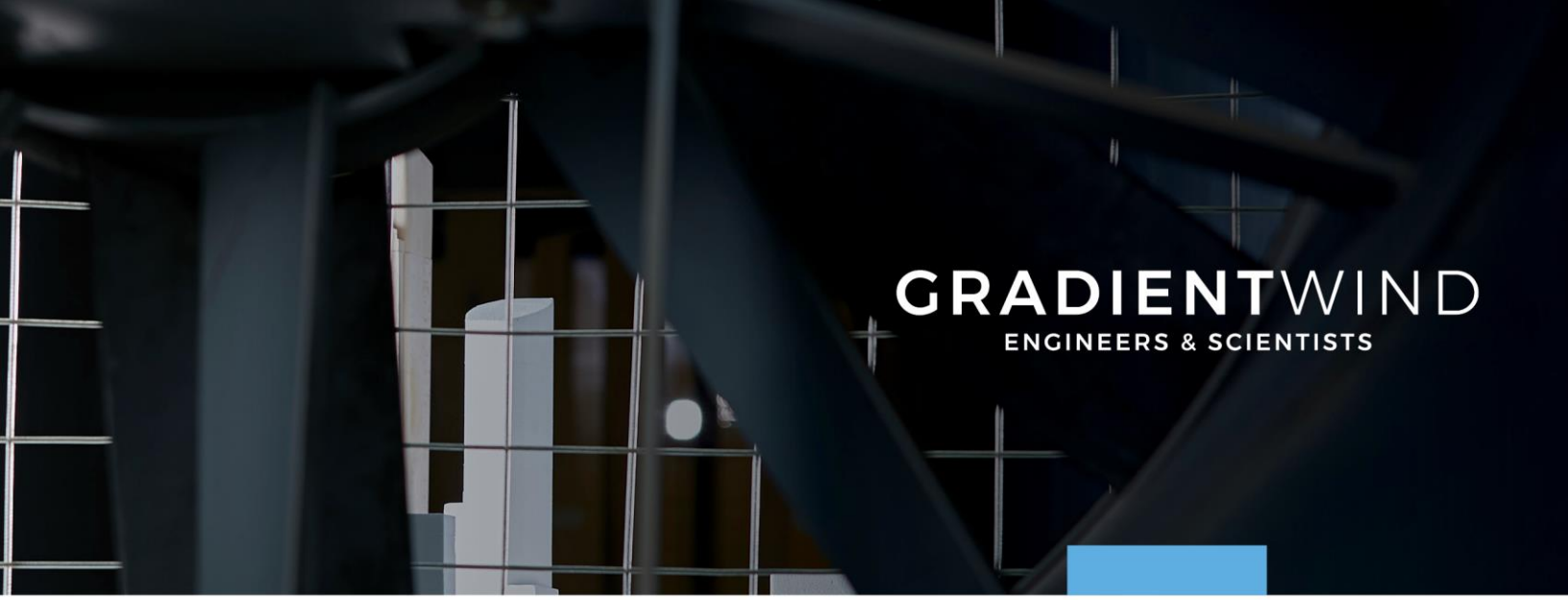

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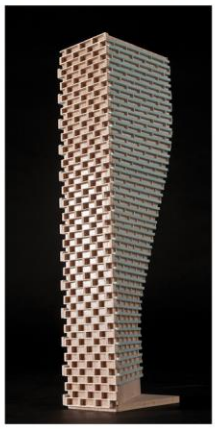
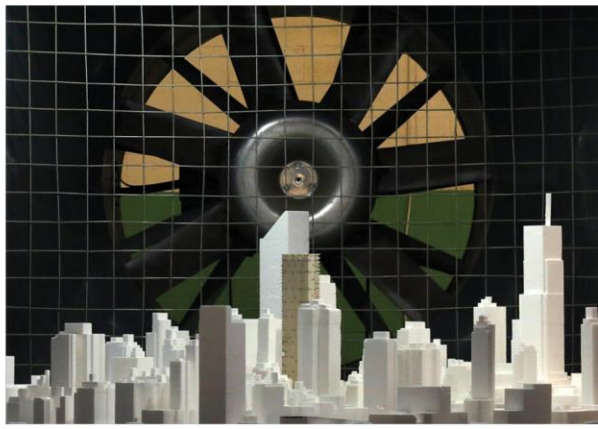
TRANSPORTATION NOISE ASSESSMENT

500 Coventry Road
Ottawa, Ontario

Report: 23-215- Transportation Noise R1





January 18th, 2024

PREPARED FOR

Morguard Corporation
55 City Centre Drive, Suite 1000
Mississauga, ON L5B 1M3

PREPARED BY

Essraa Alqassab, BASc., Junior Environmental Scientist
Joshua Foster, P.Eng., Lead Engineer

EXECUTIVE SUMMARY

This report describes a transportation noise assessment undertaken to satisfy the requirements for Site Plan Control (SPC) application for the proposed residential development located at 500 Coventry Road in Ottawa, Ontario. The primary sources of transportation traffic noise are the Trans-Canada Highway 417, Coventry Road, and the Confederation Line Light Rail Transitway (LRT). As the site is more than 75 m away from the Ottawa-Carleton Regional Transit Commission (OC Transco) LRT Confederation Line, ground vibration impacts are negligible and, therefore, not considered in this report. Figure 1 illustrates a complete site plan with the surrounding context.

The assessment is based on (i) theoretical noise prediction methods that conform to the Ministry of the Environment, Conservation and Parks (MECP) NPC-300, Ministry of Transportation Ontario (MTO), and City of Ottawa Environmental Noise Control Guidelines (ENCG) guidelines; (ii) future vehicular traffic volumes corresponding to roadway classification, theoretical roadway capacities, and LRT information from Gradient Wind's previous experience; (iii) and architectural drawings by Turner Fleischer Architects dated November 2023.

The results of the current analysis indicate that POW noise levels will range between 57 and 79 dBA during the daytime period (07:00-23:00) and between 49 and 72 dBA during the nighttime period (23:00-07:00). The highest noise level (79 dBA) occurs at the south façade, which is nearest and most exposed to the Trans-Canada Highway 417. Upgraded building components with a higher Sound Transmission Class (STC) will be required where exterior noise exceeds 65 dBA.

The results also indicate that the building will require central air conditioning or a similar ventilation system, allowing occupants to keep windows closed and maintain a comfortable living environment. Warning Clause Type D will be required on all Lease, Purchase and Sale Agreements for all buildings, as summarized in Section 6.

According to the ENCG, if the ground level and level 7 outdoor amenity spaces are to be used as outdoor living areas (OLAs), noise control measures (barriers) are required to reduce the L_{eq} to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible. Due to the location of the OLAs, it will not be feasible to provide mitigation from roadway traffic noise. As noise levels exceed 60 dBA, a Type

B Warning Clause will be required on all Lease, Purchase and Sale Agreements for all dwelling units sharing these spaces, as summarised in Section 6. This approach has been accepted for developments with similar contexts.

With regards to on-site stationary noise impacts, Gradient Wind conducted a survey of the site using aerial imagery. No significant off-site sources of stationary noise were identified. Several rooftop units servicing nearby buildings; however, noise will be sufficiently attenuated by the setback distance to the study site.

With regards to stationary noise impacts, a stationary noise study is recommended for the site during the detailed design once mechanical plans become available. This study would assess the impacts of stationary noise from rooftop mechanical units serving the proposed block onto surrounding noise-sensitive areas. This study will include recommendations for any noise control measures necessary to ensure noise levels fall below NPC-300 limits. As the mechanical equipment is expected to reside primarily in the mechanical level located high on the roof of each building, noise levels on the surrounding noise-sensitive properties are expected to be negligible. In the event that noise levels exceed the NPC-300 criteria, noise impacts can generally be minimized by judicious selection and placement of the equipment

TABLE OF CONTENTS

1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by Morguard Corporation to undertake a transportation noise assessment, to satisfy the requirements for Site Plan Control (SPC) application submission for the proposed development located at 500 Coventry Road in Ottawa, Ontario. This report summarizes the methodology, results, and recommendations related to the assessment of exterior noise and vibration levels generated by local transportation traffic.

This assessment is based on theoretical noise calculation methods conforming to the Ministry of the Environment, Conservation and Parks (MECP) NPC-300[1], Ministry of Transportation Ontario (MTO)[2], and City of Ottawa Environmental Noise Control Guidelines (ENCG)[3] guidelines. Noise calculations were based on architectural drawings by Turner Fleischer Architects, dated November 2023, with future traffic volumes corresponding to roadway classification and theoretical roadway capacities and recent satellite imagery.

2. TERMS OF REFERENCE

The subject site is located at 500 Coventry Road in Ottawa, situated to the south of a parcel of land bordered by Coventry Road to the north, the St. Laurent Shopping Centre to the east, Highway 417 to the south, and a Government of Canada building at 440 Coventry Road to the west. The proposed development comprises a 28-storey residential building, including a 6-storey podium, topped with a mechanical penthouse (MPH). A park serving the proposed development is located northeast of the subject site, fronting Coventry Road. The existing surface parking on the subject site is to remain.

Above below-ground parking, the ground floor comprises a nominally 'L'-shaped planform, with its long axis oriented to the east, and includes a central lobby with main entrances to the north and west, a rental office to the west, a staging/loading space and bike storage to the east, and indoor amenities throughout the remainder of the level. An outdoor amenity is located at the northwest corner of the building. Access to the

[1] Ontario Ministry of the Environment and Climate Change – Environmental Noise Guidelines, Publication NPC-300, Queens Printer for Ontario, Toronto, 2013
[2] Ministry of Transportation Ontario, "*Environmental Guide for Noise*", August 2021
[3] City of Ottawa Environmental Noise Control Guidelines, January 2016

underground parking is provided by a ramp to the east via a drive aisle from Coventry Road. Levels 2-6 are reserved for residential use. Setbacks accommodating private terraces are located south and west at Level 2 and along the west, north, and northeast elevations at Level 6. Level 7 comprises a rectangular planform with setbacks from the north and west elevations, which accommodate an amenity terrace to the north and private terraces to the west. This level includes an indoor amenity at the northwest corner and residential units throughout the remainder of the level. Levels 8-28 rise with a rectangular planform comprised of residential units.

