ENVIRONMENTAL NOISE FEASIBILITY STUDY

QUEENSGATE BOULEVARD & ALBION VAUGHAN ROAD

BOLTON, ONTARIO

FEBRUARY 20, 2026

PREPARED FOR:
Client Name: Queensgate (Mosaik) Inc.
VCL File: 117-0448
Address: 8800 Jane Street
Address: Vaughan ON L4K 2M9

Version History

Version #	Date	Comments
1.0	February 11, 2026	Final – Issued for use

Authors

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Environmental Noise Feasibility Study

Queensgate Boulevard & Albion Vaughan Road

Proposed Residential Development

Town of Caledon
Region of Peel

EXECUTIVE SUMMARY

Valcoustics Canada Ltd. (VCL) was retained to prepare an Environmental Noise Feasibility Study in support of the Official Plan Amendment (OPA), Rezoning, Draft Plan and Site Plan application submissions to the Town of Caledon and the Regional Municipality of Peel.

The development is located at the northwest corner of the intersection of Queensgate Boulevard and Albion Vaughan Road in Caledon. The proposed development will consist of three blocks of front-loaded townhomes and two blocks of back-to-back townhomes.

The main noise source with the potential to impact the proposed development is road traffic on Queensgate Boulevard and Albion Vaughan Road. The sound levels on site have been determined and compared with the applicable Ministry of the Environment, Conservation and Parks (MECP) noise guideline limits to determine the need for noise mitigation.

To meet the applicable transportation noise source guideline limits:

- Dwellings adjacent to Albion Vaughan Road require mandatory air-conditioning to allow windows to remain closed for noise control purposes;
- The remaining units require the provision to install air-conditioning at a later date;
- A 3.0 m high sound barrier is recommended for the rear yard OLAs at dwellings backing onto Albion-Vaughan Road.

Final noise mitigation requirements should be reviewed when detailed building plans are available.

1.0 INTRODUCTION

1.1 SCOPE

VCL was retained to prepare an Environmental Noise Feasibility Study in support of the Official Plan Amendment (OPA), Rezoning, Draft Plan, and Site Plan application submissions to the Town of Caledon and the Regional Municipality of Peel. The potential sound levels and noise mitigation measures needed for the proposed development to comply with the MECP noise guideline requirements are outlined herein.

1.2 THE SITE AND SURROUNDING AREA

The site is located to the northwest of the intersection of Queensgate Boulevard and Albion-Vaughan Road in the Town of Caledon. It is bounded by:

- Side Road 5 with existing detached dwellings beyond to the north;
- Albion Vaughan Road with existing detached dwellings beyond, to the east;
- Queensgate Boulevard with existing detached dwellings beyond to the south
- Existing detached dwellings with Sant Farm Drive beyond to the west.

The Key Plan of the site is included as Figure 1.

This study is based on the Grading Plan prepared by Candevcon Group Inc., dated January 30, 2026.

The Grading Plan is included as Figure 2. The Landscape and Surface Materials Plan is included as Appendix A.

1.3 THE PROPOSED DEVELOPMENT

The proposed development will consist of:

- Three blocks of front-loaded townhomes (identified as Blocks 1, 4, and 5); and
- Two blocks of back-to-back townhomes (identified as Blocks 2 and 3).

All townhouse dwellings are proposed to be three-storeys high.

2.0 NOISE SOURCES

2.1 TRANSPORTATION SOURCES

The main source of transportation noise at the proposed development is road traffic on Queensgate Boulevard and Albion-Vaughan Road.

Traffic volumes for Albion-Vaughan Road from the year 2016 were obtained from the Town of Caledon. The data included AADT (Annual Average Daily Traffic) volumes, total truck volumes

and speed limit for the roadway. Medium/heavy trucks were assumed to be 60%/40%, respectively of total truck volumes. Future road traffic volumes (applicable to the year 2046) were calculated based on an assumed growth rate of 2%, compounded annually.

Traffic data for Queensgate Boulevard was not available at the time of preparation of this report. Therefore, traffic volume for this roadway was based on the Town of Caledon Road Design Standards for a Residential Collector Road. The medium/heavy truck volumes were based on typical assumed values of 3%/2% respectively.

Day/night split of traffic volumes for both roadways was assumed to be 90%/10%, respectively as is typical for well travelled roadways.

Future road traffic volume for Albion Vaughan Road was projected to 20-years, and speed limit of both roadways was increased by 10 kph as per the Town of Caledon recommendation for noise studies.

Road traffic data is summarized in Table 1 and included as Appendix B.

TABLE 1: ROAD TRAFFIC DATA

Roadway	Year	24-hour Volume	% Trucks		Day/Night (%)	Speed Limit (kph) (3)
			Medium	Heavy		
Albion Vaughan Road(1)	2016 (2046)	14 662 (26 558)	4.2	2.8	90/10	90
Queensgate Boulevard(2)	2046	5 000	3	2	90/10	70

Notes:

(1) Obtained from the Town of Caledon. Future volumes calculated based on an assumed growth rate of 2%, compounded annually. Medium/heavy trucks assumed to be 60%/40% of total truck volumes, respectively.

