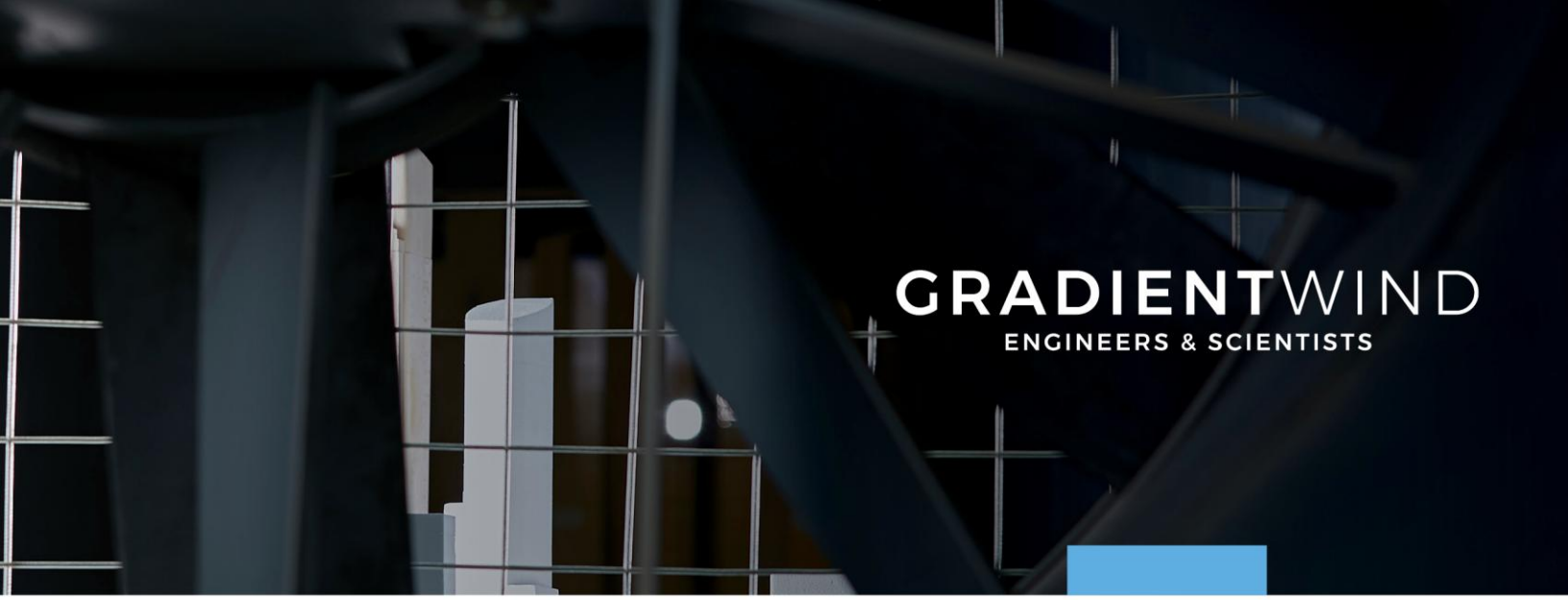

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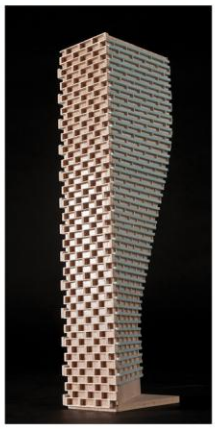
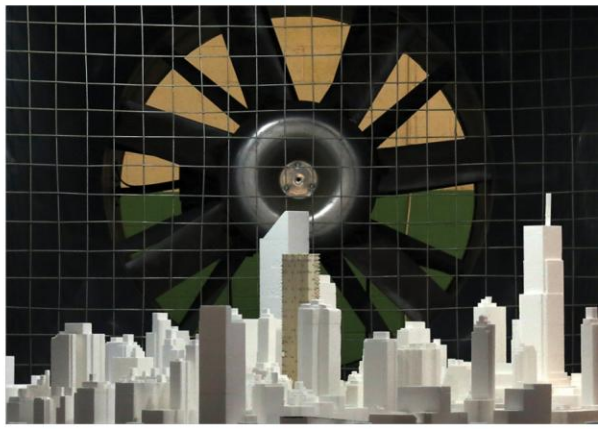
TRANSPORTATION NOISE ASSESSMENT

400 Jessie Chenevert Walk
Ottawa, Ontario

Report: 25-206 – Transportation Noise





November 14, 2025

PREPARED FOR

Extendicare
3000 Steeles Avenue East, Suite 400
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PREPARED BY

Doryan Saavedra, B.Eng., Junior Acoustic Scientist
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GRADIENTWIND.COM

EXECUTIVE SUMMARY

This report describes a transportation noise assessment undertaken to support a Site Plan Control (SPA) application for the proposed development located at 400 Jessie Chenevert Walk in Ottawa, Ontario. The proposed development comprises a four-storey residential care facility featuring 256 units. The dominant source of roadway traffic noise impacting the development is Earl Armstrong Road located to the north of the subject site. Figure 1 illustrates a site plan with surrounding context.

The assessment is based on (i) theoretical noise prediction methods that conform to the Ministry of the Environment, Conservation and Parks (MECP), and City of Ottawa requirements; (ii) noise level criteria as specified by the City of Ottawa's Environmental Noise Control Guidelines (ENCG); (iii) future vehicular traffic volumes based on the City of Ottawa's Official Plan roadway classifications; and (iv) architectural drawings provided by Montgomery Sisam Architects Inc. in October 2025.

The results of the current analysis indicate that noise levels will range between 54 and 72 dBA during the daytime period (07:00-23:00) and between 56 and 64 dBA during the nighttime period (23:00-07:00). The highest noise level (i.e. 72 dBA) occurs along the development's north façade which is nearest and most exposed to Earl Armstrong Road.

The noise levels predicted due to roadway traffic exceed the criteria listed in Section 4.2 for building components. Upgraded building components, including STC rated glazing elements and exterior walls, will be required where noise levels exceed 65 dBA, as discussed in Section 4.2.1. Noise control requirements are specified in Section 5.2 and Figure 3. Results of the calculations also indicate that the development will require air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. In addition to ventilation requirements, a Type D Warning Clause will also be required to be placed on all Lease, Purchase and Sale Agreements, as summarized in Section 6 of this report.

Noise levels at the Level 1 to Level 4 terraces in the inner courtyard are expected to fall below 55 dBA. As such, noise mitigation is not required for these areas.

Noise levels at the at-grade secured patio is expected to exceed 60 dBA during the daytime period without a noise barrier. If this area is to be used as an outdoor living area, noise control measures are required to reduce noise levels as close as possible to 55 dBA where technically and administratively feasible and must not exceed 60 dBA. Further analysis investigated the noise mitigating impact of adding a noise barrier to the secured patio and is summarized in Section 5.3.

A solid guard with a height of 1.5 m (above the walking surface) along the perimeter of the at-grade secured patio shown of Figure 4 will be sufficient to reduce the noise level below 60 dBA. As noise levels continue to exceed 55 dBA, in addition to the noise barrier, a Type B warning clause will be required on all Lease, Purchase and Sale Agreements, as summarized in Section 6 of this report.