3. OBJECTIVES

The principal objectives of this study are to (i) calculate the future noise levels on the study building produced by local transportation sources, and (ii) explore potential noise mitigation where required.

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. NPC-300 specifies that the recommended indoor noise limit range (that is relevant to this study) is 50, 45 and 40 dBA for retail/office/indoor amenity space, living rooms, and sleeping quarters, respectively, as listed in Table 1.

TABLE 1: INDOOR SOUND LEVEL CRITERIA (ROAD & LRT) [4]

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[5]. A closed window due to a ventilation requirement will bring noise levels down to achieve an acceptable indoor environment[6]. 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[7].

As per NPC-300, Outdoor Living Areas (OLAs) are a part of a noise-sensitive land use that is intended for the quiet enjoyment of the outdoor environment and is readily accessible from the building. Areas classified as OLAs include common outdoor amenity areas and terraces/balconies with a minimum depth

[4] MOECP, Environmental Noise Guidelines, NPC 300 – Part C, Table C-9
[5] Burberry, P.B. (2014). Mitchell's Environment and Services. Routledge, Page 125
[6] MOECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.8
[7] MOECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.1.3

of 4 m. The sound level criterion for OLAs is 55 dBA, which applies during the daytime (07:00 to 23:00). When noise levels exceed 55 dBA, mitigation should be provided to reduce noise levels where technically and administratively feasible to acceptable levels at or below the criterion.

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[8] 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. Volumes for the LRT are based on Gradient Wind's previous experience. Table 2 (below) summarizes the AADT values used for each roadway included in this assessment.

TABLE 2: TRANSPORTATION TRAFFIC DATA

Segment	Classification	Speed Limit (km/h)	Traffic Volumes
Queensway (Hwy 417)	8-Lane Highway	100	**146,664**
Coventry Road	2-Lane Urban Arterial (2-UAU)	50	**15,000**
Confederation Line 2	Light Rail Transit	70	**540/60***

*Daytime/Nighttime traffic volumes.

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. In addition to the traffic volumes summarized in Table 2, theoretical noise predictions were based on the following parameters:

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

- 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 were taken to be reflective due to the presence of hard (paved) ground.
- Topography was assumed to be a flat/gentle slope surrounding the study building.
- Noise receptors were strategically placed at 7 locations around the study area (see Figure 2).
- Receptor distances and exposure angles are illustrated in Figures A1-A5.

5. RESULTS

5.1 Roadway Traffic Noise Levels

The results of the roadway traffic noise calculations are summarized in Table 3 below.

TABLE 3: EXTERIOR NOISE LEVELS DUE TO ROADWAY TRAFFIC SOURCES

Receptor Number	Receptor Height Above Grade	Receptor Type / Location	Roadway Noise Level (dBA)	
			Day	Night
R1	87.5	POW / South Façade – Level 28	79	72
R2	87.5	POW / West Façade – Level 28	76	69
R3A	20.7	POW / North Façade – Level 6	61	54
R3B	87.5	POW / North Façade – Level 28	60	52
R4	87.5	POW / East Façade – Level 28	76	69
R5	24.2	Private Terraces at Level 7	67	N/a
R6	24.2	OLA / Outdoor Amenity at Floor 7	64	N/a
R7	1.5	OLA / Ground Level Outdoor Amenity	73	N/a

The results of the current analysis indicate that POW noise levels will range between 57 and 79 dBA during the daytime period (07:00-23:00) and between 49 and 72 dBA during the nighttime period (23:00-07:00). The highest noise level (79 dBA) occurs at the south façade, which is nearest and most exposed to the Trans-Canada Highway 417.

5.1.1 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 4.2, 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), as well as engineering judgement. Per NPC-300 requirements, detailed STC calculations will be required to be completed prior to the building permit application for each unit type. The STC requirements for the windows for various units within the development are summarized below in Table 4 (see Figure 3). Where specific updated building components are not identified, bedroom/living room/retail windows are to satisfy Ontario Building Code (OBC) requirements.

TABLE 4: NOISE CONTROL REQUIREMENTS

Façade	Min. Window STC (Bedroom/Living Room/Retail)	Exterior Wall STC
South	40 / 40/ 30	50
East	38 / 38 / 30	
West	38 / 38 / 30	
North	STANDARD	

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 50, where a window and 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. The specified STC requirements also apply to swinging and/or sliding doors.

Results of the calculations also indicate that the study building will require central air conditioning or a similar ventilation system, which will allow occupants to keep windows closed and maintain a comfortable living environment. Warning Clauses will also be required on all Lease, Purchase and Sale Agreements for all buildings.

5.2 Noise Barrier Investigation

For all outdoor amenity spaces defined as OLAs (as seen in Table 3), noise control measures are required to reduce noise levels to as close as possible to 55 dBA and not exceed 60 dBA Further analysis investigated the benefits of noise barriers along the perimeter of Level 7 and ground-level outdoor amenity areas, as seen in Table 5. Results show that it is not possible to reduce noise levels below 60 dBA. Therefore, a Type B Warning Clause on all Lease, Purchase, and Sale Agreements will be required.

TABLE 5: RESULTS OF NOISE BARRIER INVESTIGATION

Receptor Number	Receptor Location		Daytime L_{eq} Noise Levels (dBA)					
		No Barrier	With 1.1m Barrier	With 1.5m Barrier	With 2m Barrier	With 2.2 m Barrier	With 3m Barrier	With 5 m Barrier
R5	Level 7 Private Terraces*	67	65	64	64	-	62	60
R6	Level 7 Outdoor Amenity	64	64	64	63	-	62	61
R7	Ground Level Outdoor Amenity	67	-	-	-	65	64	-

*Not defined as an OLA if less than 4 m in depth

6. CONCLUSIONS AND RECOMMENDATIONS

The results of the current analysis indicate that POW noise levels will range between 57 and 79 dBA during the daytime period (07:00-23:00) and between 49 and 72 dBA during the nighttime period (23:00-07:00). The highest noise level (79 dBA) occurs at the south façade, which is nearest and most exposed to the Trans-Canada Highway 417. Upgraded building components with a higher Sound Transmission Class (STC) will be required where exterior noise exceeds 65 dBA, as detailed in Table 4 and Figure 3.

Results of the calculations also indicate that the study building will require central air conditioning or a similar ventilation system, which will allow occupants to keep windows closed and maintain a comfortable living environment. Warning Clause Type D will also be required on all Lease, Purchase and Sale Agreements for all buildings, 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."*

According to the ENCG, if the ground level and level 7 outdoor amenity spaces are to be used as outdoor living areas (OLAs), noise control measures are required to reduce the L_{eq} to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible. Due to the location of the OLAs, it will not be feasible to provide mitigation from roadway traffic noise. As noise levels exceed 60 dBA, the following Warning Clause (Type B) will be required to be placed on all Lease, Purchase and Sale Agreements for all dwelling units sharing these spaces:

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 City and the Ministry of the Environment's noise criteria."*

With regards to on-site stationary noise impacts, Gradient Wind conducted a survey of the site using aerial imagery and no significant off-site sources of stationary noise were identified. Several rooftop units servicing nearby buildings; however, noise will be sufficiently attenuated by the setback distance to the study site.

With regard to stationary noise impacts, a stationary noise study is recommended for the site during the detailed design once mechanical plans become available. This study would assess the impacts of stationary noise from rooftop mechanical units serving the proposed block onto surrounding noise-sensitive areas. This study will include recommendations for any noise control measures that may be necessary to ensure noise levels fall below NPC-300 limits. As the mechanical equipment is expected to reside primarily in the mechanical level located on the high roof of each building, noise levels on the surrounding noise-sensitive properties are expected to be negligible. In the event that noise levels exceed the NPC-300 criteria, noise impacts can generally be minimized by judicious selection and placement of the equipment.

This concludes our transportation noise and vibration 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.