(2) Road traffic volume assumed based on ultimate Town of Caledon Road Design Standards for a Residential Collector. Medium/heavy truck volumes assumed based on similar roadways.

(3) Speed limit increased by 10 kph over the posted speed limit as per Town of Caledon requirement.

2.2 STATIONARY SOURCES

The only stationary source in the vicinity of the proposed development is the Region of Peel Harvestview Sewage Pumping Station at 10 Harvestview Avenue, north of the subject site.

Based on a notification issued by the Region of Peel on June 19, 2025, this station will be retired by the end of 2025 and demolished as part of the sanitary sewer replacement and installation project [Reference 4]. Therefore, significant noise impact from this facility onto the subject development is not expected and has not been considered further in this study.

3.0 ENVIRONMENTAL NOISE GUIDELINES

3.1 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".

The environmental noise guidelines of the MECP, as provided in Publication NPC-300, are discussed briefly below and summarized in Appendix B.

3.1.1 Transportation Source Noise Guidelines

3.1.1.1 Architectural Elements

In the daytime (0700 to 2300), the indoor criterion for road noise is $L_{eq\ Day}$(1) of 45 dBA for sensitive spaces such as living/dining rooms, dens and bedrooms. At night, the indoor criterion for road noise is $L_{eq\ Night}$(2) 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.

3.1.1.2 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. 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).

3.1.1.3 Outdoors

For outdoor amenity areas ("Outdoor Living Areas" - OLA's), the guideline is $L_{eq\ Day}$ of 55 dBA, with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to achieve the 55 dBA objective, providing warning clauses are registered on title.

The point of assessment in an OLA at grade is 3 m from the building facade, 1.5 m above grade and aligned with the midpoint of the subject building facade.

Note, a balcony or elevated terrace is not considered an OLA, unless it is:

(1) 16-hour energy equivalent sound level (0700-2300 hours).
(2) 8-hour energy equivalent sound level (2300-0700 hours).

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

3.2 TOWN OF CALEDON

The Town of Caledon noise guidelines are described in the "Development Standards Manual" document (Reference 5). The Town of Caledon's general policy is not to accept the 5 dBA excess above the 55 dBA objective in OLA's. However, an excess may be acceptable if unreasonably high sound barriers are needed to meet the 55 dBA objective.

The Town's maximum acoustic fence height is 2.4 m. Higher barriers can be provided by using a combination of an acoustic fence and a berm. The maximum permitted sound barrier height according to the Town's Development Standards is 4.8 m (2.4 m fence atop a 2.4 m berm).

Road traffic noise levels are to be calculated using a minimum 20-year traffic forecast and a speed of 10 kph over the posted speed limit.

3.3 REGION OF PEEL

The Region of Peel's noise guidelines are described in the "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel" document (Reference 6). The Region of Peel noise guidelines are essentially the same as the MECP noise guidelines for transportation noise sources except that the nighttime sound level for triggering the air conditioning requirement is 1 dBA more stringent (i.e., less than) the sound level 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 sound levels between 51 to 59 dBA inclusive.

The Peel guidelines also indicate a maximum desirable sound barrier height of 4.0 m (relative to roadway centreline) with a maximum acoustic fence height of 2.4 m, although a height no more than 2.0 m is preferred. To make up any additional height beyond that of the fence, a berm is to be used.

4.0 NOISE IMPACT ASSESSMENT – TRANSPORTATION SOURCES

4.1 NOISE ASSESSMENT

4.1.1 Method

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

The daytime and nighttime sound levels at the building facades were assessed at the top floor windows, taken to be 7.5 m above grade to represent the third storey, worst-case locations. Screening from the subject building themselves and other buildings within the proposed development were considered in this assessment.

The front-loaded townhomes are expected to be provided with rear yard OLAs. The OLA receptors were assessed at a standing height of 1.5 m above grade, 3 m from the centre of the rear façade of the dwelling units. The back-to-back units will not have grade level amenity spaces.

All balconies and terraces in the development are expected to be less than 4 m in depth and thus, do not qualify as OLAs.

4.1.2 Results

The highest daytime and nighttime facades sound levels were predicted to be 71 dBA/64 dBA at the east façade of the most southern unit at Block 1. The highest daytime sound level at the OLA is predicted to be 71 dBA at the rear yard of the same unit.

Table 2 summarizes the predicted sound levels at specific locations. A sample sound level calculation is included in Appendix D.

