Environmental Noise Assessment

2121 Rathburn Road East

Proposed Residential Development

City of Mississauga

September 11, 2025
Project: 1250230.000

Prepared for

CAPREIT

Prepared by



Richard Qiang Li, Ph.D., P.Eng..

Reviewed by



Greg Dennis, M.Eng., P.Eng.

VALCOUSTICS
Canada Ltd.

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Environmental Noise Assessment

2121 Rathburn Road East

Proposed Residential Development

City of Mississauga

EXECUTIVE SUMMARY

Valcoustics Canada Ltd. (VCL) has been retained to prepare an Environmental Noise Assessment for the proposed residential infill development to support the Minor Variance and Site Plan Approval (SPA) application submission to the City of Mississauga.

The proposed development consists of a single 3-storey townhouse building, with 40 stacked townhouse units. The building is located at the southwest corner of the overall property at 2121 Rathburn Road East, approximately 730 m east of the intersection of Rathburn Road East and Ponytrail Drive in the City of Mississauga.

The transportation noise source with potential to impact the proposed development is road traffic on Rathburn Road East and Centennial Park Boulevard. The stationary noise source with the potential to impact the proposed development is an existing 13-storey apartment building at 2121 Rathburn Road East.

The sound levels at the proposed development have been determined and compared with the applicable Ministry of the Environment, Conservation and Parks (MECP) and Region of Peel noise guideline limits to determine the need for noise mitigation.

The analysis shows that the applicable transportation and stationary noise guideline limits are predicted to be met without mitigation measures.

1.0 INTRODUCTION

VCL has been retained to prepare an Environmental Noise Assessment to support the Minor Variance and SPA application submission to the City of Mississauga. The potential sound levels and the mitigation measures required for the proposed development to comply with the MECP noise guideline requirements are outlined herein.

1.1 THE SITE AND SURROUNDING AREA

The proposed infill development is located at the southwest corner of the overall site at 2121 Rathburn Road East, along the north side of Rathburn Road East approximately 730 m east

of the intersection of Rathburn Road East and Ponytrail Drive in the City of Mississauga. The site is bounded by:

- Etobicoke Creek, with Centennial Park Boulevard beyond, to the east;
- Rathburn Road East, with an existing residential subdivision beyond, to the south;
- Existing detached residential dwellings, with Garnetwood Chase and existing residential subdivision beyond, to the west; and
- Etobicoke Creek to the north.

A Key Plan is included as Figure 1. The study is based on the Site Plan prepared by Kohn Partnership Architects Inc., dated September 8, 2025. The Site Plan is shown as Figure 2.

1.2 THE PROPOSED DEVELOPMENT

The proposed infill development consists of a 3-storey stacked townhouse building with 40 units (Block A). There is an existing 13-storey apartment building on the overall site, to the northeast of the proposed infill development, which will remain.

A 249 m^2 outdoor amenity area will be provided at the east side of the building. Private grade level patios will be provided for the lower level units along the north and south facades of the building.

2.0 TRANSPORTATION NOISE IMPACT ASSESSMENT

2.1 NOISE SOURCES

The transportation noise source with potential to impact the proposed development is road traffic on Rathburn Road East and Centennial Park Boulevard. Traffic volumes on the other surrounding roadways are anticipated to be minor, and no significant noise impact is expected. Thus, these roadways have not been considered further in this assessment.

Note, Rathburn Road East ends in a cul-de-sac directly east of the site. There are no plans to connect this roadway to Rathburn Road, which continues east of Centennial Park Boulevard in Etobicoke. Thus, the traffic volumes on this road are relatively low. Nonetheless, the noise impact from this roadway has been included in the assessment.

Classification Details Report with 24-hour traffic hourly counts for Rathburn Road East, monitored on June 25, 2025, was obtained from the City of Mississauga. Future (year 2035) traffic volumes were obtained by escalating the current volumes at a growth rate of 2%, compounded annually. Truck percentages and day/night split were calculated from the Report. A speed limit of 50 km/hr was used in the assessment.

The Average Daily Traffic volumes on Centennial Park Boulevard, monitored during a period between October 31, 2023 and November 2, 2023, were obtained from the Open Data portal on the City of Toronto website. The speed limit is shown as 50 km/hr in the vicinity of the site. Truck percentages (Heavy 2%, Medium 3%) and day/night split (90%/10%) were assumed.

The traffic data is shown in Appendix A and summarized in Table 1.

TABLE 1 ROAD TRAFFIC DATA

Roadway	Year	AADT(1)	% Trucks		Day/Night Split (%)	Speed Limit (kph)
			Medium	Heavy		
Rathburn Rd E (2)	2025 (2035)	2 247 (2 739)	1.4	0.4	93/7	50
Centennial Park Blvd (3)	2023 (2035)	7 205 (9 138)	2	3	90/10	50

Notes:

(1) Annual Average Daily Traffic.

(2) Classification Details Report with 24-hour traffic hourly counts on June 25, 2025 for Rathburn Rd E was obtained from the City of Mississauga. Future (year 2035) traffic volumes were obtained by escalating the current volumes at a growth rate of 2%, compounded annually. Truck percentages and day/night split were calculated from the Report.

(3) The Average Daily Traffic volumes on Centennial Park Boulevard for a period between October 31, 2023 and November 2, 2023 were obtained from the Open Data portal published on the City of Toronto website.

2.2 ENVIRONMENTAL NOISE GUIDELINES

2.3 MECP PUBLICATION NPC-300

The applicable noise guidelines for new residential development are those in MECP Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning". These noise guidelines are discussed briefly below and summarized in Appendix B.

2.3.1 Transportation Noise Sources

2.3.1.1 Architectural Elements

In the daytime, the indoor criterion for road noise is $L_{eq\ Day}$ of 45 dBA for sensitive spaces such as living/dining rooms, dens and bedrooms. At night, the indoor criterion for road noise is $L_{eq\ Night}$ of 45 dBA for sensitive spaces such as living/dining rooms and dens and 40 dBA for bedrooms.

The architectural design of the building envelope (walls, windows, etc.) must provide adequate sound isolation to achieve these indoor sound level limits, based on the applicable outdoor sound level on the facades.

2.3.1.2 Ventilation

In accordance with the MECP noise guideline for road traffic sources, if the daytime sound level ($L_{eq\ Day}$), at the exterior face of a noise sensitive window is greater than 65 dBA, means must be provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For daytime sound levels between 56 dBA and 65 dBA inclusive, there need only be the provision for adding air conditioning at a later date. This means a forced air heating system. A warning clause advising the occupant of the potential interference with some activities is also required. At nighttime, air conditioning would be required when the sound level

exceeds 60 dBA ($L_{eq\ Night}$) at a noise sensitive window (provision for adding air conditioning is required when greater than 50 dBA).

2.3.1.3 Outdoors

For outdoor amenity areas ("Outdoor Living Areas" – OLA's), the guideline objective is 55 dBA $L_{eq\ Day}$, with an excess not exceeding 5 dBA considered acceptable if it is not feasible to achieve the 55 dBA objective for technical, economic or administrative reasons, provided that warning clauses are registered on title.

Note that for road traffic sources, a balcony or elevated terrace is not considered an OLA, unless it is:

- the only OLA for the occupant;
- at least 4 m in depth; and
- unenclosed.

2.4 REGION OF PEEL

The Region of Peel noise guidelines are essentially the same as the MECP noise guidelines except that the nighttime sound level for triggering the air conditioning requirement is one dBA more stringent (i.e., less than) the sound levels specified by the MECP, i.e., mandatory air conditioning for nighttime sound levels of 60 dBA or greater, and the provision for adding air conditioning for levels between 51 to 59 dBA inclusive.