A review of satellite imagery confirmed there are no significant sources of stationary noise surrounding the site. The dominant source of noise impacting the development is from transportation noise sources.

The development's own mechanical equipment has the potential to generate noise off-site at surrounding noise sensitive (residential) developments and on the development itself. However, for a development this size, the mechanical equipment is expected to be small condensing units on the roof or side of the building. Any potential impacts can be minimized by judicious selection of mechanical equipment and its location. These systems will be designed to comply with the ENCG sound level limits. A review by a qualified acoustic consultant is recommended once the mechanical design of the building has developed.

TABLE OF CONTENTS

1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by Extendicare to undertake a transportation noise assessment to support a Site Plan Control (SPA) application for a proposed development located at 400 Jessie Chenevert Walk in Ottawa, Ontario. This report summarizes the methodology, results, and recommendations related to the assessment of exterior and interior noise levels generated by local roadway traffic.

This assessment is based on theoretical noise calculation methods conforming to the Ministry of the Environment, Conservation and Parks (MECP) NPC-300[1] and City of Ottawa Environmental Noise Control Guidelines (ENCG)[2]. Noise calculations were based on architectural drawings provided by Montgomery Sisam Architects Inc., received in October 2025, with future traffic volumes corresponding to the City of Ottawa's Official Plan (OP) roadway classifications.

2. TERMS OF REFERENCE

The subject site is located at 400 Jessie Chenevert Walk in Ottawa, Ontario. The site is bordered by Earl Armstrong Road to the north, Portico Way to the west, and vacant land to the east and south. The proposed development is located on an irregular parcel of land and comprises a four-storey residential care facility featuring 256 units. At grade is an interior courtyard, surface parking spaces, an internal driveway, and a secured patio. All levels comprise residential units, offices, lounges, and dining rooms. Terraces are featured on all levels facing the interior courtyard. The relevant source of roadway traffic noise is Earl Armstrong Road located to the north of the subject site. Figure 1 illustrates a site plan with surrounding context.

[1] Ontario Ministry of the Environment and Climate Change – Environmental Noise Guidelines, Publication NPC-300, Queens Printer for Ontario, Toronto, 2013
[2] City of Ottawa, Environmental Noise Control Guidelines, January 2016

3. OBJECTIVES

The principal objectives of this study are to (i) calculate the future noise levels on the study building produced by local roadway traffic, and (ii) ensure that interior and exterior noise levels do not exceed the allowable limits specified by the City of Ottawa's Environmental Noise Control Guidelines as outlined in Section 4.2 of this report.

4. METHODOLOGY

4.1 Background

Noise can be defined as any obtrusive sound. It is created at a source, transmitted through a medium, such as air, and intercepted by a receiver. Noise may be characterized in terms of the power of the source or the sound pressure at a specific distance. While the power of a source is characteristic of that particular source, the sound pressure depends on the location of the receiver and the path that the noise takes to reach the receiver. Measurement of noise is based on the decibel unit, dBA, which is a logarithmic ratio referenced to a standard noise level (2×10^{-5} Pascals). The 'A' suffix refers to a weighting scale, which better represents how the noise is perceived by the human ear. With this scale, a doubling of power results in a 3 dBA increase in measured noise levels and is just perceptible to most people. An increase of 10 dBA is often perceived to be twice as loud.

4.2 Roadway Traffic Noise

4.2.1 Criteria for Roadway Traffic Noise

For surface roadway traffic noise, the equivalent sound energy level, L_{eq}, provides a measure of the time-varying noise levels, which is well correlated with the annoyance of sound. It is defined as the continuous sound level, which has the same energy as a time-varying noise level over a period of time. For roadways, the L_{eq} is commonly calculated on the basis of a 16-hour (L_{eq16}) daytime (07:00-23:00) / 8-hour (L_{eq8}) nighttime (23:00-07:00) split to assess its impact on residential buildings. The City of Ottawa's Environmental Noise Control Guidelines (ENCG) specify that the recommended indoor noise limit range (that is relevant to this study) is 50, 45 and 40 dBA for offices, living rooms and sleeping quarters respectively, as listed in Table 1.

TABLE 1: INDOOR SOUND LEVEL CRITERIA (ROAD) [3]

Type of Space	Time Period	L_{eq} (dBA)
General offices, reception areas, retail stores, etc.	07:00 – 23:00	50
Living/dining/den areas of residences, hospitals, schools, **nursing/retirement homes**, day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, etc.	07:00 – 23:00	45
Sleeping quarters of hotels/motels	23:00 – 07:00	45
Sleeping quarters of residences, hospitals, **nursing/retirement homes**, etc.	23:00 – 07:00	40

Predicted noise levels at the plane of window (POW) dictate the action required to achieve the recommended sound levels. An open window is considered to provide a 10 dBA reduction in noise, while a standard closed window is capable of providing a minimum 20 dBA noise reduction[4]. A closed window due to a ventilation requirement will bring noise levels down to achieve an acceptable indoor environment[5]. Therefore, where noise levels exceed 55 dBA daytime and 50 dBA nighttime, the ventilation for the building should consider the need for having windows and doors closed, which triggers the need for forced air heating with provision for central air conditioning. Where noise levels exceed 65 dBA daytime and 60 dBA nighttime, air conditioning will be required and building components will require higher levels of sound attenuation[6].

For designated Outdoor Living Areas (OLAs), the sound level limit is 55 dBA during the daytime period. An excess above the limit is acceptable only in cases where the required noise control measures are not feasible for technical, economic or administrative reasons. However, noise levels must not exceed 60 dBA.

[3] Adapted from ENCG 2016 – Tables 2.2b and 2.2c
[4] Burberry, P.B. (2014). Mitchell's Environment and Services. Routledge, Page 125
[5] MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.8
[6] MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.1.3

4.2.2 Roadway Traffic Volumes

The ENCG dictates that noise calculations should consider future sound levels based on a roadway's classification at the mature state of development. Therefore, traffic volumes are based on the roadway classifications outlined in the City of Ottawa's Official Plan (OP) and Transportation Master Plan[7] which provide additional details on future roadway expansions. Average Annual Daily Traffic (AADT) volumes are then based on data in Table B1 of the ENCG for each roadway classification. Table 2 (below) summarizes the AADT values used for each roadway included in this assessment.

TABLE 2: ROADWAY TRAFFIC DATA

Segment	Roadway Traffic Classification	Speed Limit (km/h)	Traffic Volumes
Earl Armstrong Road	4-Lane Urban Arterial – Divided (4-UAD)	80	**35,000**

4.2.3 Theoretical Roadway Traffic Noise Predictions

Noise predictions were performed with the aid of the MECP computerized noise assessment program, STAMSON 5.04, for road analysis. Appendix A includes the STAMSON 5.04 input and output data.

Roadway traffic noise calculations were performed by treating each roadway segment as separate line sources of noise, and by using existing building locations as noise barriers. In addition to the traffic volumes summarized in Table 2, theoretical noise predictions were based on the following parameters:

- Truck traffic on all roadways was taken to comprise 5% heavy trucks and 7% medium trucks, as per ENCG requirements for noise level predictions.
- The day/night split for all streets was taken to be 92%/8%, respectively.
- Ground surfaces for receptors were taken to be absorptive due to the presence of grass and soil.
- Topography was assumed as flat/gentle slope.
- Noise receptors were strategically placed at 7 locations around the study area (see Figure 2).