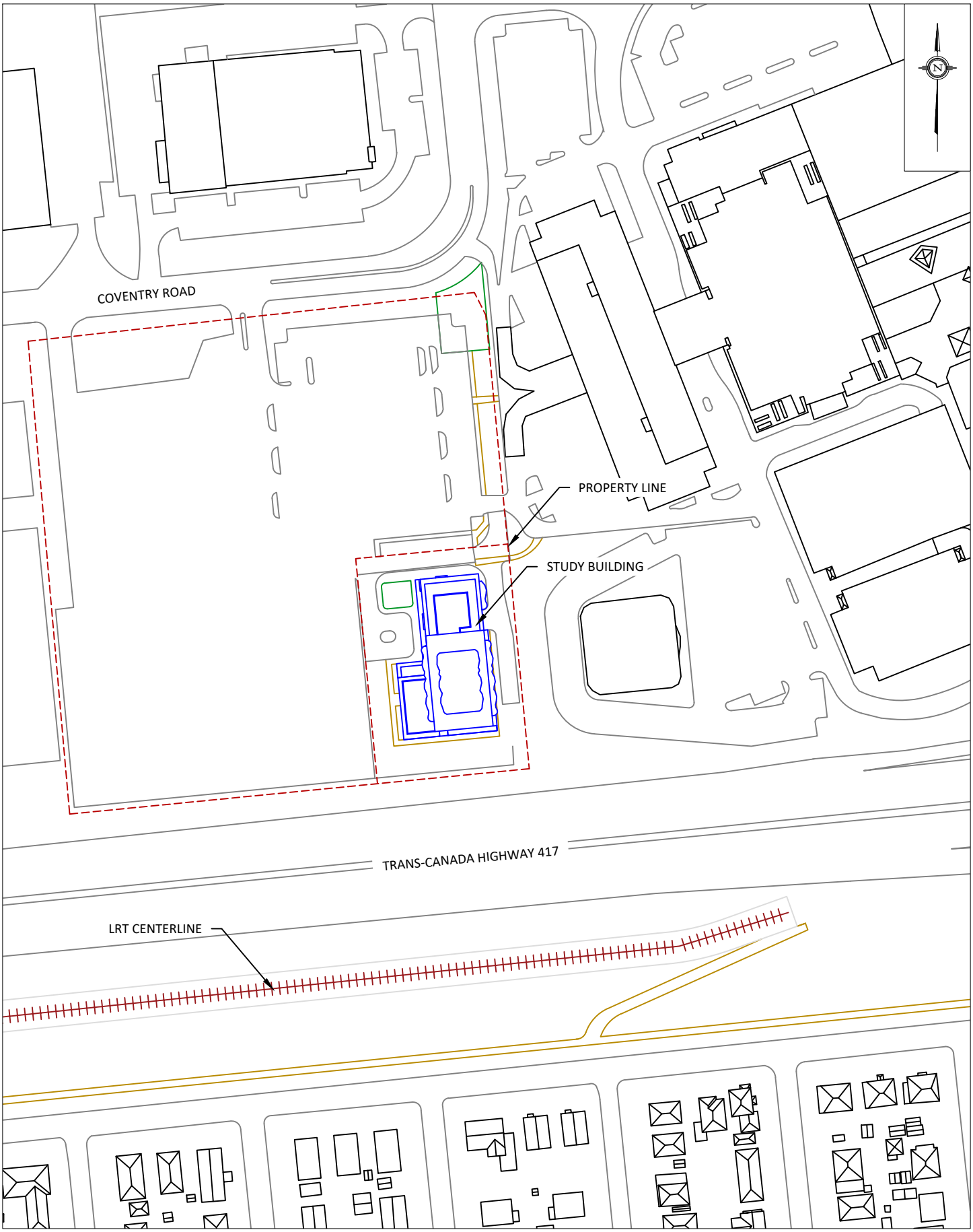
Sincerely,

Gradient Wind Engineering Inc.

Essraa Alqassab, BASc.
Junior Environmental Scientist

Joshua Foster, P.Eng.
Lead Engineer

Gradient Wind File 22-272- Transportation Noise and Vibration



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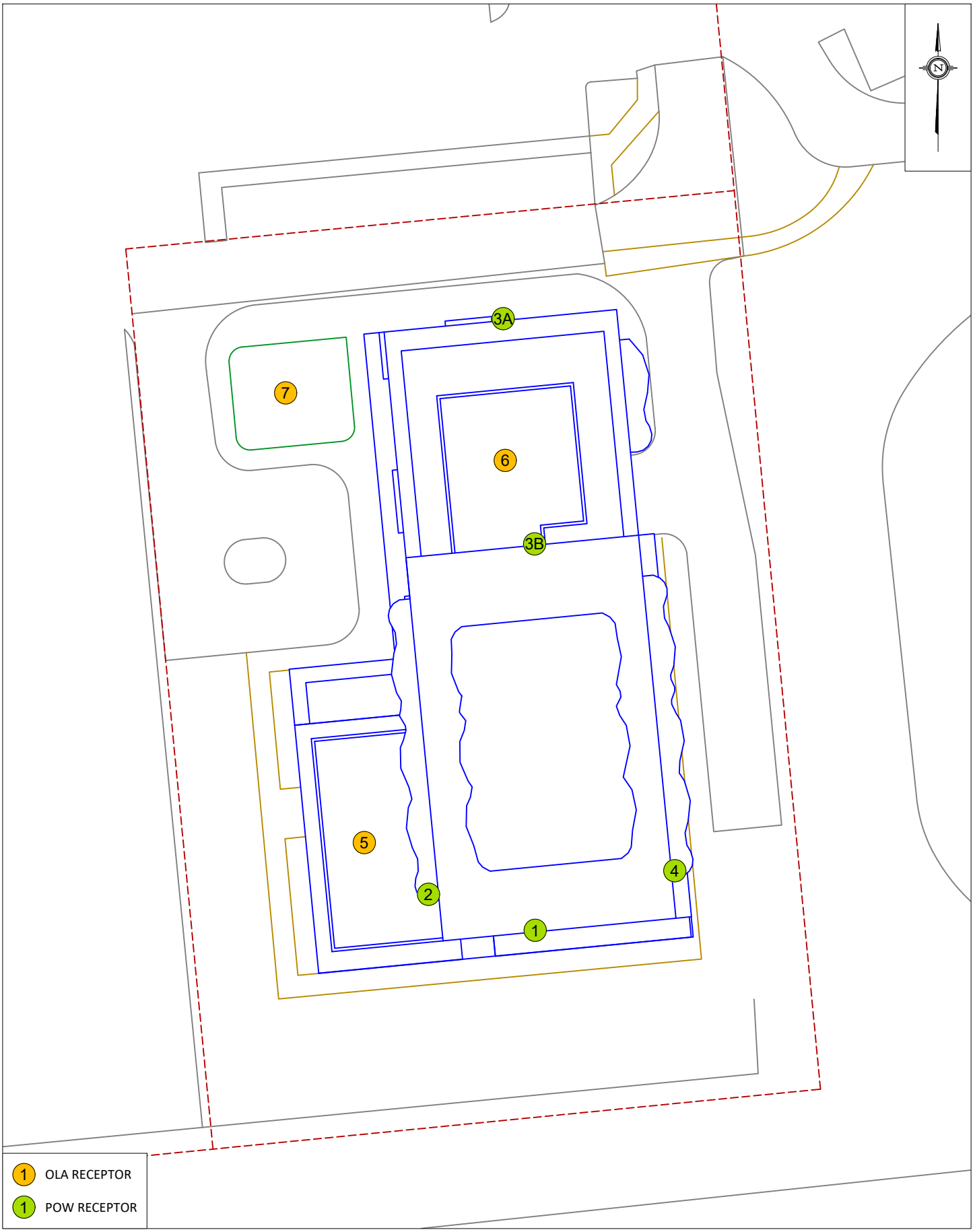
PROJECT	500 COVENTRY ROAD, OTTAWA ROADWAY TRAFFIC NOISE ASSESSMENT
SCALE	1:2000 (APPROX.)
DRAWING NO.	GW23-215-1
DATE	DECEMBER 21, 2023
DRAWN BY	E.A.

DESCRIPTION

FIGURE 1:
SITE PLAN AND SURROUNDING CONTEXT



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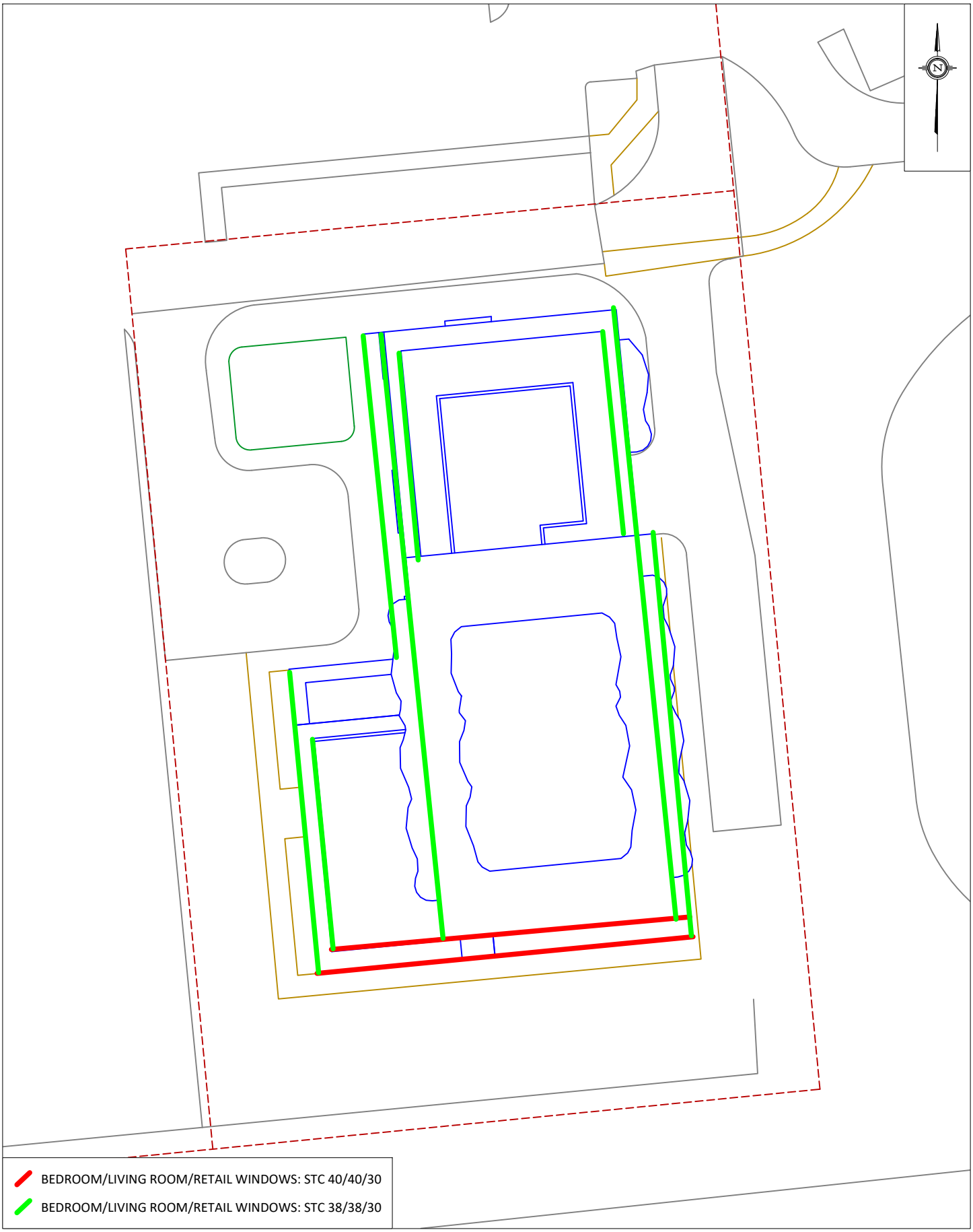
DRAWING NO.	GW23-215-2
DATE	DECEMBER 21, 2023
DRAWN BY	E.A.