TABLE 2: PREDICTED UNMITIGATED SOUND LEVELS(1)

Location	Source	Distance (m)(2)	$L_{eq\ Day}$ (dBA)	$L_{eq\ Night}$ (dBA)
R1 – Block 4 Southeast Corner East Façade	Albion Vaughan Road	22	71	64
	Queensgate Boulevard	32	55	48
	Total	-	**71**	**64**
R2 - Block 4 Southeast Corner South Façade	Albion Vaughan Road	22	68	61
	Queensgate Boulevard	32	58	51
	Total	-	**68**	**62**
R3 - Block 3 Southeast Corner South Façade	Albion Vaughan Road	52	62	56
	Queensgate Boulevard	31	57	51
	Total	-	**64**	**57**
R4 - Block 3 Northeast Corner East Façade	Albion Vaughan Road	52	61	54
	Queensgate Boulevard	61	47	40
	Total	-	**61**	**54**
R5 – Block 2 Southeast Corner South Façade	Albion Vaughan Road	88	59	52
	Queensgate Boulevard	27	59	52
	Total	-	**62**	**55**
R6 – Block 2 5th Northerly Townhouse East Façade	Albion Vaughan Road	88	56	49
	Queensgate Boulevard	45	52	45
	Total	-	**57**	**51**
R7 – Block 1 Southeast Corner East Facade	Albion Vaughan Road	125	58	51
	Queensgate Boulevard	19	58	52
	Total	-	**61**	**54**
R8 – Block 1 5th Northerly Townhouse Unit East Facade	Albion Vaughan Road	125	56	50
	Queensgate Boulevard	36	54	48
	Total	-	**58**	**52**
OLA1 – Block 4 Most Southerly Rear Yard	Albion Vaughan Road	19	71	-
	Queensgate Boulevard	35	56	-
	Total	-	**71**	-
OLA2 – Block 1 Most Southerly Rear Yard	Queensgate Boulevard	26	**54**	-

Notes:

(1) Daytime/nighttime receptors were taken at the top floor windows. OLA receptors were taken at 1.5 m above grade.

(2) Distance indicated is from the centreline of the noise sources to facade or OLA.

4.2 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 OLA's.

TABLE 3: MINIMUM NOISE ABATEMENT MEASURES

Location	Air Conditioning(1)	Exterior Wall(2)	Window STC Rating(2)	Sound Barrier(3)	Warning Clauses(4)
Blocks 4 and 5	Mandatory air-conditioning	STC 54	STC 29	3.0 m high at the rear yards	A + B + D
Remaining townhouse blocks	Provision for air-conditioning	STC 37	STC 24	None	A + C

Notes:

(1) Where methods must be provided to allow windows to remain closed for noise control purposes, a commonly used technique is that of air conditioning. For low density housing, the provision for adding air conditioning usually takes the form of a forced air heating system, with ducts suitably sized to accommodate the addition of air conditioning.

(2) STC - Sound Transmission Class Rating (Reference ASTM-E413). Analyses were based on assumed exterior wall and window area ratios of the associated floor areas as outlined in Section 4.2.1.1. Requirements should be checked once floor plans are developed and exterior wall construction details are defined.

(3) Sound barriers must be of solid construction with no gaps cracks or holes and must meet a minimum surface density of 20 kg/m². Suitable material can include wood, concrete metal sandwich panel, glazing or a combination of these.

(4) The warning clauses to be registered on title and be included in Offers of Purchase and Sale for designated lots:

A. "Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks."

B. "This dwelling unit has been supplied with an air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits the Municipality and the Ministry of the Environment, Conservation and Parks."

C. This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

D. "Purchasers/tenants are advised that a noise barrier wall is located at the rear/side of this property. The owner of this property also owns his/her section of the noise barrier wall. The noise barrier wall is not in public ownership. Monitoring, maintenance, inspection, repair and replacement of this noise barrier wall, including any associated costs, are the sole responsibility of the property owner. The Town of Caledon is in no way responsible for this noise barrier wall. Should this noise barrier wall fall, it is the property owner's responsibility to repair or replace his/her section of the wall, at his/her cost. If the property owner fails to maintain the noise barrier wall, the Town of Caledon will notify the requirement to repair in writing. If the property owner does not comply with the Town's request, the Town will correct the deficiency and bill the property owner accordingly."

4.2.1 Indoors

The indoor sound level guidelines can be achieved by using appropriate construction for the exterior walls, windows, and doors. In determining the worst-case architectural requirements for residential buildings, exterior wall and window ratio was assumed to be 80%/30% respectively, of the associated floor area.

4.2.1.1 Architectural Requirements

Based on the predicted sound levels and the assumed exterior wall and window area ratios, the following exterior wall and window construction is recommended to meet the indoor sound level criteria of the MECP noise guidelines:

- Exterior wall meeting STC 54 (e.g. brick veneer) and windows meeting up to STC 29 for units adjacent to Albion Vaughan Road (Blocks 1 and 2)

- Exterior wall and window construction meeting the minimum non-acoustical requirements of the OBC are sufficient for the remaining units.