[7] City of Ottawa Transportation Master Plan, November 2013

4.3 Indoor Noise Calculations

The difference between outdoor and indoor noise levels is the noise attenuation provided by the building envelope. According to common industry practice, complete walls and individual wall elements are rated according to the Sound Transmission Class (STC). The STC ratings of common residential walls built in conformance with the Ontario Building Code (2024) typically exceed STC 35, depending on exterior cladding, thickness and interior finish details. For example, brick veneer walls can achieve STC 50 or more. Standard commercially sided exterior metal stud walls have around STC 45. Standard good quality double-glazed non-operable windows can have STC ratings ranging from 25 to 40, depending on the window manufacturer, pane thickness and inter-pane spacing. As previously mentioned, the windows are the known weak point in a partition.

As per Section 4.2, when daytime noise levels from road sources at the plane of the window exceed 65 dBA, calculations must be performed to evaluate the sound transmission quality of the building components to ensure acceptable indoor noise levels. The calculation procedure[8] considers:

- Window type and total area as a percentage of total room floor area
- Exterior wall type and total area as a percentage of the total room floor area
- Acoustic absorption characteristics of the room
- Outdoor noise source type and approach geometry
- Indoor sound level criteria, which varies according to the intended use of a space

Based on published research[9], exterior walls possess specific sound attenuation characteristics that are used as a basis for calculating the required STC ratings of windows in the same partition. Due to the limited information available at the time of the study, which was prepared for a Site Plan Control application, detailed floor layouts and building elevations have not been finalized; therefore, detailed STC calculations could not be performed at this time. As a guideline, the anticipated STC requirements for windows have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels + safety factor).

[8] Building Practice Note: Controlling Sound Transmission into Buildings by J.D. Quirt, National Research Council of Canada, September 1985
[9] CMHC, Road & Rail Noise: Effects on Housing

5. RESULTS

5.1 Roadway Traffic Noise Levels

The results of the roadway traffic noise calculations are summarized in Table 3 below. The results of the current analysis indicate that noise levels will range between 54 and 72 dBA during the daytime period (07:00-23:00) and between 56 and 64 dBA during the nighttime period (23:00-07:00). The highest noise level (i.e. 72 dBA) occurs along the development's north façade which is nearest and most exposed to Earl Armstrong Road.

The noise levels predicted due to roadway traffic exceed the criteria listed in Section 4.2 for building components. Upgraded building components, including STC rated glazing elements and exterior walls, will be required where noise levels exceed 65 dBA, as discussed in Section 4.2.1. Noise control requirements are specified in Section 5.2 and Figure 3. Results of the calculations also indicate that the development will require air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. In addition to ventilation requirements, a Type D Warning Clause will also be required to be placed on all Lease, Purchase and Sale Agreements, as summarized in Section 6 of this report.

Noise levels at the Level 1 to Level 4 terraces in the inner courtyard are expected to fall below 55 dBA. As such, noise mitigation is not required for these areas.

Noise levels at the at-grade secured patio is expected to exceed 60 dBA during the daytime period without a noise barrier. If this area is to be used as an outdoor living area, noise control measures are required to reduce noise levels as close as possible to 55 dBA where technically and administratively feasible and must not exceed 60 dBA. Further analysis investigated the noise mitigating impact of adding a noise barrier to the secured patio and is summarized in Section 5.3.

TABLE 3: EXTERIOR NOISE LEVELS DUE TO ROADWAY TRAFFIC

Receptor Number / Type	Receptor Height Above Grade (m)	Receptor Location	STAMSON 5.04 Noise Level (dBA)	
			Day	Night
R1 / POW	11.9	Level 4 – East Façade	64	56
R2 / POW	11.9	Level 4 – North Façade	66	59
R3 / POW	11.9	Level 4 – East Façade	68	61
R4 / POW	11.9	Level 4 – North Façade	72	64
R5 / POW	11.9	Level 4 – West Façade	66	59
R6 / OLA	1.5	Level 1 – Secured Patio	63	N/A*
R7 / OLA	11.9	Level 4 – Terrace	54	N/A*

*Noise levels during the nighttime are not considered for OLAs

5.2 Noise Control Measures

The noise levels predicted due to roadway traffic exceed the criteria listed in Section 4.2 for building components. As discussed in Section 4.3, the anticipated STC requirements for windows have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels + safety factor). Figure 3 outlines the required bedroom and living room window STC's for all facades of the development. The STC requirements are summarized below for various units within the development:

- **Bedroom Windows**

(i) Bedroom windows facing north, east, and west will require a minimum STC of 34

(ii) All other bedroom windows are to satisfy Ontario Building Code (OBC 2024) requirements.

- **Living Room Windows**

(i) Living room windows facing north, east, and west will require a minimum STC of 34.

(ii) All other living room windows are to satisfy Ontario Building Code (OBC 2024) requirements.

- **Office Windows**

(i) Office windows facing north, east, and west will require a minimum STC of 30.

(ii) All other office windows are to satisfy Ontario Building Code (OBC 2024) requirements.

- **Exterior Walls**

(i) Exterior wall components on the north, east, and west façades will require a minimum STC of 45, which will be achieved with brick cladding or an acoustical equivalent according to NRC test data[10].

The STC requirements apply to windows, doors, spandrel panels and curtainwall elements. Exterior wall components on these façades are recommended to have a minimum STC of 45, where a stud wall system is used. A review of window supplier literature indicates that the specified STC ratings can be achieved by a variety of window systems having a combination of glass thickness and inter-pane spacing. We have specified an example window configuration, however several manufacturers and various combinations of window components, such as those proposed, will offer the necessary sound attenuation rating. It is the responsibility of the manufacturer to ensure that the specified window achieves the required STC. This can only be assured by using window configurations that have been certified by laboratory testing. The requirements for STC ratings assume that the remaining components of the building are constructed and installed according to the minimum standards of the Ontario Building Code. The specified STC requirements also apply to swinging and/or sliding patio doors.

Results of the calculations also indicate that the development will require central air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. In addition to ventilation requirements, Warning Clauses will also be required on all Lease, Purchase and Sale Agreements, as summarized in Section 6.

[10] J.S. Bradley and J.A. Birta. Laboratory Measurements of the Sound Insulation of Building Façade Elements, National Research Council October 2000.

5.3 Noise Barrier Calculation

Noise levels at the Level 1 to Level 4 terraces in the inner courtyard are expected to fall below 55 dBA. As such, noise mitigation is not required for these areas.

Noise levels at the at-grade secured patio is expected to exceed 60 dBA during the daytime period without a noise barrier. If this area is to be used as an outdoor living area, noise control measures are required to reduce noise levels as close as possible to 55 dBA where technically and administratively feasible and must not exceed 60 dBA. Further analysis investigated the noise mitigating impact of adding a noise barrier to the secured patio and is summarized in Table 4.

A solid guard with a height of 1.5 m (above the walking surface) along the perimeter of the at-grade secured patio shown of Figure 4 will be sufficient to reduce the noise level below 60 dBA. As noise levels continue to exceed 55 dBA, in addition to the noise barrier, a Type B warning clause will be required on all Lease, Purchase and Sale Agreements, as summarized in Section 6 of this report.

