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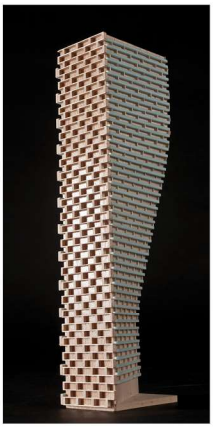
ROADWAY TRAFFIC NOISE ASSESSMENT

729 Ridgewood Avenue
Ottawa, Ontario

REPORT: GW20-124 – Traffic Noise



June 15, 2021

PREPARED FOR

Brigil
98 Rue Lois
Gatineau, QC J8Y 3R7

PREPARED BY

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EXECUTIVE SUMMARY

This report describes a roadway traffic noise assessment undertaken in support of a Site Plan Control (SPC) application for a proposed development located at 729 Ridgewood Avenue in Ottawa, Ontario. The proposed development comprises five (5) buildings varying in height and shape, surrounding a circular drop-off area to be accessed by a driveway connected to Ridgewood Avenue. Building 1 is located to the northwest of the study site at a height of 15-storeys. Building 2 is attached to the east façade of Building 1 as a 6-storey podium. Buildings 3 and 4 are rectangular in shape, 4-storeys tall, and located on the east side of the study site. Building 5 is L-shaped, 6-storeys tall, and located to the southwest corner of the study site with commercial units at grade and residential units comprising the floors above. An outdoor amenity space is anticipated to be located adjacent to Building 5. Figure 1 illustrates a complete site plan with surrounding context.

The site is bordered by mid-rise residential buildings to the west and northwest, 2-storey houses to the north clockwise to the southeast, and a place of worship to the south across Ridgewood Avenue. Mooney's Bay Park on the Rideau River is located nearby, across Riverside Drive to the west. The major sources of traffic noise are Riverside Drive to the west of the site, Ridgewood Avenue bordering the site directly to the south, and Springland Drive to the east.

The assessment is based on (i) theoretical noise prediction methods that conform to the Ministry of the Environment, Conservation and Parks (MECP) and City of Ottawa requirements; (ii) noise level criteria as specified by the City of Ottawa's Environmental Noise Control Guidelines (ENCG); (iii) future vehicular traffic volumes based on the City of Ottawa's Official Plan roadway classifications; (iv) architectural drawings prepared by NEUF Architect(e)s dated May 12, 2021; and (v) project information prepared by NEUF Architect(e)s dated April 1, 2021.

The results of the current analysis indicate that noise levels will range between 52 and 66 dBA during the daytime period (07:00-23:00) and between 44 and 59 dBA during the nighttime period (23:00-07:00). The highest noise levels (66 dBA) occur at the south façades of Buildings 4 and 5, which are nearest and most exposed to Riverside Drive and Ridgewood Avenue. Building components with a higher Sound Transmission Class (STC) rating will be required where exterior noise levels exceed 65 dBA, as indicated in Figure 3.

Results of the calculations indicate that Buildings 4 and 5 within the development will require central air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. Buildings 1, 2, and 3 will require forced air heating with provision for the installation of air conditioning. Figure 4 indicates which buildings in the development require air conditioning, and which require forced air heating with provision for the installation of air conditioning. A Warning Clause[1] will also be required in all Lease, Purchase and Sale Agreements, as summarized in Section 6.

The noise levels at the anticipated outdoor amenity space (Receptor 15) are expected to approach 56 dBA, narrowly exceeding the ENCG criteria. If this area is to be used as an outdoor amenity space, a Warning Clause[1] will be required, as summarized in Section 6.

[1] City of Ottawa Environmental Noise Control Guidelines, January 2016

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1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by Brigil to undertake a roadway traffic noise assessment in support of a Site Plan Control (SPC) application for a proposed mixed-use residential development at 729 Ridgewood Avenue in Ottawa, Ontario. This report summarizes the methodology, results, and recommendations related to the assessment of exterior and interior noise levels generated by local roadway traffic.

Our work is based on theoretical noise calculation methods conforming to the City of Ottawa[2] and Ministry of the Environment, Conservation and Parks (MECP)[3] guidelines. Noise calculations were based on architectural drawings prepared by NEUF Architect(e)s dated May 12, 2021, and project information prepared by NEUF Architect(e)s dated April 1, 2021, with future traffic volumes corresponding to the City of Ottawa's Official Plan (OP) roadway classifications.

2. TERMS OF REFERENCE

The focus of this traffic noise assessment is a proposed development at 729 Ridgewood Avenue in Ottawa, Ontario. The study site is located near Mooney's Bay, on a nearly-rectangular parcel of land bordered by Ridgewood Avenue to the south.

The proposed development comprises five (5) buildings varying in height and shape, surrounding a circular drop-off area to be accessed by a driveway connected to Ridgewood Avenue. Building 1 is located to the northwest of the study site at a height of 15-storeys, reserved for residential occupancy. Building 2 is attached to the east façade of Building 1 as a 6-storey podium. Buildings 3 and 4 are rectangular in shape, 4-storeys tall, and located on the east side of the study site. Building 5 is L-shaped, 6-storeys tall, and located to the southwest corner of the study site, with commercial units at grade and residential units comprising the floors above. An Outdoor Living Area (OLA) is anticipated to be located adjacent to Building 5. Figure 1 illustrates a complete site plan with surrounding context.

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

The site is bordered by mid-rise residential buildings to the west and northwest, 2-storey houses from the north clockwise to the southeast, and a place of worship to the south across Ridgewood Avenue. Mooney's Bay Park on the Rideau River is located nearby, across Riverside Drive to the west. The major sources of traffic noise are Riverside Drive to the west of the site, Ridgewood Avenue bordering the site directly to the south, and Springland Drive to the east.

3. OBJECTIVES

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

4. METHODOLOGY

4.1 Background

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

4.2 Roadway Traffic Noise

4.2.1 Criteria for Roadway Traffic Noise

For surface roadway traffic noise, the equivalent sound energy level, L_{eq}, provides a measure of the time varying noise levels, which is well correlated with the annoyance of sound. It is defined as the continuous sound level, which has the same energy as a time varying noise level over a period of time. For roadways, the L_{eq} is commonly calculated on the basis of a 16-hour (L_{eq16}) daytime (07:00-23:00) / 8-hour (L_{eq8}) nighttime (23:00-07:00) split to assess its impact on residential buildings. The City of Ottawa's Environmental Noise Control Guidelines (ENCG) specifies that the recommended indoor noise limit range (that is relevant to this study) is 50, 45, and 40 dBA for retail spaces, living rooms, and sleeping quarters respectively for roadway traffic noise as listed in Table 1. However, to account for deficiencies in building construction and to control peak noise, these levels should be targeted toward 47, 42, and 37 dBA.

TABLE 1: INDOOR SOUND LEVEL CRITERIA (ROAD) [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

[4] Adapted from ENCG 2016 – Tables 2.2b and 2.2c
[5] Burberry, P.B. (2014). Mitchell's Environment and Services. Routledge, Page 125

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].

The sound level criterion for outdoor living areas 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. When noise levels exceed 60 dBA noise mitigation is mandatory.

4.2.2 Theoretical Roadway 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:

- 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.
- Receptor height was taken to be 48.2 metres at level 15 of Building 1 (Receptors 1-4) for the centre of the window (height to 15th floor slab + 1.5 metres), 19.8 meters at level 6 of Buildings 2 and 5 (Receptors 5 and 12-14), 13.5 meters at level 4 of Buildings 2 and 3 (Receptors 6-11), and 1.5 meters for OLA Receptor 15.

[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

- The mid-rise apartment building at 2951 Riverside to the west was considered as a noise barrier with a height of 35 metres.
- For select sources where appropriate, Receptors 1-15 considered the proposed buildings as barriers with a height of 50 metres for Building 1, 22 metres for Buildings 2 and 5, and 16 metres for Buildings 3 and 4. The buildings act as noise barriers partially or fully obstructing exposure to the source as illustrated by exposure angles in Appendix Figures A1-A6.
- Noise receptors were strategically placed at 15 locations around the study area (see Figure 2).
- Receptor distances and exposure angles are illustrated in Appendix Figures A1-A6.

4.2.1 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. Table 2 (below) summarizes the AADT values used for each roadway included in this assessment.

TABLE 2: ROADWAY TRAFFIC DATA

Segment	Roadway Traffic Data	Speed Limit (km/h)	Traffic Volumes
Riverside Drive	4 Lane Urban Arterial Divided	60	**35,000**
Ridgewood Avenue	2 Lane Urban Collector	40	**8,000**
Springland Drive	2 Lane Urban Collector	40	**8,000**

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

4.3 Indoor Noise Calculations

The difference between outdoor and indoor noise levels is the noise attenuation provided by the building envelope. According to common industry practice, complete walls and individual wall elements are rated according to the Sound Transmission Class (STC). The STC ratings of common residential walls built in conformance with the Ontario Building Code (2012) typically exceed STC 35, depending on exterior cladding, thickness and interior finish details. For example, brick veneer walls can achieve STC 50 or more. Standard commercially sided exterior metal stud walls have around STC 45. Standard good quality double-glazed non-operable windows can have STC ratings ranging from 25 to 40, depending on the window manufacturer, pane thickness and inter-pane spacing. As previously mentioned, the windows are the known weak point in a partition.