2.5 TRANSPORTATION NOISE IMPACT ASSESSMENT

2.5.1 METHOD

Using the road traffic data in Table 1, the sound energy levels, in terms of $L_{eq\ Day}$ and $L_{eq\ Night}$, were determined using STAMSON V5.04 – ORNAMENT, the computerized road traffic noise prediction model of the MECP.

The daytime and nighttime sound levels at the building facades were assessed at heights of 7.5 m above grade for townhouse building, representing the top residential floor windows, the worst case locations.

The daytime sound levels for the grade level patios and the outdoor amenity area were assessed at the centre of each amenity space, at a height of 1.5 m above grade.

Inherent screening of the building due to its orientation to the noise sources was taken into account. To be conservative, screening provided by existing buildings was not included in the assessment.

2.5.2 PREDICTED SOUND LEVELS

The highest daytime/nighttime sound levels are predicted to be 53 dBA/45 dBA at the south facade of the building. The highest daytime OLA sound level is predicted to be 53 dBA at the patios along the south side of the building.

Table 2 summarizes the predicted unmitigated sound levels. The sound level calculations are included in Appendix C.

TABLE 2 PREDICTED UNMITIGATED EXTERIOR SOUND LEVELS (1)

Location(1)	Roadway	Distance(2)	$L_{eq\ Day}$(dBA)	$L_{eq\ Night}$(dBA)
Southeast Corner (South Facade)	Rathburn Rd E	22	52	45
	Centennial Park Blvd	366	39	33
	TOTAL	**' –**	**53**	**45**
Southeast Corner (East Facade)	Rathburn Rd E	22	49	42
	Centennial Park Blvd	366	43	37
	TOTAL	**' –**	**50**	**43**
Sunken Patio South Side (OLA)	Rathburn Rd E	20	53	' –
Outdoor Amenity (OLA)	Rathburn Rd E	28	50	' –

Notes:

(1) See Figure 2 for the locations of the calculations.

(2) Distances measured from the centreline of the roadway to the receptor.

2.6 NOISE ABATEMENT REQUIREMENTS

The noise control measures can generally be classified into two categories which are interrelated, but which can be treated separately for the most part:

a) Architectural elements to achieve acceptable indoor noise guidelines for transportation sources; and

b) Design features to protect the OLAs.

Noise abatement requirements are summarized in Table 3 and Figure 2.

2.6.1 INDOORS

2.6.1.1 Architectural Elements

Based on the predicted façade sound levels, walls and windows meeting the minimum non-acoustical requirement of the Ontario Building Code (OBC) will be sufficient to achieve the indoor noise guideline criteria of the MECP.

2.6.1.2 Ventilation Requirements

Based on the daytime and nighttime sound levels, there are no ventilation requirements for the development.

2.6.2 OUTDOORS

As the predicted sound levels at the grade level patios are below 55 dBA, sound barriers are not required for noise control purposes.

2.6.3 WARNING CLAUSES

Warning clauses are a tool to inform prospective owners/occupants of potential annoyance due to existing noise sources. Warning clauses are not required for the development.

3.0 STATIONARY NOISE SOURCE ASSESSMENT

The stationary noise source with the potential to impact the proposed development is the existing 13-storey apartment building within the site itself. The noise sources include rooftop mechanical equipment (cooling tower, air handling unit and exhaust fans), parking exhaust fans and an emergency backup generator.

3.1 ENVIRONMENTAL NOISE GUIDELINES

The applicable environmental noise guidelines for new residential developments are given in MECP Publication NPC-300. The requirements are discussed below and are summarized in Appendix A.

The sound level limits for stationary sources are expressed in terms of the one-hour equivalent sound level $L_{eq, 1hr}$ (dBA). The hourly limit varies depending on the time period and the ambient noise environment of the area.

3.1.1 Sound Level Criteria - Class 1 Criteria

The site is in an urban area where man made sounds dominate the ambient sound environment 24 hours per day. This is defined as a Class 1 area by the MECP guidelines. The applicable limits for Class 1 areas are the higher of the ambient noise (primarily due to road traffic) or the exclusion limits. The exclusion limits for a Class 1 area are:

- 50 dBA during the daytime (0700 and 1900 hours) and evening (1900 and 2300 hours) at the exterior plane of window (POW) to a noise sensitive space and at an outdoor point of reception (OPOR); and
- 45 dBA during the nighttime (2300 and 0700 hours) at the exterior POW to a noise sensitive space. There are no sound level limits at an OPOR at night.

The POWs within the proposed development are the windows of the living rooms/bedrooms. There are no indoor sound level limits for stationary sources. The OPORs associated with the proposed development are the grade level patios along the north and south sides of the building.

The guidelines require a predictable worst-case assessment. The predictable worst-case is when the difference between the sound level from the stationary noise source and the applicable guideline limit is greatest.

For emergency equipment, such as a generator, the sound level limits apply during routine testing but not during emergency situations. The sound level limits are 5 dB higher than those stated

above. In addition, NPC-300 specifies that noise from routine testing of emergency equipment should be assessed separately from all other equipment. Since the regular testing of the emergency generator is conducted during the normal business hours, the exclusion limit for the generator in a Class 1 area is 55 dBA during the daytime/evening at a POW or OPOR.

3.1.2 Applicable Guideline Limits

Due to relatively low traffic volumes on the surrounding roadways, the minimum exclusion limits have been applied to all receptors within the development.

3.2 NOISE SOURCES

VCL staff visited the site and existing apartment building on July 28, 2025 to review the noise sources at the building. The noise sources include rooftop mechanical units (cooling tower, air handling unit and exhaust fans), an emergency backup generator and parking garage exhaust fans.

Sound level data for the rooftop units were based on measurements completed by VCL staff during the site visit. Source sound level data is summarized in Table 4.

The parking garage exhaust fans were not operating during VCL's site visit. It's understood these fans are on carbon monoxide detectors and only operate when levels exceed a predetermined threshold. The fans are only expected to operate for a small period of time (2-5 minutes) during peak hours of the morning/afternoon commute. Sound data for the parking exhaust fans were based on similar projects completed by VCL.

The indoor generator is located on the ground floor, towards the northeast corner of the building. VCL staff were not able to measure the noise produced by the generator during the visit. Noise would typically be audible from the combustion exhaust opening and intake/exhaust louvres interfacing with the exterior. As these noise sources are on the opposite site of the building from the proposed development, the noise would be screened from the subject site by the building itself. Thus, the noise impact from the generator is expected to be insignificant and was not considered further in the analysis.

3.3 OPERATING SCENARIOS

The operating scenarios considered in the assessment are:

- Daytime/evening hour (any hour between 0700 to 2300):
  - all rooftop units operating at 100% duty cycle (each unit operates for a full hour);
  - parking garage exhaust fan operates for 5 minutes of the hour.
- Nighttime hour (any hour between 2300 to 0700):
  - cooling tower operating at 50% duty cycle (30 minutes per hour).
  - air handling unit and exhaust fans operating for 60 minutes for the hour
  - parking garage exhaust fan operates for 5 minutes of the hour.

Source ID's and detailed information for each of the noise sources are summarized in Table 4. The noise source locations are shown on Figure 3.