DESCRIPTION

FIGURE 2:
RECEPTOR LOCATIONS



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DRAWING NO.	GW23-215-3
DATE	DECEMBER 21, 2023
DRAWN BY	E.A.
DESCRIPTION	FIGURE 3: STC RECOMMENDATIONS

APPENDIX A

STAMSON 5.04 CALCULATIONS

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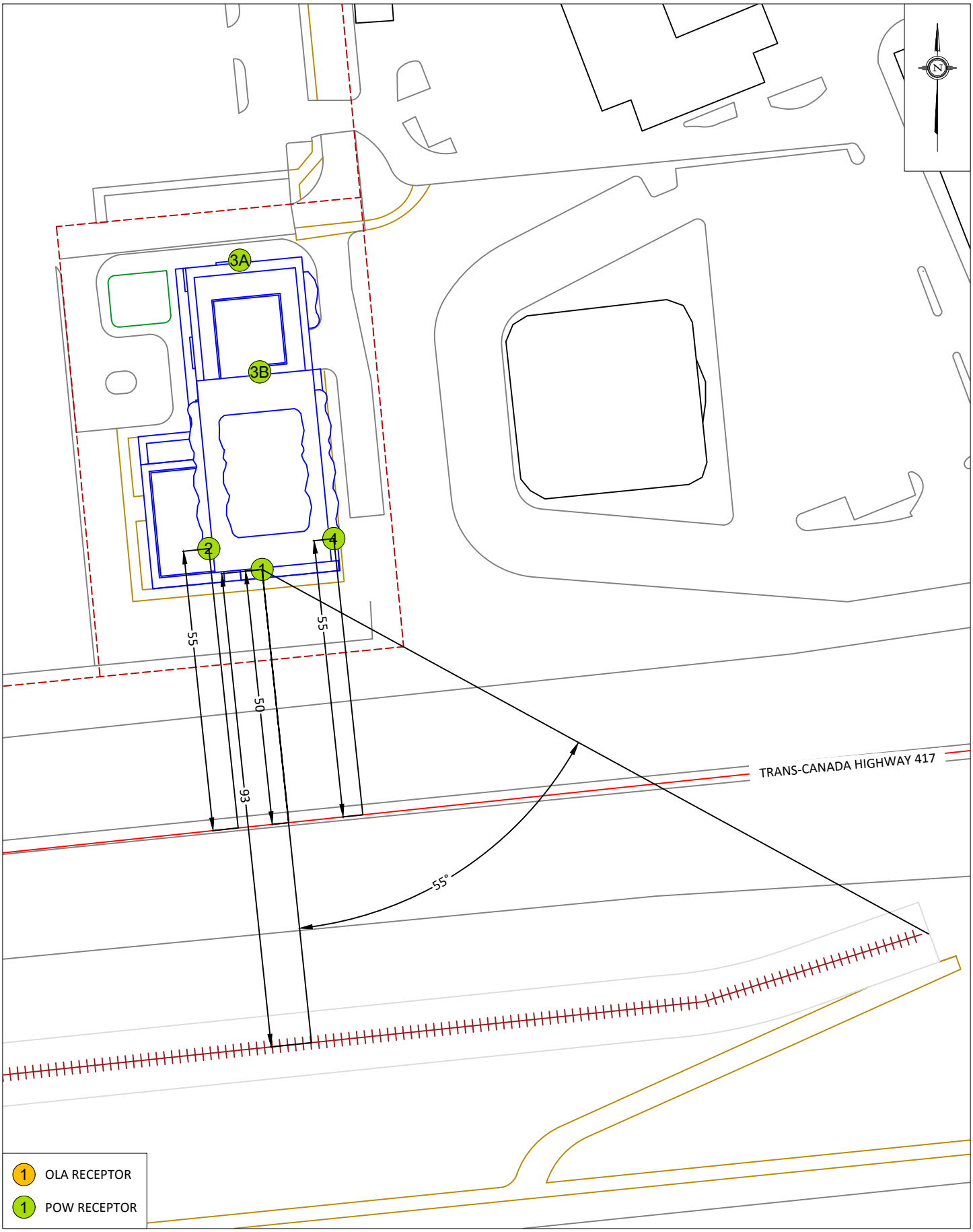

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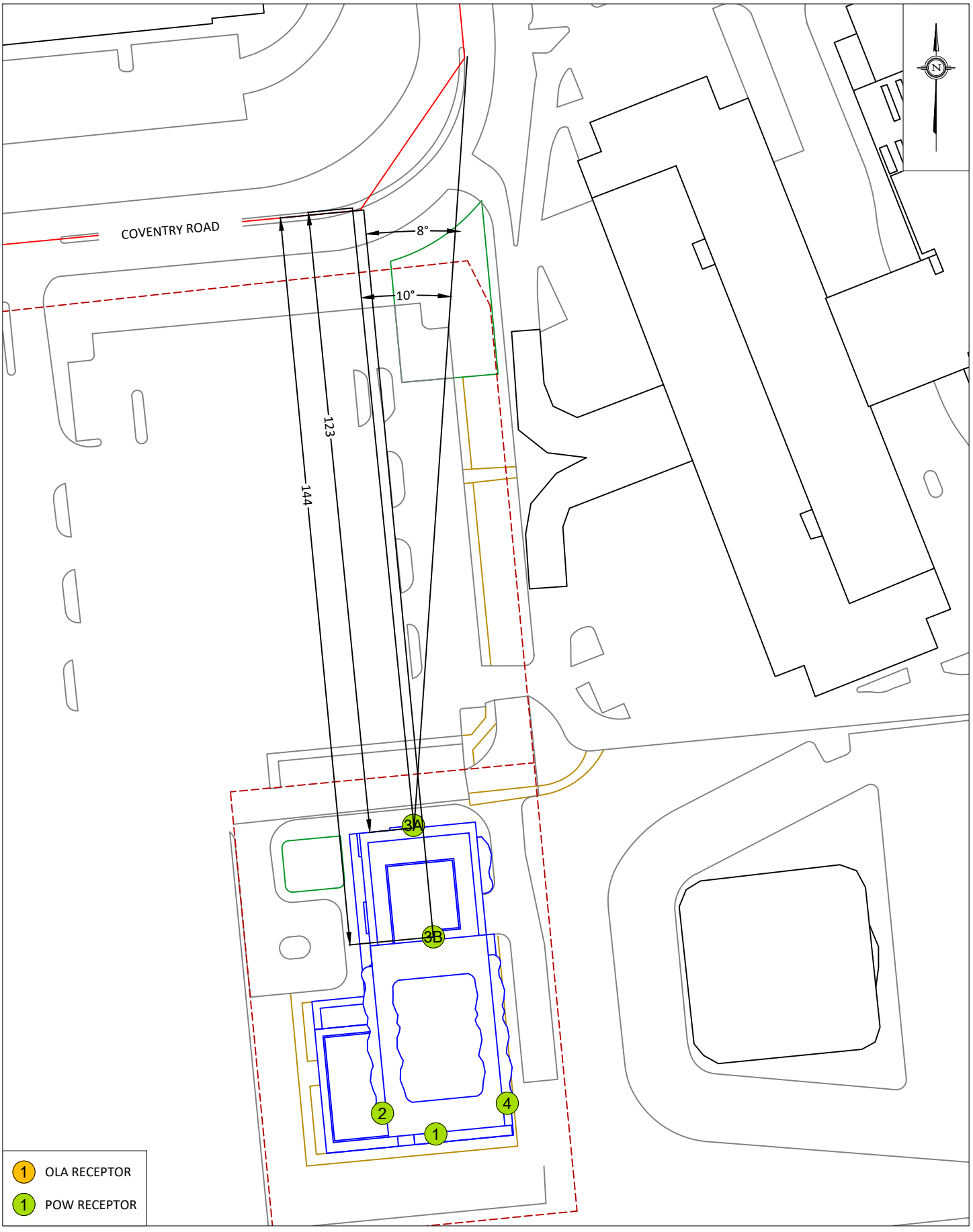
SCALE	1:1000 (APPROX.)
DRAWING NO.	GW23-215-A1
DATE	DECEMBER 21, 2023
DRAWN BY	E.A.

DESCRIPTION

FIGURE A1:
STAMSON PARAMETERS



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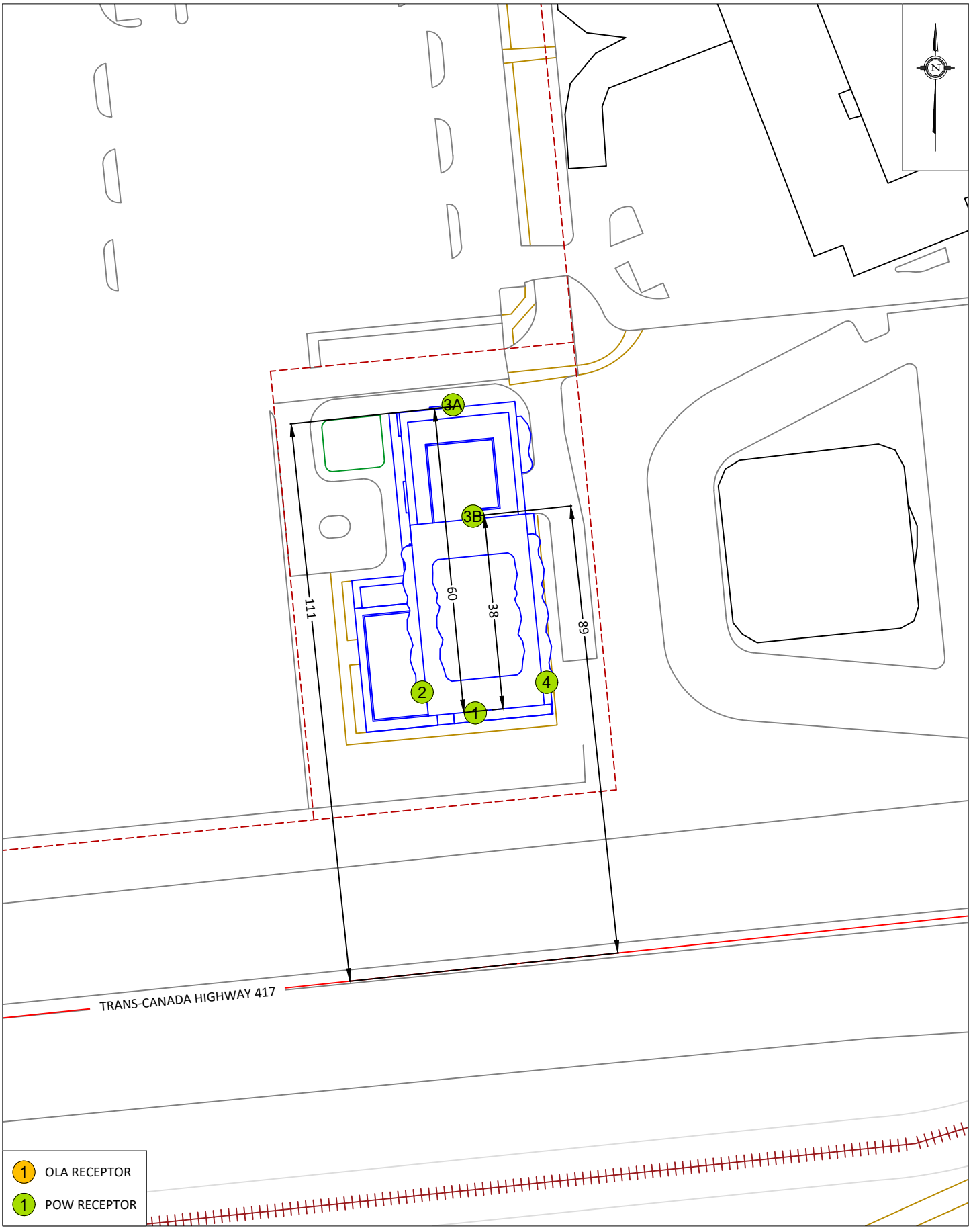
SCALE	1:1000 (APPROX.)
DRAWING NO.	GW23-215-A2
DATE	DECEMBER 21, 2023
DRAWN BY	E.A.