As per Section 4.2, when daytime noise levels (from road and rail sources) at the plane of the window exceed 65 dBA, calculations must be performed to evaluate the sound transmission quality of the building components to ensure acceptable indoor noise levels. The calculation procedure[9] considers:

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

Based on published research[10], exterior walls possess specific sound attenuation characteristics that are used as a basis for calculating the required STC ratings of windows in the same partition. Due to the limited information available at the time of the study, which was prepared for site plan approval, detailed floor layouts and building elevations have not been finalized; therefore, detailed STC calculations could not be performed at this time. As a guideline, the anticipated STC requirements for windows have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels).

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

5. RESULTS AND DISCUSSION

5.1 Roadway Traffic Noise Levels

The results of the roadway traffic noise calculations are summarized in Table 3 below. A complete set of input and output data from all STAMSON 5.04 calculations are available in Appendix A.

TABLE 3: EXTERIOR NOISE LEVELS DUE TO ROAD TRAFFIC

Receptor Number	Receptor Height Above Grade (m)	Receptor Location	STAMSON 5.04 Noise Level (dBA)	
			Day	Night
Building 1				
1	48.2	POW / 15th Floor - North Façade	61	54
2	48.2	POW / 15th Floor - East Façade	52	44
3	48.2	POW / 15th Floor - South Façade	60	52
4	48.2	POW / 15th Floor - West Façade	64	57
Building 2				
5	19.8	POW / 6th Floor - South Façade	53	45
Building 3				
6	13.5	POW / 4th Floor - East Façade	52	45
7	13.5	POW / 4th Floor - South Façade	55	49
8	13.5	POW / 4th Floor - West Façade	52	45
Building 4				
9	13.5	POW / 4th Floor - East Façade	60	53
10	13.5	POW / 4th Floor - South Façade	66	58
11	13.5	POW / 4th Floor - West Façade	59	51
Building 5				
12	19.8	POW / 6th Floor - East Façade	59	52
13	19.8	POW / 6th Floor - South Façade	66	59
14	19.8	POW / 6th Floor - West Façade	65	57
15	1.5	OLA / Outdoor Amenity Area	56	N/A*

*Nighttime noise levels are not considered for OLA receptors, as per ENCG guidelines.

The results of the current analysis indicate that noise levels will range between 52 and 66 dBA during the daytime period (07:00-23:00) and between 44 and 59 dBA during the nighttime period (23:00-07:00). The highest noise levels (66 dBA) occur at the south façades of Buildings 4 and 5, which are nearest and most exposed to Riverside Drive and Ridgewood Avenue. Noise levels at the Outdoor Living Area (Receptor 15) are expected to approach 56 dBA, narrowly exceeding the ENCG criteria.

5.2 Noise Control Measures

The noise levels predicted due to roadway traffic narrowly exceed the criteria listed in Section 4.2 for building components. As discussed in Section 4.3, the anticipated STC requirements for windows have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels). As per city of Ottawa requirements, detailed STC calculations will be required to be completed prior to building permit application for each unit type. The STC requirements for the windows are summarized below for various units within the development (see Figure 3):

- **Bedroom Windows**

(i) Bedroom windows facing south on Buildings 4 and 5 will require a minimum STC of 30

(ii) All other bedroom windows are to satisfy Ontario Building Code (OBC 2012) requirements

- **Living Room Windows**

(i) Living room windows facing south on Buildings 4 and 5 will require a minimum STC of 25

(ii) All other living room windows are to satisfy Ontario Building Code (OBC 2012) requirements

- **Retail Windows**

(i) Retail windows facing south on Building 5 will require a minimum STC of 20

(ii) All other retail windows are to satisfy Ontario Building Code (OBC 2012) requirements

- **Exterior Walls**

(i) Exterior wall components on the south façade of Buildings 4 and 5 will require a minimum STC of 45 which will be achieved with brick cladding or an acoustical equivalent according to NRC test data[11].

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

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

Results of the calculations indicate that Buildings 4 and 5 within the development will require central air conditioning, which will allow occupants to keep windows closed and maintain a comfortable living environment. Buildings 1, 2, and 3 will require forced air heating with provision for the installation of central air conditioning. Figure 4 indicates which buildings in the development require air conditioning, and which require forced air heating with provision for the installation of air conditioning. In addition to ventilation requirements, Warning Clauses will also be required in all Lease, Purchase and Sale Agreements, as summarized in Section 6.

6. CONCLUSIONS AND RECOMMENDATIONS

The results of the current analysis indicate that noise levels will range between 52 and 66 dBA during the daytime period (07:00-23:00) and between 44 and 59 dBA during the nighttime period (23:00-07:00). The highest noise levels (66 dBA) occur at the south façades of Buildings 4 and 5, which are nearest and most exposed to Riverside Drive and Ridgewood Avenue. Building components with a higher Sound Transmission Class (STC) rating will be required where exterior noise levels exceed 65 dBA, as indicated in Figure 3.

Results of the calculations also indicate that Buildings 4 and 5 within the development will require central air conditioning (see Figure 4), which will allow occupants to keep windows closed and maintain a comfortable living environment. The following Warning Clause[12] will also be required to be placed on all Lease, Purchase and Sale Agreements for Buildings 4 and 5, as summarized below:

> *"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 roadway traffic may, on occasion, interfere with some activities of the dwelling occupants, as the sound levels exceed the sound level limits of the City and the Ministry of the Environment and Climate Change. To help address the need for sound attenuation, this development includes:*
>
> - *STC rated multi-pane glazing elements and spandrel panels*
> - *South façade bedroom/living room/retail windows: STC 30/25/20*
> - *STC rated exterior walls*
> - *South façade: STC 45*
>
> *This dwelling unit has also been designed with air conditioning. Air conditioning will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City and the Ministry of the Environment and Climate Change.*

[12] City of Ottawa Environmental Noise Control Guidelines, January 2016

To ensure that provincial sound level limits are not exceeded, it is important to maintain these sound attenuation features."

Buildings 1, 2 and 3 within the development will require forced air heating with provision for the installation of central air conditioning (see Figure 4). The following Warning Clause[13] will also be required to be placed on all Lease, Purchase and Sale Agreements for Buildings 1, 2, and 3 as summarized below:

"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 roadway traffic may, on occasion, interfere with some activities of the dwelling occupants, as the sound levels exceed the sound level limits of the City and the Ministry of the Environment and Climate Change.

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

The noise levels at the anticipated Outdoor Living Area (Receptor 15) narrowly exceed the ENCG criteria. If this area is to be used as an outdoor amenity space, the following Warning Clause[13] will be required.

"*Sound levels due to increasing road traffic may, on occasion, interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the City and the Ministry of the Environment."*

[13] City of Ottawa Environmental Noise Control Guidelines, January 2016

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

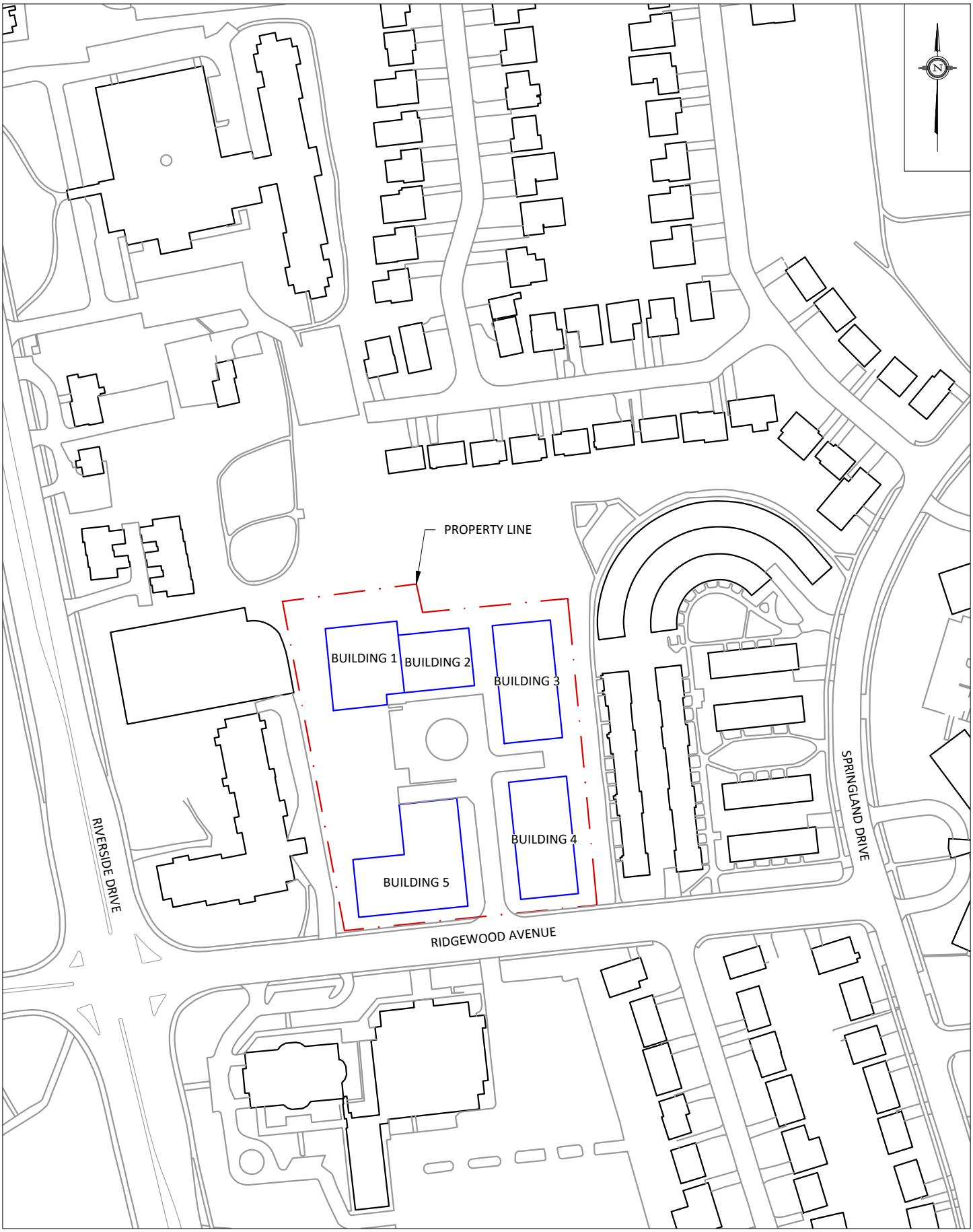
Sincerely,

Gradient Wind Engineering Inc.