TABLE 4 STATIONARY NOISE SOURCES AT APARTMENT BUILDING

Source ID(1)	Sound Power Level (dBA re 10^{-12} W)	Source Height (m)(4)	Description	Operating Scenario	
				Daytime/Evening (min/hour)	Nighttime (min/hour)
CT	99 (2)	4.5	Cooling Tower	60	30
AHU	80 (2)	1.0	AHU Intake	60	60
EF1	82 (2)	1.8	Exhaust Fan	60	60
EF2	76 (2)	2.4	Exhaust Fan	60	60
EF3	76 (3)	2.4	Exhaust Fan	60	60
EF4	76 (3)	2.4	Exhaust Fan	60	60
Parking EF1	94(5)	0.05	Parking Garage Exhaust Fan	5	5
Parking EF2	94(5)	0.05	Parking Garage Exhaust Fan	5	5

Notes:

(1) See Figure 3.
(2) From sound measurements done at the apartment rooftop on July 28, 2025.
(3) The unit was off during on-site measurements. The measured sound data from EF2 was used for the analysis.
(4) All rooftop source heights are relative to the top of the roof. The source heights of the parking garage fans are relative to grade.
(5) Sound data from similar projects

3.4 ANALYSIS METHOD

The analysis was done using the CadnaA V2024 MR1 environmental acoustics modelling software. The 3-D model follows the procedures of ISO 9613 Part 2, *"Acoustics – Attenuation of Sound During Propagation Outdoors".*

The sound level predictions at the building facades were done using the building evaluation method in the CadnaA acoustic model. This method calculates sound levels on a grid of receivers over each facade at each storey of the building. Point receptors were used for the grade level patios.

The following parameters were used in the model:

- Hard ground (G = 0) was used for the roadways and the paved areas. Soft ground (G = 1) was used elsewhere.
- Two orders of sound reflection were included in the assessment.

- A sound level reduction was included for the parking garage exhaust shaft

On Figure 3, the octagons surrounding the building show the maximum predicted sound level at each exterior POW location, at any storey. Point receptors were used for the grade level patios. The receptors were assessed at a standing height of 1.5 m above grade.

Appendix D contains additional calculation details.

3.5 PREDICTED SOUND LEVELS – UNMITIGATED

As shown on Figure 3, the sound levels at the proposed development are predicted to meet the applicable guideline limits. Thus, noise mitigation is not required for the development.

4.0 CONCLUSIONS

A noise impact assessment has been prepared for the proposed residential infill development located at 2121 Rathburn Road East in the City of Mississauga. The assessment shows that noise control measures are not required to meet the MECP and Region of Peel noise guidelines.

5.0 REFERENCES

1. PC STAMSON 5.04, “Computer Program for Road Traffic Noise Assessment”, Ontario Ministry of the Environment.

2. Building Practice Note No. 56: "Controlling Sound Transmission into Buildings", by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.

3. “Environmental Noise Guideline – Stationary and Transportation Sources, Approval and Planning”, Ontario Ministry of the Environment, Publication NPC-300, October 2013.

4. Peel Region, General Guidelines for the Preparation of Acoustical Reports, Created November 2012, last updated August 2020. “https://peelregion.ca/business/planning/development-services/general-guidelines-preparation-acoustical-reports”

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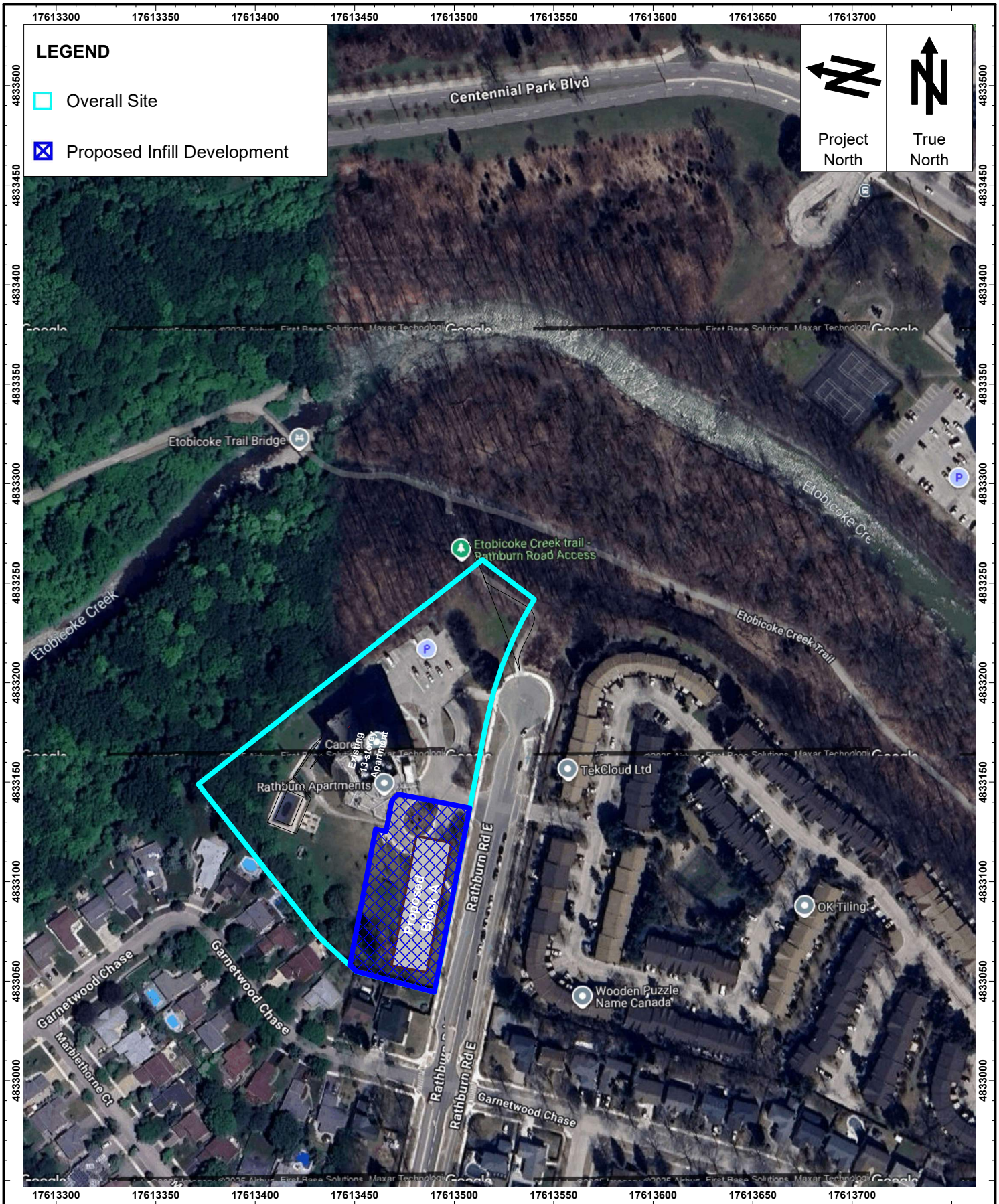

VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: **Key Plan**	Date: **Sept. 10, 2025**	Figure: **1**
	Project Name: **2121 Rathburn Road East, Mississauga**	Project No.: **1250230.000**	