DESCRIPTION

FIGURE A2:
STAMSON PARAMETERS



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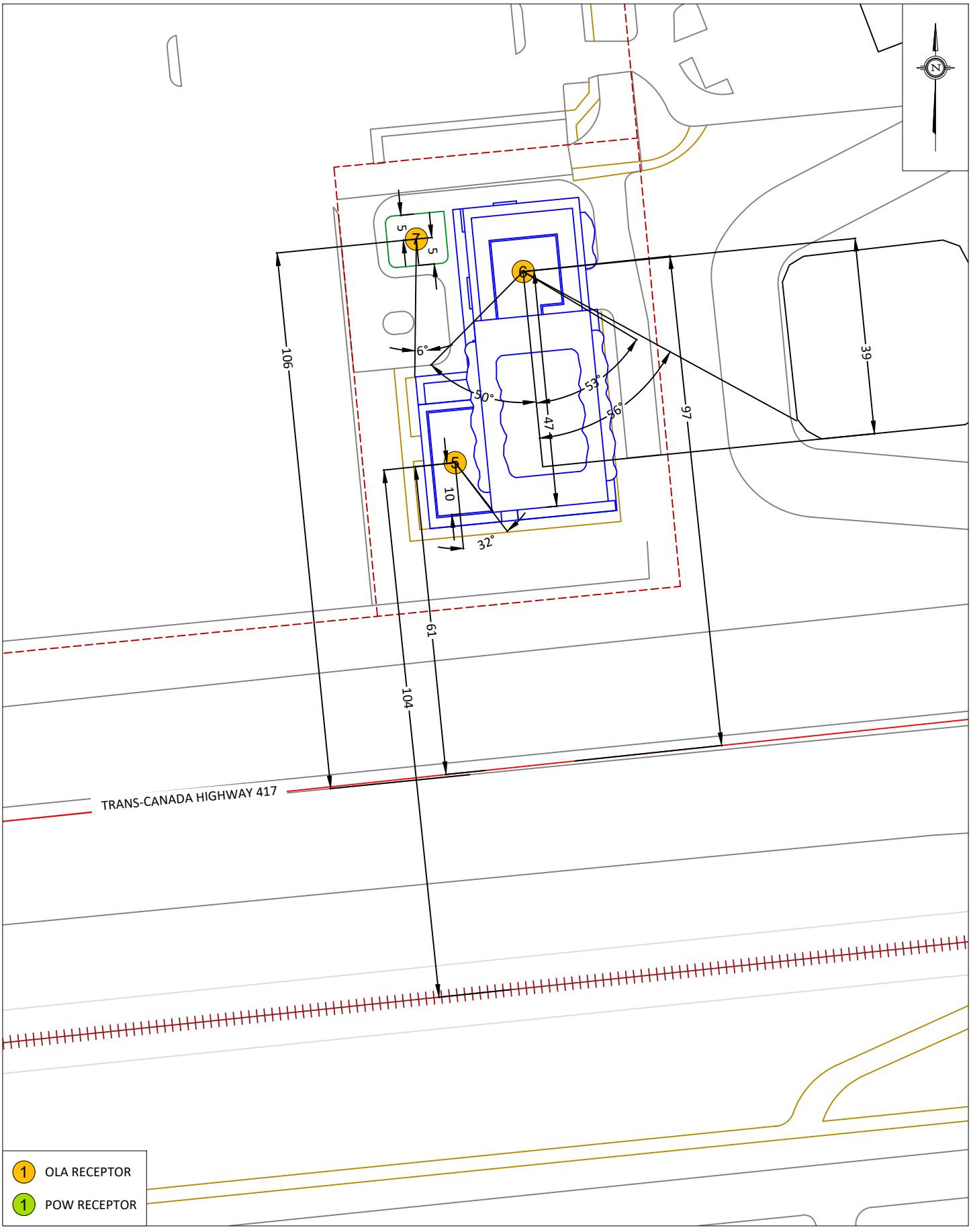
PROJECT	500 COVENTRY ROAD, OTTAWA ROADWAY TRAFFIC NOISE ASSESSMENT		DESCRIPTION
SCALE	1:1000 (APPROX.)	DRAWING NO.	GW23-215-A3
DATE	DECEMBER 21, 2023	DRAWN BY	E.A.

FIGURE A3:
STAMSON PARAMETERS



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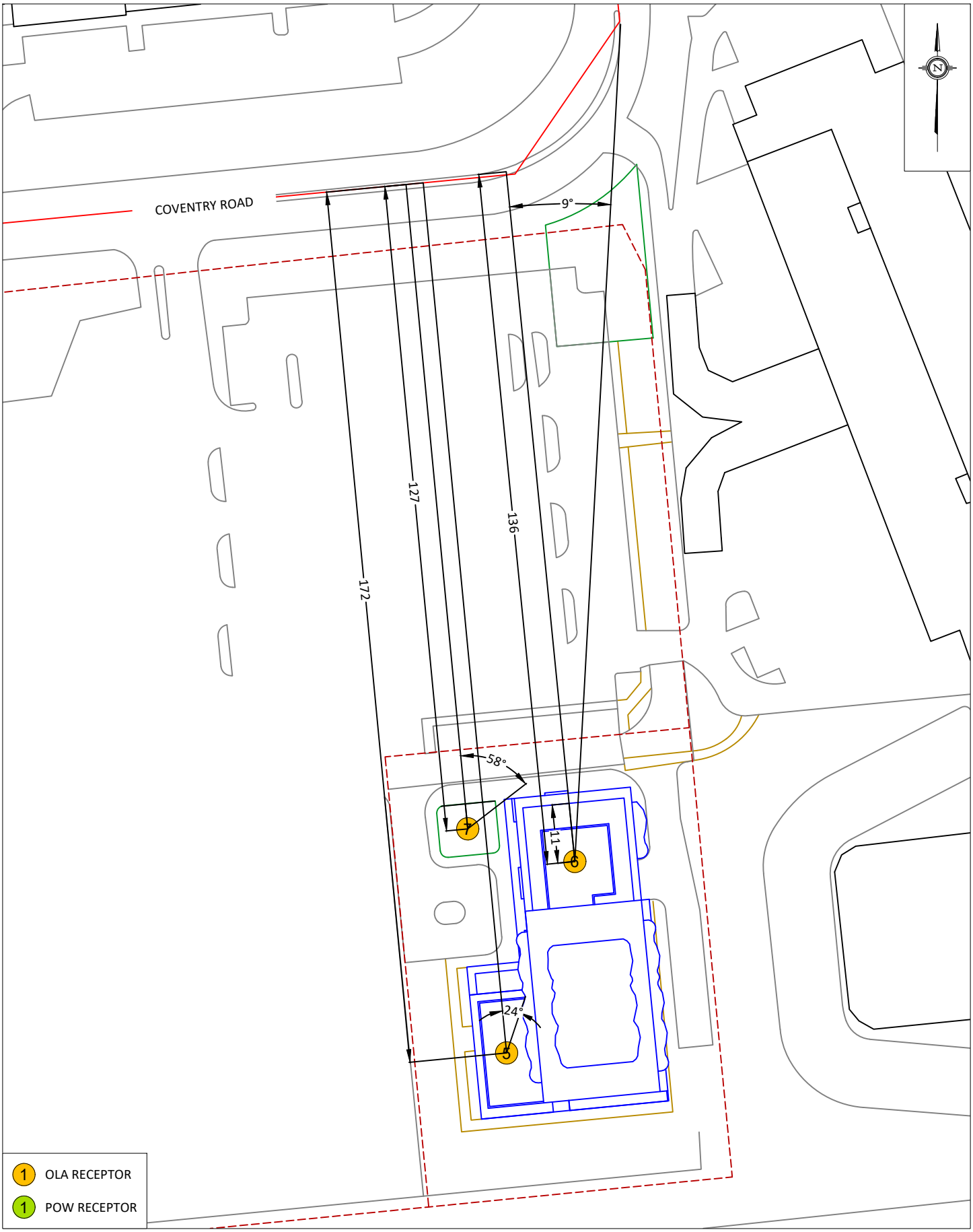
PROJECT	500 COVENTRY ROAD, OTTAWA ROADWAY TRAFFIC NOISE ASSESSMENT		DESCRIPTION
SCALE	1:1000 (APPROX.)	DRAWING NO.	GW23-215-A4
DATE	DECEMBER 21, 2023	DRAWN BY	E.A.

