided on **Figure 1**.

2.0 D-Series of Guidelines

The D-series of guidelines were developed by the MECP in 1995 to evaluate the Recommended Minimum Separation Distances and other control measures for land use planning proposals in an effort to prevent or minimize ‘adverse effects’ from the encroachment of incompatible land uses where a facility either exists or is proposed. D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D-3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).

For this evaluation, the applicable guideline is Guideline D-6 - *Compatibility between Industrial Facilities and Sensitive Land Uses*.

Adverse effect is a term defined in the Environmental Protection Act and “means one or more of

- impairment of the quality of the natural environment for any use that can be made of it,
- injury or damage to property or to plant or animal life,
- harm or material discomfort to any person,
- an adverse effect on the health of any person,
- impairment of the safety of any person,
- rendering any property or plant or animal life unfit for human use,
- loss of enjoyment of normal use of property, and
- interference with the normal conduct of business”.

2.1.1 Guideline D-6 Requirements

The guideline specifically addresses issues of air quality, odour, dust, noise, and litter. To minimize the potential to cause an adverse effect, Areas of Influence and Recommended Minimum Separation Distances are included within the guidelines. The Areas of Influence and Recommended Minimum Separation Distances from the guidelines are provided in **Table 1** below.

Table 1: Guideline D-6 - Potential Areas of Influence and Recommended Minimum Separation Distances for Industrial Land Uses

Industry Classification	Area of Influence	Recommended Minimum Separation Distance
Class I – Light Industrial	70 m	20 m
Class II – Medium Industrial	300 m	70 m
Class III – Heavy Industrial	1000 m	300 m

Industrial categorization criteria are supplied in Guideline D-6, and are shown in the following table (**Table 2**):

Table 2: Guideline D-6 - Industrial Categorization Criteria

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class I Light Industry	<ul style="list-style-type: none"> Noise: Sound not audible off-property Dust: Infrequent and not intense Odour: Infrequent and not intense Vibration: No ground-borne vibration on plant property 	<ul style="list-style-type: none"> No outside storage Small-scale plant or scale is irrelevant in relation to all other criteria for this Class 	<ul style="list-style-type: none"> Self-contained plant or building which produces/stores a packaged product Low probability of fugitive emissions 	<ul style="list-style-type: none"> Daytime operations only Infrequent movement of products and/or heavy trucks 	<ul style="list-style-type: none"> Electronics manufacturing and repair Furniture repair and refinishing Beverage bottling Auto parts supply Packaging and crafting services Distribution of dairy products Laundry and linen supply
Class II Medium Industry	<ul style="list-style-type: none"> Noise: Sound occasionally heard off-property Dust: Frequent and occasionally intense Odour: Frequent and occasionally intense Vibration: Possible ground-borne vibration, but cannot be perceived off-property 	<ul style="list-style-type: none"> Outside storage permitted Medium level of production allowed 	<ul style="list-style-type: none"> Open process Periodic outputs of minor annoyance Low probability of fugitive emissions 	<ul style="list-style-type: none"> Shift operations permitted Frequent movements of products and/or heavy trucks with the majority of movements during daytime hours 	<ul style="list-style-type: none"> Magazine printing Paint spray booths Metal command Electrical production Manufacturing of dairy products Dry cleaning services Feed packing plants

<p>Class III Heavy Industry</p>	<ul style="list-style-type: none"> • Noise: Sound frequently audible off property • Dust: Persistent and/ or intense • Odour: Persistent and/ or intense • Vibration: Ground-borne vibration can frequently be perceived off-property 	<ul style="list-style-type: none"> • Outside storage of raw and finished products • Large production levels 	<ul style="list-style-type: none"> • Open process • Frequent outputs of major annoyances • High probability of fugitive emissions 	<ul style="list-style-type: none"> • Continuous movement of products and employees • Daily shift operations permitted 	<ul style="list-style-type: none"> • Paint and varnish manufacturing • Organic chemical manufacturing • Breweries • Solvent recovery plants • Soaps and detergent manufacturing • Metal refining and manufacturing
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2.1.2 Requirements for Evaluation

Guideline D-6 requires that studies be conducted to evaluate impacts where sensitive land uses are proposed within the Potential Area of Influence of an industrial/commercial facility. This report fulfills this requirement.

2.1.3 Recommended Minimum Separation Distances

Guideline D-6 also *recommends* that no sensitive land use be placed within the Recommended Minimum Separation Distance. However, it should be noted that this is a recommendation only. Section 4.10 of the Guideline allows for development within the Recommended Minimum Separation Distance, in cases of redevelopment, infilling, and transitions to mixed uses, provided that the appropriate studies are conducted and that the relevant air quality and noise guidelines are met.

2.2 Land Use Classification of the Proposed Use

The proposed warehousing use has the following characteristics:

- **Outputs:** No dust, odours, or vibration; sound occasionally heard off property;
- **Scale:** No outside storage;
- **Process:** Self-contained plant or building which produces/stores a packaged product, low probability of fugitive emissions; and
- **Operations/ Intensity:** infrequent movement of products and/or heavy trucks during daytime and evening only.

The facility is considered a Class I Light industrial use, with a 20 m Recommended Minimum Separation Distance and a 70 m Area of Influence.

Figure 2 shows the Guideline D-6 separation distances from the facility.

2.3 Requirements for Evaluation

Guideline D-6 requires that studies be conducted to assess impacts where sensitive land uses are proposed within the potential Area of Influence of an industrial or commercial facility.

The D-series guidelines reference previous versions of the air quality Regulation 346 and noise guidelines Publications NPC-205 and LU-131. However, the D-Series of guidelines are still enforced and represent current MECP policy. In applying the D-series guidelines, the current policies, regulations, standards, and guidelines have been used.

2.4 Requirements for Minimum Separation Distances

Guideline D-6 also *recommends* that no sensitive land use be placed within the Recommended Minimum Separation Distance. However, it should be noted that this is a recommendation only.

Figure 2 shows the Recommended Minimum Separation Distance. Measured from the facility property line, multiple residences along Aphelion Crescent and Watercolours Way are within the 20 m Recommended Minimum Separation Distance. However, the distances from the proposed facility façade and sources of noise to the property lines of surrounding noise sensitive spaces are greater than 20 m.

The requirements of Guideline D-6 are met, however a detailed study was still conducted and detailed herein.

3.0 Applicable Guideline Limits

3.1 City of Ottawa Noise By-law

The City of Ottawa Noise By-law No. 2017-255 applies to noise emissions within the City, including from industrial/ commercial uses. The following provisions of the By-law apply:

Section 5 – Air Conditioners, heat Pumps, compressors, etc.

- No person shall use or operate or cause to be used or operated any air conditioner, heat pump, compressor, condenser, chiller, cooling tower or similar device, the noise from which has a level greater than 50 dB(A) when measured at the point of reception.

Section 11 – Deliveries

- No person shall cause or permit the delivery of any goods, wares, merchandise or commodities from any vehicle to the owner, lessee, tenant or occupier of any premises between the hours of 2300 hours of one day and 0700 hours of the next day and which delivery disturbs or tends to disturb the quiet, peace, rest, enjoyment, comfort or convenience of the neighbourhood or of persons in the vicinity.

Section 12 – Loading and Unloading

- No person shall cause or permit the loading or unloading of any transport truck, moving van or motor vehicle between 2300 hours of one day and 0700 hours of the next day to make or cause noises that disturb, or tend to disturb the quiet, peace, rest, enjoyment, comfort, or convenience of the neighbourhood or of persons in the vicinity.