Tanyon Matheson-Fitchett, B.Eng.
Junior Environmental Scientist

Joshua Foster, P.Eng.
Principal

Gradient Wind File #20-124-Traffic Noise



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PROJECT	729 RIDGEWOOD AVENUE, OTTAWA ROADWAY TRAFFIC NOISE ASSESSMENT
SCALE	1:2000 (APPROX.)
DRAWING NO.	GW20-124-1
DATE	MAY 31, 2021
DRAWN BY	T.M.F.

DESCRIPTION

FIGURE 1:
SITE PLAN AND SURROUNDING CONTEXT

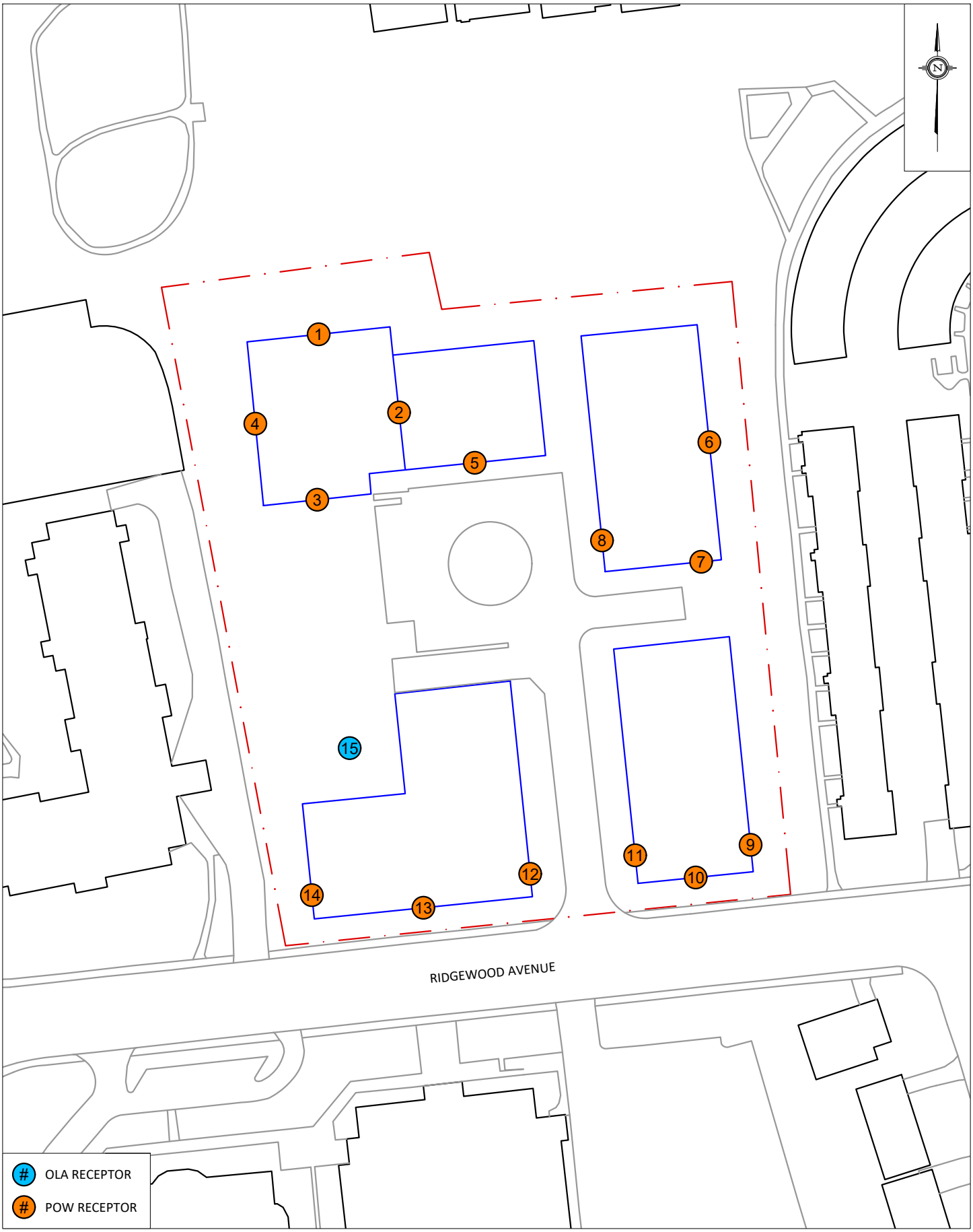

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FIGURE 2:
RECEPTOR LOCATIONS

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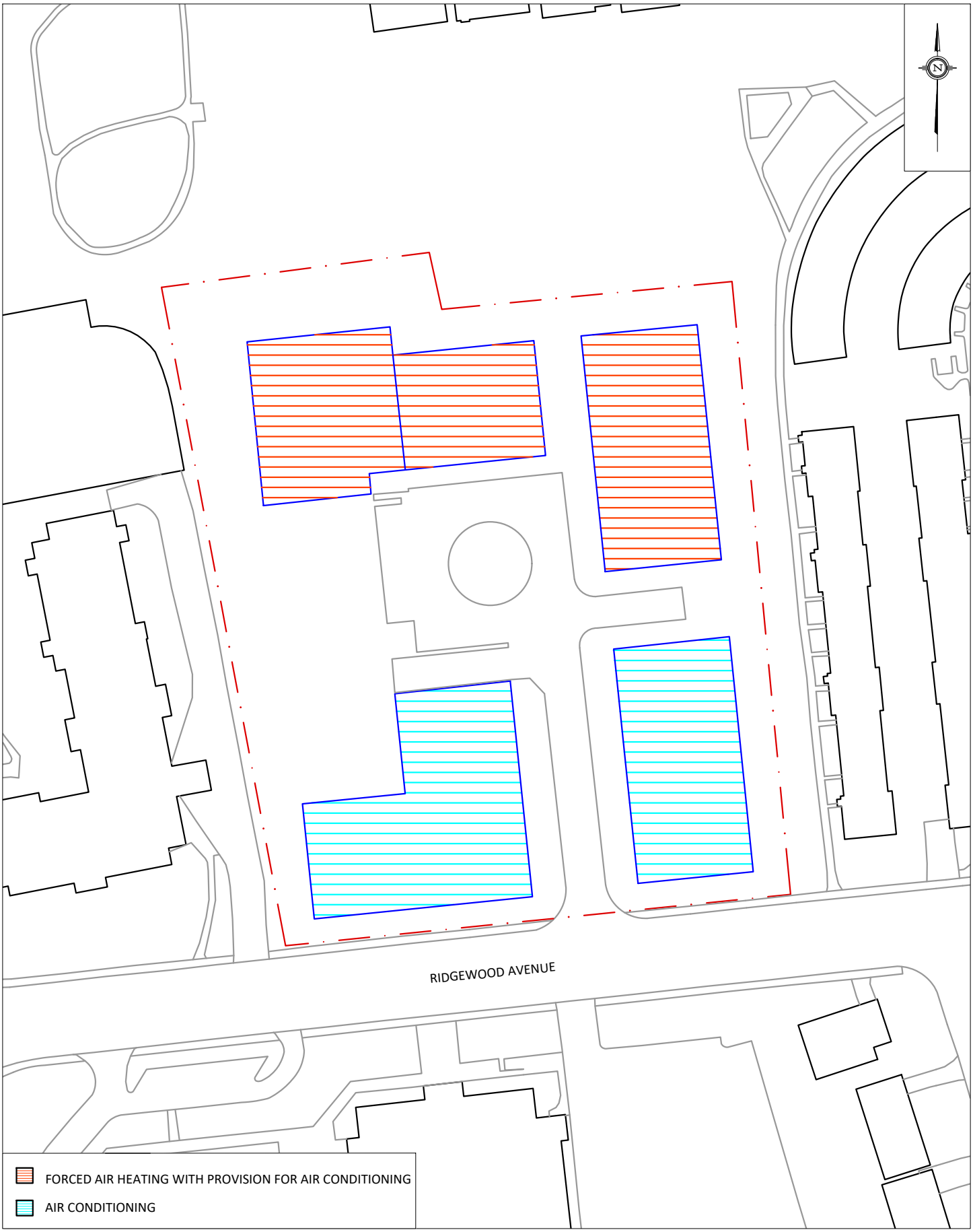
SCALE	1:1000 (APPROX.)	DRAWING NO.	GW20-124-3
DATE	MAY 31, 2021	DRAWN BY	T.M.F.