FIGURE A4:
STAMSON PARAMETERS



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SCALE	1:1000 (APPROX.)
DRAWING NO.	GW23-215-A5
DATE	DECEMBER 21, 2023
DRAWN BY	E.A.

DESCRIPTION

FIGURE A5:
STAMSON PARAMETERS

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 14:54:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: HWY (day/night)
---------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  50.00 / 50.00  m
Receiver height           :  87.50 / 87.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 1.50 m

ROAD (0.00 + 79.18 + 0.00) = 79.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  84.41   0.00  -5.23   0.00   0.00   0.00   0.00  79.18
-------------------------------------------------------------------------------

Segment Leq : 79.18 dBA

Total Leq All Segments: 79.18 dBA


Results segment # 1: HWY (night)
```

```
--------------------------------

Source height = 1.50 m

ROAD (0.00 + 71.58 + 0.00) = 71.58 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  76.81   0.00  -5.23   0.00   0.00   0.00   0.00  71.58
-------------------------------------------------------------------------------

Segment Leq : 71.58 dBA

Total Leq All Segments: 71.58 dBA


RT/Custom data, segment # 1: LRT (day/night)
-----------------------------------------
1 - 4-car SRT:
Traffic volume    :   540/60    veh/TimePeriod
Speed             :    70 km/h

Data for Segment # 1: LRT (day/night)
-------------------------------------
Angle1   Angle2           : -55.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  93.00 / 93.00  m
Receiver height           :  87.50 / 87.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 0.50 m

RT/Custom (0.00 + 54.57 + 0.00) = 54.57 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -55     90   0.00  63.44  -7.92  -0.94   0.00   0.00   0.00  54.57
-------------------------------------------------------------------------

Segment Leq : 54.57 dBA

Total Leq All Segments: 54.57 dBA


Results segment # 1: LRT (night)
--------------------------------

Source height = 0.50 m
```

```
RT/Custom (0.00 + 48.04 + 0.00) = 48.04 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -55     90   0.00  56.91  -7.92  -0.94   0.00   0.00   0.00  48.04
-------------------------------------------------------------------------

Segment Leq : 48.04 dBA

Total Leq All Segments: 48.04 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 79.19
                           (NIGHT): 71.60
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 14:54:35
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r2.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: HWY (day/night)
---------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY (day/night)
---------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  50.00 / 50.00  m
Receiver height           :  87.50 / 87.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 1.50 m

ROAD (0.00 + 76.17 + 0.00) = 76.17 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  84.41   0.00  -5.23  -3.01   0.00   0.00   0.00  76.17
-------------------------------------------------------------------------------

Segment Leq : 76.17 dBA

Total Leq All Segments: 76.17 dBA
```

```
Results segment # 1: HWY (night)
--------------------------------

Source height = 1.50 m

ROAD (0.00 + 68.57 + 0.00) = 68.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  76.81   0.00  -5.23  -3.01   0.00   0.00   0.00  68.57
-------------------------------------------------------------------------------

Segment Leq : 68.57 dBA

Total Leq All Segments: 68.57 dBA


RT/Custom data, segment # 1: LRT (day/night)
-------------------------------------------
1 - 4-car SRT:
Traffic volume    :   540/60    veh/TimePeriod
Speed             :    70 km/h

Data for Segment # 1: LRT (day/night)
-------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  93.00 / 93.00  m
Receiver height           :  87.50 / 87.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 0.50 m

RT/Custom (0.00 + 52.50 + 0.00) = 52.50 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
     0     90   0.00  63.44  -7.92  -3.01   0.00   0.00   0.00  52.50
-------------------------------------------------------------------------

Segment Leq : 52.50 dBA

Total Leq All Segments: 52.50 dBA


Results segment # 1: LRT (night)
--------------------------------

Source height = 0.50 m
```

```
RT/Custom (0.00 + 45.97 + 0.00) = 45.97 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
     0     90   0.00  56.91  -7.92  -3.01   0.00   0.00   0.00  45.97
-------------------------------------------------------------------

Segment Leq : 45.97 dBA

Total Leq All Segments: 45.97 dBA
```

```
TOTAL Leq FROM ALL SOURCES (DAY): 76.19
                           (NIGHT): 68.59


STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 14:55:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3.te                Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Coventry (day/night)
-------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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: Coventry (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   10.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 123.00 / 123.00 m
Receiver height           :  20.80 / 20.80  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 1.50 m

ROAD (0.00 + 56.79 + 0.00) = 56.79 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     10   0.00  68.48   0.00  -9.14  -2.55   0.00   0.00   0.00  56.79
-------------------------------------------------------------------------------
```

```
Segment Leq : 56.79 dBA

Total Leq All Segments: 56.79 dBA


Results segment # 1: Coventry (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.19 + 0.00) = 49.19 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     10   0.00  60.88   0.00  -9.14  -2.55   0.00   0.00   0.00  49.19
-------------------------------------------------------------------------------

Segment Leq : 49.19 dBA

Total Leq All Segments: 49.19 dBA




TOTAL Leq FROM ALL SOURCES (DAY): 56.79
                           (NIGHT): 49.19
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 15:07:19
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3A.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Coventry (day/night)
---------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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: Coventry (day/night)
---------------------------------------------
Angle1   Angle2           : -90.00 deg   10.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 123.00 / 123.00 m
Receiver height           :  20.80 / 20.80  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


Road data, segment # 2: HWY (day/night)
---------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 111.00 / 111.00 m
Receiver height           :  20.80 / 20.80  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :  22.70 m
Barrier receiver distance :  60.00 / 60.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


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

Source height = 1.50 m

ROAD (0.00 + 56.79 + 0.00) = 56.79 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     10   0.00  68.48   0.00  -9.14  -2.55   0.00   0.00   0.00  56.79
-------------------------------------------------------------------------------

Segment Leq : 56.79 dBA


Results segment # 2: HWY (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 !       20.80 !       10.37 !        10.37

ROAD (0.00 + 59.20 + 0.00) = 59.20 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  84.41   0.00  -8.69   0.00   0.00   0.00 -16.52  59.20
-------------------------------------------------------------------------------

Segment Leq : 59.20 dBA

Total Leq All Segments: 61.17 dBA
```

```
Barrier table for segment # 2: HWY (day)
----------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
  24.20 !   24.20 !   58.67 !   58.67 !
  24.70 !   24.70 !   58.52 !   58.52 !
  25.20 !   25.20 !   58.39 !   58.39 !
  25.70 !   25.70 !   58.26 !   58.26 !
  26.20 !   26.20 !   58.14 !   58.14 !
  26.70 !   26.70 !   58.02 !   58.02 !
  27.20 !   27.20 !   57.92 !   57.92 !
  27.70 !   27.70 !   57.82 !   57.82 !
  28.20 !   28.20 !   57.73 !   57.73 !
  28.70 !   28.70 !   57.64 !   57.64 !


Results segment # 1: Coventry (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.19 + 0.00) = 49.19 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     10   0.00  60.88   0.00  -9.14  -2.55   0.00   0.00   0.00  49.19
-------------------------------------------------------------------------------

Segment Leq : 49.19 dBA


Results segment # 2: HWY (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 !       20.80 !       10.37 !        10.37

ROAD (0.00 + 51.60 + 0.00) = 51.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  76.81   0.00  -8.69   0.00   0.00   0.00 -16.52  51.60
-------------------------------------------------------------------------------

Segment Leq : 51.60 dBA
```

```
Total Leq All Segments: 53.57 dBA


TOTAL Leq FROM ALL SOURCES (DAY): 61.17
                           (NIGHT): 53.57
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 15:13:36
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R3B.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Coventry (day/night)
---------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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: Coventry (day/night)
---------------------------------------------
Angle1   Angle2           : -90.00 deg   8.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 144.00 / 144.00 m
Receiver height           :  87.50 / 87.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


Road data, segment # 2: HWY (day/night)
---------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY (day/night)
------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  89.00 / 89.00  m
Receiver height           :  87.50 / 87.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :  89.70 m
Barrier receiver distance :  38.00 / 38.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


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

Source height = 1.50 m

ROAD (0.00 + 56.02 + 0.00) = 56.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      8   0.00  68.48   0.00  -9.82  -2.64   0.00   0.00   0.00  56.02
-------------------------------------------------------------------------------

Segment Leq : 56.02 dBA


Results segment # 2: HWY (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 !       87.50 !       50.78 !        50.78

ROAD (0.00 + 57.45 + 0.00) = 57.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  84.41   0.00  -7.73   0.00   0.00   0.00 -19.23  57.45
-------------------------------------------------------------------------------

Segment Leq : 57.45 dBA
```

```
Total Leq All Segments: 59.80 dBA


Barrier table for segment # 2: HWY (day)
----------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
  91.20 !   91.20 !   57.39 !   57.39 !
  91.70 !   91.70 !   57.37 !   57.37 !
  92.20 !   92.20 !   57.35 !   57.35 !
  92.70 !   92.70 !   57.34 !   57.34 !
  93.20 !   93.20 !   57.32 !   57.32 !
  93.70 !   93.70 !   57.31 !   57.31 !
  94.20 !   94.20 !   57.29 !   57.29 !
  94.70 !   94.70 !   57.28 !   57.28 !
  95.20 !   95.20 !   57.26 !   57.26 !
  95.70 !   95.70 !   57.25 !   57.25 !