3.2 MECP Publication NPC-300 Guidelines for Stationary Noise

3.2.1 Application of NPC-300 Guidelines

The stationary noise guidelines apply only to residential land uses and to noise-sensitive commercial and institutional uses as defined in NPC-300, which include schools, daycares, hotels, and places of worship. For the Project, the stationary noise guidelines were applied to the surrounding residential land uses including:

- Individual residences; and
- Outdoor living areas.

NPC-300 establishes noise limits for new industrial and commercial sites and differentiate two main types of sources:

- Non-impulsive, “continuous” noise sources such as ventilation fans, mechanical equipment, and vehicles while moving within the property boundary of an industry. Continuous noise is measured using 1-hour average sound exposures (L_{eq} (1-hr) values), in dBA; and
- Impulsive noise, which is a “banging” type noise characterized by rapid rise time and decay. Impulsive noise is measured using a logarithmic mean (average) level (L_{LM}) of the impulses in a one-hour period, in dBA.

Furthermore, the guideline requires an evaluation and provides separate guideline limits for:

- Outdoor points of reception (OPOR) such as back yards, communal outdoor amenity areas; and
- Façade points of reception such as the plane of windows on the building façade that connect to noise sensitive spaces such as living rooms, dens, eat-in kitchens, dining rooms and bedrooms.

For large lots, OPOR under the noise guidelines are defined as being any point within 30 m of the façade of the main dwelling.

The applicable noise limits at a point of reception are the higher of:

- The existing ambient sound level due to road traffic, or
- The exclusion limits set out in the guideline.

4.0 Points of Reception

The receptor locations subject of this assessment includes windows along residential/institutional building façades as well as outdoor living areas of the residential receptors. As a conservative evaluation of noise impacts, all windows were assumed to be located in a noise-sensitive space (i.e. a living/dining room or bedroom). Unless otherwise noted, the upper floor window locations are considered the “worst-case” for noise impacts. Outdoor points of reception are evaluated at a height of 1.5m above grade. Outdoor spaces associated with noise sensitive commercial or institutional uses are not assessed as per the definitions in NPC-300.

Representative worst-case points of reception have been chosen in all cardinal directions; if the noise guidelines are met at these locations, they are anticipated to be met everywhere. **Table 3** summarizes the modelled points of reception (PORs) included in this evaluation. The location of each POR is shown on **Figure 3**. Associated outdoor point of reception (OPOR) are shown on **Figure 4**.

Table 3: Worst-Case Points of Reception Summary

Receptor ID	Address	POR Location	Façade POR Height (m)	Approx. Distance From Property Line
POR 1	345-353 Aphelion Crescent	2 nd floor window	4.5	Adjacent (West)
POR 2	321-329 Aphelion Crescent	2 nd floor window	4.5	Adjacent (West)
POR 3	68-82 Zenith Private	3 rd floor window	7.5	Adjacent (Northwest)
POR 4	280-294 Zenith Private	3 rd floor window	7.5	Adjacent (North)
POR 5	140-154 Walleye Private	3 rd floor window	7.5	45 m West
POR 6	3845 Cambrian Road	Future 1 st Floor window	1.5	25 m South

5.0 Sound Level Limits

The local area surrounding the proposed Site is considered a Class 1 area under the NPC-300 guidelines, as the surroundings are dominated by road traffic and commercial noise. The following tables set out the exclusion limits from the guideline that were used for this assessment.

Table 4: NPC-300 Class 1 Continuous Sound Level Limits

Point of Reception Category	Time Period	Minimum Exclusionary Sound Level Limit L_{eq} (1-hr), dBA ^[1]
Outdoors	Daytime (0700-1900h)	50
	Evening (1900-2300h)	50
	Night-time (2300-0700h)	n/a ^[3]
Plane of Window ^[2]	Daytime (0700-1900h)	50
	Evening (1900-2300h)	50
	Night-time (2300-0700h)	45

Notes: [1] Or minimum hourly L_{eq} of background noise; whichever is higher.
[2] Applicable for windows opening into “noise-sensitive spaces” as defined in NPC-300.
[3] Sound level limits during night-time hours are not applicable at outdoor points of reception.

Table 5: NPC-300 Class 1 Impulsive Sound Level Limits

Time of Day	No. of Impulses in 1-hr Period	Class 1 Area	
		Plane of Window (dBAI)	Outdoor Point of Reception (dBAI)
Daytime (0700-2300h)	9 or more	50	50
	7 to 8	55	55
	5 to 6	60	60
	4	65	65
	3	70	70
	2	75	75
	1	80	80

Night-time (2300-0700h)	9 or more	45	n/a ^[1]
	7 to 8	50	n/a ^[1]
	5 to 6	55	n/a ^[1]
	4	60	n/a ^[1]
	3	65	n/a ^[1]
	2	70	n/a ^[1]
	1	75	n/a ^[1]

Notes: [1] Sound level limits during night-time hours are not applicable at outdoor points of reception.

6.0 Stationary Noise Impacts

6.1 Stationary Noise Sources

The outdoor stationary noise sources were evaluated as significant environmental sources, including:

- HVAC units;
- 3-point turn Shipping & Receiving truck movements; and
- Idling refrigeration truck.

There are no impulsive noise sources at the Site.

6.1.1 Continuous Noise Source Analysis

The Pharmacy operates during all times of the day, with reduced operations during nighttime hours. Other commercial buildings are assumed to operate during daytime and evening hours, with reduced operations during nighttime hours. Loading and unloading operations are limited to daytime and evening periods only, which is aligned with the City of Ottawa bylaw requirements. Source locations are shown on **Figure 5**.

The following continuous noise sources were evaluated for the Site:

- Eleven (11) HVAC units were evaluated including seven (7) 10-ton units, one (1) 7.5-ton unit, and three (3) 5-ton units, which is representative of similar facilities. The HVAC units will run at full capacity during the daytime and evening periods, between 0700 and 2300, and at 50% capacity during nighttime hours.
- Per city Bylaw, truck traffic is expected to occur during daytime and evening hours only. The highest traffic condition was evaluated with up to two trucks that enter and leave the facility during the worst-case hour.
- Refrigeration trucks are expected to idle in the loading bay of the Pharmacy during the day and evening hours. Idling times of 30 minutes per hour were evaluated as the worst-case.

As per **Table 4** the applicable guideline limits at the surrounding noise sensitive receptors are:

- o At facades: 50 dBA during the daytime and evening; and 45 dBA during the night; and
- o At the outdoor amenity areas: 50 dBA during the daytime and evening hours.

Sound emission data used in the assessment were based on generic data from SLR's in-house database as well as manufacturers data for HVAC units. A summary of the equipment sound power levels and operating conditions/assumptions is included in **Appendix B**.

6.2 Stationary Noise Modelling

Stationary source impact modelling was completed using Cadna/A, a prediction software consistent with the ISO 9613-2 standard. The model considers the layout of a site, the effect of the proposed buildings, the location of the sources, and any applicable surrounding buildings/structures.

Sound levels were predicted at discrete positions representing the various surrounding houses as PORs.

One (1) order of reflection was included in the noise modelling to account effects from the facility buildings, with a typical absorption value of $\alpha = 0.37$ for all buildings. As described in ISO 9613-2, ground factor values that represent the effect of ground absorption on sound levels range between $G = 0$ (perfectly reflective) and $G = 1$ (perfectly absorptive). A global ground factor value of $G = 0.3$ was applied as representative of the asphalt surface treatment at the Site.