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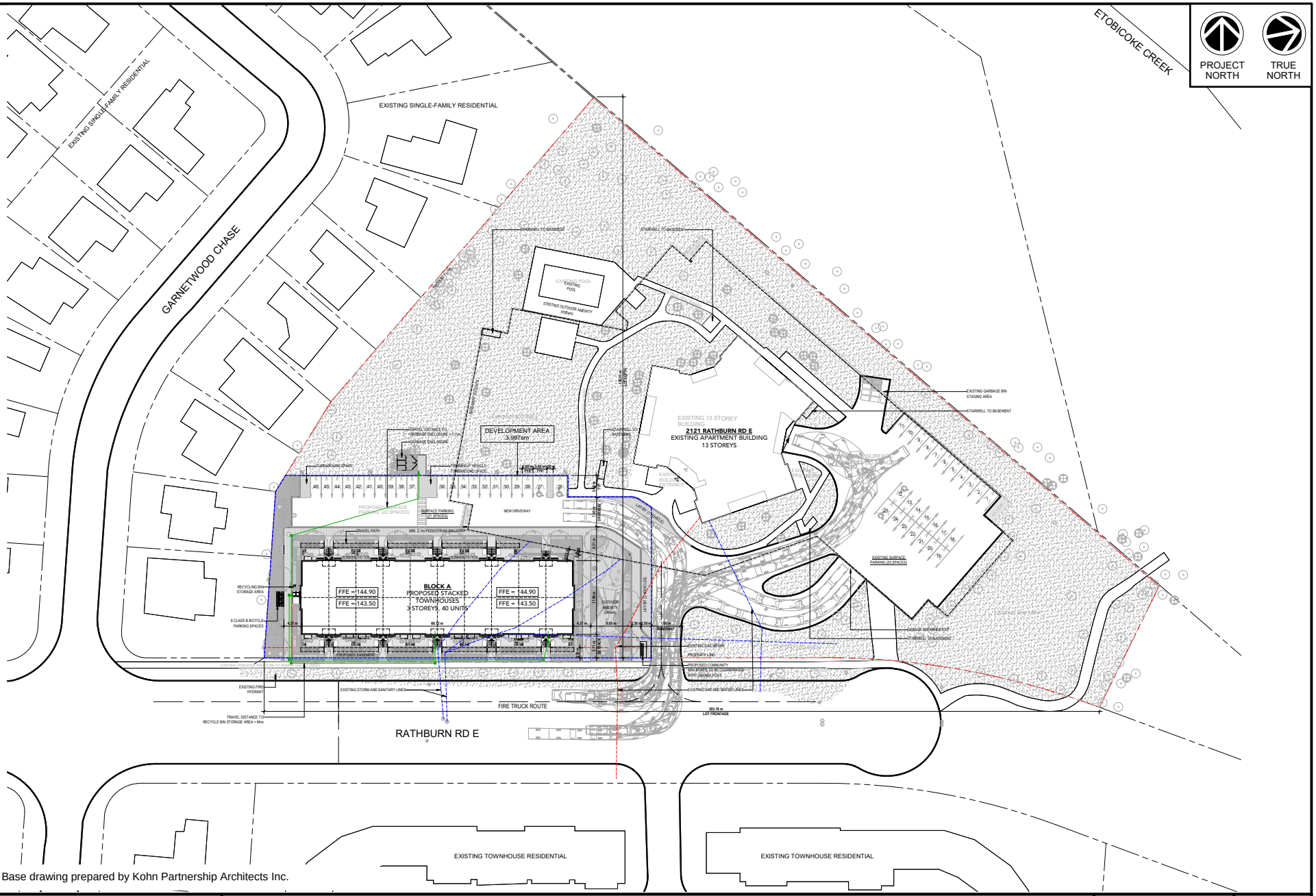
Date Plotted: 10.09.25



Base drawing prepared by Kohn Partnership Architects Inc.

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title
Site Plan

Date
Sept. 10, 2025

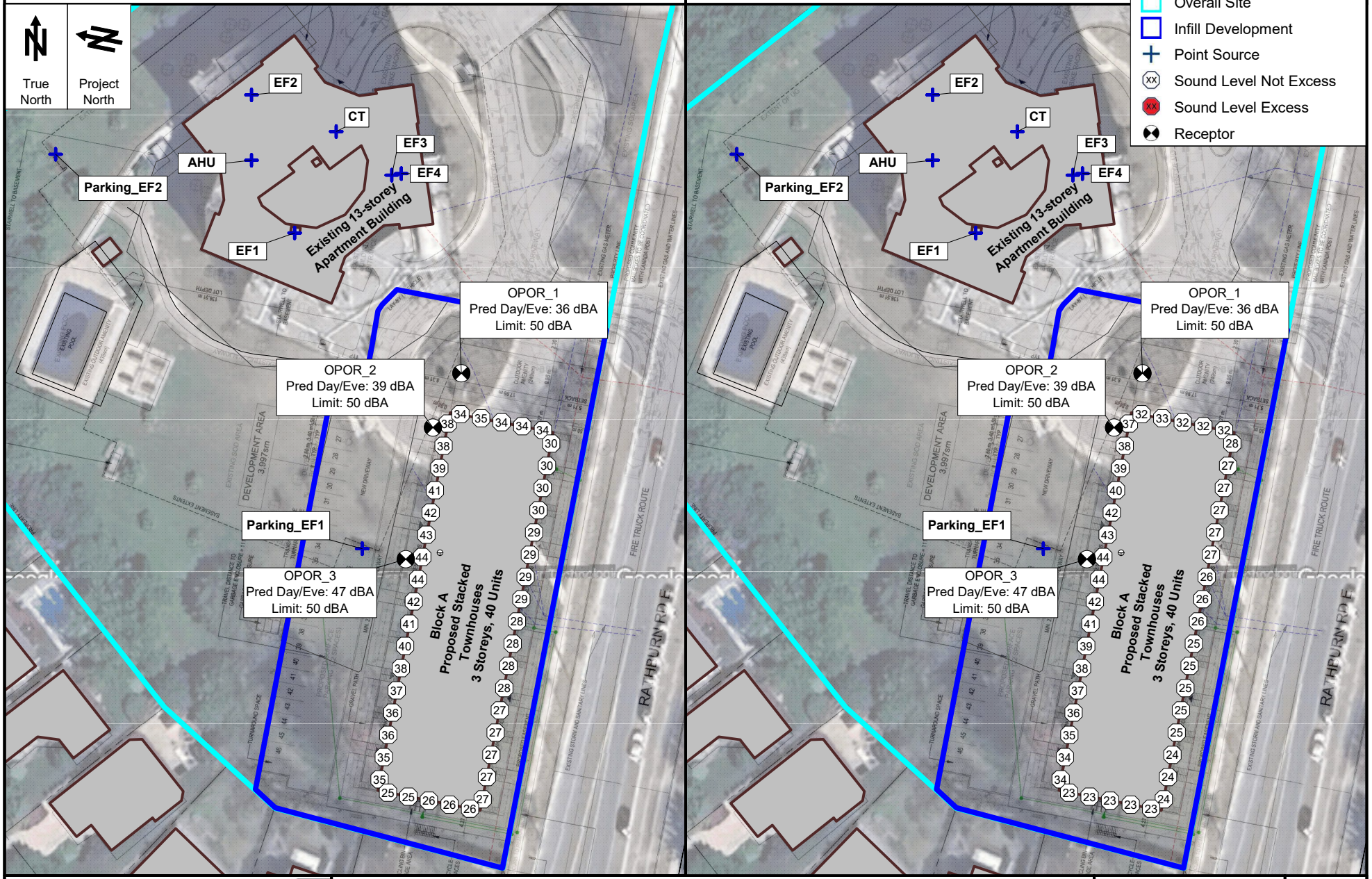
Figure
2

Project Name
2121 Rathburn Road East, Mississauga

Project No.
1250230.000

Daytime and Evening Scenario (0700 to 2300 Hours)

Nighttime Scenario (2300 to 0700 Hours)



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Unmitigated Hourly Sound Levels (dBA)	**Sept 9, 2025**	**3**
Project Name: **2121 Rathburn Road East, Mississauga**	Project No.: **1250230.000**	