FIGURE 3:
WINDOW STC REQUIREMENTS



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SCALE	1:1000 (APPROX.)
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FIGURE 4:
VENTILATION REQUIREMENTS

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APPENDIX A

STAMSON 5.04 – INPUT AND OUTPUT DATA

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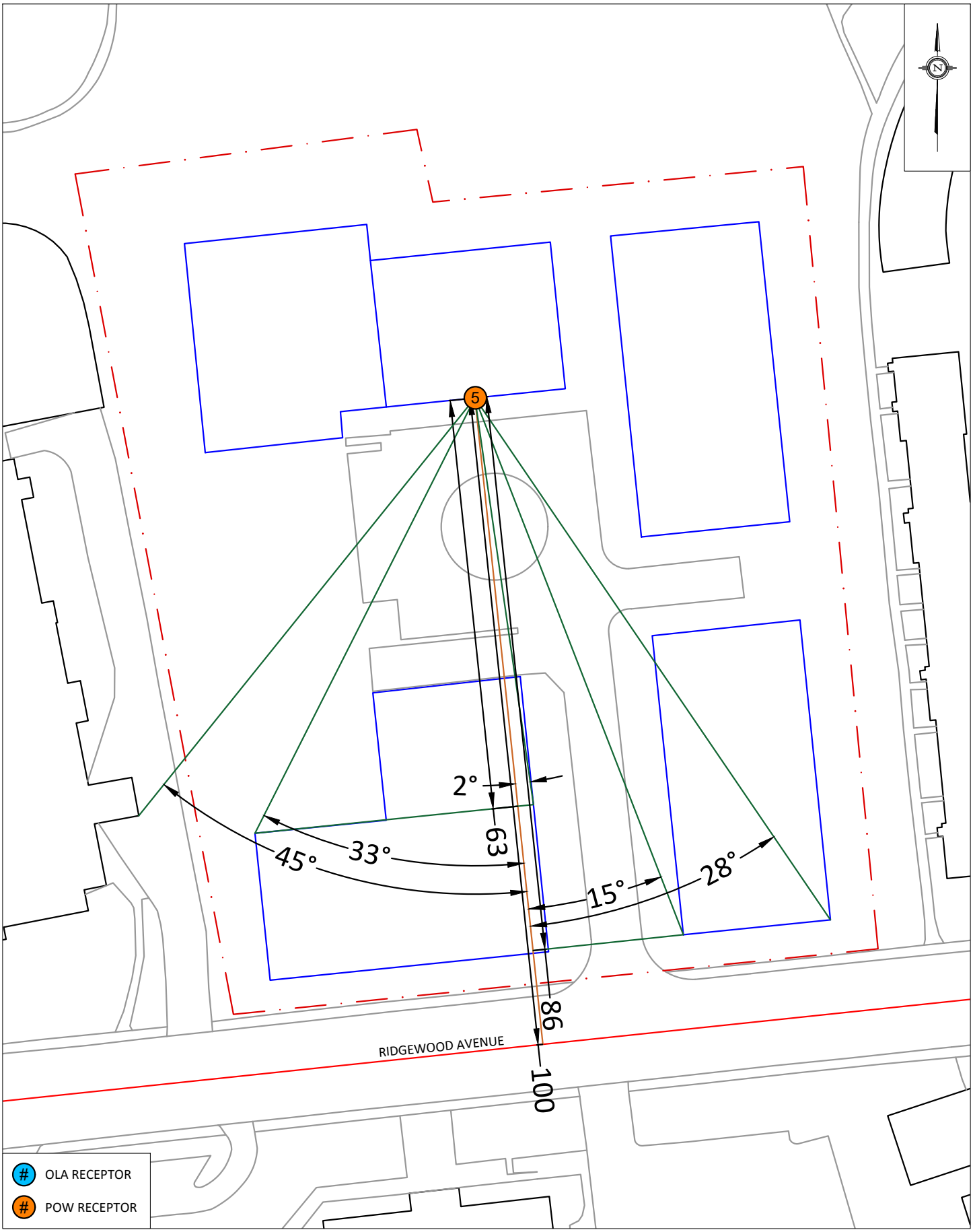
SCALE	1:1250 (APPROX.)	DRAWING NO.	GW20-124-A1
DATE	MAY 31, 2021	DRAWN BY	T.M.F.

DESCRIPTION

FIGURE A1:
RECEPTORS 1-4 STAMSON INPUT PARAMETERS



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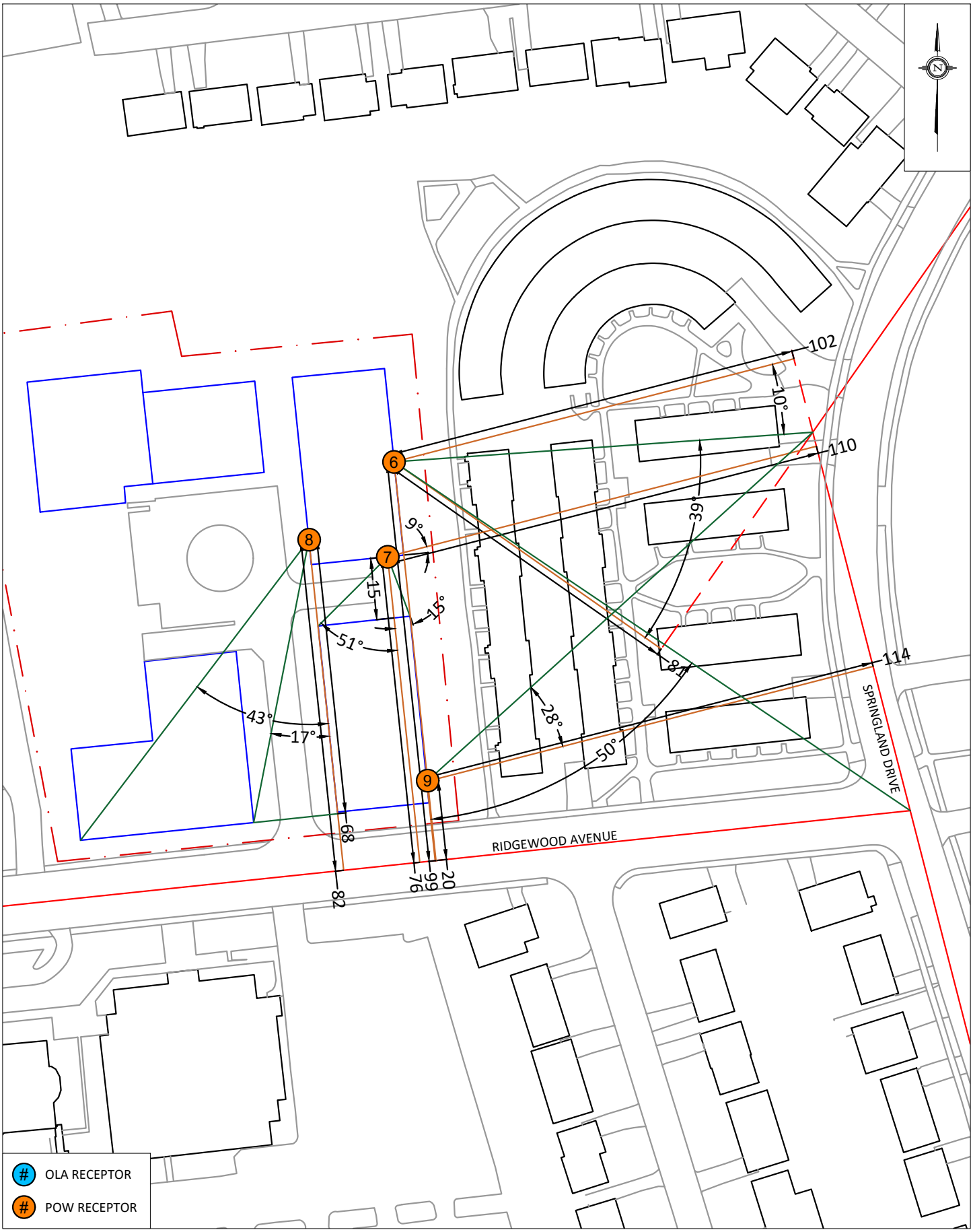
SCALE	1:800 (APPROX.)	DRAWING NO.	GW20-124-A2
DATE	MAY 31, 2021	DRAWN BY	T.M.F.