The final sound isolation requirements should be reviewed when architectural plans are developed. Wall and window constructions should also be reviewed at this point to ensure that they will meet the required sound isolation performance.

4.2.1.2 Ventilation Requirements

Dwellings located adjacent to Albion Vaughan Road (Blocks 4 and 5) require mandatory air-conditioning to allow windows to remain closed for noise control purposes.

Provision to install air-conditioning at a later date is required for the remaining dwellings. For townhomes, this can be in the form of a ducted heating system suitably sized to accommodate air-conditioning.

4.2.2 Outdoors

The unmitigated daytime sound level at the rear yards facing Albion Vaughan Road is predicted to exceed the 55 dBA design objective of the MECP. Noise barriers are therefore required to mitigate road traffic noise at these OLAs.

To mitigate the noise levels at these spaces to below the 55 dBA design objective of the MECP, sound barriers of 5.5 m height would be required along the rear yards. This exceeds the maximum height allowed by the Town of Caledon and the Region of Peel and is considered excessive.

A 3.0 m high sound barrier screening the rear yard OLAs in Blocks 4 and 5 is predicted to mitigate sound levels to a maximum of 60 dBA, this meets the upper 60 dBA allowable limit under the MECP guidelines and is recommended.

The 3.0 m high sound barrier exceeds the Town's recommended maximum acoustic fence height of 2.4 m. This would typically require the introduction of a berm to make up the additional height. However, it is noted that there are already existing acoustic fences in the rear yards along Albion Vaughan Road, for dwellings with similar orientations as those proposed here, with heights

ranging from approximately 2.5 m to 4.3 m. The existing acoustic fences all exceed the Town's recommended maximum height. It is proposed here that the 3.0 m high sound barrier be constructed entirely of acoustic fence to be consistent with the existing conditions along Albion Vaughan Road. The proposed use of only acoustic fences in lieu of berms will need to be reviewed and approved by the Town.

The sound barrier assessment should be reviewed if the grading plans are changed.

4.3 WARNING CLAUSES

Warning clauses are a tool to inform prospective owners/occupants of potential annoyance due to existing noise sources. Where the guideline sound level limits are exceeded, appropriate warning clauses should be registered on title or included in the development agreement that is registered on title. The warning clauses should also be included in agreements of Offers of Purchase and Sale and lease/rental agreements to make future occupants aware of the potential noise situation.

Table 3 and the notes to Table 3 summarize the warning clauses for the site.

5.0 CONCLUSIONS

With the incorporation of the recommended noise mitigation measures, the indoor noise guidelines can be met. Future occupants will be made aware of the potential noise situation through warning clauses, as per MECP guidelines.

The approvals and administrative procedures are available to ensure that the noise requirements are implemented.

6.0 REFERENCES

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

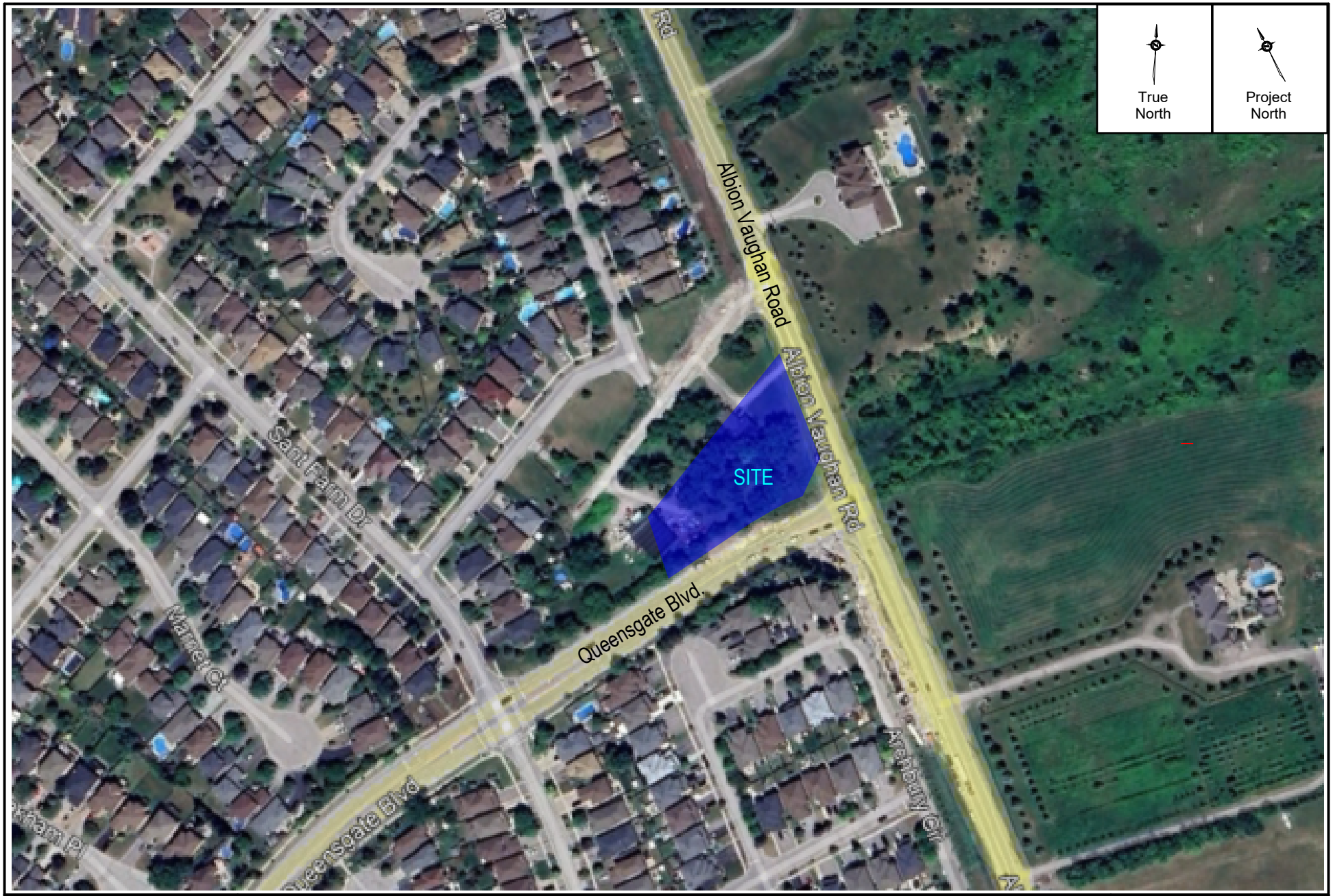
2) Building Practice Note No. 56: "Controlling Sound Transmission into Buildings", by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.