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Date Plotted: 10.09.25

APPENDIX A
ROAD TRAFFIC DATA

Classification Details Report

Location: RATHBURN RD E btwn GARNETWOOD CHASE & GARNETWOOD CHASE

Municipality: Mississauga

Both directions

	1	2	3	4	5	6	7	8	Grand Total
Start Time	0-4.8	4.9-9	9.1-10	10.1-13	13.1-15.8	15.9-18.8	18.9-22.5	22.6-40	
6-25-2025 12:00 AM	10	7	0	0	0	0	0	0	17
6-25-2025 1:00 AM	5	7	0	0	0	0	0	0	12
6-25-2025 2:00 AM	2	0	0	0	0	0	0	0	2
6-25-2025 3:00 AM	2	2	0	0	0	0	0	0	4
6-25-2025 4:00 AM	2	0	0	0	0	0	0	0	2
6-25-2025 5:00 AM	12	13	0	0	0	0	0	0	25
6-25-2025 6:00 AM	36	22	0	2	0	0	1	0	61
6-25-2025 7:00 AM	65	44	2	3	2	0	0	0	116
6-25-2025 8:00 AM	100	58	1	5	1	0	0	0	165
6-25-2025 9:00 AM	63	50	1	2	0	0	0	0	116
6-25-2025 10:00 AM	68	49	0	3	0	1	0	0	121
6-25-2025 11:00 AM	64	44	0	1	0	0	0	0	109
6-25-2025 12:00 PM	71	48	1	3	0	0	0	0	123
6-25-2025 1:00 PM	63	36	1	1	0	0	0	0	101
6-25-2025 2:00 PM	64	68	1	1	0	0	0	0	134
6-25-2025 3:00 PM	85	57	0	1	1	0	1	0	145
6-25-2025 4:00 PM	81	71	0	1	1	0	0	0	154
6-25-2025 5:00 PM	125	77	0	0	0	0	0	0	202
6-25-2025 6:00 PM	109	61	0	0	0	0	0	0	170
6-25-2025 7:00 PM	89	52	0	1	0	0	0	0	142
6-25-2025 8:00 PM	80	63	0	0	0	0	0	0	143
6-25-2025 9:00 PM	60	34	0	0	0	0	0	0	94
6-25-2025 10:00 PM	26	27	0	0	0	0	0	0	53
6-25-2025 11:00 PM	27	9	0	0	0	0	0	0	36
Grand Total	1309	899	7	24	5	1	2	0	2247
	1	2	3	4	5	6	7	8	Grand Total
Total %	58.26%	40.01%	0.31%	1.07%	0.22%	0.04%	0.09%	0.00%	100.00%

085 | Centennial Park Blvd: Rathburn Rd - Centennial Park Trl

A	B	C	D	E	F	G	H	I	J	K	L	R
_id	est_count_	latest_count_type	t_count_date	t_count_date	_count_du	location_name	longitude	latitude	centreline_id	avg_daily_vol	avg_weekday_daily_vo	avg_speed
1069	3008173	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	t: Lane N of Tarragona and E of Mondivi - Lane N of Viella and E of	-79.4734	43.67246	14311158	452.3	452.3	22.1
1070	3008151	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Leslie St: Unwin Ave - Commissioners St	-79.3246	43.65443	14662717	4169.3	4169.3	40
1071	3008149	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Almayo Cres: Silverstone Dr - Bucksburn Rd	-79.6014	43.75115	906620	281.7	281.7	30.6
1072	3008053	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Hounslow Ave: Wynn Rd - Stafford Park Trl	-79.4366	43.77066	30093433	870.3	870.3	39.5
1073	3008027	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Paget Rd: Victoria Park Ave - Waringstown Dr	-79.3156	43.7601	109233	1075.7	1075.7	34.1
1074	3008023	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Kennedy Rd: Radnor Ave - Mike Myers Dr	-79.2739	43.7466	14605392	26110.3	26110.3	47.7
1075	149013	ATR_VOLUME	1995-10-16	1995-10-16	24	Hwy 404 N	-79.352	43.81322	436110	2858	2858	
1076	3008019	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Fitzgibbon Ave: Tara Ave - Arnott St	-79.263	43.7433	110529	943	943	33
1077	3008018	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Fitzgibbon Ave: Medina Cres - Romulus Dr	-79.2639	43.74536	60042736	1103.7	1103.7	36.3
1078	3007952	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Scarborough Golf Club Rd: Tillinghast Lane - Confederation Dr	-79.2136	43.75506	109441	11103	11103	46
1079	3007761	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Montgomery Ave: Duplex Ave - Edith Dr	-79.4024	43.70888	30075964	1735.3	1735.3	33.3
1080	3007642	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Fairlawn Ave: Ledbury St - Falkirk St	-79.4253	43.72625	444211	1730.7	1730.7	34.7
1081	3007630	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Navenby Cres: Duncanwoods Dr - Gracedale Blvd	-79.5644	43.75429	441029	1177.7	1177.7	35.7
1082	3007629	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Shorncliffe Rd: Shaver Ave S - Lockport Ave	-79.5433	43.62888	912916	15329.3	15329.3	55.8
1083	3007614	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Crawford St: Trinity Bellwoods Park Trl - Lobb Ave	-79.4156	43.64633	30036977	1125.3	1125.3	24.7
1084	3007497	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Centennial Park Blvd: Rathburn Rd - Centennial Park Trl	-79.5927	43.64571	60013086	7205.3	7205.3	56.2
1085	3007608	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Thomas McClintock Lane	-79.3492	43.67931	30122135	118	118	10
1086	3007594	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Lawrence Ave E: Florist Lane - Morningside Ave	-79.1873	43.76817	20112786	19254.7	19254.7	40.2
1087	3007582	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Lambton Ave: Cashman Cres - Arnold Ave	-79.4877	43.68338	9544805	2892.7	2892.7	40.1
1088	3007581	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Lambton Ave: Gray Ave - Beechwood Ave	-79.4942	43.6819	8535201	3249.3	3249.3	41.8
1089	3007578	ATR_SPEED_VOLUME	2023-10-31	2023-11-02	72	Glendale Ave: Parkdale Rd - Garden Ave	-79.451	43.64213	1146815	957.3	957.3	27
1090	3007315	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Sheppard Ave W: Keele St - Sentinel Rd	-79.4892	43.74423	10133008	37701	37701	44.4
1091	3007317	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Sheppard Ave W: Buckland Rd - Yatescastle Dr	-79.5051	43.7407	10257867	25836	25836	52.3
1092	3007117	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Brookmill Blvd: 50 Brookmill Blvd - Bridletowne Park Trl	-79.3144	43.80183	30021421	2193	2193	30
1093	3007008	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Walford Rd: Bannon Ave - Marquis Ave	-79.5059	43.6586	910655	520	520	25.2
1094	3007129	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Cassandra Blvd: Underhill Park Trl - Redwillow Dr	-79.3281	43.74817	30100005	1529	1529	36.7
1095	3007301	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Humber Blvd to Alliance Ave	-79.4835	43.67857	9051	9268	9268	37.2
1096	3007296	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Rosewell Ave: Cheritan Ave - Lawrence Ave W	-79.4129	43.72144	8566546	2138	2138	33.7
1097	3007141	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	reenfield Ave: Lane E of Yonge and N of Greenfield Ave - Doris Av	-79.4097	43.76368	20040806	5456	5456	32
1098	3007205	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Sidney Belsey Cres: Westpoint Lane - Portage Gardens Park Trl	-79.5095	43.69172	60007989	1301	1301	24.3
1099	3007202	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Seneca Hill Dr: Trudy Rd - Rock Fernway	-79.3608	43.78884	437076	1914	1914	32.6
1100	3007178	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Brimorton Dr: Neapolitan Dr - Bromton Dr	-79.2542	43.7661	108579	4323	4323	42.5
1101	3007158	ATR_SPEED_VOLUME	2023-10-24	2023-10-26	72	Patricia Ave: Homewood Ave - Laconia Dr	-79.4417	43.78504	7156908	2843	2843	43.8
1102	3007422	ATR_SPEED_VOLUME	2023-10-24	2023-10-26	72	Hwy 401 Collectors E / Yorkdale Rd E Ramp - Hwy 401 W / Allen Y	-79.4523	43.7286	4940064	15567.7	15567.7	51.1
1103	3007172	ATR_SPEED_VOLUME	2023-10-24	2023-10-24	24	Packard Blvd: Hurley Cres - Stanwell Dr	-79.253	43.76753	108418	1159	1159	34.2
1104	3007391	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Lawrence Ave E: Megan Ave - Morning Dew Rd	-79.1697	43.77211	107763	16997.7	16997.7	52.3
1105	3007514	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Wynford Dr: Wynford DVP N Ramp - Wynford Heights Cres	-79.3288	43.72713	443947	14463.7	14463.7	42.8
1106	3007490	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Colborne Lodge Dr to High Park Trl	-79.4648	43.65084	30042190	1960	1960	24.4
1107	3007489	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Colborne Lodge Dr: Deer Pen Rd - Allotment Lane	-79.4648	43.64666	30042183	2096.3	2096.3	23.9
1108	3007488	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Centre Rd: High Park Trl - Greenhouse Rd	-79.4608	43.64519	30040336	1599	1599	32.4
1109	3007487	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	High Park Blvd: Parkside Dr - Howard Park Ave	-79.4569	43.64475	7705626	2031.7	2031.7	29.9
1110	3007486	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Brimwood Blvd: Ardgowan Cres - Sandhurst Crcl	-79.2714	43.81122	104025	3850	3850	34.8
1111	3007472	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	White Heather Blvd: Lady Sarah Cres - Finch Corridor Trl	-79.2668	43.81731	9750939	2056.7	2056.7	41.5
1112	3007471	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	White Heather Blvd: Longsword Dr - Lady Sarah Cres	-79.2663	43.81616	103622	1979.7	1979.7	40.3
1113	3007470	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	White Heather Blvd: Ashridge Dr - Longsword Dr	-79.266	43.81513	103678	1914	1914	34.2
1114	3007467	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	White Heather Blvd: Dragoon Cres - Big Red Ave	-79.2665	43.81351	103816	2496	2496	34
1115	3007466	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	White Heather Blvd: Sandhurst Crcl - Dragoon Cres	-79.2664	43.81223	103968	2714	2714	35
1116	3007460	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Curlew Dr: Crab Appleway - Rialto Dr	-79.3158	43.74328	8292440	6798.3	6798.3	43.9
1117	3007454	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Silverthorn Ave: Rockwell Ave - Turnberry Ave	-79.4614	43.67816	1140966	1168	1168	22.1
1118	3007453	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Silverthorn Ave: Turnberry Ave - Rowntree Ave	-79.4622	43.68003	1140626	1203	1203	27.2
1119	3007449	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Logan Ave: Garnock Ave - Lane S of Danforth and E of Logan	-79.3493	43.67705	14021507	3427.7	3427.7	26
1120	3007448	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Logan Ave: Lane S of Danforth and W of Logan - Danforth Ave	-79.3496	43.6778	14021506	3231	3231	23.4
1121	3007400	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Oakmeadow Blvd: Stonefield Cres - Highcastle Rd	-79.2138	43.78707	106396	866	866	34.5
1122	3007399	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	Highcastle Rd: Oakmeadow Blvd - Pineslope Cres	-79.2148	43.78725	106397	523	523	34.3
1123	3007397	ATR_SPEED_VOLUME	2023-10-17	2023-10-19	72	John Stoner Dr: Shawn Blu Rose Park Trl - Fawcett Trl	-79.2096	43.81325	30099464	230	230	25.7