The surrounding topography is mostly flat.

6.3 Predicted Sound Levels

Noise from continuous sources have been evaluated. The results are presented graphically on **Figures 6, 7 and 8** and are summarized on the Table below:

Table 6: Predicted Worst-Case Sound Levels from Continuous Sources

Receptor	Façade Sound Levels (dBA)			OPOR Sound Levels (dBA)			Meets Class 1 Guideline?
	Day	Evening	Night	Day	Evening	Night	
POR1	52	52	48	52-53	52-53	N/A	No
POR2	57	57	46	58-59	58-59	N/A	No
POR3	57	57	46	N/A	N/A	N/A	No
POR4	55	55	52	N/A	N/A	N/A	No
POR5	48	48	44	N/A	N/A	N/A	Yes
POR6	50	50	47	N/A	N/A	N/A	No

Notes:

- Sound levels are L_{eq} (1hr) sound exposures, in dBA.
- N/A = Not Applicable, OPORs are not assessed during night-time hours; or where there is no corresponding OPOR.

Based on the above results, the NPC-300 guideline limits are exceeded for the majority of PORs and OPORs, therefore mitigation is required and discussed in **Section 6.4**.

6.4 Recommended Noise Mitigation Measures

6.4.1 Acoustic Barriers

Noise mitigation measures in the form of acoustic barriers are required to address noise from idling refrigeration trucks at the CU A loading bay as well as from multiple rooftop HVAC units. The barrier on the north side of the loading bay is required at a minimum to break line of sight from the refrigeration units to 3rd storey residences of buildings to the north and northwest of the site. The barrier on the north and west property line is required to reduce noise impacts at OLAs and building facades to the west and northwest of the site. This barrier should have two sections, one extending 11 m east from the northwest corner of the site, and one extending 70 m south from the northwest corner. The barrier design should be reviewed by the appropriate disciplines to ensure there are no conflicts with truck movements.

The table below summarized the recommended control measures, and the barrier locations and layouts are shown on **Figure 9**.

Table 7: Acoustic Barriers Summary

Location	Barrier Height (m)	Notes
CRU A Rooftop	2.25	<ul style="list-style-type: none"> Barrier elements on north, east, and west sides of all HVAC units U-Shaped Approx. length of 5 m total
CRU B Rooftop	2.25	<ul style="list-style-type: none"> Barrier elements on east and south sides of HVAC unit L-Shaped Approx. total length of 3.25 m
CRU C Rooftop	2.25	<ul style="list-style-type: none"> Barrier elements on north, south, and west sides of HVAC units U-Shaped Approx. length of 5 m total
Pharmacy Loading Bay	6.0	<ul style="list-style-type: none"> Barrier extending southwest from the building Height = 6.0 m Approx. length of 23 m
North/West Property Line	5.0	<ul style="list-style-type: none"> L-shaped Perimeter barrier on north and west property line Height = 5 m Approx. length of 81 m Section on north property line – 11 m in length Section on west property line – 70 m in length

Mitigated stationary noise impacts are shown on **Figures 10, 11 and 12**.

Acoustic barriers should be structurally sound, appropriately designed to withstand wind and snow loads, and constructed without cracks or surface gaps. The barrier elements should have a minimum face density (mass per unit area) of 20 kg/m² (4 lbs per sq. ft.) when installed at grade. Barrier elements installed for rooftop units should have a minimum face density of 10 kg/m² and extend a minimum of 1 m above the top of HVAC units. Any gaps under the barrier that are necessary for drainage purposes should be minimized and localized, so that the acoustical performance of the barrier is maintained.

6.4.2 Alternative Noise Mitigation Measures

Alternative noise mitigation measures are possible for this Site. Equivalent controls to acoustic barrier walls include low noise HVAC units. The suitable alternative noise mitigation measures should be reviewed and approved by an Acoustical Consultant.

6.5 Predicted Mitigated Sound Levels

Noise from continuous sources have been evaluated. The results are presented graphically on **Figures 10, 11 and 12** and are summarized on the Table below:

Table 8: Predicted Mitigated Sound Levels from Continuous Sources

Receptor	Façade Sound Levels (dBA)			OPOR Sound Levels (dBA)			Meets Class 1 Guideline?
	Day	Evening	Night	Day	Evening	Night	
POR1	49	49	43	49-50	49-50	N/A	Yes
POR2	48	48	32	42-43	42-43	N/A	Yes
POR3	49	49	39	N/A	N/A	N/A	Yes
POR4	47	47	43	N/A	N/A	N/A	Yes
POR5	43	43	39	N/A	N/A	N/A	Yes
POR6	48	48	45	N/A	N/A	N/A	Yes

Notes:

- Sound levels are L_{eq} (1hr) sound exposures, in dBA.
- N/A = Not Applicable, OPORs are not assessed during night-time hours; or where there is no corresponding OPOR.

7.0 Conclusions and Recommendations

The potential for noise impacts from the Site's stationary sources was evaluated. The requirements of MECP Guideline D-6 are met. With the inclusion of the noise mitigation measures outlined in **Section 6.4**, the applicable NPC-300 guideline limits are met at the surrounding noise-sensitive receptors.

Under Ontario Regulation 1/17, the Site should complete the require applications and studies, and register with the Ministry of the Environment on the Environmental Activity and Sector Registry (EASR), prior to the start of construction.

8.0 Closure

Should you have questions on the above report, please contact the undersigned.

Sincerely,

SLR Consulting (Canada) Ltd.



Dylan Diebolt, B.Sc.
Acoustics Consultant



Tim Wiens
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Aaron Haniff, P.Eng
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 1 electronic copy – SLR Consulting (Canada) Ltd.

9.0 References

International Organization for Standardization, *ISO 9613-2: Acoustics – Attenuation of Sound During Propagation Outdoors Part 2: General Method of Calculation*, Geneva, Switzerland, 1996.

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-6: *Compatibility Between Industrial Facilities and Sensitive Land Uses*

Ontario Ministry of the Environment, Conservation & Parks (MECP), 2013, Publication NPC-300: *Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning*

The City of Ottawa, *Noise By-law No. 2017-255*.

10.0 Statement Of Limitations

This report has been prepared and the work referred to in this report has been undertaken by SLR Consulting (Canada) Ltd. (SLR) for Choice Properties Limited Partnership, hereafter referred to as the “Client”. It is intended for the sole and exclusive use of the Client. The report has been prepared in accordance with the Scope of Work and agreement between SLR and the Client. Other than by the Client, and the City of Ottawa in their role as land use planning approval authority, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted unless payment for the work has been made in full and express written permission has been obtained from SLR.

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Opinions and recommendations contained in this report are based on conditions that existed at the time the services were performed and are intended only for the client, purposes, locations, time frames and project parameters as outlined in the Scope of Work and agreement between SLR and the Client. The data reported, findings, observations and conclusions expressed are limited by the Scope of Work. SLR is not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. SLR does not warranty the accuracy of information provided by third party sources.