3) "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning", Ontario Ministry of the Environment, Publication NPC-300, August 2013.

4) https://peelregion.ca/construction/project-17-2280-june-19-2025-update

5) "Development Standards Manual, Version 5.0", Town of Caledon, 2019.

6) "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel", Region of Peel. November 2012.

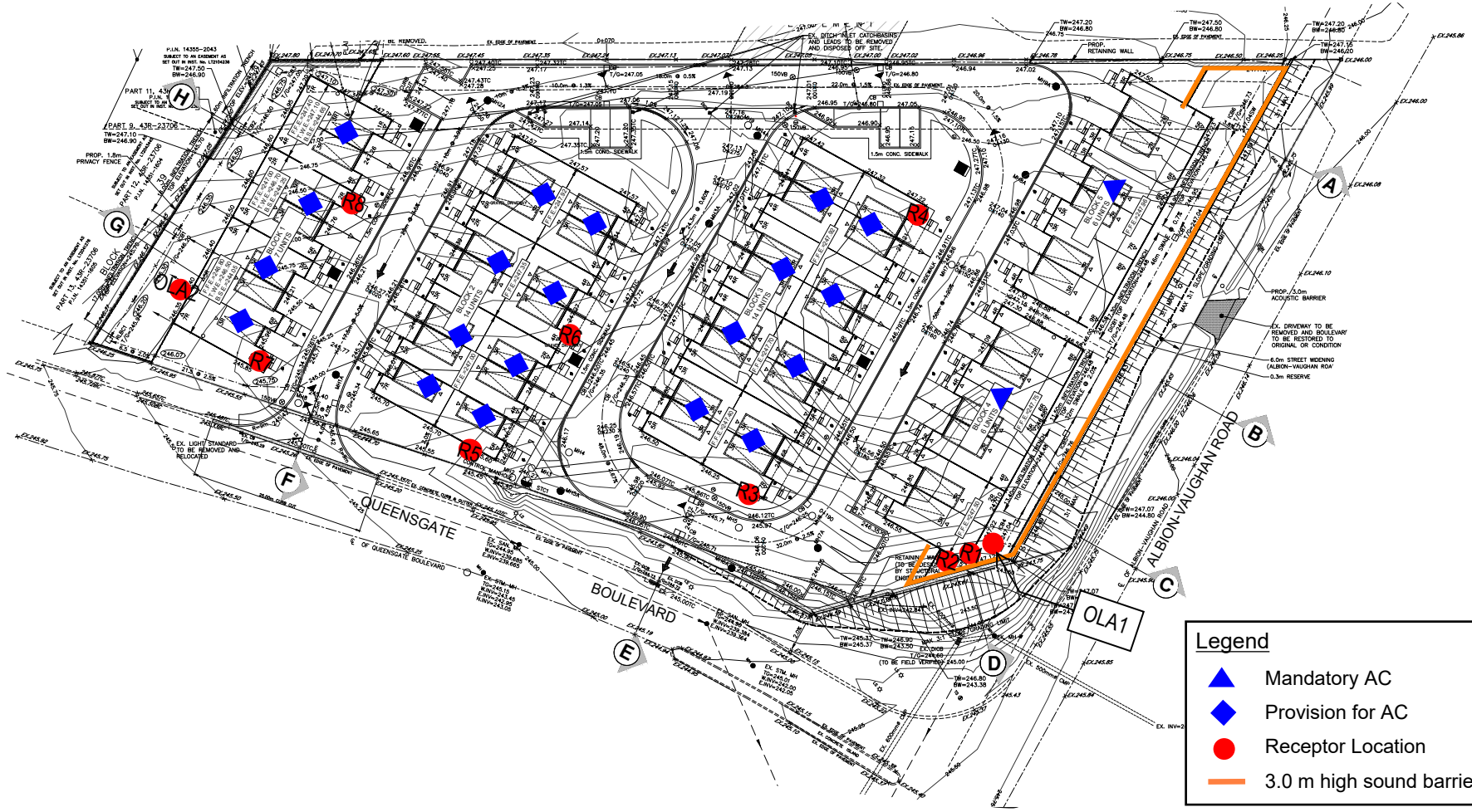


Trinity Consultants VALCOUSTICS CANADA

Title: **Key Plan**		Date: **2026-02-17**	Figure: **1**
Project Name: **Queensgate Boulevard & Albion-Vaughan Road**		Project No.: **117-0448**	

True North

Project North



Legend

- Mandatory AC
- Provision for AC
- Receptor Location
- 3.0 m high sound barrier

Base drawing by Candevcon Group Inc.

Trinity Consultants | VALCOUSTICS CANADA

Title: **Grading Plan**	Date: **2026-02-17**
Project Name: **Queensgate Boulevard & Albion-Vaughan Road**	Project No.: **1170448**
	Figure: **2**

APPENDIX A

LANDSCAPE/SURFACE MATERIALS PLAN

GENERAL NOTES:

1. CONTRACTOR SHALL BE REQUIRED TO HAVE A FLAGMAN DIRECTING ALL DELIVERIES OF MACHINERY OR MATERIALS TO THE SITE.
2. CONTRACTOR SHALL PROTECT ALL IRON BARS. ANY DISTURBED BARS SHALL BE REPLACED BY OWNER AT CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL REVIEW AND VERIFY SITE GRADES AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT. COMMENCEMENT OF GRADING SHALL CONSTITUTE ACCEPTANCE OF SITE CONDITIONS; NO CLAIMS FOR EXTRAS WILL BE ENTERTAINED THEREAFTER.
4. STORAGE OF MATERIALS, VEHICLES AND EQUIPMENT SHALL NOT BE PERMITTED WITHIN THE MUNICIPAL ROAD ALLOWANCE.