FIGURE A2:
RECEPTOR 5 STAMSON INPUT PARAMETERS



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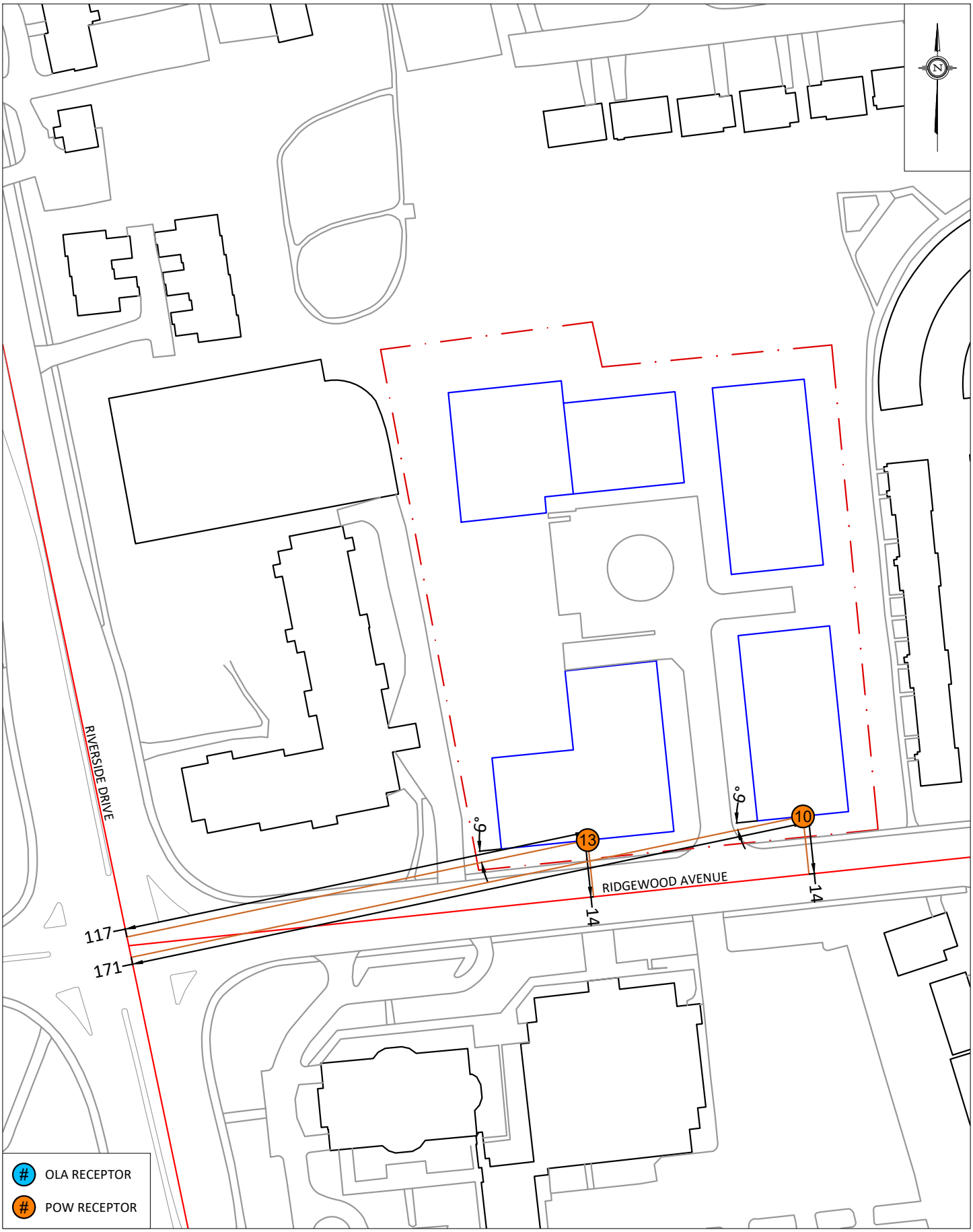
SCALE	1:1250 (APPROX.)	DRAWING NO.	GW20-124-A3
DATE	MAY 31, 2021	DRAWN BY	T.M.F.

DESCRIPTION

FIGURE A3:
RECEPTORS 6-9 STAMSON INPUT PARAMETERS



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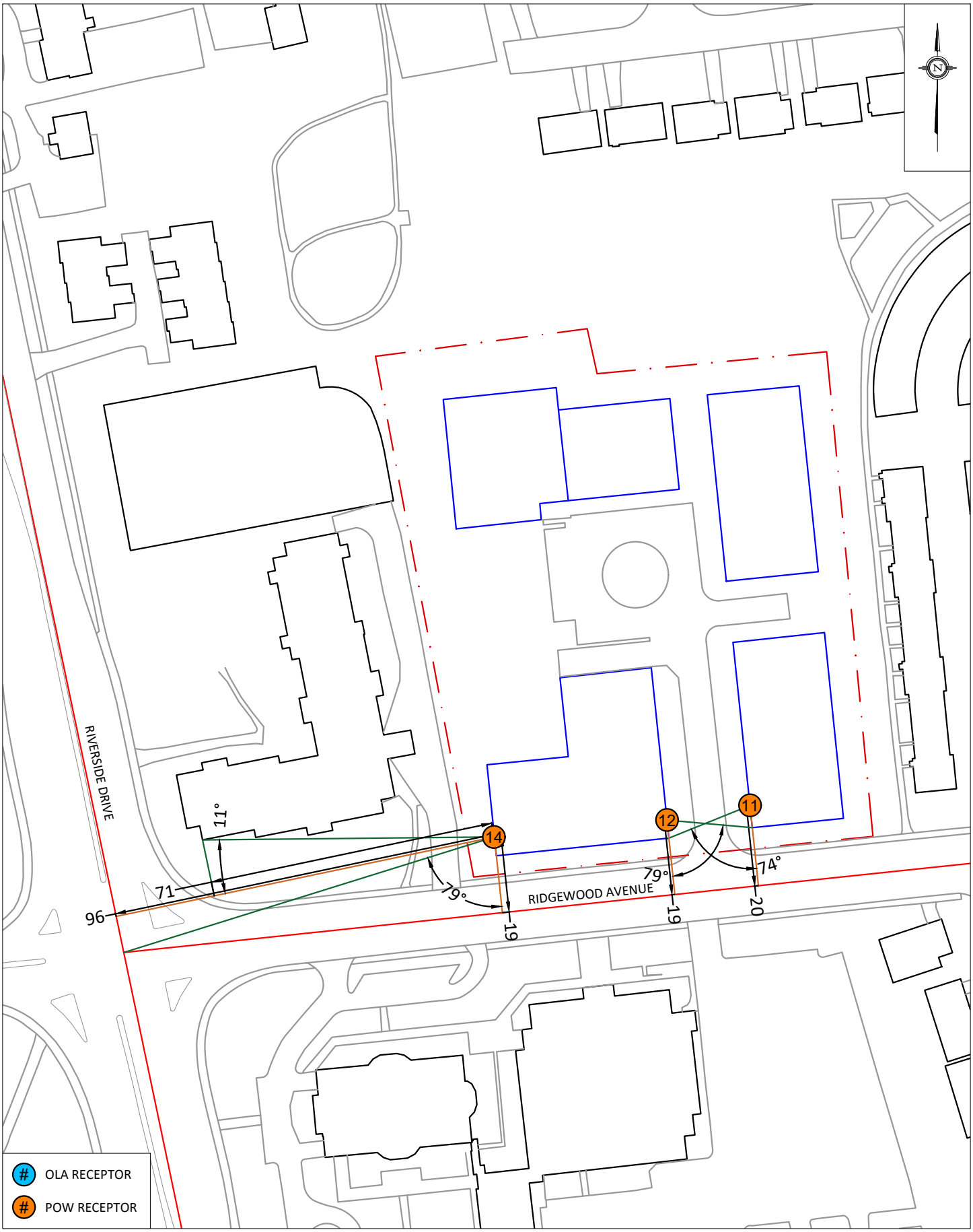
SCALE	1:1250 (APPROX.)
DRAWING NO.	GWE20-124-A4
DATE	JUNE 1, 2021
DRAWN BY	T.M.F.

DESCRIPTION

FIGURE A4:
RECEPTORS 10 & 13 STAMSON INPUT PARAMETERS



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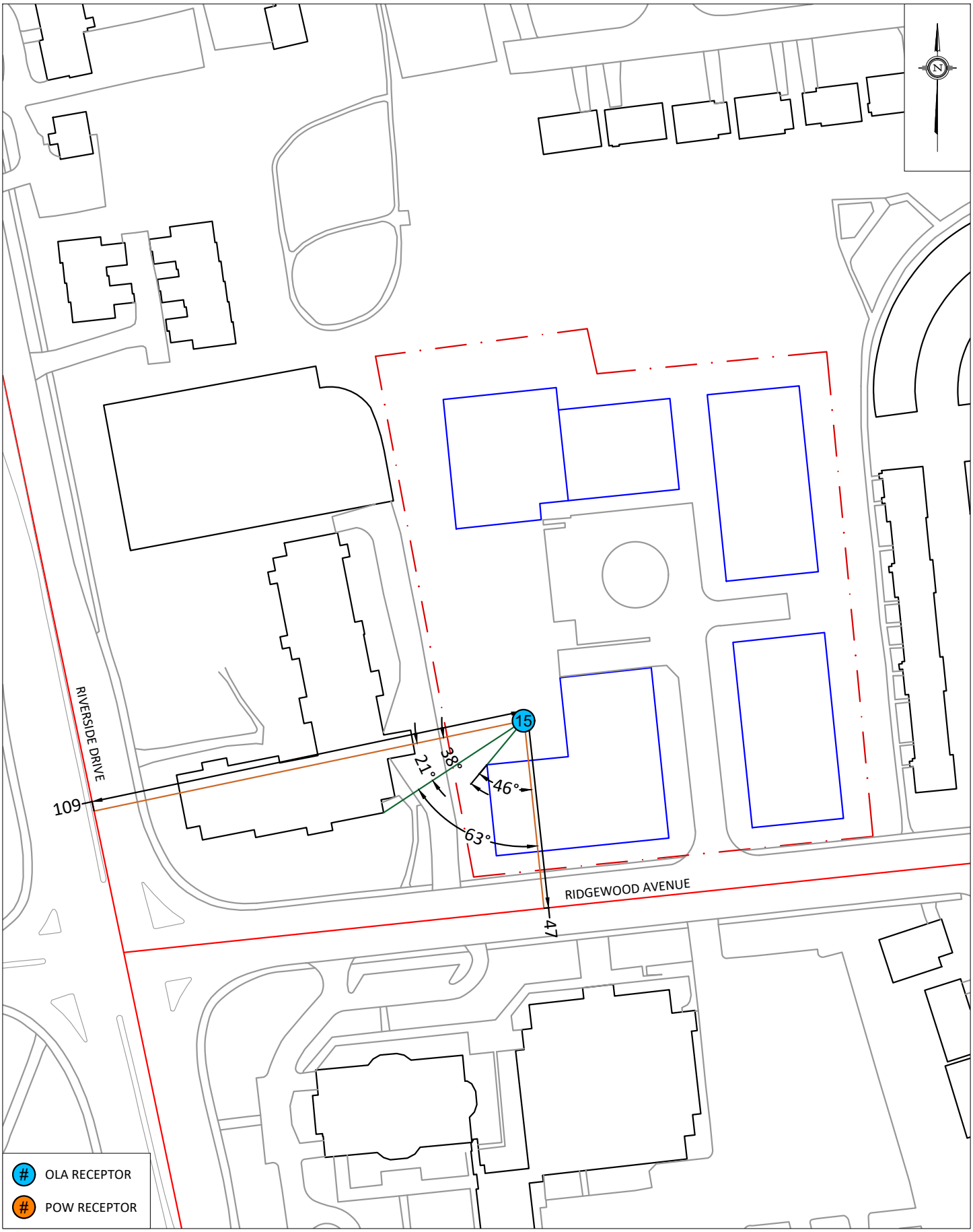
PROJECT	729 RIDGEWOOD AVENUE, OTTAWA ROADWAY TRAFFIC NOISE ASSESSMENT
SCALE	1:1250 (APPROX.)
DRAWING NO.	GW20-124-A5
DATE	JUNE 1, 2021
DRAWN BY	T.M.F.