TABLE 4: RESULTS OF NOISE BARRIER INVESTIGATION

Receptor Number	Receptor Height Above Grade (m)	Receptor Location	Daytime L_{eq} Noise Levels (dBA)					
			No Barrier	With 1.1 m Barrier	With 1.5 m Barrier	With 2.0 m Barrier	With 2.3 m Barrier	With 3.0 m Barrier
R6 / OLA	1.5	Level 1 – Secured Patio	63	63	**59**	58	57	55
R7 / OLA	11.9	Level 4 – Terrace	**54**	-	-	-	-	-

6. CONCLUSIONS AND RECOMMENDATIONS

The results of the current analysis indicate that noise levels will range between 54 and 72 dBA during the daytime period (07:00-23:00) and between 56 and 64 dBA during the nighttime period (23:00-07:00). The highest noise level (i.e. 72 dBA) occurs along the development's north façade which is nearest and most exposed to Earl Armstrong Road.

The noise levels predicted due to roadway traffic exceed the criteria listed in Section 4.2 for building components. Upgraded building components, including STC rated glazing elements and exterior walls, will be required where noise levels exceed 65 dBA, as discussed in Section 4.2.1. Noise control requirements are specified in Section 5.2 and Figure 3. Results of the calculations also indicate that the development will require air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. Specific noise control measures can be developed once the design of the building is sufficiently advanced, typically at the time of site plan approval. In addition to ventilation requirements, a Type D Warning Clause will also be required to be placed on all Lease, Purchase and Sale Agreements, as summarized below.

Type D:

> *"This dwelling unit has been supplied with a central 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 of the Municipality and the Ministry of the Environment."*

Noise levels at the Level 1 to Level 4 terraces in the inner courtyard are expected to fall below 55 dBA. As such, noise mitigation is not required for these areas.

Noise levels at the at-grade secured patio is expected to exceed 60 dBA during the daytime period without a noise barrier. If this area is to be used as an outdoor living area, noise control measures are required to reduce noise levels as close as possible to 55 dBA where technically and administratively feasible and must not exceed 60 dBA. Further analysis investigated the noise mitigating impact of adding a noise barrier to the secured patio and is summarized in Section 5.3.

A solid guard with a height of 1.5 m (above the walking surface) along the perimeter of the at-grade secured patio shown of Figure 4 will be sufficient to reduce the noise level below 60 dBA. As noise levels continue to exceed 55 dBA, in addition to the noise barrier, a Type B warning clause will be required on all Lease, Purchase and Sale Agreements, as summarized below.

Type B:

> *"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."*

The guards must be constructed from materials having a minimum surface density of 20 kg/m^2 (STC rating of 30) and contain no gaps. Design of the guardrail will conform to the requirements outlined in Part 5 of the ENCG. The following information will be required by the City for review prior to installation of the barrier:

1. Shop drawings, signed and sealed by a qualified Professional Engineer licenced by the Professional Engineers of Ontario, showing the details of the acoustic barrier systems components, including material specifications.
2. Structural drawing(s), signed by a qualified Professional Engineer licenced by the Professional Engineers of Ontario, showing foundation details, and specifying design criteria, climatic design loads, as well as applicable geotechnical data used in the design.
3. Layout plan, and wall elevations, showing proposed colours and patterns.

A review of satellite imagery confirmed there are no significant sources of stationary noise surrounding the site. The dominant source of noise impacting the development is from transportation noise sources.

The development's own mechanical equipment has the potential to generate noise off-site at surrounding noise sensitive (residential) developments and on the development itself. However, for a development this size, the mechanical equipment is expected to be small condensing units on the roof or side of the building. Any potential impacts can be minimized by judicious selection of mechanical equipment and its

location. These systems will be designed to comply with the ENCG sound level limits. A review by a qualified acoustic consultant is recommended once the mechanical design of the building has developed.

This concludes our transportation noise assessment and report. If you have any questions or wish to discuss our findings, please advise us. In the interim, we thank you for the opportunity to be of service.

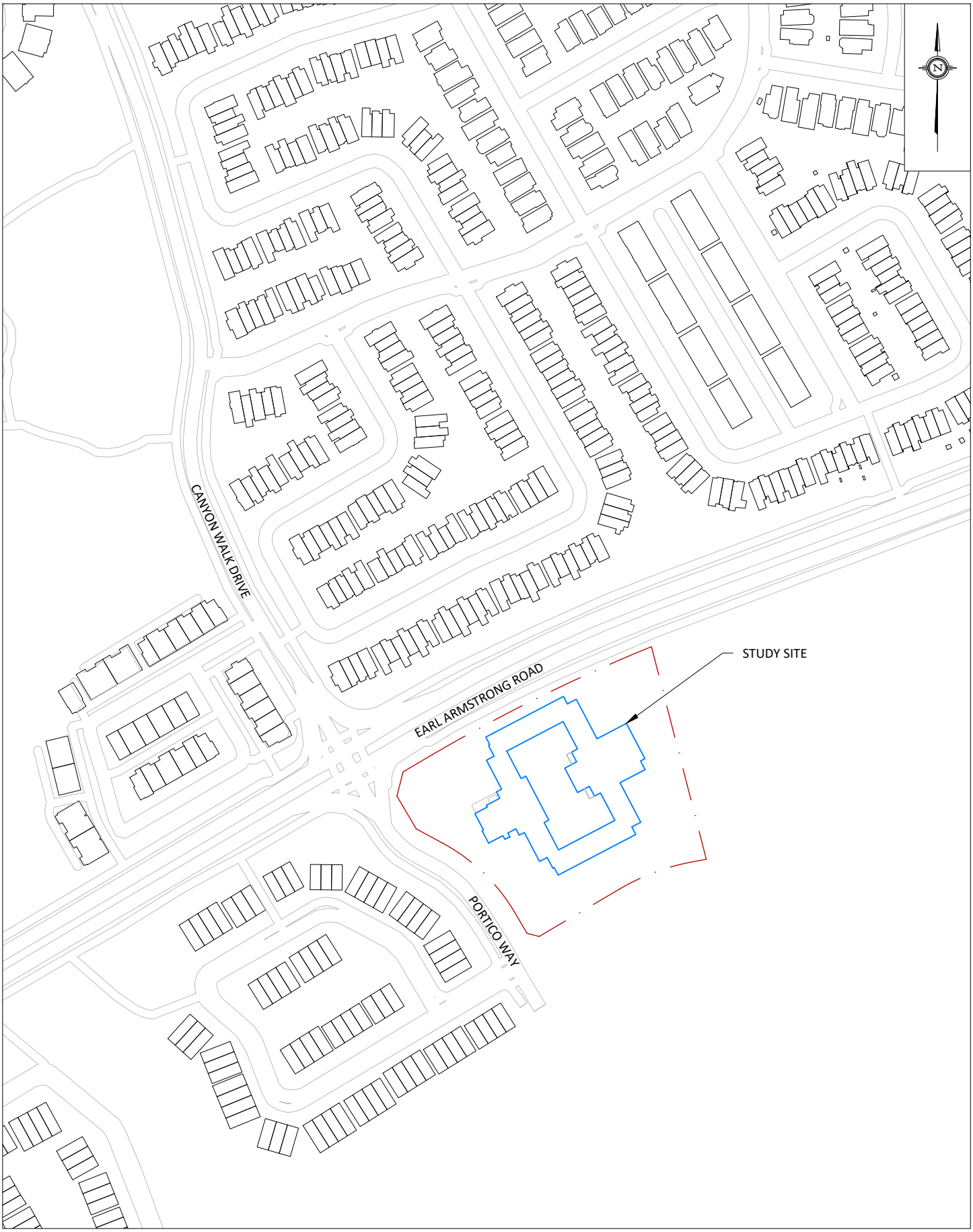
Sincerely,

Gradient Wind Engineering Inc.