Figures

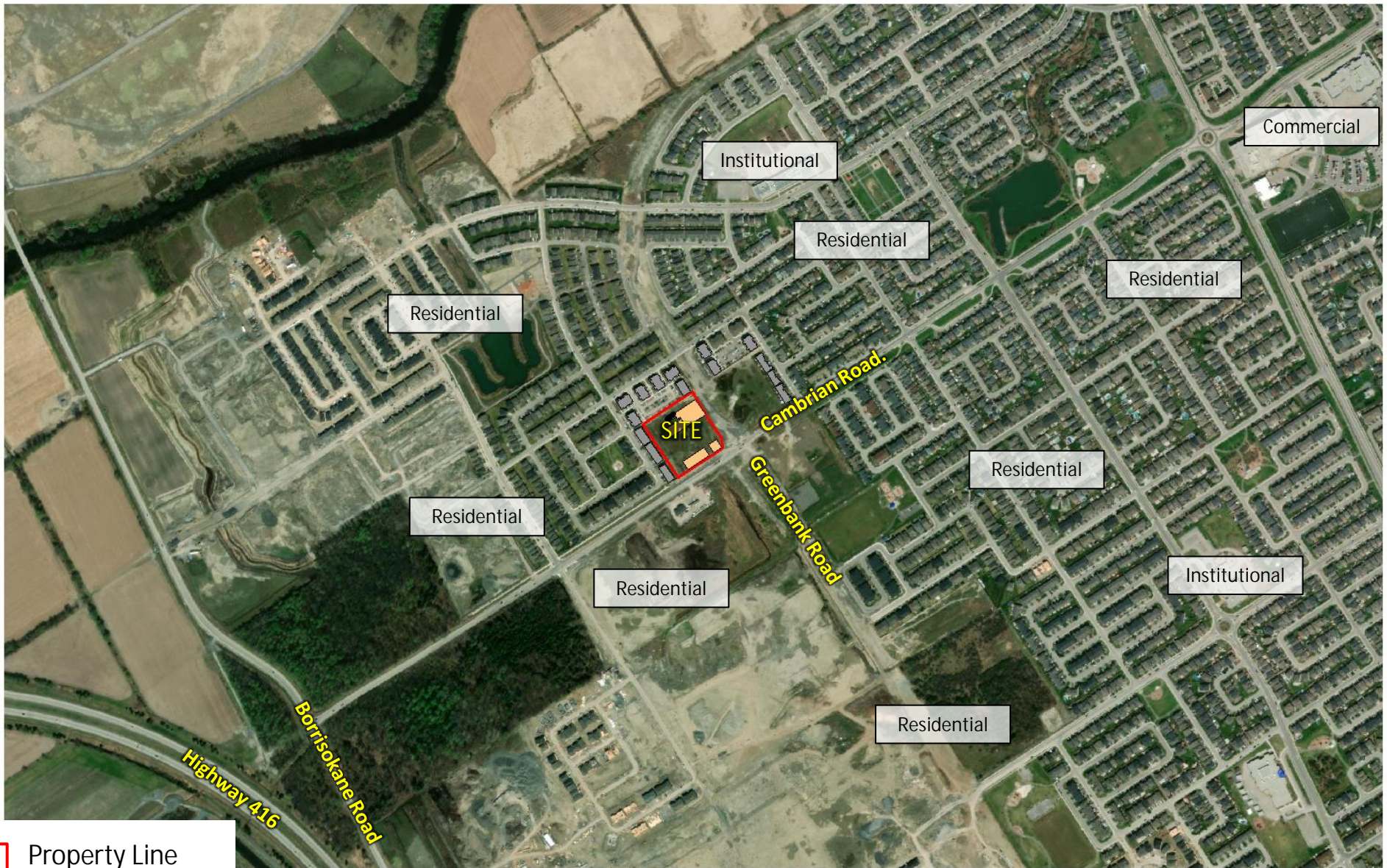
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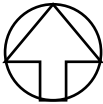
SLR Project No. 209.013940.00001

April 27, 2023



 Property Line


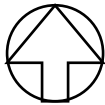
Aerial Photography from Google Earth

<p>CHOICE PROPERTIES LIMITED PARTNERSHIP</p>	<p>True North</p>	<p>Scale: 1:10,000</p>	<p>METRES</p>	
<p>3850 CAMBRIAN ROAD, OTTAWA</p>		<p>Date: April 20, 2023</p>	<p>Rev 0.0</p>	
<p>SITE AND CONTEXT PLAN</p>		<p>Project No. 209.013940.00000</p>	<p>Figure No. 1</p>	



-  20 m Separation
-  70 m Separation
-  Property Line


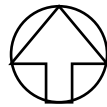
Aerial Photography from Google Earth

CHOICE PROPERTIES LIMITED PARTNERSHIP	True North	Scale: 1:2,500	METRES	 <p>SLR global environmental solutions</p>	
3850 CAMBRIAN ROAD, OTTAWA		Date: April 20, 2023	Rev 0.0		Figure No.
GUIDELINE D-6 SEPARATION DISTANCES		Project No. 209.013940.00000	2		



 Property Line


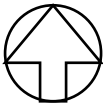
Aerial Photography from Google Earth

<p>CHOICE PROPERTIES LIMITED PARTNERSHIP</p>	<p>True North</p>	<p>Scale: 1:1,750</p>	<p>METRES</p>	
<p>3850 CAMBRIAN ROAD, OTTAWA</p>		<p>Date: April 20, 2023</p>	<p>Rev 0.0</p>	
<p>MODELLED POINTS OF RECEPTION</p>		<p>Project No. 209.013940.00000</p>	<p>Figure No. 3</p>	




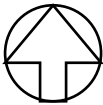
 Property Line

Aerial Photography from Google Earth



<p>CHOICE PROPERTIES LIMITED PARTNERSHIP</p>	<p>True North</p>	<p>Scale: 1:1,750</p>	<p>METRES</p>	
<p>3850 CAMBRIAN ROAD, OTTAWA</p>		<p>Date: April 20, 2023</p>	<p>Rev 0.0</p>	
<p>MODELLLED OUTDOOR POINTS OF RECEPTION</p>		<p>Project No. 209.013940.00000</p>	<p>Figure No. 4</p>	



Aerial Photography from Google Earth



<p>CHOICE PROPERTIES LIMITED PARTNERSHIP</p>	<p>True North</p>	<p>Scale: 1:1,750</p>	<p>METRES</p>	
<p>3850 CAMBRIAN ROAD, OTTAWA</p>		<p>Date: April 20, 2023</p>	<p>Rev 0.0</p>	
<p>MODELLED STATIONARY NOISE SOURCES</p>		<p>Project No. 209.013940.00000</p>	<p>Figure No. 5</p>	

Legend (Sound Levels)