DESCRIPTION

FIGURE A5:
RECEPTORS 11, 12 & 14 STAMSON INPUT PARAMETERS



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PROJECT	729 RIDGEWOOD AVENUE, OTTAWA ROADWAY TRAFFIC NOISE ASSESSMENT
SCALE	1:1250 (APPROX.)
DRAWING NO.	GW20-124-A6
DATE	JUNE 1, 2021
DRAWN BY	T.M.F.

DESCRIPTION

FIGURE A6:
RECEPTOR 15 STAMSON INPUT PARAMETERS

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 11:18:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R1.te                Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Riverside Av (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Riverside Av (day/night)
-----------------------------------------------
Angle1   Angle2           :   6.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 120.00 / 120.00 m
Receiver height           :  48.20 / 48.20  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Riverside Av (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 61.34 + 0.00) = 61.34 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     6     90   0.00  73.68   0.00  -9.03  -3.31   0.00   0.00   0.00  61.34
-------------------------------------------------------------------------------

Segment Leq : 61.34 dBA

Total Leq All Segments: 61.34 dBA

Results segment # 1: Riverside Av (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.74 + 0.00) = 53.74 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     6     90   0.00  66.08   0.00  -9.03  -3.31   0.00   0.00   0.00  53.74
-------------------------------------------------------------------------------

Segment Leq : 53.74 dBA

Total Leq All Segments: 53.74 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 61.34
                           (NIGHT): 53.74
```

```
STAMSON 5.0         NORMAL REPORT         Date: 31-05-2021 11:29:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R2.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood Av (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood Av (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 111.00 / 111.00 m
Receiver height           :  48.20 / 48.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -8.00 deg   Angle2 : 0.00 deg
Barrier height            :  22.00 m
Barrier receiver distance :  97.00 / 97.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood Av (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 !       48.20 !        7.39 !          7.39

ROAD (51.85 + 21.74 + 0.00) = 51.85 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     -8   0.00  63.96   0.00  -8.69  -3.41   0.00   0.00   0.00  51.85
-------------------------------------------------------------------------------
    -8      0   0.00  63.96   0.00  -8.69 -13.52   0.00   0.00 -20.00  21.74
-------------------------------------------------------------------------------

Segment Leq : 51.85 dBA

Total Leq All Segments: 51.85 dBA
```

```
Results segment # 1: Ridgewood Av (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 !       48.20 !        7.39 !          7.39

ROAD (44.26 + 14.15 + 0.00) = 44.26 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     -8   0.00  56.36   0.00  -8.69  -3.41   0.00   0.00   0.00  44.26
-------------------------------------------------------------------------------
    -8      0   0.00  56.36   0.00  -8.69 -13.52   0.00   0.00 -20.00  14.15
-------------------------------------------------------------------------------

Segment Leq : 44.26 dBA

Total Leq All Segments: 44.26 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 51.85
                           (NIGHT): 44.26
```

```
STAMSON 5.0         NORMAL REPORT         Date: 31-05-2021 11:38:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R3.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood Av (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood Av (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  96.00 / 96.00  m
Receiver height           :  48.20 / 48.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  27.00 deg   Angle2 : 90.00 deg
Barrier height            :  35.00 m
Barrier receiver distance :  54.00 / 54.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Road data, segment # 2: Riverside Dr (day/night)
------------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Riverside Dr (day/night)
----------------------------------------------
Angle1   Angle2           : -90.00 deg   5.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 113.00 / 113.00 m
Receiver height           :  48.20 / 48.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -58.00 deg   Angle2 : 5.00 deg
Barrier height            :  35.00 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: Ridgewood Av (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 !       48.20 !       21.93 !        21.93

ROAD (54.02 + 35.78 + 0.00) = 54.09 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     27   0.00  63.96   0.00  -8.06  -1.87   0.00   0.00   0.00  54.02
-------------------------------------------------------------------------------
    27     90   0.00  63.96   0.00  -8.06  -4.56   0.00   0.00 -15.55  35.78
-------------------------------------------------------------------------------

Segment Leq : 54.09 dBA
```

```
Results segment # 2: Riverside Dr (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 !       48.20 !       32.49 !        32.49

ROAD (57.40 + 52.04 + 0.00) = 58.51 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -58   0.00  73.68   0.00  -8.77  -7.50   0.00   0.00   0.00  57.40
-------------------------------------------------------------------------------
   -58      5   0.00  73.68   0.00  -8.77  -4.56   0.00   0.00  -8.30  52.04
-------------------------------------------------------------------------------

Segment Leq : 58.51 dBA

Total Leq All Segments: 59.85 dBA
```

```
Results segment # 1: Ridgewood Av (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 !       48.20 !       21.93 !        21.93

ROAD (46.43 + 28.19 + 0.00) = 46.49 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     27   0.00  56.36   0.00  -8.06  -1.87   0.00   0.00   0.00  46.43
-------------------------------------------------------------------------------
    27     90   0.00  56.36   0.00  -8.06  -4.56   0.00   0.00 -15.55  28.19
-------------------------------------------------------------------------------

Segment Leq : 46.49 dBA
```

```
Results segment # 2: Riverside Dr (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 !       48.20 !       32.49 !        32.49

ROAD (49.81 + 44.45 + 0.00) = 50.92 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -58   0.00  66.08   0.00  -8.77  -7.50   0.00   0.00   0.00  49.81
-------------------------------------------------------------------------------
   -58      5   0.00  66.08   0.00  -8.77  -4.56   0.00   0.00  -8.30  44.45
-------------------------------------------------------------------------------