Doryan Saavedra, B.Eng.
Junior Acoustic Scientist

Joshua Foster, P.Eng.
Lead Engineer

Gradient Wind File #25-206 – Transportation Noise



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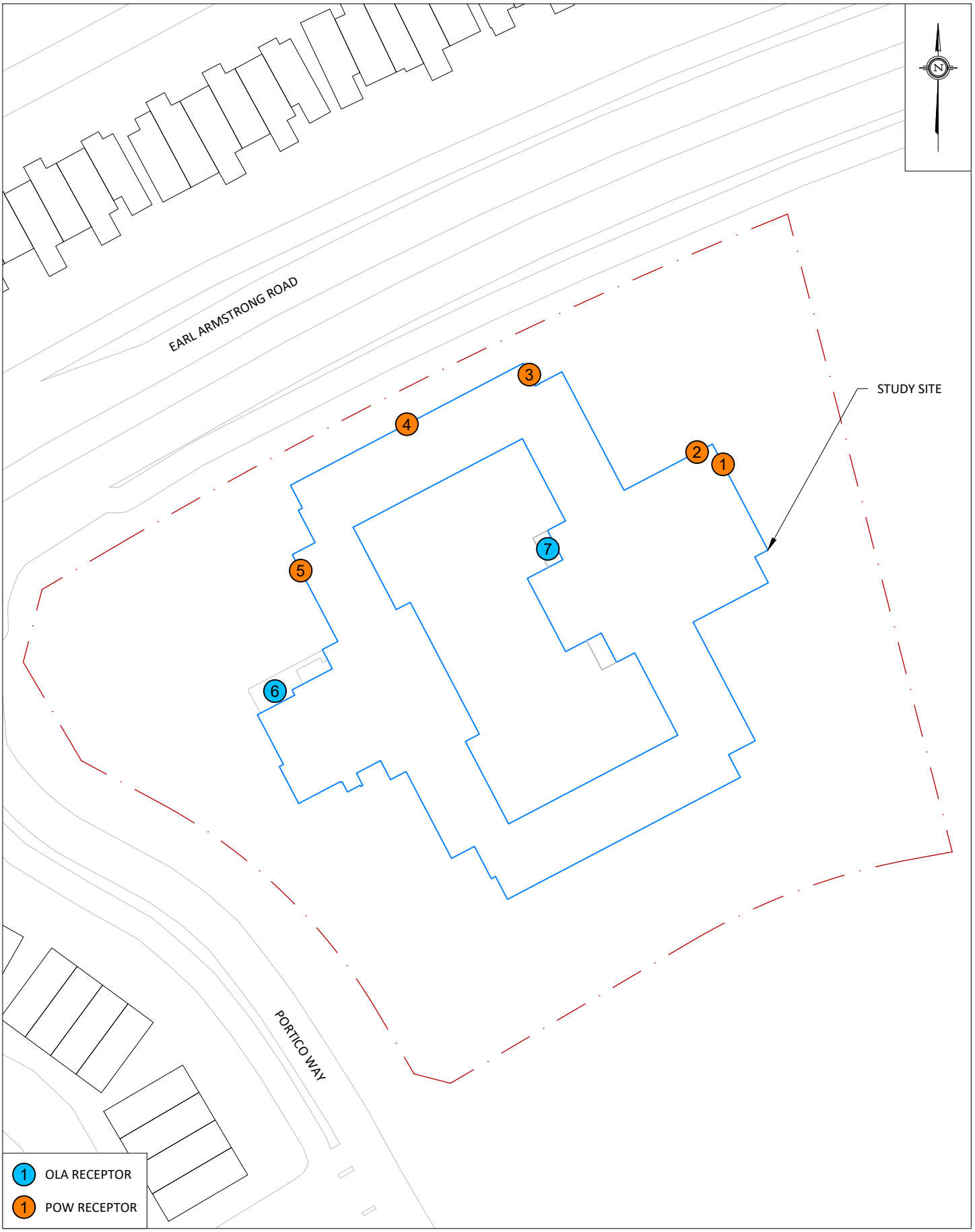
PROJECT	400 JESSIE CHENEVERT WALK, OTTAWA TRANSPORTATION NOISE ASSESSMENT		
SCALE	1:3000 (APPROX.)	DRAWING NO.	GW25-206-1
DATE	NOVEMBER 7, 2025	DRAWN BY	D.S.

DESCRIPTION

FIGURE 1:
SITE PLAN AND SURROUNDING CONTEXT



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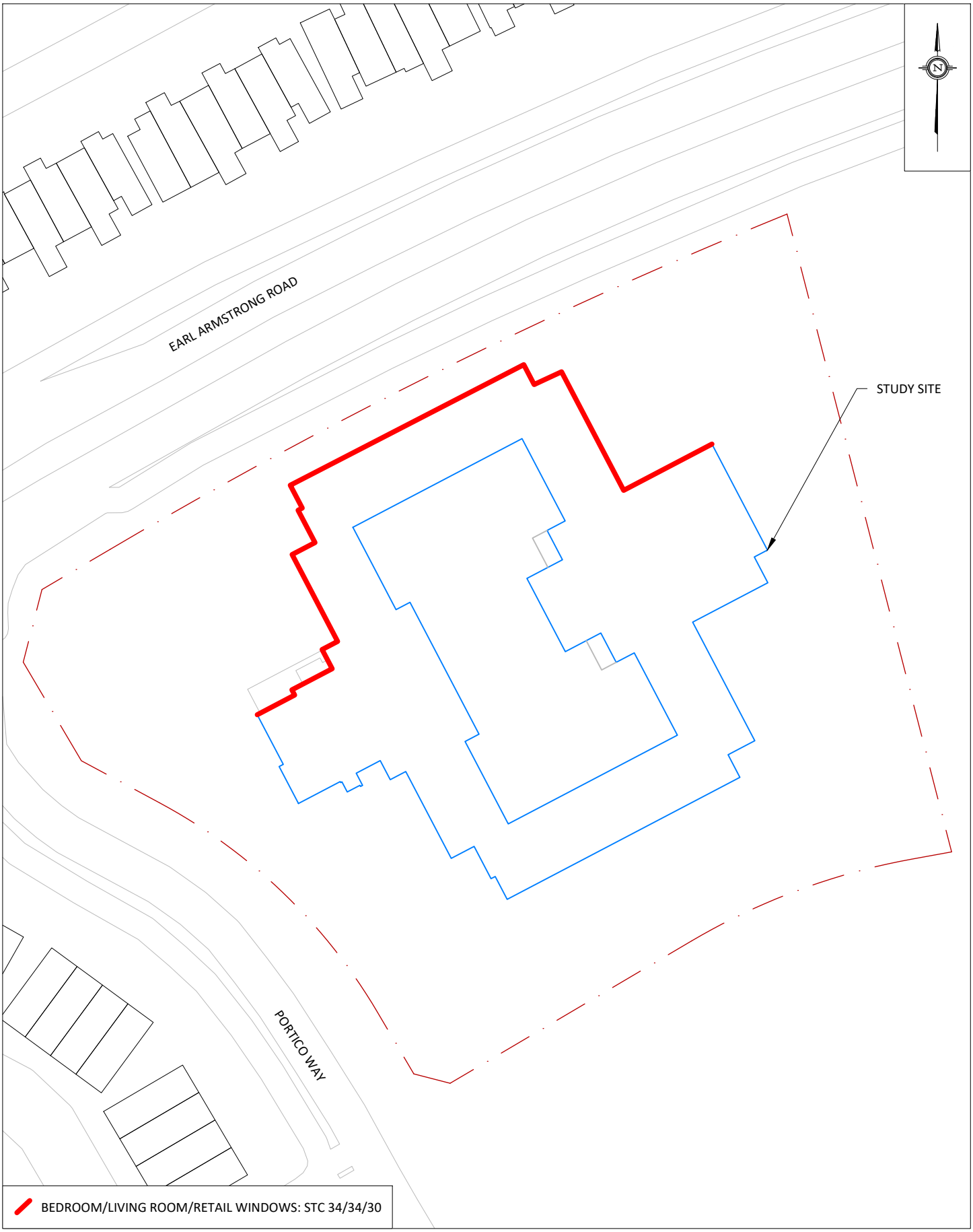
PROJECT	400 JESSIE CHENEVERT WALK, OTTAWA TRANSPORTATION NOISE ASSESSMENT
SCALE	1:1000 (APPROX.)
DRAWING NO.	GW25-206-2
DATE	NOVEMBER 7, 2025
DRAWN BY	D.S.