	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA
	≤ 75 dBA
	> 75 dBA

Contour Height = 4.5 m








-  Stationary Source
-  Property Line

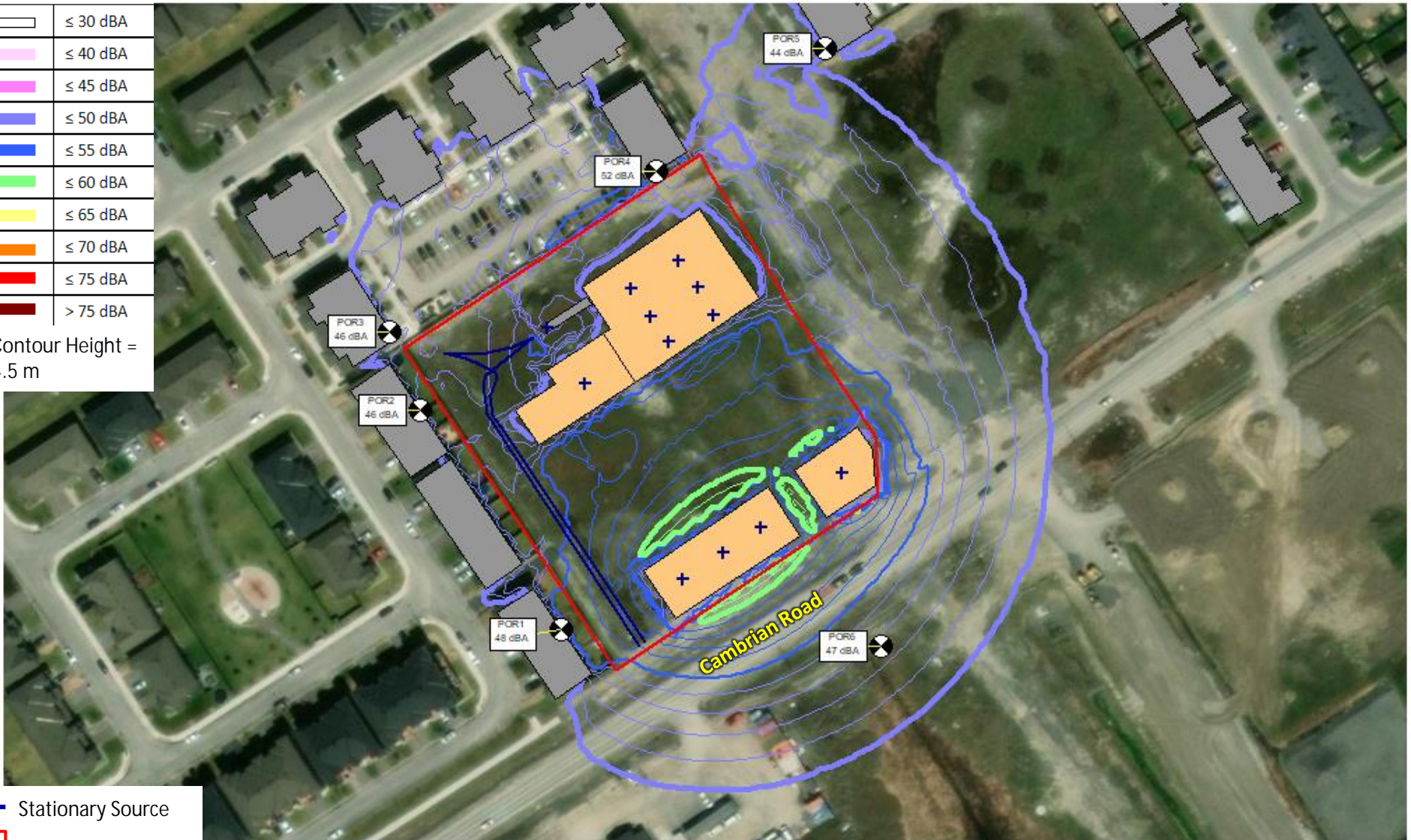
Aerial Photography from Google Earth



CHOICE PROPERTIES LIMITED PARTNERSHIP		True North 	Scale: 1:1,750		METRES	 SLR global environmental solutions
3850 CAMBRIAN ROAD, OTTAWA			Date: April 20, 2023	Rev 0.0	Figure No.	
PREDICTED STATIONARY POR SOUND LEVELS – DAYTIME/EVENING – UNMITIGATED			Project No. 209.013940.00000		6	

Legend (Sound Levels)


	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA
	≤ 75 dBA
	> 75 dBA

Contour Height = 4.5 m



-  Stationary Source
-  Property Line

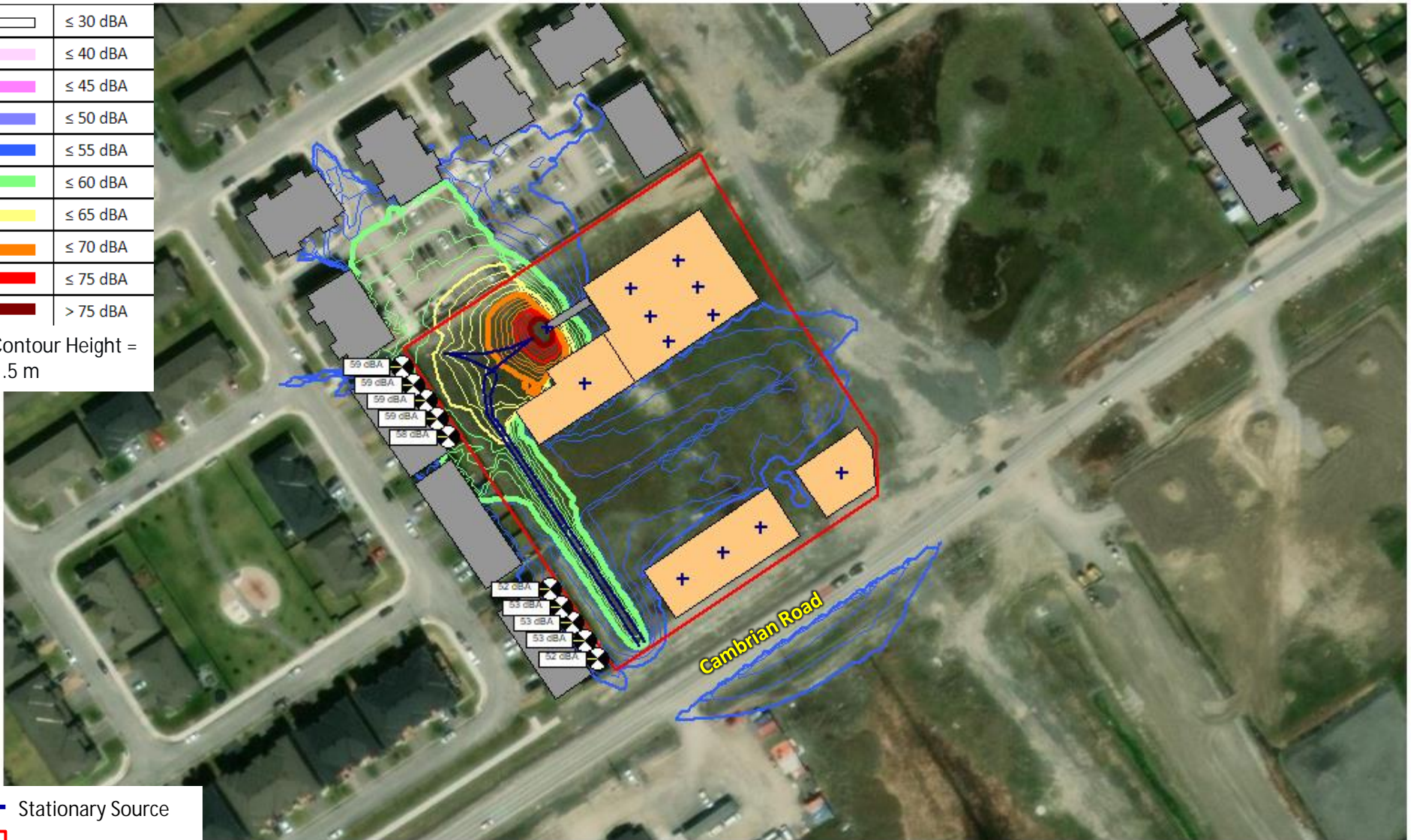
Aerial Photography from Google Earth

CHOICE PROPERTIES LIMITED PARTNERSHIP		True North 	Scale: 1:1,750		METRES	 SLR global environmental solutions
3850 CAMBRIAN ROAD, OTTAWA			Date: April 20, 2023	Rev 0.0	Figure No.	
PREDICTED STATIONARY POR SOUND LEVELS – NIGHTTIME – UNMITIGATED			Project No. 209.013940.00000		7	