Results segment # 1: Coventry (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.42 + 0.00) = 48.42 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      8   0.00  60.88   0.00  -9.82  -2.64   0.00   0.00   0.00  48.42
-------------------------------------------------------------------------------

Segment Leq : 48.42 dBA


Results segment # 2: HWY (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 !       87.50 !       50.78 !        50.78

ROAD (0.00 + 49.85 + 0.00) = 49.85 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  76.81   0.00  -7.73   0.00   0.00   0.00 -19.23  49.85
-------------------------------------------------------------------------------

Segment Leq : 49.85 dBA
```

```
Total Leq All Segments: 52.20 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 59.80
                           (NIGHT): 52.20
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 14:55:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: HWY (day/night)
---------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY (day/night)
---------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  50.00 / 50.00  m
Receiver height           :  87.50 / 87.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 1.50 m

ROAD (0.00 + 76.17 + 0.00) = 76.17 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  84.41   0.00  -5.23  -3.01   0.00   0.00   0.00  76.17
-------------------------------------------------------------------------------

Segment Leq : 76.17 dBA

Total Leq All Segments: 76.17 dBA
```

```
Results segment # 1: HWY (night)
--------------------------------

Source height = 1.50 m

ROAD (0.00 + 68.57 + 0.00) = 68.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  76.81   0.00  -5.23  -3.01   0.00   0.00   0.00  68.57
-------------------------------------------------------------------------------

Segment Leq : 68.57 dBA

Total Leq All Segments: 68.57 dBA


RT/Custom data, segment # 1: LRT (day/night)
-----------------------------------------
1 - 4-car SRT:
Traffic volume    :   540/60    veh/TimePeriod
Speed             :    70 km/h

Data for Segment # 1: LRT (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  93.00 / 93.00  m
Receiver height           :  87.50 / 87.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 0.50 m

RT/Custom (0.00 + 52.50 + 0.00) = 52.50 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90      0   0.00  63.44  -7.92  -3.01   0.00   0.00   0.00  52.50
-------------------------------------------------------------------------

Segment Leq : 52.50 dBA

Total Leq All Segments: 52.50 dBA


Results segment # 1: LRT (night)
--------------------------------

Source height = 0.50 m
```

```
RT/Custom (0.00 + 45.97 + 0.00) = 45.97 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90      0   0.00  56.91  -7.92  -3.01   0.00   0.00   0.00  45.97
-------------------------------------------------------------------------

Segment Leq : 45.97 dBA

Total Leq All Segments: 45.97 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 76.19
                           (NIGHT): 68.59
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 14:56:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5.te                Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: HWY-1 (day/night)
----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY-1 (day/night)
---------------------------------------
Angle1   Angle2           : -32.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  61.00 / 61.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -32.00 deg   Angle2 : 90.00 deg
Barrier height            :  22.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 2: HWY-2 (day/night)
----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY-2 (day/night)
---------------------------------------
Angle1   Angle2           : -90.00 deg   -32.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  61.00 / 61.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : -32.00 deg
Barrier height            :  89.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 3: Coventry (day/night)
--------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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 # 3: Coventry (day/night)
------------------------------------------
Angle1   Angle2           : -90.00 deg   24.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 172.00 / 172.00 m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 24.00 deg
Barrier height            :  22.70 m
```

```
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Results segment # 1: HWY-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 !       24.20 !       20.48 !        20.48

ROAD (0.00 + 66.64 + 0.00) = 66.64 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -32     90   0.00  84.41   0.00  -6.09  -1.69   0.00   0.00  -9.99  66.64
-------------------------------------------------------------------------------

Segment Leq : 66.64 dBA


Results segment # 2: HWY-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 !       24.20 !       20.48 !        20.48

ROAD (0.00 + 53.60 + 0.00) = 53.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -32   0.00  84.41   0.00  -6.09  -4.92   0.00   0.00 -19.80  53.60
-------------------------------------------------------------------------------

Segment Leq : 53.60 dBA


Results segment # 3: Coventry (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 !       24.20 !       22.88 !        22.88

ROAD (0.00 + 55.90 + 0.00) = 55.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     24   0.00  68.48   0.00 -10.59  -1.98   0.00   0.00  -4.94  50.97*
   -90     24   0.00  68.48   0.00 -10.59  -1.98   0.00   0.00   0.00  55.90
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 55.90 dBA

Total Leq All Segments: 67.19 dBA


Results segment # 1: HWY-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 !       24.20 !       20.48 !        20.48

ROAD (0.00 + 59.04 + 0.00) = 59.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -32     90   0.00  76.81   0.00  -6.09  -1.69   0.00   0.00  -9.99  59.04
-------------------------------------------------------------------------------

Segment Leq : 59.04 dBA


Results segment # 2: HWY-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 !       24.20 !       20.48 !        20.48
```

```
ROAD (0.00 + 46.00 + 0.00) = 46.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -32   0.00  76.81   0.00  -6.09  -4.92   0.00   0.00 -19.80  46.00
-------------------------------------------------------------------------------

Segment Leq : 46.00 dBA

Results segment # 3: Coventry (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 !       24.20 !       22.88 !        22.88

ROAD (0.00 + 48.31 + 0.00) = 48.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     24   0.00  60.88   0.00 -10.59  -1.98   0.00   0.00  -4.94  43.37*
   -90     24   0.00  60.88   0.00 -10.59  -1.98   0.00   0.00   0.00  48.31
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 48.31 dBA

Total Leq All Segments: 59.59 dBA


RT/Custom data, segment # 1: LRT (day/night)
-------------------------------------------
1 - 4-car SRT:
Traffic volume    :   540/60    veh/TimePeriod
Speed             :    70 km/h

Data for Segment # 1: LRT (day/night)
-----------------------------------
Angle1   Angle2           : -32.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  93.00 / 93.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -32.00 deg   Angle2 : 90.00 deg
Barrier height            :  22.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
```

```
Barrier elevation          :    0.00 m
Reference angle            :    0.00


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

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !       24.20 !       21.65 !        21.65

RT/Custom (0.00 + 47.06 + 0.00) = 47.06 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
   -32     90   0.00  63.44  -7.92  -1.69   0.00   0.00  -6.76  47.06
-----------------------------------------------------------------------

Segment Leq : 47.06 dBA

Total Leq All Segments: 47.06 dBA


Results segment # 1: LRT (night)
---------------------------------

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !       24.20 !       21.65 !        21.65

RT/Custom (0.00 + 40.53 + 0.00) = 40.53 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
   -32     90   0.00  56.91  -7.92  -1.69   0.00   0.00  -6.76  40.53
-----------------------------------------------------------------------

Segment Leq : 40.53 dBA

Total Leq All Segments: 40.53 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 67.23
                           (NIGHT): 59.64
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 15:27:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5b.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: HWY-1 (day/night)
----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY-1 (day/night)
----------------------------------------
Angle1   Angle2           : -32.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  61.00 / 61.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -32.00 deg   Angle2 : 90.00 deg
Barrier height            :  27.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 2: HWY-2 (day/night)
----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY-2 (day/night)
---------------------------------------
Angle1   Angle2           : -90.00 deg   -32.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  61.00 / 61.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : -32.00 deg
Barrier height            :  89.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 3: Coventry (day/night)
--------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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 # 3: Coventry (day/night)
------------------------------------------
Angle1   Angle2           : -90.00 deg   24.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 172.00 / 172.00 m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 24.00 deg
```

```
Barrier height            :  27.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Results segment # 1: HWY-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 !       24.20 !       20.48 !        20.48

ROAD (0.00 + 59.24 + 0.00) = 59.24 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -32     90   0.00  84.41   0.00  -6.09  -1.69   0.00   0.00 -17.38  59.24
-------------------------------------------------------------------------------

Segment Leq : 59.24 dBA


Results segment # 2: HWY-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 !       24.20 !       20.48 !        20.48

ROAD (0.00 + 53.60 + 0.00) = 53.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -32   0.00  84.41   0.00  -6.09  -4.92   0.00   0.00 -19.80  53.60
-------------------------------------------------------------------------------

Segment Leq : 53.60 dBA


Results segment # 3: Coventry (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 !       24.20 !       22.88 !        22.88

ROAD (0.00 + 41.11 + 0.00) = 41.11 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     24   0.00  68.48   0.00 -10.59  -1.98   0.00   0.00 -14.79  41.11
-------------------------------------------------------------------------------

Segment Leq : 41.11 dBA

Total Leq All Segments: 60.34 dBA


Barrier table for segment # 1: HWY-1 (day)
------------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
  29.20 !   29.20 !   58.57 !   58.57 !
  29.70 !   29.70 !   58.41 !   58.41 !
  30.20 !   30.20 !   58.26 !   58.26 !
  30.70 !   30.70 !   58.14 !   58.14 !
  31.20 !   31.20 !   58.02 !   58.02 !
  31.70 !   31.70 !   57.92 !   57.92 !
  32.20 !   32.20 !   57.84 !   57.84 !
  32.70 !   32.70 !   57.76 !   57.76 !
  33.20 !   33.20 !   57.69 !   57.69 !
  33.70 !   33.70 !   57.62 !   57.62 !

Barrier table for segment # 2: HWY-2 (day)
------------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
  91.20 !   91.20 !   53.59 !   53.59 !
  91.70 !   91.70 !   53.59 !   53.59 !
  92.20 !   92.20 !   53.59 !   53.59 !
  92.70 !   92.70 !   53.59 !   53.59 !
  93.20 !   93.20 !   53.59 !   53.59 !
  93.70 !   93.70 !   53.58 !   53.58 !
  94.20 !   94.20 !   53.58 !   53.58 !
  94.70 !   94.70 !   53.58 !   53.58 !
  95.20 !   95.20 !   53.58 !   53.58 !
  95.70 !   95.70 !   53.58 !   53.58 !

Barrier table for segment # 3: Coventry (day)
```

```
-------------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
  29.20 !   29.20 !   39.42 !   39.42 !
  29.70 !   29.70 !   39.07 !   39.07 !
  30.20 !   30.20 !   38.77 !   38.77 !
  30.70 !   30.70 !   38.51 !   38.51 !
  31.20 !   31.20 !   38.29 !   38.29 !
  31.70 !   31.70 !   38.10 !   38.10 !
  32.20 !   32.20 !   37.93 !   37.93 !
  32.70 !   32.70 !   37.78 !   37.78 !
  33.20 !   33.20 !   37.65 !   37.65 !
  33.70 !   33.70 !   37.53 !   37.53 !