5. CONTRACTOR SHALL BE RESPONSIBLE TO CLEAN ROADS DAILY TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.
6. SITE SHALL BE MAINTAINED IN A CLEAN AND ORDERLY STATE FOR THE DURATION OF CONSTRUCTION; ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT.
7. ALL TEMPORARY PROTECTIVE & SEDIMENT CONTROL FENCING SHALL BE MAINTAINED BY THE CONTRACTOR TO THE SATISFACTION OF THE L.A. FOR THE DURATION OF CONSTRUCTION.
8. CONTRACTOR SHALL SUPPLY & INSTALL FILTER FABRIC PROTECTION ON ALL EXISTING CATCH BASINS, WATER METER CHAMBERS, AND UTILITIES.
9. CONTRACTOR SHALL REPAIR AT HIS COST ANY DAMAGE ARISING DURING CONSTRUCTION.
10. ALL EXISTING VEGETATION TO BE RETAINED SHALL BE PROTECTED BY THE GENERAL CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
11. ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE FOR REFERENCE PURPOSES ONLY. THE GENERAL CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR UTILITY STAKEOUT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES CAUSED TO EXISTING UTILITIES DURING CONSTRUCTION.
12. ALL CONSTRUCTION TO BE CARRIED OUT IN ACCORDANCE WITH THE MOST CURRENT PROVINCIAL AND MUNICIPAL STANDARDS AND SPECIFICATIONS.
13. THE CONDITION OF CURBS, SIDEWALKS, STREET TREES AND UTILITIES LOCATED WITHIN THE R.O.W. SHALL BE REVIEWED AND DOCUMENTED BETWEEN ALL PARTIES PRIOR TO THE START OF CONSTRUCTION.
14. **DUST CONTROL:** CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL DUST ON THIS PROJECT SITE ON A DAILY BASIS AND TO THE SATISFACTION OF THE CONSULTANT.