Legend (Sound Levels)



	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA
	≤ 75 dBA
	> 75 dBA

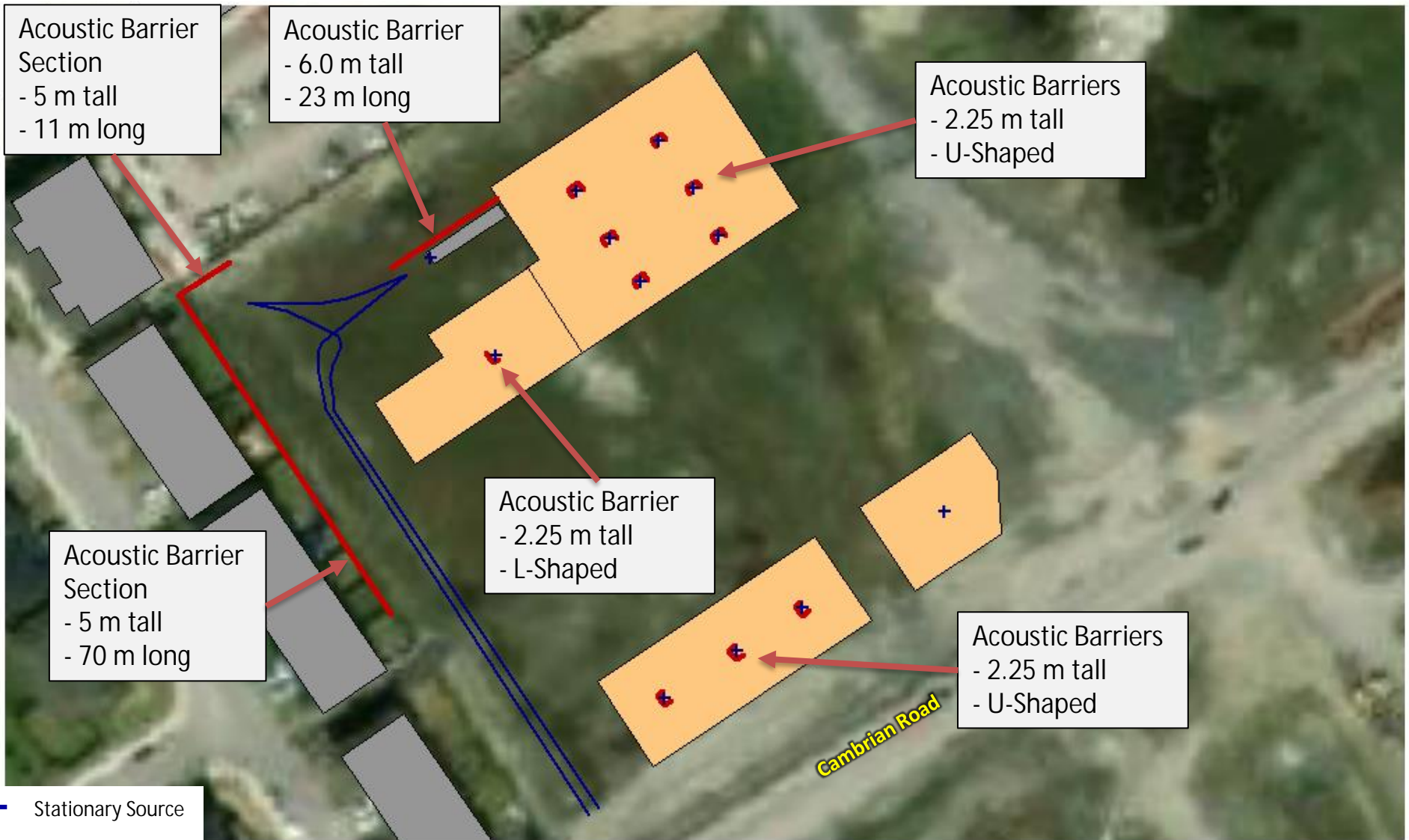
Contour Height = 1.5 m




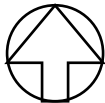
- Stationary Source
- Property Line

Aerial Photography from Google Earth








CHOICE PROPERTIES LIMITED PARTNERSHIP 3850 CAMBRIAN ROAD, OTTAWA PREDICTED STATIONARY OPOR SOUND LEVELS – DAYTIME/EVENING – UNMITIGATED	True North	Scale: 1:1,750	METRES	 SLR global environmental solutions	
		Date: April 20, 2023	Rev 0.0		Figure No. 8
		Project No. 209.013940.00000			



Aerial Photography from Google Earth



CHOICE PROPERTIES LIMITED PARTNERSHIP 3850 CAMBRIAN ROAD, OTTAWA ACOUSTIC BARRIER LAYOUT	True North	Scale: 1:1,000	METRES		
		Date: April 20, 2023	Rev 0.0		Figure No.
		Project No. 209.013940.00000			9

Legend (Sound Levels)

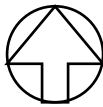

	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA
	≤ 75 dBA
	> 75 dBA

Contour Height = 4.5 m











-  Stationary Source
-  Property Line

Aerial Photography from Google Earth



CHOICE PROPERTIES LIMITED PARTNERSHIP		True North 	Scale: 1:1,750		METRES	 SLR global environmental solutions
3850 CAMBRIAN ROAD, OTTAWA			Date: April 20, 2023	Rev 0.0	Figure No.	
PREDICTED STATIONARY POR SOUND LEVELS – DAYTIME/EVENING – MITIGATED			Project No. 209.013940.00000		10	

Legend (Sound Levels)