DESCRIPTION

FIGURE 2:
RECEPTOR LOCATIONS



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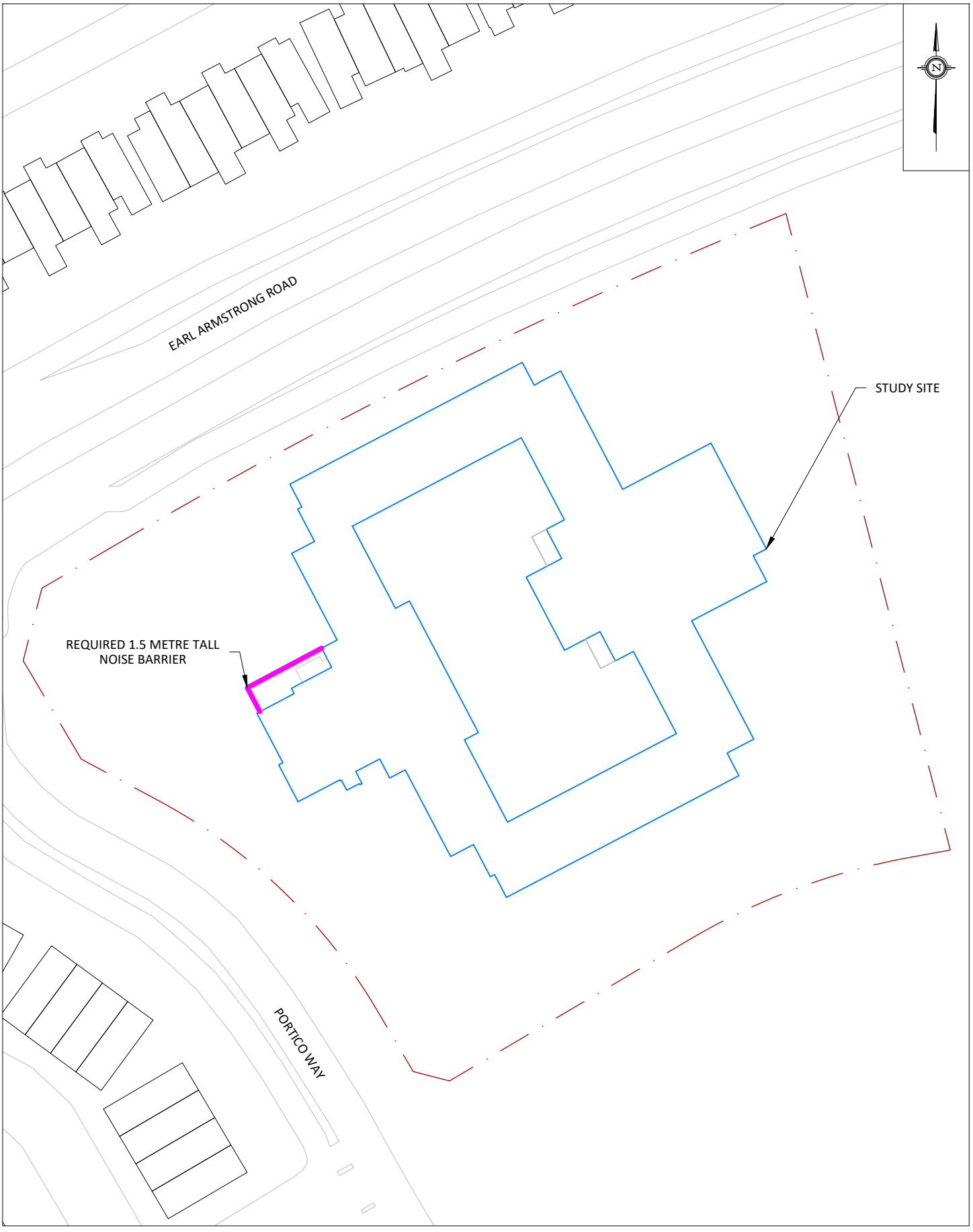
PROJECT	400 JESSIE CHENEVERT WALK, OTTAWA TRANSPORTATION NOISE ASSESSMENT		DESCRIPTION
SCALE	1:1000 (APPROX.)	DRAWING NO.	GW25-206-3
DATE	NOVEMBER 7, 2025	DRAWN BY	D.S.

FIGURE 3:
WINDOW STC REQUIREMENTS



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PROJECT	400 JESSIE CHENEVERT WALK, OTTAWA TRANSPORTATION NOISE ASSESSMENT		
SCALE	1:1000 (APPROX.)	DRAWING NO.	GW25-206-4
DATE	NOVEMBER 7, 2025	DRAWN BY	D.S.