Segment Leq : 50.92 dBA

Total Leq All Segments: 52.26 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.85
                           (NIGHT): 52.26
```

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 11:44:45
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R4.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Riverside Dr (day/night)
-----------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: Riverside Dr (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  : 104.00 / 104.00 m
Receiver height           :  48.20 / 48.20  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -69.00 deg   Angle2 : -20.00 deg
Barrier height            :  35.00 m
Barrier receiver distance :  31.00 / 31.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Results segment # 1: Riverside Dr (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 !       48.20 !       34.28 !        34.28

ROAD (55.94 + 54.29 + 63.13) = 64.34 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -69   0.00  73.68   0.00  -8.41  -9.33   0.00   0.00   0.00  55.94
-------------------------------------------------------------------------------
   -69    -20   0.00  73.68   0.00  -8.41  -5.65   0.00   0.00  -5.33  54.29
-------------------------------------------------------------------------------
   -20     90   0.00  73.68   0.00  -8.41  -2.14   0.00   0.00   0.00  63.13
-------------------------------------------------------------------------------

Segment Leq : 64.34 dBA

Total Leq All Segments: 64.34 dBA
```

```
Results segment # 1: Riverside Dr (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 !       48.20 !       34.28 !        34.28

ROAD (48.34 + 46.69 + 55.53) = 56.74 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -69   0.00  66.08   0.00  -8.41  -9.33   0.00   0.00   0.00  48.34
-------------------------------------------------------------------------------
   -69    -20   0.00  66.08   0.00  -8.41  -5.65   0.00   0.00  -5.33  46.69
-------------------------------------------------------------------------------
   -20     90   0.00  66.08   0.00  -8.41  -2.14   0.00   0.00   0.00  55.53
-------------------------------------------------------------------------------

Segment Leq : 56.74 dBA

Total Leq All Segments: 56.74 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.34
                           (NIGHT): 56.74
```

```
STAMSON 5.0         NORMAL REPORT         Date: 31-05-2021 11:55:21
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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


Road data, segment # 1: Ridgewood A1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A1 (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   -2.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 100.00 / 100.00 m
Receiver height           :  19.80 / 19.80  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -28.00 deg   Angle2 : -15.00 deg
Barrier height            :  16.00 m
Barrier receiver distance :  86.00 / 86.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Road data, segment # 2: Ridgewood A2 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A2 (day/night)
-----------------------------------------------
Angle1   Angle2           :  -2.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 100.00 / 100.00 m
Receiver height           :  19.80 / 19.80  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -2.00 deg   Angle2 : 33.00 deg
Barrier height            :  22.00 m
Barrier receiver distance :  63.00 / 63.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood A1 (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 !       19.80 !        4.06 !          4.06

ROAD (51.09 + 24.30 + 44.30) = 51.92 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -28   0.00  63.96   0.00  -8.24  -4.63   0.00   0.00   0.00  51.09
-------------------------------------------------------------------------------
   -28    -15   0.00  63.96   0.00  -8.24 -11.41   0.00   0.00 -20.00  24.30
-------------------------------------------------------------------------------
   -15     -2   0.00  63.96   0.00  -8.24 -11.41   0.00   0.00   0.00  44.30
-------------------------------------------------------------------------------

Segment Leq : 51.92 dBA
```

```
Results segment # 2: Ridgewood A2 (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 !       19.80 !        8.27 !          8.27

ROAD (0.00 + 28.60 + 43.96) = 44.08 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -2     33   0.00  63.96   0.00  -8.24  -7.11   0.00   0.00 -20.00  28.60
-------------------------------------------------------------------------------
    33     45   0.00  63.96   0.00  -8.24 -11.76   0.00   0.00   0.00  43.96
-------------------------------------------------------------------------------

Segment Leq : 44.08 dBA

Total Leq All Segments: 52.58 dBA
```

```
Results segment # 1: Ridgewood A1 (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 !       19.80 !        4.06 !          4.06

ROAD (43.49 + 16.71 + 36.71) = 44.33 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -28   0.00  56.36   0.00  -8.24  -4.63   0.00   0.00   0.00  43.49
-------------------------------------------------------------------------------
   -28    -15   0.00  56.36   0.00  -8.24 -11.41   0.00   0.00 -20.00  16.71
-------------------------------------------------------------------------------
   -15     -2   0.00  56.36   0.00  -8.24 -11.41   0.00   0.00   0.00  36.71
-------------------------------------------------------------------------------

Segment Leq : 44.33 dBA
```

```
Results segment # 2: Ridgewood A2 (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 !       19.80 !        8.27 !         8.27

ROAD (0.00 + 21.01 + 36.36) = 36.49 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -2     33   0.00  56.36   0.00  -8.24  -7.11   0.00   0.00 -20.00  21.01
-------------------------------------------------------------------------------
    33     45   0.00  56.36   0.00  -8.24 -11.76   0.00   0.00   0.00  36.36
-------------------------------------------------------------------------------

Segment Leq : 36.49 dBA

Total Leq All Segments: 44.99 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.58
                           (NIGHT): 44.99
```

```
STAMSON 5.0         NORMAL REPORT         Date: 31-05-2021 12:18:45
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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


Road data, segment # 1: Ridgewood A1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A1 (day/night)
-----------------------------------------------
Angle1   Angle2           : -50.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 100.00 / 100.00 m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 2: Springland 1 (day/night)
------------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Springland 1 (day/night)
----------------------------------------------
Angle1   Angle2           : -90.00 deg   -39.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  81.00 / 81.00  m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 3: Springland 2 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Springland 2 (day/night)
-----------------------------------------------
Angle1   Angle2           :  10.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     88 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 102.00 / 102.00 m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood A1 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.15 + 0.00) = 50.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50      0   0.00  63.96   0.00  -8.24  -5.56   0.00   0.00   0.00  50.15
-------------------------------------------------------------------------------

Segment Leq : 50.15 dBA

Results segment # 2: Springland 1 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.60 + 0.00) = 47.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -39   0.30  63.96   0.00  -9.52  -6.84   0.00   0.00   0.00  47.60
-------------------------------------------------------------------------------

Segment Leq : 47.60 dBA
```

```
Results segment # 3: Springland 2 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 38.60 + 0.00) = 38.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    10     90   0.30  63.96   0.00 -10.82  -4.40   0.00 -10.14   0.00  38.60
-------------------------------------------------------------------------------

Segment Leq : 38.60 dBA

Total Leq All Segments: 52.26 dBA

Results segment # 1: Ridgewood A1 (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 42.56 + 0.00) = 42.56 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50      0   0.00  56.36   0.00  -8.24  -5.56   0.00   0.00   0.00  42.56
-------------------------------------------------------------------------------

Segment Leq : 42.56 dBA
```

```
Results segment # 2: Springland 1 (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 40.00 + 0.00) = 40.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -39   0.30  56.36   0.00  -9.52  -6.84   0.00   0.00   0.00  40.00
-------------------------------------------------------------------------------

Segment Leq : 40.00 dBA

Results segment # 3: Springland 2 (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 31.00 + 0.00) = 31.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    10     90   0.30  56.36   0.00 -10.82  -4.40   0.00 -10.14   0.00  31.00
-------------------------------------------------------------------------------

Segment Leq : 31.00 dBA

Total Leq All Segments: 44.67 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.26
                           (NIGHT): 44.67
```

```
STAMSON 5.0         NORMAL REPORT         Date: 31-05-2021 12:25:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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


Road data, segment # 1: Ridgewood A1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A1 (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  :  76.00 / 76.00  m
Receiver height           :  13.50 / 13.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -15.00 deg   Angle2 : 51.00 deg
Barrier height            :  16.00 m
Barrier receiver distance :  15.00 / 15.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Road data, segment # 2: Springland 1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Springland 1 (day/night)
-----------------------------------------------
Angle1   Angle2           :   9.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 110.00 / 110.00 m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood A1 (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 !       13.50 !       11.13 !        11.13

ROAD (53.11 + 35.60 + 50.27) = 54.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -15   0.00  63.96   0.00  -7.05  -3.80   0.00   0.00   0.00  53.11
-------------------------------------------------------------------------------
   -15     51   0.00  63.96   0.00  -7.05  -4.36   0.00   0.00 -16.95  35.60
-------------------------------------------------------------------------------
    51     90   0.00  63.96   0.00  -7.05  -6.64   0.00   0.00   0.00  50.27
-------------------------------------------------------------------------------

Segment Leq : 54.97 dBA

Results segment # 2: Springland 1 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 42.37 + 0.00) = 42.37 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     9     90   0.00  63.96   0.00  -8.65  -3.47   0.00  -9.47   0.00  42.37
-------------------------------------------------------------------------------

Segment Leq : 42.37 dBA

Total Leq All Segments: 55.20 dBA

Results segment # 1: Ridgewood A1 (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 !       13.50 !       11.13 !        11.13

ROAD (45.51 + 28.01 + 42.67) = 47.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -90    -15   0.00  56.36   0.00  -7.05  -3.80   0.00   0.00   0.00  45.51
-------------------------------------------------------------------------------
   -15     51   0.00  56.36   0.00  -7.05  -4.36   0.00   0.00 -16.95  28.01
-------------------------------------------------------------------------------
    51     90   0.00  56.36   0.00  -7.05  -6.64   0.00   0.00   0.00  42.67
-------------------------------------------------------------------------------

Segment Leq : 47.38 dBA
Results segment # 2: Springland 1 (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 44.24 + 0.00) = 44.24 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     9     90   0.00  56.36   0.00  -8.65  -3.47   0.00   0.00   0.00  44.24
-------------------------------------------------------------------------------
Segment Leq : 44.24 dBA

Total Leq All Segments: 49.10 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.20
                           (NIGHT): 49.10
STAMSON 5.0         NORMAL REPORT         Date: 31-05-2021 12:32:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r8.te                 Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood A1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A1 (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   :  82.00 / 82.00  m
Receiver height            :  13.50 / 13.50  m
Topography                 :      2       (Flat/gentle slope; with barrier)
Barrier angle1             :  17.00 deg   Angle2 : 43.00 deg
Barrier height             :  22.00 m
Barrier receiver distance  :  68.00 / 68.00  m
Source elevation           :   0.00 m
Receiver elevation         :   0.00 m
Barrier elevation          :   0.00 m
Reference angle            :   0.00
```

```
Results segment # 1: Ridgewood A1 (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 !       13.50 !        3.54 !         3.54

ROAD (46.33 + 28.18 + 50.75) = 52.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     17   0.00  63.96   0.00  -7.38 -10.25   0.00   0.00   0.00  46.33
-------------------------------------------------------------------------------
    17     43   0.00  63.96   0.00  -7.38  -8.40   0.00   0.00 -20.00  28.18
-------------------------------------------------------------------------------
    43     90   0.00  63.96   0.00  -7.38  -5.83   0.00   0.00   0.00  50.75
-------------------------------------------------------------------------------

Segment Leq : 52.10 dBA

Total Leq All Segments: 52.10 dBA
```

```
Results segment # 1: Ridgewood A1 (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 !       13.50 !        3.54 !          3.54

ROAD (38.74 + 20.58 + 43.15) = 44.51 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     17   0.00  56.36   0.00  -7.38 -10.25   0.00   0.00   0.00  38.74
-------------------------------------------------------------------------------
    17     43   0.00  56.36   0.00  -7.38  -8.40   0.00   0.00 -20.00  20.58
-------------------------------------------------------------------------------
    43     90   0.00  56.36   0.00  -7.38  -5.83   0.00   0.00   0.00  43.15
-------------------------------------------------------------------------------

Segment Leq : 44.51 dBA

Total Leq All Segments: 44.51 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.10
                           (NIGHT): 44.51
```

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 12:35:13
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r9.te                Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood A1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A1 (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  :  20.00 / 20.00  m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 2: Springland 1 (day/night)
------------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Springland 1 (day/night)
----------------------------------------------
Angle1   Angle2           : -28.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 114.00 / 114.00 m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood A1 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 59.70 + 0.00) = 59.70 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  63.96   0.00  -1.25  -3.01   0.00   0.00   0.00  59.70
-------------------------------------------------------------------------------

Segment Leq : 59.70 dBA

Results segment # 2: Springland 1 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 43.87 + 0.00) = 43.87 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -28     90   0.00  63.96   0.00  -8.81  -1.83   0.00  -9.44   0.00  43.87
-------------------------------------------------------------------------------