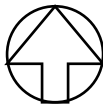

	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA
	≤ 75 dBA
	> 75 dBA

Contour Height =
4.5 m











-  Stationary Source
-  Property Line

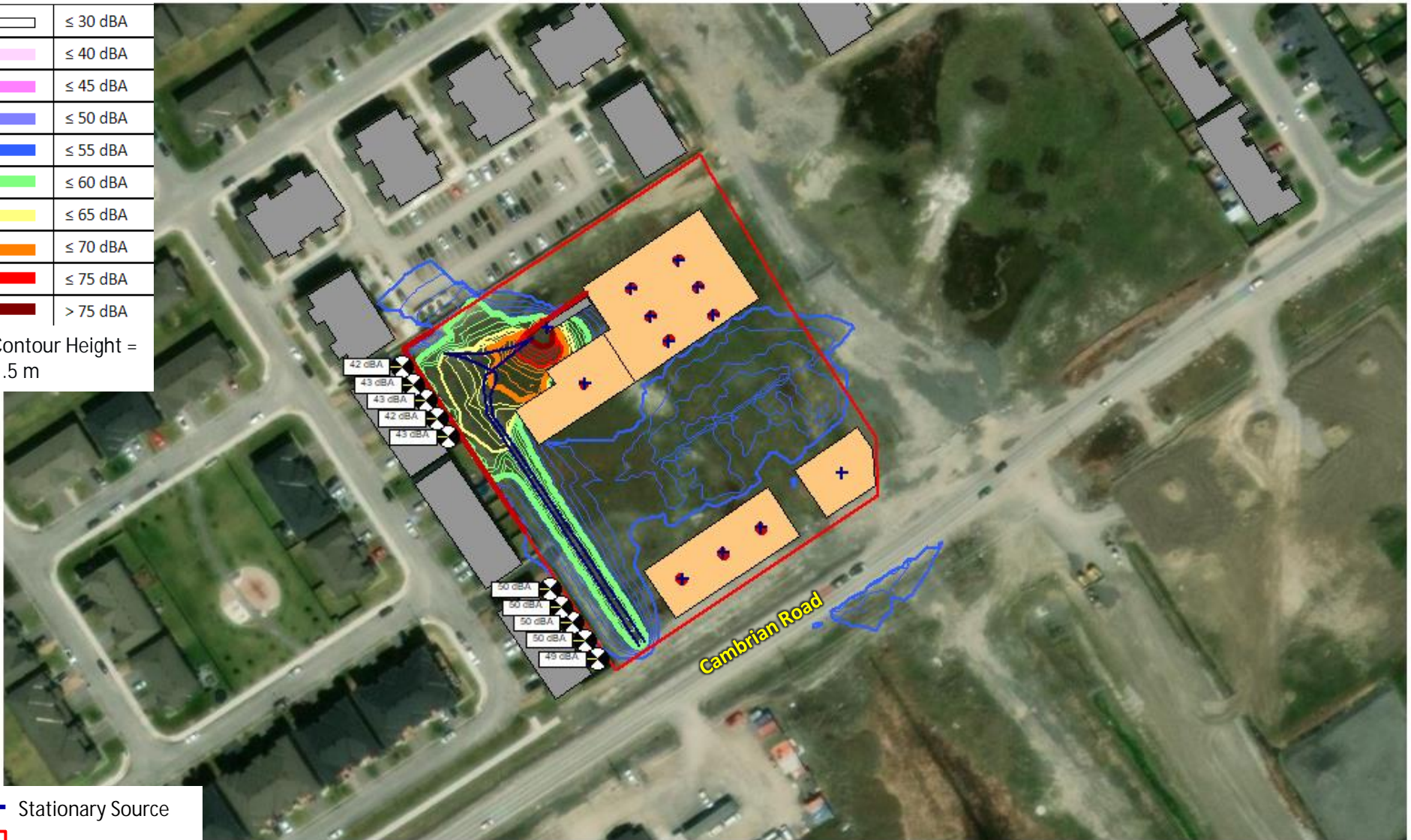
Aerial Photography from Google Earth



CHOICE PROPERTIES LIMITED PARTNERSHIP 3850 CAMBRIAN ROAD, OTTAWA PREDICTED STATIONARY POR SOUND LEVELS – NIGHTTIME – MITIGATED	True North 	Scale: 1:1,750 METRES	 SLR global environmental solutions
	Date: April 20, 2023 Rev 0.0	Figure No. 11	
	Project No. 209.013940.00000		

Legend (Sound Levels)

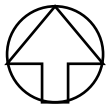

	≤ 30 dBA
	≤ 40 dBA
	≤ 45 dBA
	≤ 50 dBA
	≤ 55 dBA
	≤ 60 dBA
	≤ 65 dBA
	≤ 70 dBA
	≤ 75 dBA
	> 75 dBA

Contour Height =
1.5 m



-  Stationary Source
-  Property Line

Aerial Photography from Google Earth

CHOICE PROPERTIES LIMITED PARTNERSHIP		True North 	Scale: 1:1,750		METRES	 SLR global environmental solutions
3850 CAMBRIAN ROAD, OTTAWA			Date: April 20, 2023	Rev 0.0	Figure No.	
PREDICTED STATIONARY OPOR SOUND LEVELS – DAYTIME/EVENING – MITIGATED			Project No. 209.013940.00000		12	

Appendix A Development Drawings

Environmental Noise Assessment

3850 Cambrian Road
Ottawa, Ontario

Choice Properties Limited Partnership

SLR Project No. 209.013940.00001

April 27, 2023



This drawing, as an instrument of service, is provided by and is the property of Turner Fleischer Architects Inc. The contractor must verify and accept responsibility for all dimensions and conditions on site and must notify Turner Fleischer Architects Inc. of any variations from the supplied information. This drawing is not to be scaled. The architect is not responsible for the accuracy of survey, structural, mechanical, electrical, etc. information shown on this drawing. Refer to the appropriate consultant drawings before proceeding with the work. Contractor must conform to all applicable codes and requirements of authority having jurisdiction. The contractor working from drawings not specifically marked for Contractor must assume full responsibility and bear costs for any corrections or damages resulting from his work.

SITE PLAN LEGEND

- PROPOSED ENTRANCE ARROW
- PROPOSED EXIT ARROW
- PROPOSED FIRE HYDRANT
- PROPOSED SIAMESE CONNECTION
- PROPOSED SIGN
- PROPOSED FIRE & TRUCK ROUTE (HEAVY DUTY ASPHALT)
- PROPOSED CONCRETE SIDEWALK



2 CONTEXT PLAN
A001 N.T.S

ZONING CHART

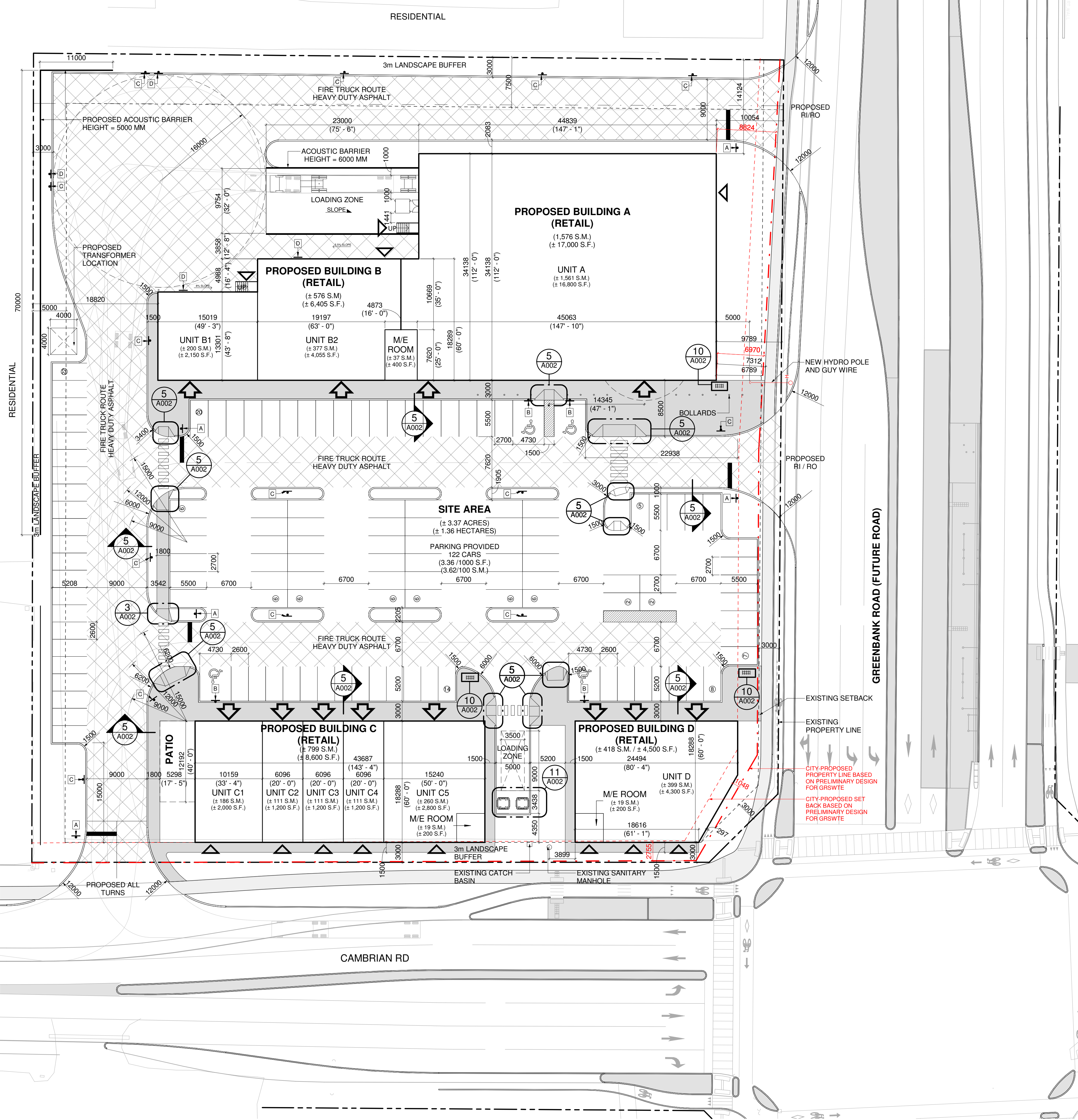
ZONING CHART
Zone: General Mixed Use (GM1626)
City of Ottawa Zoning By-law No. 2008-250