Results segment # 1: HWY-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 !       24.20 !       20.48 !        20.48

ROAD (0.00 + 51.65 + 0.00) = 51.65 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -32     90   0.00  76.81   0.00  -6.09  -1.69   0.00   0.00 -17.38  51.65
-------------------------------------------------------------------------------

Segment Leq : 51.65 dBA


Results segment # 2: HWY-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 !       24.20 !       20.48 !        20.48

ROAD (0.00 + 46.00 + 0.00) = 46.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -32   0.00  76.81   0.00  -6.09  -4.92   0.00   0.00 -19.80  46.00
```

```
--------------------------------------------------------------------------------

Segment Leq : 46.00 dBA


Results segment # 3: Coventry (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 !       24.20 !       22.88 !        22.88

ROAD (0.00 + 33.52 + 0.00) = 33.52 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     24   0.00  60.88   0.00 -10.59  -1.98   0.00   0.00 -14.79  33.52
-------------------------------------------------------------------------------

Segment Leq : 33.52 dBA

Total Leq All Segments: 52.75 dBA


RT/Custom data, segment # 1: LRT (day/night)
--------------------------------------------
1 - 4-car SRT:
Traffic volume    :   540/60    veh/TimePeriod
Speed             :    70 km/h

Data for Segment # 1: LRT (day/night)
-------------------------------------
Angle1   Angle2           : -32.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  93.00 / 93.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -32.00 deg   Angle2 : 90.00 deg
Barrier height            :  27.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Results segment # 1: LRT (day)
------------------------------
```

```
Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !       24.20 !       21.65 !        21.65

RT/Custom (0.00 + 37.28 + 0.00) = 37.28 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -32     90   0.00  63.44  -7.92  -1.69   0.00   0.00 -16.55  37.28
-------------------------------------------------------------------------

Segment Leq : 37.28 dBA

Total Leq All Segments: 37.28 dBA


Barrier table for segment # 1: LRT (day)
----------------------------------------

Barrier ! Elev of ! RT/CUST ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
  29.20 !   29.20 !   36.32 !   36.32 !
  29.70 !   29.70 !   36.09 !   36.09 !
  30.20 !   30.20 !   35.89 !   35.89 !
  30.70 !   30.70 !   35.72 !   35.72 !
  31.20 !   31.20 !   35.57 !   35.57 !
  31.70 !   31.70 !   35.43 !   35.43 !
  32.20 !   32.20 !   35.32 !   35.32 !
  32.70 !   32.70 !   35.21 !   35.21 !
  33.20 !   33.20 !   35.12 !   35.12 !
  33.70 !   33.70 !   35.04 !   35.04 !


Results segment # 1: LRT (night)
--------------------------------

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !       24.20 !       21.65 !        21.65

RT/Custom (0.00 + 30.75 + 0.00) = 30.75 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
```

```
   -32      90    0.00  56.91  -7.92  -1.69    0.00    0.00 -16.55  30.75
--------------------------------------------------------------------------------

Segment Leq : 30.75 dBA

Total Leq All Segments: 30.75 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 60.36
                           (NIGHT): 52.78
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-12-2023 14:57:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r6.te                Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: HWY-1 (day/night)
-----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY-1 (day/night)
---------------------------------------
Angle1   Angle2           : -90.00 deg   56.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  97.00 / 97.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 56.00 deg
Barrier height            :  27.00 m
Barrier receiver distance :  39.00 / 39.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 2: HWY-2 (day/night)
-----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY-2 (day/night)
---------------------------------------
Angle1   Angle2           : -56.00 deg   50.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  97.00 / 97.00  m
Receiver height           :  24.20 / 4.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -56.00 deg   Angle2 : 50.00 deg
Barrier height            :  89.70 m
Barrier receiver distance :  47.00 / 47.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 3: Coventry (day/night)
--------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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 # 3: Coventry (day/night)
------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 136.00 / 136.00 m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :  22.70 m
```

```
Barrier receiver distance :  11.00 / 11.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 4: HWY-3 (day/night)
-----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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 # 4: HWY-3 (day/night)
---------------------------------------
Angle1   Angle2           :  50.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  15.00 / 15.00  m
Receiver height           :  24.20 / 24.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  50.00 deg   Angle2 : 90.00 deg
Barrier height            :  22.70 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Results segment # 1: HWY-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 !       24.20 !       15.07 !        15.07
```

```
ROAD (0.00 + 57.68 + 0.00) = 57.68 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     56   0.00  84.41   0.00  -8.11  -0.91   0.00   0.00 -17.71  57.68
-------------------------------------------------------------------------------

Segment Leq : 57.68 dBA


Results segment # 2: HWY-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 !       24.20 !       13.20 !        13.20

ROAD (0.00 + 54.00 + 0.00) = 54.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -56     50   0.00  84.41   0.00  -8.11  -2.30   0.00   0.00 -20.00  54.00
-------------------------------------------------------------------------------

Segment Leq : 54.00 dBA


Results segment # 3: Coventry (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 !       24.20 !       22.36 !        22.36

ROAD (0.00 + 53.73 + 0.00) = 53.73 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  68.48   0.00  -9.57   0.00   0.00   0.00  -5.18  53.73
-------------------------------------------------------------------------------

Segment Leq : 53.73 dBA


Results segment # 4: HWY-3 (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 !       24.20 !        9.06 !         9.06

ROAD (0.00 + 61.89 + 0.00) = 61.89 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    50     90   0.00  84.41   0.00   0.00  -6.53   0.00   0.00 -15.99  61.89
-------------------------------------------------------------------------------

Segment Leq : 61.89 dBA

Total Leq All Segments: 64.18 dBA


Results segment # 1: HWY-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 !       24.20 !       15.07 !        15.07

ROAD (0.00 + 50.08 + 0.00) = 50.08 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     56   0.00  76.81   0.00  -8.11  -0.91   0.00   0.00 -17.71  50.08
-------------------------------------------------------------------------------

Segment Leq : 50.08 dBA


Results segment # 2: HWY-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 !        4.50 !        3.04 !         3.04
```

```
ROAD (0.00 + 46.40 + 0.00) = 46.40 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -56     50   0.00  76.81   0.00  -8.11  -2.30   0.00   0.00 -20.00  46.40
-------------------------------------------------------------------------------

Segment Leq : 46.40 dBA


Results segment # 3: Coventry (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 !       24.20 !       22.36 !        22.36

ROAD (0.00 + 46.13 + 0.00) = 46.13 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.88   0.00  -9.57   0.00   0.00   0.00  -5.18  46.13
-------------------------------------------------------------------------------

Segment Leq : 46.13 dBA


Results segment # 4: HWY-3 (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 !       24.20 !        9.06 !         9.06

ROAD (0.00 + 54.29 + 0.00) = 54.29 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    50     90   0.00  76.81   0.00   0.00  -6.53   0.00   0.00 -15.99  54.29
-------------------------------------------------------------------------------

Segment Leq : 54.29 dBA

Total Leq All Segments: 56.58 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.18
                           (NIGHT): 56.58
```

```
STAMSON 5.0         NORMAL REPORT         Date: 20-12-2023 14:56:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Coventry (day/night)
---------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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: Coventry (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   58.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 127.00 / 127.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


Road data, segment # 2: HWY (day/night)
---------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY (day/night)
-------------------------------------
Angle1   Angle2           :   6.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 106.00 / 106.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


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

Source height = 1.50 m

ROAD (0.00 + 58.35 + 0.00) = 58.35 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     58   0.00  68.48   0.00  -9.28  -0.85   0.00   0.00   0.00  58.35
-------------------------------------------------------------------------------

Segment Leq : 58.35 dBA


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

Source height = 1.50 m

ROAD (0.00 + 72.61 + 0.00) = 72.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     6     90   0.00  84.41   0.00  -8.49  -3.31   0.00   0.00   0.00  72.61
-------------------------------------------------------------------------------

Segment Leq : 72.61 dBA

Total Leq All Segments: 72.77 dBA


Results segment # 1: Coventry (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.76 + 0.00) = 50.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     58   0.00  60.88   0.00  -9.28  -0.85   0.00   0.00   0.00  50.76
-------------------------------------------------------------------------------
```

```
Segment Leq : 50.76 dBA


Results segment # 2: HWY (night)
--------------------------------

Source height = 1.50 m

ROAD (0.00 + 65.01 + 0.00) = 65.01 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     6     90   0.00  76.81   0.00  -8.49  -3.31   0.00   0.00   0.00  65.01
-------------------------------------------------------------------------------

Segment Leq : 65.01 dBA

Total Leq All Segments: 65.17 dBA




TOTAL Leq FROM ALL SOURCES (DAY): 72.77
                           (NIGHT): 65.17
```

```
STAMSON 5.0        NORMAL REPORT        Date: 21-12-2023 10:47:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7b.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Coventry (day/night)
---------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 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):  15000
    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: Coventry (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   58.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 127.00 / 127.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 58.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Road data, segment # 2: HWY (day/night)
----------------------------------------
Car traffic volume  : 118739/10325 veh/TimePeriod  *
Medium truck volume :  9445/821   veh/TimePeriod  *
Heavy truck volume  :  6747/587   veh/TimePeriod  *
Posted speed limit  :   100 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): 146664
    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: HWY (day/night)
-------------------------------------
Angle1   Angle2           :   6.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 106.00 / 106.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   6.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00


Results segment # 1: Coventry (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 + 48.58 + 0.00) = 48.58 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     58   0.00  68.48   0.00  -9.28  -0.85   0.00   0.00  -9.77  48.58
-------------------------------------------------------------------------------

Segment Leq : 48.58 dBA


Results segment # 2: HWY (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 + 63.49 + 0.00) = 63.49 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     6     90   0.00  84.41   0.00  -8.49  -3.31   0.00   0.00  -9.12  63.49
-------------------------------------------------------------------------------

Segment Leq : 63.49 dBA

Total Leq All Segments: 63.63 dBA


Results segment # 1: Coventry (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 + 40.99 + 0.00) = 40.99 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     58   0.00  60.88   0.00  -9.28  -0.85   0.00   0.00  -9.77  40.99
-------------------------------------------------------------------------------

Segment Leq : 40.99 dBA


Results segment # 2: HWY (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 + 55.89 + 0.00) = 55.89 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     6     90   0.00  76.81   0.00  -8.49  -3.31   0.00   0.00  -9.12  55.89
-------------------------------------------------------------------------------
```

Segment Leq : 55.89 dBA

Total Leq All Segments: 56.03 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.63