APPENDIX B

NOISE GUIDELINES

APPENDIX B

ENVIRONMENTAL NOISE GUIDELINES

MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)

Reference: MECP Publication NPC-300, October 2013: *"Environmental Noise Guideline, Stationary and Transportation Source – Approval and Planning"*.

SPACE	SOURCE	TIME PERIOD	CRITERION
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	Road	23:00 to 07:00	45 dBA
	Rail	23:00 to 07:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Sleeping quarters	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 0
Sleeping quarters	Road	23:00 to 07:00	40 dBA
	Rail	23:00 to 07:00	35 dBA
	Aircraft	24-hour period	NEF/NEP 0
Outdoor Living Areas	Road and Rail	07:00 to 23:00	55 dBA
Outdoor Point of Reception	Aircraft	24-hour period	NEF/NEP 30#
	Stationary Source		
	Class 1 Area	07:00 to 19:00(1)	50* dBA
		19:00 to 23:00(1)	50* dBA
	Class 2 Area	07:00 to 19:00(2)	50* dBA
		19:00 to 23:00(2)	45* dBA
	Class 3 Area	07:00 to 19:00(3)	45* dBA
		19:00 to 23:00(3)	40* dBA
	Class 4 Area	07:00 to 19:00(4)	55* dBA
		19:00 to 23:00(4)	55* dBA

…./cont'd

SPACE	SOURCE	TIME PERIOD	CRITERION
Plane of a Window of Noise Sensitive Spaces	Stationary Source		
	Class 1 Area	07:00 to 19:00(1)	50* dBA
		19:00 to 23:00(1)	50* dBA
		23:00 to 07:00(1)	45* dBA
	Class 2 Area	07:00 to 19:00(2)	50* dBA
		19:00 to 23:00(2)	50* dBA
		23:00 to 07:00(2)	45* dBA
	Class 3 Area	07:00 to 19:00(3)	45* dBA
		19:00 to 23:00(3)	45* dBA
		23:00 to 07:00(3)	40* dBA
	Class 4 Area	07:00 to 19:00(4)	60* dBA
		19:00 to 23:00(4)	60* dBA
		23:00 to 07:00(4)	55* dBA

\# may not apply to in-fill or re-development.
* or the minimum hourly background sound exposure $L_{eq(1)}$, due to road traffic, if higher.
(1) Class 1 Area: Urban.
(2) Class 2 Area: Urban during day; rural-like evening and night.
(3) Class 3 Area: Rural.
(4) Class 4 Area: Subject to land use planning authority's approval.

Reference: MECP Publication ISBN 0-7729-2804-5, 1987: *"Environmental Noise Assessment in Land-Use Planning"*.

EXCESS ABOVE RECOMMENDED SOUND LEVEL LIMITS (dBA)	CHANGE IN SUBJECTIVE LOUDNESS ABOVE	MAGNITUDE OF THE NOISE PROBLEM	NOISE CONTROL MEASURES (OR ACTION TO BE TAKEN)
No excess (<55 dBA)	—	No expected noise problem	None
1 to 5 inclusive (56 to 60 dBA)	Noticeably louder	Slight noise impact	If no physical measures are taken, then prospective purchasers or tenants should be made aware by suitable warning clauses.
6 to 10 inclusive (61 - 65 dBA)	Almost twice as loud	Definite noise impact	Recommended.
11 to 15 inclusive (66 - 70 dBA)	Almost three times as loud	Serious noise impact	Strongly Recommended.
16 and over (>70 dBA)	Almost four times as loud	Very serious noise impact	Strongly Recommended (may be mandatory).