DESCRIPTION

FIGURE 4:
NOISE BARRIER REQUIREMENTS

APPENDIX A

STAMSON 5.04 – INPUT AND OUTPUT DATA

127 WALGREEN ROAD, OTTAWA, ON, CANADA K0A 1L0 | 613 836 0934
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STAMSON 5.0 NORMAL REPORT Date: 06-11-2025 13:50:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1.te Time Period: Day/Night 16/8 hours
Description: POW - Level 4 East Facade

```
Road data, segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  62.00 / 62.00  m
Receiver height           :  11.90 / 11.90  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Earl Armstro (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 63.97 + 0.00) = 63.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.35  76.17   0.00  -8.31  -3.88   0.00   0.00   0.00  63.97
-------------------------------------------------------------------------------

Segment Leq : 63.97 dBA

Total Leq All Segments: 63.97 dBA

Results segment # 1: Earl Armstro (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 56.38 + 0.00) = 56.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.35  68.57   0.00  -8.31  -3.88   0.00   0.00   0.00  56.38
-------------------------------------------------------------------------------

Segment Leq : 56.38 dBA

Total Leq All Segments: 56.38 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.97
                           (NIGHT): 56.38
```

```
STAMSON 5.0        NORMAL REPORT        Date: 06-11-2025 13:56:55
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r2.te                Time Period: Day/Night 16/8 hours
Description: POW - Level 4 North Facade


Road data, segment # 1: EA Seg 1 (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: EA Seg 1 (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   -36.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  58.00 / 58.00  m
Receiver height           :  11.90 / 11.90  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : -36.00 deg
Barrier height            :  13.80 m
Barrier receiver distance :  26.00 / 26.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Road data, segment # 2: EA Seg 2 (day/night)
---------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: EA Seg 2 (day/night)
------------------------------------------
Angle1   Angle2           : -36.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  58.00 / 58.00  m
Receiver height           :  11.90 / 11.90  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: EA Seg 1 (day)
-----------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       11.90 !        7.24 !         7.24

ROAD (0.00 + 51.83 + 0.00) = 51.83 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -36   0.00  76.17   0.00  -5.87  -5.23   0.00   0.00 -13.24  51.83
-------------------------------------------------------------------------------

Segment Leq : 51.83 dBA

Results segment # 2: EA Seg 2 (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 66.06 + 0.00) = 66.06 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -36     90   0.35  76.17   0.00  -7.92  -2.19   0.00   0.00   0.00  66.06
-------------------------------------------------------------------------------

Segment Leq : 66.06 dBA

Total Leq All Segments: 66.22 dBA

Results segment # 1: EA Seg 1 (night)
-------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       11.90 !        7.24 !         7.24

ROAD (0.00 + 44.23 + 0.00) = 44.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -36   0.00  68.57   0.00  -5.87  -5.23   0.00   0.00 -13.24  44.23
-------------------------------------------------------------------------------

Segment Leq : 44.23 dBA
```

```
Results segment # 2: EA Seg 2 (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 58.46 + 0.00) = 58.46 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -36     90   0.35  68.57   0.00  -7.92  -2.19   0.00   0.00   0.00  58.46
-------------------------------------------------------------------------------

Segment Leq : 58.46 dBA

Total Leq All Segments: 58.62 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 66.22
                           (NIGHT): 58.62
```

STAMSON 5.0 NORMAL REPORT Date: 06-11-2025 13:51:09
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3.te Time Period: Day/Night 16/8 hours
Description: POW - Level 4 East Facade

```
Road data, segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  30.00 / 30.00  m
Receiver height           :  11.90 / 11.90  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Earl Armstro (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 68.22 + 0.00) = 68.22 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.35  76.17   0.00  -4.06  -3.88   0.00   0.00   0.00  68.22
-------------------------------------------------------------------------------

Segment Leq : 68.22 dBA

Total Leq All Segments: 68.22 dBA

Results segment # 1: Earl Armstro (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 60.63 + 0.00) = 60.63 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.35  68.57   0.00  -4.06  -3.88   0.00   0.00   0.00  60.63
-------------------------------------------------------------------------------

Segment Leq : 60.63 dBA

Total Leq All Segments: 60.63 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 68.22
                           (NIGHT): 60.63
```

STAMSON 5.0 NORMAL REPORT Date: 06-11-2025 13:52:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4.te Time Period: Day/Night 16/8 hours
Description: POW - Level 4 North Facade

```
Road data, segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Earl Armstro (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  :  28.00 / 28.00  m
Receiver height           :  11.90 / 11.90  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Earl Armstro (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 71.64 + 0.00) = 71.64 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.35  76.17   0.00  -3.65  -0.87   0.00   0.00   0.00  71.64
-------------------------------------------------------------------------------

Segment Leq : 71.64 dBA

Total Leq All Segments: 71.64 dBA

Results segment # 1: Earl Armstro (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 64.04 + 0.00) = 64.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.35  68.57   0.00  -3.65  -0.87   0.00   0.00   0.00  64.04
-------------------------------------------------------------------------------

Segment Leq : 64.04 dBA

Total Leq All Segments: 64.04 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.64
                           (NIGHT): 64.04
```

STAMSON 5.0 NORMAL REPORT Date: 06-11-2025 13:53:47
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5.te Time Period: Day/Night 16/8 hours
Description: POW - Level 4 West Facade

```
Road data, segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  43.00 / 43.00  m
Receiver height           :  11.90 / 11.90  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Earl Armstro (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 66.12 + 0.00) = 66.12 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.35  76.17   0.00  -6.17  -3.88   0.00   0.00   0.00  66.12
-------------------------------------------------------------------------------

Segment Leq : 66.12 dBA

Total Leq All Segments: 66.12 dBA

Results segment # 1: Earl Armstro (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 58.52 + 0.00) = 58.52 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.35  68.57   0.00  -6.17  -3.88   0.00   0.00   0.00  58.52
-------------------------------------------------------------------------------

Segment Leq : 58.52 dBA

Total Leq All Segments: 58.52 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 66.12
                           (NIGHT): 58.52
```

```
STAMSON 5.0        NORMAL REPORT        Date: 06-11-2025 14:16:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r6.te                Time Period: Day/Night 16/8 hours
Description: OLA - Level 1


Road data, segment # 1: EA Seg 1 (day/night)
----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: EA Seg 1 (day/night)
----------------------------------------------
Angle1   Angle2           : -90.00 deg   34.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  62.00 / 62.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 34.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Road data, segment # 2: EA Seg 2 (day/night)
-------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: EA Seg 2 (day/night)
------------------------------------------
Angle1   Angle2           :  34.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  62.00 / 62.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  34.00 deg   Angle2 : 90.00 deg
Barrier height            :  13.80 m
Barrier receiver distance :  35.00 / 35.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Results segment # 1: EA Seg 1 (day)
-----------------------------------

Source height = 1.50 m

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

ROAD (0.00 + 63.25 + 0.00) = 63.25 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     34   0.66  76.17   0.00 -10.23  -2.68   0.00   0.00  -0.16  63.09*
   -90     34   0.66  76.17   0.00 -10.23  -2.68   0.00   0.00   0.00  63.25
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 63.25 dBA

Results segment # 2: EA Seg 2 (day)
-----------------------------------

Source height = 1.50 m

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

ROAD (0.00 + 48.08 + 0.00) = 48.08 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    34     90   0.00  76.17   0.00  -6.16  -5.07   0.00   0.00 -16.85  48.08
-------------------------------------------------------------------------------

Segment Leq : 48.08 dBA

Total Leq All Segments: 63.38 dBA
```

Barrier table for segment # 1: EA Seg 1 (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
1.10	1.10	63.25	63.25
1.20	1.20	63.25	63.25
1.30	1.30	63.25	63.25
1.40	1.40	63.25	63.25
1.50	1.50	58.92	58.92
1.60	1.60	58.89	58.89
1.70	1.70	58.75	58.75
1.80	1.80	58.49	58.49
1.90	1.90	58.14	58.14
2.00	2.00	57.73	57.73
2.10	2.10	57.29	57.29
2.20	2.20	56.82	56.82
2.30	2.30	56.35	56.35
2.40	2.40	55.89	55.89
2.50	2.50	55.44	55.44
2.60	2.60	55.00	55.00
2.70	2.70	54.59	54.59
2.80	2.80	54.20	54.20
2.90	2.90	53.83	53.83
3.00	3.00	53.48	53.48