REFER TO D-1 FOR LANDSCAPE NOTES

KEY MAP
N.T.S

LEGEND:

- 1 / D-0 — DETAIL # / SHEET #
- PROPERTY LINE
- LIMIT OF BUILDING ABOVE
- 1.8m HT WOOD PRIVACY FENCE
- 1.8m HT WOOD ACOUSTIC FENCE
- UNIT PAVING
- CONCRETE PAVING
- ASPHALT PAVING
- SOD
- PATIO SLABS
- PROPOSED DECIDUOUS TREE
- PROPOSED DECIDUOUS TREE -R.O.W.
- PROPOSED CONIFEROUS TREE
- PERENNIALS AND GRASSES

no.	revision	date	by
R0			

NORTH

DRAFT

project number
2025-084

landscape planning
LANDSCAPE ARCHITECTS
Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,
Tel. 905.669.6838, www.landscapeplan.ca

project title
QUEENSGATE AND ALBION

-

city file: -

municipality: TOWN OF CALEDON

drawing title
LANDSCAPE/SURFACE MATERIALS PLAN

drawn by	reviewed by	drawing number:
OC	JS	L-1
date	scale	
JULY 2025	1:200	

APPENDIX B

ROAD TRAFFIC DATA

2016 Traffic Data						
Road	**Segment**	**Date**	**ADT (24 Hours)**	**Total Trucks**	**Truck %**	**Speed Limit**
Albion Vaughan Road	Industrial Road & Kirby Road	Tues Apr. 19,2016	12795	615	4.8	80K
		Tues Oct. 4,2016	12628	975	7.7	
		Wed Oct. 5 ,2016	13097	1056	8.1	
		Thurs Oct. 6 ,2016	13140	1104	8.4	
	Queensgate Boulevard & Dovaston Gate	Tues Apr. 19,2016	13911	548	3.9	80K
		Tues. Oct. 4,2016	14662	1021	7.0	
		Wed Oct. 5 ,2016	15162	1042	6.9	
		Thurs Oct. 6 ,2016	15363	1032	6.7	
	Old King Road & Nunville Road	Tues Apr. 19,2016	16139	563	3.5	60K
		Tues Oct. 4,2016	16678	1103	6.6	
		Wed Oct. 5 ,2016	16908	1049	6.2	
		Thurs Oct. 6 ,2016	17416	1102	6.3	

APPENDIX C

ENVIRONMENTAL NOISE GUIDELINES

APPENDIX C

ENVIRONMENTAL NOISE GUIDELINES

MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE (MOE)

Reference: MOE 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 Rail Aircraft	07:00 to 23:00 07:00 to 23:00 24-hour period	45 dBA 40 dBA NEF/NEP 5
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	Road Rail Aircraft	23:00 to 07:00 23:00 to 07:00 24-hour period	45 dBA 40 dBA NEF/NEP 5
Sleeping quarters	Road Rail Aircraft	07:00 to 23:00 07:00 to 23:00 24-hour period	45 dBA 40 dBA NEF/NEP 0
Sleeping quarters	Road Rail Aircraft	23:00 to 07:00 23:00 to 07:00 24-hour period	40 dBA 35 dBA 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: MOE 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 D

SAMPLE TRANSPORTATION NOISE CALCULATION

```
STAMSON 5.0        NORMAL REPORT        Date: 20-02-2026 10:34:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1.te              Time Period: Day/Night 16/8 hours
Description: OLA1 - Block 4 Rear Yard 3.0 m Recommended Barrier


Road data, segment # 1: albionvau (day/night)
-----------------------------------------------
Car traffic volume  : 22229/2470  veh/TimePeriod  *
Medium truck volume :  1004/112   veh/TimePeriod  *
Heavy truck volume  :   669/74    veh/TimePeriod  *
Posted speed limit  :    90 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  14662
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  30.00
    Medium Truck % of Total Volume     :   4.20
    Heavy Truck  % of Total Volume     :   2.80
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: albionvau (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  :  19.00 / 35.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   2.00 / 18.00  m
Source elevation          : 245.90 m
Receiver elevation        : 247.16 m
Barrier elevation         : 247.07 m
Reference angle           :   0.00


Road data, segment # 2: queensgate (day/night)
-----------------------------------------------
Car traffic volume  :  4275/475   veh/TimePeriod  *
Medium truck volume :   135/15    veh/TimePeriod  *
Heavy truck volume  :    90/10    veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   5000
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00
```

Data for Segment # 2: queensgate (day/night)

Angle1 Angle2 : -90.00 deg 44.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 35.00 / 35.00 m
Receiver height : 1.50 / 7.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -90.00 deg Angle2 : 44.00 deg
Barrier height : 5.50 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 245.25 m
Receiver elevation : 247.16 m
Barrier elevation : 247.07 m
Reference angle : 0.00

Results segment # 1: albionvau (day)

Source height = 1.29 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.29	1.50	1.44	248.51

ROAD (0.00 + 59.67 + 0.00) = 59.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.49	74.45	0.00	-1.53	-1.15	0.00	0.00	-12.10	59.67