APPENDIX C

TRANSPORTATION NOISE SOURCE CALCULATIONS

```
STAMSON 5.04        NORMAL REPORT        Date: 10-09-2025 14:03:50
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: a_sf.te              Time Period: Day/Night 16/8 hours
Description: Predicted Sound Levels - South Facade


Road data, segment # 1: Rathburn Rd (day/night)
-----------------------------------------------
Car traffic volume  :  2501/188   veh/TimePeriod  *
Medium truck volume :    36/3     veh/TimePeriod  *
Heavy truck volume  :    10/1     veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     6 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):   2247
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  10.00
    Medium Truck % of Total Volume     :   1.40
    Heavy Truck  % of Total Volume     :   0.40
    Day (16 hrs) % of Total Volume     :  93.00

Data for Segment # 1: Rathburn Rd (day/night)
---------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  22.00 / 22.00  m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


Road data, segment # 2: Centennial P (day/night)
------------------------------------------------
Car traffic volume  :  7813/868   veh/TimePeriod  *
Medium truck volume :   164/18    veh/TimePeriod  *
Heavy truck volume  :   247/27    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     6 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):   7205
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.00
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00
```

```
Data for Segment # 2: Centennial P (day/night)
-----------------------------------------------
Angle1   Angle2           :  17.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 366.00 / 366.00 m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


Results segment # 1: Rathburn Rd (day)
---------------------------------------

Source height = 0.79 m

ROAD (0.00 + 52.37 + 0.00) = 52.37 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.50  56.05   0.00  -2.50  -1.18   0.00   0.00   0.00  52.37
-------------------------------------------------------------------------------

Segment Leq : 52.37 dBA


Results segment # 2: Centennial P (day)
---------------------------------------

Source height = 1.32 m

ROAD (0.00 + 39.31 + 0.00) = 39.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    17     90   0.49  65.30   0.00 -20.61  -5.38   0.00   0.00   0.00  39.31
-------------------------------------------------------------------------------

Segment Leq : 39.31 dBA

Total Leq All Segments: 52.58 dBA


Results segment # 1: Rathburn Rd (night)
-----------------------------------------

Source height = 0.85 m

ROAD (0.00 + 44.53 + 0.00) = 44.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.50  48.20   0.00  -2.49  -1.17   0.00   0.00   0.00  44.53
-------------------------------------------------------------------------------
```

Segment Leq : 44.53 dBA

Results segment # 2: Centennial P (night)

Source height = 1.31 m

ROAD (0.00 + 32.73 + 0.00) = 32.73 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
17	90	0.49	58.71	0.00	-20.61	-5.38	0.00	0.00	0.00	32.73

Segment Leq : 32.73 dBA

Total Leq All Segments: 44.81 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.58
(NIGHT): 44.81

APPENDIX D

SAMPLE STATIONARY NOISE SOURCE CALCULATION

2121 Rathburn Road East

Point Sources

Name	Sel.	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
				Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
CT			CT	99.3	99.3	99.3	Lw	CT		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	4.50	g	17613461.34	4833171.25	38.72
AHU			AHU	80.0	80.0	80.0	Lw	AHU		0.0	0.0	0.0				60.00	60.00	60.00	0.0		(none)	1.00	g	17613446.77	4833166.31	35.22
EF1			EF1	81.5	81.5	81.5	Lw	EF1		0.0	0.0	0.0				60.00	60.00	60.00	0.0		(none)	1.80	g	17613454.19	4833153.83	36.02
EF2			EF2	76.2	76.2	76.2	Lw	EF2		0.0	0.0	0.0				60.00	60.00	60.00	0.0		(none)	2.40	g	17613446.75	4833177.56	36.62
EF3			EF3	76.2	76.2	76.2	Lw	EF2		0.0	0.0	0.0				60.00	60.00	60.00	0.0		(none)	2.40	g	17613470.90	4833163.77	36.62
EF4			EF4	76.2	76.2	76.2	Lw	EF2		0.0	0.0	0.0				60.00	60.00	60.00	0.0		(none)	2.40	g	17613472.57	4833164.02	36.62
Parking_EF			Parking_EF1	84.4	84.4	84.4	Lw	EF_Parking		0.0	0.0	0.0			ExhaustShaft	5.00	5.00	5.00	0.0		(none)	0.05	r	17613465.82	4833099.48	0.05
Parking_EF 2			Parking_EF2	84.4	84.4	84.4	Lw	EF_Parking		0.0	0.0	0.0			ExhaustShaft	5.00	5.00	5.00	0.0		(none)	0.05	r	17613413.07	4833167.36	0.05

Sound Level Library

Name	ID	Type	1/3 Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
CT	CT	Lw (c)		86.2	88.8	94.1	92.4	95.2	89.6	81.7	76.8	71.1	99.3	105.4	Measurement 2025-07-28
AHU	AHU	Lw (c)		79.5	78.3	79.9	69.7	71.5	74.8	56.7	53.3	42.0	79.7	89.7	Measurement 2025-07-28
EF1	EF1	Lw (c)		73.2	71.9	78.9	75.9	70.6	63.8	64.2	57.4	49.2	80.6	87.8	Measurement 2025-07-28
EF2	EF2	Lw (c)		66.4	73.6	75.2	74.7	70.2	65.9	60.8	55.0	49.6	76.1	84.0	Measurement 2025-07-28
Parking Exhaust Fans	EF_Parking	Lw		0.0	85.0	91.0	91.0	89.0	88.0	87.0	85.0	82.0	93.8	97.2	1220104

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	0.00
Night-time Penalty (dB)	0.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613 (1996))	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	1.00
Wind Speed for Dir. (m/s)	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

(c) Valcoustics Canada Ltd.

Receiver
Name:
ID: OPOR_3
X: 17613473.32 m
Y: 4833097.67 m
Z: 1.50 m

Point Source, ISO 9613, Name: "CT", ID: "CT"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1	17613461.34	4833171.25	38.72	0	D	A	99.3	0.0	0.0	0.0	0.0	49.4	0.3	-1.6	0.0	0.0	20.9	0.0	0.0	30.3
1	17613461.34	4833171.25	38.72	0	N	A	99.3	0.0	-3.0	0.0	0.0	49.4	0.3	-1.6	0.0	0.0	20.9	0.0	0.0	27.2
1	17613461.34	4833171.25	38.72	0	E	A	99.3	0.0	0.0	0.0	0.0	49.4	0.3	-1.6	0.0	0.0	20.9	0.0	0.0	30.3
2	17613461.34	4833171.25	38.72	1	D	A	99.3	0.0	0.0	0.0	0.0	49.6	0.3	-0.4	0.0	0.0	21.0	0.0	2.0	26.7
2	17613461.34	4833171.25	38.72	1	N	A	99.3	0.0	-3.0	0.0	0.0	49.6	0.3	-0.4	0.0	0.0	21.0	0.0	2.0	23.7
2	17613461.34	4833171.25	38.72	1	E	A	99.3	0.0	0.0	0.0	0.0	49.6	0.3	-0.4	0.0	0.0	21.0	0.0	2.0	26.7

Point Source, ISO 9613, Name: "Parking_EF", ID: "Parking_EF1"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
3	17613465.82	4833099.48	0.05	0	D	A	84.4	0.0	-10.8	0.0	0.0	28.9	0.2	-2.0	0.0	0.0	0.0	0.0	0.0	46.5
3	17613465.82	4833099.48	0.05	0	N	A	84.4	0.0	-10.8	0.0	0.0	28.9	0.2	-2.0	0.0	0.0	0.0	0.0	0.0	46.5
3	17613465.82	4833099.48	0.05	0	E	A	84.4	0.0	-10.8	0.0	0.0	28.9	0.2	-2.0	0.0	0.0	0.0	0.0	0.0	46.5
27	17613465.82	4833099.48	0.05	1	D	A	84.4	0.0	-10.8	0.0	0.0	33.5	0.4	-1.7	0.0	0.0	0.0	0.0	2.0	39.4
27	17613465.82	4833099.48	0.05	1	N	A	84.4	0.0	-10.8	0.0	0.0	33.5	0.4	-1.7	0.0	0.0	0.0	0.0	2.0	39.4
27	17613465.82	4833099.48	0.05	1	E	A	84.4	0.0	-10.8	0.0	0.0	33.5	0.4	-1.7	0.0	0.0	0.0	0.0	2.0	39.4