REQUIRED	PROPOSED
LOT AREA MIN. FRONT YARD AND CORNER SIDE YARD SETBACK	NO MINIMUM 3.0M
MIN. INTERIOR SIDE YARD SETBACK MIN. REAR YARD SETBACK MAX. BUILDING HEIGHT PARKING SPACE DIMENSIONS ACCESSIBLE PARKING DIMENSIONS MIN. PARKING SPACES	5.0M 7.5M 24.0M AND 6 STOREYS 2.6M (MIN) 3.1M (MAX) WIDE x 5.2M LONG 3.6M
LANDSCAPE COVERAGE	13,637.9 S.M. 3.0M (ALONG CAMBRIAN ROAD) 3.257M (ALONG REALIGNED GREENBANK ROAD)
MIN. ACCESSIBLE PARKING SPACE MIN. LOADING SPACES SHOPPING CENTRE: 122 CARS	18.8M (WEST SIDE) 14.4M (NORTH SIDE) 6.7M 2.7M x 5.5M
MIN. BICYCLE PARKING SPACES	122 CARS 3,421,000 S.F 3,68100 S.M 24.15%
	4 SPACES AS PER THE TRAFFIC AND PARKING BYLAW
	2 1 (3.5M X 9M) SHOPPING CENTRE: 1 SPACE PER 500 S.M. G.F.A
	18 SPACES

SITE STATISTICS

	±3.37 ACRES	±1.36 HA.
TOTAL SITE AREA	±17,000 S.F.	±1,579 S.M.
PROPOSED BUILDING A AREA	±2,000 S.F.	±186 S.M.
M/E ROOM	±16,800 S.F.	±1,561 S.M.
BUILDING A GLFA	±6,405 S.F.	±595 S.M.
PROPOSED BUILDING B AREA	±2,150 S.F.	±200 S.M.
M/E ROOM	±4,055 S.F.	±377 S.M.
B1	±2,205 S.F.	±205 S.M.
B2	±8,600 S.F.	±798 S.M.
PROPOSED BUILDING C AREA	±2,000 S.F.	±186 S.M.
M/E ROOM	±1,200 S.F.	±111 S.M.
C1	±1,200 S.F.	±111 S.M.
C2	±1,200 S.F.	±111 S.M.
C3	±1,200 S.F.	±111 S.M.
C4	±2,800 S.F.	±260 S.M.
C5	±8,400 S.F.	±780 S.M.
BUILDING C GLFA	±4,500 S.F.	±418 S.M.
PROPOSED BUILDING D AREA	±2,000 S.F.	±186 S.M.
M/E ROOM	±4,300 S.F.	±399 S.M.
BUILDING D GLFA	±37,305 S.F.	±3,466 S.M.
TOTAL BUILDING FLOOR AREA	±800 S.F.	±74 S.M.
TOTAL M/E ROOM AREA	±35,705 S.F.	±3,317 S.M.
TOTAL GROSS LEASABLE FLOOR AREA		
COVERAGE		25.4%

SYMBOL	SIGN	DESCRIPTION
A		"STOP" SIGN R# 89 (600x600mm) WHITE REFL. LEGEND & BORDER, RED REFL. BACKGROUND
B		"DISABLED PARKING PERMIT" SIGN R# 89 (600x450mm) RED REFL. INTERDICTIONARY SYMBOL, BLUE REFL. SYMBOL OF ACCESS & SYMBOL BORDER, BLACK SYMBOL, LEGEND & BORDER, WHITE REFL. BACKGROUND
C		"FIRE ROUTE" SIGN R# 89 (600x450mm) RED REFL. INTERDICTIONARY SYMBOL, BLACK SYMBOL, WHITE REFL. "FIRE ROUTE" ON BLACK BACKGROUND, BLACK LEGEND & BORDER, WHITE REFL. BACKGROUND
D		"LOADING ZONE" SIGN R# 89 (600x450mm) RED REFL. INTERDICTIONARY SYMBOL, BLACK SYMBOL, LEGEND & BORDER, WHITE REFL. BACKGROUND



1 SITE PLAN
A001 1:300

#	DATE	DESCRIPTION	BY



PROJECT
PROPOSED COMMERCIAL RETAIL PLAZA
3850 CAMBRIAN ROAD,
BARRHAVEN, ONTARIO

DRAWING
SITE PLAN

PROJECT NO. 21-327P01	 DRAWING NO. A001 REV.
PROJECT DATE 2022-08-19	
DRAWN BY BSH	
CHECKED BY DEM	
SCALE As indicated	

Appendix B Stationary Modelling Inputs

Environmental Noise Assessment

3850 Cambrian Road
Ottawa, Ontario

Choice Properties Limited Partnership

SLR Project No. 209.013940.00001

April 27, 2023



Table B.1: Summary of Noise Source Sound Power Levels

Source Description	ID	Maximum Sound Power Levels (1/1 Octave Band Levels)									Total PWL (dBA)	Notes
		32 (dB)	63 (dB)	125 (dB)	250 (dB)	500 (dB)	1000 (dB)	2000 (dB)	4000 (dB)	8000 (dB)		
Rooftop HVAC (4/5-ton units)	HVAC_5ton	77	80	81	81	80	78	74	70	64	82	- Based sound specs for Lennox L series units - Assumed to operate continuously during the daytime and evening with 50% duty cycle during the nighttime
Rooftop HVAC (7.5/10-ton units)	HVAC_10ton			76	79	84	83	79	73	66	88	- Based sound specs for Lennox L series units - Assumed to operate continuously during the daytime and evening with 50% duty cycle during the nighttime
Large Reefer Truck - front	reefer_Irg	97	112	102	104	100	95	94	89	80	102	- Based on SLR historical data - Assumed to operate 30 minutes per hour during daytime and evening only.
Heavy Truck - Passby	HeavyTruckPassby	98	101	101	97	96	96	92	84	78	100	- Based on SLR historical data - 2 truck per hour during daytime and evening hours. - Assumed speed of 15 km/hour

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