Segment Leq : 59.67 dBA

Results segment # 2: queensgate (day)

Source height = 1.19 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.19	1.50	1.40	248.47

ROAD (0.00 + 39.90 + 0.00) = 39.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	44	0.34	63.98	0.00	-4.93	-1.89	0.00	0.00	-17.25	39.90

Segment Leq : 39.90 dBA

Total Leq All Segments: 59.72 dBA

Trinity Consultants VALCOUSTICS CANADA

Results segment # 1: albionvau (night)

Source height = 1.29 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.29	7.50	3.75	250.82

ROAD (0.00 + 61.30 + 0.00) = 61.30 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.31	67.91	0.00	-4.81	-0.78	0.00	0.00	-3.83	58.49*
-90	90	0.49	67.91	0.00	-5.47	-1.15	0.00	0.00	0.00	61.30

* Bright Zone !

Segment Leq : 61.30 dBA

Results segment # 2: queensgate (night)

Source height = 1.19 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.19	7.50	6.89	253.96

ROAD (0.00 + 49.86 + 0.00) = 49.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	44	0.16	57.44	0.00	-4.27	-1.60	0.00	0.00	-0.20	51.39*
-90	44	0.49	57.44	0.00	-5.48	-2.11	0.00	0.00	0.00	49.86

* Bright Zone !

Segment Leq : 49.86 dBA

Total Leq All Segments: 61.60 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.72
(NIGHT): 61.60

```
STAMSON 5.0        NORMAL REPORT        Date: 19-02-2026 09:24:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1.te              Time Period: Day/Night 16/8 hours
Description: OLA1 - Block 4 Rear Yard


Road data, segment # 1: albionvau (day/night)
----------------------------------------------
Car traffic volume  : 22229/2470  veh/TimePeriod  *
Medium truck volume :  1004/112   veh/TimePeriod  *
Heavy truck volume  :   669/74    veh/TimePeriod  *
Posted speed limit  :    90 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  14662
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  30.00
    Medium Truck % of Total Volume     :   4.20
    Heavy Truck  % of Total Volume     :   2.80
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: albionvau (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  :  19.00 / 35.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   5.50 m
Barrier receiver distance :   2.00 / 18.00  m
Source elevation          : 245.90 m
Receiver elevation        : 247.16 m
Barrier elevation         : 247.07 m
Reference angle           :   0.00


Road data, segment # 2: queensgate (day/night)
----------------------------------------------
Car traffic volume  :  4275/475   veh/TimePeriod  *
Medium truck volume :   135/15    veh/TimePeriod  *
Heavy truck volume  :    90/10    veh/TimePeriod  *
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   5000
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   3.00
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00
```

```
Data for Segment # 2: queensgate (day/night)
------------------------------------------
Angle1   Angle2           : -90.00 deg   44.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  35.00 / 35.00  m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 44.00 deg
Barrier height            :   5.50 m
Barrier receiver distance :   2.00 / 2.00   m
Source elevation          : 245.25 m
Receiver elevation        : 247.16 m
Barrier elevation         : 247.07 m
Reference angle           :   0.00


Results segment # 1: albionvau (day)
-----------------------------------

Source height = 1.29 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.29 !        1.50 !        1.44 !       248.51

ROAD (0.00 + 55.25 + 0.00) = 55.25 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.34  74.45   0.00  -1.37  -0.85   0.00   0.00 -16.98  55.25
-------------------------------------------------------------------------------

Segment Leq : 55.25 dBA


Results segment # 2: queensgate (day)
------------------------------------

Source height = 1.19 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.19 !        1.50 !        1.46 !       248.53

ROAD (0.00 + 39.56 + 0.00) = 39.56 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     44   0.34  63.98   0.00  -4.93  -1.89   0.00   0.00 -17.59  39.56
-------------------------------------------------------------------------------

Segment Leq : 39.56 dBA

Total Leq All Segments: 55.37 dBA
```

Trinity Consultants VALCOUSTICS CANADA

Results segment # 1: albionvau (night)

Source height = 1.29 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.29	7.50	3.75	250.82

ROAD (0.00 + 54.81 + 0.00) = 54.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.16	67.91	0.00	-4.25	-0.43	0.00	0.00	-8.42	54.81

Segment Leq : 54.81 dBA

Results segment # 2: queensgate (night)

Source height = 1.19 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.19	7.50	7.12	254.19

ROAD (0.00 + 49.86 + 0.00) = 49.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	44	0.16	57.44	0.00	-4.27	-1.60	0.00	0.00	-0.11	51.47*
-90	44	0.49	57.44	0.00	-5.48	-2.11	0.00	0.00	0.00	49.86

* Bright Zone !

Segment Leq : 49.86 dBA

Total Leq All Segments: 56.02 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.37
(NIGHT): 56.02