Point Source, ISO 9613, Name: "EF1", ID: "EF1"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
28	17613454.19	4833153.83	36.02	0	D	A	81.5	0.0	0.0	0.0	0.0	47.7	0.2	-1.8	0.0	0.0	15.3	0.0	0.0	20.0
28	17613454.19	4833153.83	36.02	0	N	A	81.5	0.0	0.0	0.0	0.0	47.7	0.2	-1.8	0.0	0.0	15.3	0.0	0.0	20.0
28	17613454.19	4833153.83	36.02	0	E	A	81.5	0.0	0.0	0.0	0.0	47.7	0.2	-1.8	0.0	0.0	15.3	0.0	0.0	20.0
29	17613454.19	4833153.83	36.02	1	D	A	81.5	0.0	0.0	0.0	0.0	48.0	0.2	-0.9	0.0	0.0	15.3	0.0	2.0	16.8
29	17613454.19	4833153.83	36.02	1	N	A	81.5	0.0	0.0	0.0	0.0	48.0	0.2	-0.9	0.0	0.0	15.3	0.0	2.0	16.8
29	17613454.19	4833153.83	36.02	1	E	A	81.5	0.0	0.0	0.0	0.0	48.0	0.2	-0.9	0.0	0.0	15.3	0.0	2.0	16.8

Point Source, ISO 9613, Name: "AHU", ID: "AHU"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
30	17613446.77	4833166.31	35.22	0	D	A	80.0	0.0	0.0	0.0	0.0	49.2	0.2	-2.1	0.0	0.0	22.8	0.0	0.0	9.9
30	17613446.77	4833166.31	35.22	0	N	A	80.0	0.0	0.0	0.0	0.0	49.2	0.2	-2.1	0.0	0.0	22.8	0.0	0.0	9.9
30	17613446.77	4833166.31	35.22	0	E	A	80.0	0.0	0.0	0.0	0.0	49.2	0.2	-2.1	0.0	0.0	22.8	0.0	0.0	9.9
31	17613446.77	4833166.31	35.22	1	D	A	80.0	0.0	0.0	0.0	0.0	49.5	0.2	-1.3	0.0	0.0	25.1	0.0	2.0	4.5
31	17613446.77	4833166.31	35.22	1	N	A	80.0	0.0	0.0	0.0	0.0	49.5	0.2	-1.3	0.0	0.0	25.1	0.0	2.0	4.5
31	17613446.77	4833166.31	35.22	1	E	A	80.0	0.0	0.0	0.0	0.0	49.5	0.2	-1.3	0.0	0.0	25.1	0.0	2.0	4.5

Point Source, ISO 9613, Name: "EF3", ID: "EF3"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
32	17613470.90	4833163.77	36.62	0	D	A	76.2	0.0	0.0	0.0	0.0	48.5	0.3	-1.1	0.0	0.0	10.1	0.0	0.0	18.4
32	17613470.90	4833163.77	36.62	0	N	A	76.2	0.0	0.0	0.0	0.0	48.5	0.3	-1.1	0.0	0.0	10.1	0.0	0.0	18.4
32	17613470.90	4833163.77	36.62	0	E	A	76.2	0.0	0.0	0.0	0.0	48.5	0.3	-1.1	0.0	0.0	10.1	0.0	0.0	18.4
33	17613470.90	4833163.77	36.62	1	D	A	76.2	0.0	0.0	0.0	0.0	48.6	0.3	0.9	0.0	0.0	8.3	0.0	2.0	16.1
33	17613470.90	4833163.77	36.62	1	N	A	76.2	0.0	0.0	0.0	0.0	48.6	0.3	0.9	0.0	0.0	8.3	0.0	2.0	16.1
33	17613470.90	4833163.77	36.62	1	E	A	76.2	0.0	0.0	0.0	0.0	48.6	0.3	0.9	0.0	0.0	8.3	0.0	2.0	16.1

Point Source, ISO 9613, Name: "EF4", ID: "EF4"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
34	17613472.57	4833164.02	36.62	0	D	A	76.2	0.0	0.0	0.0	0.0	48.5	0.3	-0.0	0.0	0.0	9.8	0.0	0.0	17.7
34	17613472.57	4833164.02	36.62	0	N	A	76.2	0.0	0.0	0.0	0.0	48.5	0.3	-0.0	0.0	0.0	9.8	0.0	0.0	17.7
34	17613472.57	4833164.02	36.62	0	E	A	76.2	0.0	0.0	0.0	0.0	48.5	0.3	-0.0	0.0	0.0	9.8	0.0	0.0	17.7
35	17613472.57	4833164.02	36.62	1	D	A	76.2	0.0	0.0	0.0	0.0	48.6	0.3	0.9	0.0	0.0	9.1	0.0	2.0	15.3

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Point Source, ISO 9613, Name: "EF4", ID: "EF4"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
35	17613472.57	4833164.02	36.62	1	N	A	76.2	0.0	0.0	0.0	0.0	48.6	0.3	0.9	0.0	0.0	9.1	0.0	2.0	15.3
35	17613472.57	4833164.02	36.62	1	E	A	76.2	0.0	0.0	0.0	0.0	48.6	0.3	0.9	0.0	0.0	9.1	0.0	2.0	15.3

Point Source, ISO 9613, Name: "EF2", ID: "EF2"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
36	17613446.75	4833177.56	36.62	0	D	A	76.2	0.0	0.0	0.0	0.0	50.2	0.3	-1.9	0.0	0.0	22.7	0.0	0.0	4.9
36	17613446.75	4833177.56	36.62	0	N	A	76.2	0.0	0.0	0.0	0.0	50.2	0.3	-1.9	0.0	0.0	22.7	0.0	0.0	4.9
36	17613446.75	4833177.56	36.62	0	E	A	76.2	0.0	0.0	0.0	0.0	50.2	0.3	-1.9	0.0	0.0	22.7	0.0	0.0	4.9
37	17613446.75	4833177.56	36.62	1	D	A	76.2	0.0	0.0	0.0	0.0	50.4	0.3	-1.0	0.0	0.0	24.4	0.0	2.0	0.1
37	17613446.75	4833177.56	36.62	1	N	A	76.2	0.0	0.0	0.0	0.0	50.4	0.3	-1.0	0.0	0.0	24.4	0.0	2.0	0.1
37	17613446.75	4833177.56	36.62	1	E	A	76.2	0.0	0.0	0.0	0.0	50.4	0.3	-1.0	0.0	0.0	24.4	0.0	2.0	0.1

Point Source, ISO 9613, Name: "Parking_EF 2", ID: "Parking_EF2"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
38	17613413.07	4833167.36	0.05	0	D	A	84.4	0.0	-10.8	0.0	0.0	50.3	1.6	1.5	0.0	0.0	0.0	0.0	0.0	20.2
38	17613413.07	4833167.36	0.05	0	N	A	84.4	0.0	-10.8	0.0	0.0	50.3	1.6	1.5	0.0	0.0	0.0	0.0	0.0	20.2
38	17613413.07	4833167.36	0.05	0	E	A	84.4	0.0	-10.8	0.0	0.0	50.3	1.6	1.5	0.0	0.0	0.0	0.0	0.0	20.2
39	17613413.07	4833167.36	0.05	1	D	A	84.4	0.0	-10.8	0.0	0.0	50.7	1.6	1.1	0.0	0.0	0.0	0.0	2.0	18.2
39	17613413.07	4833167.36	0.05	1	N	A	84.4	0.0	-10.8	0.0	0.0	50.7	1.6	1.1	0.0	0.0	0.0	0.0	2.0	18.2
39	17613413.07	4833167.36	0.05	1	E	A	84.4	0.0	-10.8	0.0	0.0	50.7	1.6	1.1	0.0	0.0	0.0	0.0	2.0	18.2

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