Barrier table for segment # 2: EA Seg 2 (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
14.90	14.90	47.73	47.73
15.00	15.00	47.70	47.70
15.10	15.10	47.67	47.67
15.20	15.20	47.64	47.64
15.30	15.30	47.61	47.61
15.40	15.40	47.59	47.59
15.50	15.50	47.56	47.56
15.60	15.60	47.53	47.53
15.70	15.70	47.51	47.51
15.80	15.80	47.48	47.48
15.90	15.90	47.45	47.45
16.00	16.00	47.43	47.43
16.10	16.10	47.41	47.41
16.20	16.20	47.38	47.38
16.30	16.30	47.36	47.36
16.40	16.40	47.33	47.33
16.50	16.50	47.31	47.31
16.60	16.60	47.29	47.29
16.70	16.70	47.26	47.26
16.80	16.80	47.24	47.24

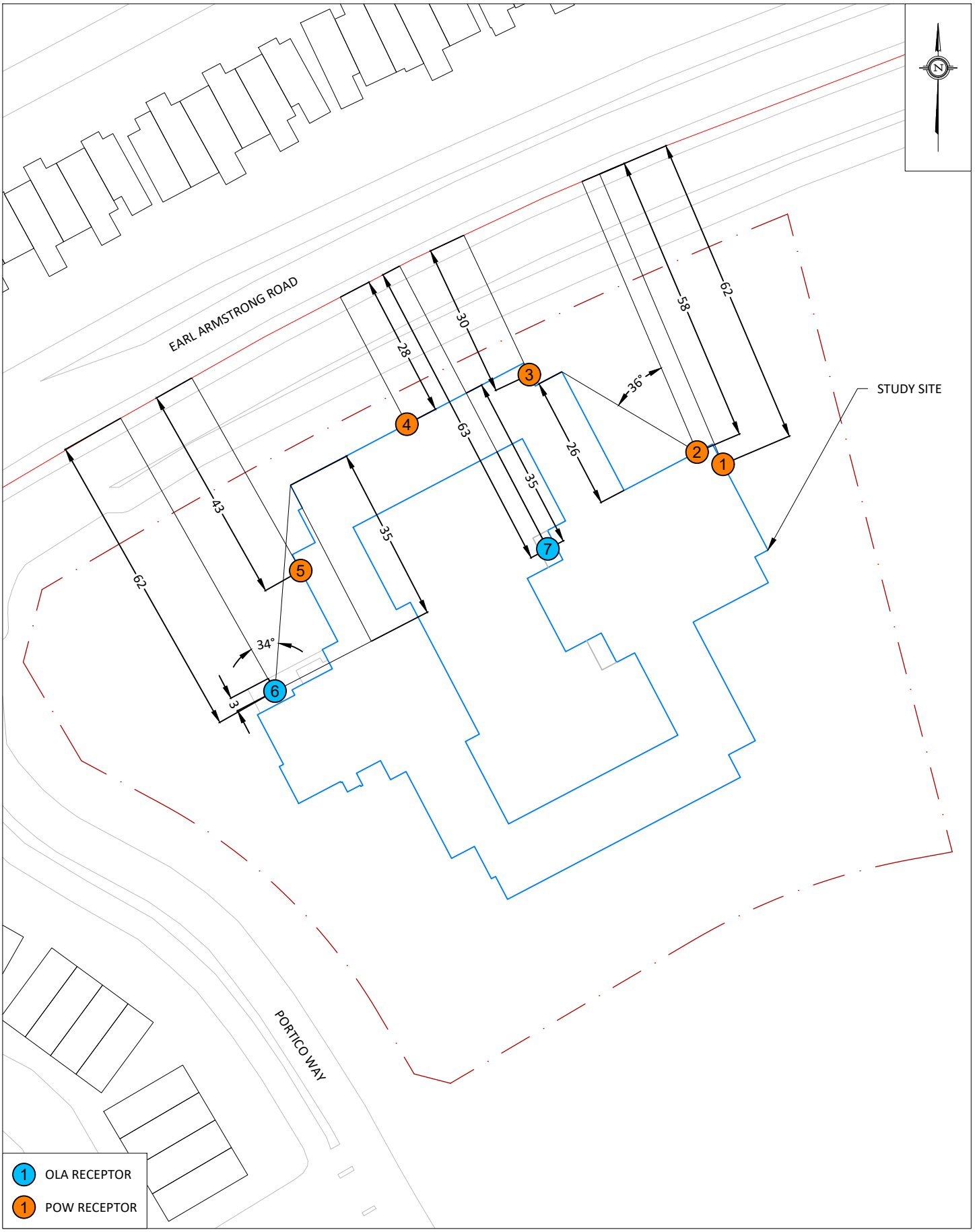
```
Results segment # 1: EA Seg 1 (night)
-------------------------------------

Source height = 1.50 m

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

ROAD (0.00 + 55.66 + 0.00) = 55.66 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     34   0.66  68.57   0.00 -10.23  -2.68   0.00   0.00  -0.16  55.49*
   -90     34   0.66  68.57   0.00 -10.23  -2.68   0.00   0.00   0.00  55.66
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 55.66 dBA

Results segment # 2: EA Seg 2 (night)
-------------------------------------

Source height = 1.50 m

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

ROAD (0.00 + 40.49 + 0.00) = 40.49 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    34     90   0.00  68.57   0.00  -6.16  -5.07   0.00   0.00 -16.85  40.49
-------------------------------------------------------------------------------

Segment Leq : 40.49 dBA

Total Leq All Segments: 55.79 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.38
                           (NIGHT): 55.79
```

STAMSON 5.0 NORMAL REPORT Date: 06-11-2025 13:58:51
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7.te Time Period: Day/Night 16/8 hours
Description: OLA - Level 4

```
Road data, segment # 1: Earl Armstro (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    80 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):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Earl Armstro (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  :  63.00 / 63.00  m
Receiver height           :  11.90 / 11.90  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :  13.80 m
Barrier receiver distance :  35.00 / 22.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Results segment # 1: Earl Armstro (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       11.90 !        6.12 !         6.12

ROAD (0.00 + 54.45 + 0.00) = 54.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  76.17   0.00  -6.23   0.00   0.00   0.00 -15.48  54.45
-------------------------------------------------------------------------------

Segment Leq : 54.45 dBA

Total Leq All Segments: 54.45 dBA

Results segment # 1: Earl Armstro (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       11.90 !        8.27 !         8.27

ROAD (0.00 + 48.63 + 0.00) = 48.63 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  68.57   0.00  -6.23   0.00   0.00   0.00 -13.70  48.63
-------------------------------------------------------------------------------

Segment Leq : 48.63 dBA

Total Leq All Segments: 48.63 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.45
                           (NIGHT): 48.63
```



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PROJECT	400 JESSIE CHENEVERT WALK, OTTAWA TRANSPORTATION NOISE ASSESSMENT
SCALE	1:1000 (APPROX.)
DRAWING NO.	GW25-206-A1
DATE	NOVEMBER 7, 2025
DRAWN BY	D.S.

DESCRIPTION

FIGURE A1:
STAMSON INPUT PARAMETERS