Segment Leq : 43.87 dBA

Total Leq All Segments: 59.81 dBA
```

```
Results segment # 1: Ridgewood A1 (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.10 + 0.00) = 52.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  56.36   0.00  -1.25  -3.01   0.00   0.00   0.00  52.10
-------------------------------------------------------------------------------

Segment Leq : 52.10 dBA

Results segment # 2: Springland 1 (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 45.72 + 0.00) = 45.72 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -28     90   0.00  56.36   0.00  -8.81  -1.83   0.00   0.00   0.00  45.72
-------------------------------------------------------------------------------

Segment Leq : 45.72 dBA

Total Leq All Segments: 53.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.81
                           (NIGHT): 53.00
```

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 12:55:44
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r10.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood Av (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood Av (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  :  15.00 / 15.00  m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 2: Riverside Dr (day/night)
------------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Riverside Dr (day/night)
----------------------------------------------
Angle1   Angle2           : -90.00 deg   6.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 171.00 / 171.00 m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood Av (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 63.96 + 0.00) = 63.96 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  63.96   0.00   0.00   0.00   0.00   0.00   0.00  63.96
-------------------------------------------------------------------------------

Segment Leq : 63.96 dBA

Results segment # 2: Riverside Dr (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 60.38 + 0.00) = 60.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      6   0.00  73.68   0.00 -10.57  -2.73   0.00   0.00   0.00  60.38
-------------------------------------------------------------------------------

Segment Leq : 60.38 dBA

Total Leq All Segments: 65.54 dBA
```

```
Results segment # 1: Ridgewood Av (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 56.36 + 0.00) = 56.36 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  56.36   0.00   0.00   0.00   0.00   0.00   0.00  56.36
-------------------------------------------------------------------------------

Segment Leq : 56.36 dBA

Results segment # 2: Riverside Dr (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.78 + 0.00) = 52.78 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      6   0.00  66.08   0.00 -10.57  -2.73   0.00   0.00   0.00  52.78
-------------------------------------------------------------------------------

Segment Leq : 52.78 dBA

Total Leq All Segments: 57.94 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.54
                           (NIGHT): 57.94
```

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 12:41:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r11.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood A1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A1 (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   74.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :  13.50 / 13.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood A1 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 58.85 + 0.00) = 58.85 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     74   0.00  63.96   0.00  -1.25  -3.86   0.00   0.00   0.00  58.85
-------------------------------------------------------------------------------

Segment Leq : 58.85 dBA

Total Leq All Segments: 58.85 dBA

Results segment # 1: Ridgewood A1 (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 51.25 + 0.00) = 51.25 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     74   0.00  56.36   0.00  -1.25  -3.86   0.00   0.00   0.00  51.25
-------------------------------------------------------------------------------

Segment Leq : 51.25 dBA

Total Leq All Segments: 51.25 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 58.85
                           (NIGHT): 51.25
```

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 12:45:11
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r12.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood A1 (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood A1 (day/night)
-----------------------------------------------
Angle1   Angle2           : -79.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  19.00 / 19.00  m
Receiver height           :  19.80 / 19.80  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood A1 (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 59.35 + 0.00) = 59.35 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -79      0   0.00  63.96   0.00  -1.03  -3.58   0.00   0.00   0.00  59.35
-------------------------------------------------------------------------------

Segment Leq : 59.35 dBA

Total Leq All Segments: 59.35 dBA

Results segment # 1: Ridgewood A1 (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 51.76 + 0.00) = 51.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -79      0   0.00  56.36   0.00  -1.03  -3.58   0.00   0.00   0.00  51.76
-------------------------------------------------------------------------------

Segment Leq : 51.76 dBA

Total Leq All Segments: 51.76 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.35
                           (NIGHT): 51.76
```

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 12:52:18
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r13.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood Av (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood Av (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  :  15.00 / 15.00  m
Receiver height           :  19.80 / 19.80  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 2: Riverside Dr (day/night)
------------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Riverside Dr (day/night)
----------------------------------------------
Angle1   Angle2           : -90.00 deg   6.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 117.00 / 117.00 m
Receiver height           :  19.80 / 19.80  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood Av (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 63.96 + 0.00) = 63.96 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  63.96   0.00   0.00   0.00   0.00   0.00   0.00  63.96
-------------------------------------------------------------------------------

Segment Leq : 63.96 dBA

Results segment # 2: Riverside Dr (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 62.03 + 0.00) = 62.03 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      6   0.00  73.68   0.00  -8.92  -2.73   0.00   0.00   0.00  62.03
-------------------------------------------------------------------------------

Segment Leq : 62.03 dBA

Total Leq All Segments: 66.11 dBA
```

```
Results segment # 1: Ridgewood Av (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 56.36 + 0.00) = 56.36 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  56.36   0.00   0.00   0.00   0.00   0.00   0.00  56.36
-------------------------------------------------------------------------------

Segment Leq : 56.36 dBA


Results segment # 2: Riverside Dr (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.43 + 0.00) = 54.43 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      6   0.00  66.08   0.00  -8.92  -2.73   0.00   0.00   0.00  54.43
-------------------------------------------------------------------------------

Segment Leq : 54.43 dBA

Total Leq All Segments: 58.51 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 66.11
                           (NIGHT): 58.51
```

```
STAMSON 5.0        NORMAL REPORT        Date: 31-05-2021 13:04:55
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r14.te               Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood Av (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood Av (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   79.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  19.00 / 19.00  m
Receiver height           :  19.80 / 19.80  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 2: Riverside Dr (day/night)
------------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Riverside Dr (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  :  96.00 / 96.00  m
Receiver height           :  19.80 / 19.80  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  11.00 deg   Angle2 : 90.00 deg
Barrier height            :  35.00 m
Barrier receiver distance :  71.00 / 71.00  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

```
Results segment # 1: Ridgewood Av (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 59.35 + 0.00) = 59.35 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     79   0.00  63.96   0.00  -1.03  -3.58   0.00   0.00   0.00  59.35
-------------------------------------------------------------------------------

Segment Leq : 59.35 dBA


Results segment # 2: Riverside Dr (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 !       19.80 !        6.26 !         6.26

ROAD (63.10 + 42.88 + 0.00) = 63.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     11   0.00  73.68   0.00  -8.06  -2.51   0.00   0.00   0.00  63.10
-------------------------------------------------------------------------------
    11     90   0.00  73.68   0.00  -8.06  -3.58   0.00   0.00 -19.15  42.88
-------------------------------------------------------------------------------

Segment Leq : 63.15 dBA

Total Leq All Segments: 64.66 dBA
```

```
Results segment # 1: Ridgewood Av (night)
------------------------------------------

Source height = 1.50 m

ROAD (0.00 + 51.76 + 0.00) = 51.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     79   0.00  56.36   0.00  -1.03  -3.58   0.00   0.00   0.00  51.76
-------------------------------------------------------------------------------

Segment Leq : 51.76 dBA

Results segment # 2: Riverside Dr (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 !       19.80 !        6.26 !         6.26

ROAD (55.51 + 35.29 + 0.00) = 55.55 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     11   0.00  66.08   0.00  -8.06  -2.51   0.00   0.00   0.00  55.51
-------------------------------------------------------------------------------
    11     90   0.00  66.08   0.00  -8.06  -3.58   0.00   0.00 -19.15  35.29
-------------------------------------------------------------------------------

Segment Leq : 55.55 dBA

Total Leq All Segments: 57.07 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.66
                           (NIGHT): 57.07
```

```
STAMSON 5.0        NORMAL REPORT        Date: 01-06-2021 16:00:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r15.te          Time Period: Day/Night 16/8 hours
Description:


Road data, segment # 1: Ridgewood Av (day/night)
-----------------------------------------------
Car traffic volume  :  6477/563   veh/TimePeriod  *
Medium truck volume :   515/45    veh/TimePeriod  *
Heavy truck volume  :   368/32    veh/TimePeriod  *
Posted speed limit  :    40 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):   8000
    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: Ridgewood Av (day/night)
-----------------------------------------------
Angle1   Angle2           :  46.00 deg   63.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  47.00 / 47.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

```
Road data, segment # 2: Riverside Dr (day/night)
------------------------------------------------
Car traffic volume  : 28336/2464  veh/TimePeriod  *
Medium truck volume :  2254/196   veh/TimePeriod  *
Heavy truck volume  :  1610/140   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  35000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Riverside Dr (day/night)
----------------------------------------------
Angle1   Angle2           : -38.00 deg   -21.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 109.00 / 109.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Ridgewood Av (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.75 + 0.00) = 48.75 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    46     63   0.00  63.96   0.00  -4.96 -10.25   0.00   0.00   0.00  48.75
-------------------------------------------------------------------------------

Segment Leq : 48.75 dBA
```

```
Results segment # 2: Riverside Dr (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.81 + 0.00) = 54.81 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -38    -21   0.00  73.68   0.00  -8.61 -10.25   0.00   0.00   0.00  54.81
-------------------------------------------------------------------------------

Segment Leq : 54.81 dBA

Total Leq All Segments: 55.77 dBA

Results segment # 1: Ridgewood Av (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 41.15 + 0.00) = 41.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    46     63   0.00  56.36   0.00  -4.96 -10.25   0.00   0.00   0.00  41.15
-------------------------------------------------------------------------------

Segment Leq : 41.15 dBA

Results segment # 2: Riverside Dr (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.22 + 0.00) = 47.22 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -38    -21   0.00  66.08   0.00  -8.61 -10.25   0.00   0.00   0.00  47.22
-------------------------------------------------------------------------------

Segment Leq : 47.22 dBA

Total Leq All Segments: 48.18 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.77
                           (NIGHT): 48.18
```