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Environmental Noise Control Study

Proposed Multi-Storey Apartment Buildings
1125-1149 Cyrville Road, Ottawa

Prepared For

Westrich Management Ltd

November 18, 2021

Report: PG6041-1

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1.0 Introduction

Paterson Group (Paterson) was commissioned by Westrich Management Ltd to conduct an environmental noise control study for the proposed multi-storey apartment buildings to be located at 1125-1149 Cyrville Road, in the City of Ottawa.

The objective of the current study is to:

- Determine the primary noise sources impacting the site and compare the projected sound levels to guidelines set out by the Ministry of Environment and Climate Change (MOECC) and the City of Ottawa.

- Review the projected noise levels and offer recommendations regarding warning classes, construction materials or alternative sound barriers.

The following report has been prepared specifically and solely for the aforementioned project which is described herein. It contains our findings and includes acoustical recommendations pertaining to the design and construction of the subject development as they are understood at the time of writing this report.

This study has been conducted according to City of Ottawa document - Engineering Noise Control Guidelines (ENCG), dated January 2016, and the Ontario Ministry of the Environment Guideline NPC-300.

2.0 Proposed Development

It is understood that the proposed development consists of two residential buildings (Phase 1 – Building A and Phase 2 – Building B). Phase 1 – Building A will have six (6) stories and rise approximately 19 metres above grade. The Phase 2 – Building B will have six (6) stories and rise approximately 19 metres above grade on the east side, and the building will have twelve (12) stories and rise approximately 38 metres above grade on the west side. Both buildings have one (1) underground parking level. A total of 208 units are expected at the Building A, and a total of 146 units are expected at the Building B. Associated at-grade landscaped areas, roadways and walkways are also anticipated. A roof terrace amenity area at 6th floor will serve as an Outdoor Living Area (OLA) at Building A, and a roof terrace amenity area at 7th floor will serve as an OLA at Building B. There is also an at-grade amenity terrace at the rear yard of Building A that will serve as an OLA.

3.0 Methodology and Noise Assessment Criteria

The City of Ottawa outlines three (3) sources of environmental noise that must be analyzed separately:

- Surface Transportation Noise
- Stationary Noise
  - new noise-sensitive development applications (noise receptors) in proximity to existing or approved stationary sources of noise, and
  - new stationary sources of noise (noise generating) in proximity to existing or approved noise-sensitive developments
- Aircraft Noise

Surface Transportation Noise

Surface roadway traffic noise, equivalent to sound level energy L_{eq}, provides a measure of the time varying noise level over a period of time. For roadways, the L_{eq} is commonly calculated on the basis of 16-hour (L_{eq16}) daytime (07:00-23:00) and 8-hour (L_{eq8}) nighttime (23:00-7:00) split to assess its impact on residential, commercial and institutional buildings.

The City of Ottawa's Official Plan dictates that the influence area must contain any of following conditions to classify as a surface transportation noise source for a subject site:

- Within 100 m of the right-of-way of an existing or proposed arterial, collector or major collector road; a light rail transit corridor; bus rapid transit, or transit priority corridor
- Within 250 m of the right-of-way for an existing or proposed highway or secondary rail line
- Within 300 m from the right of way of a proposed or existing rail corridor or a secondary main railway line
- Within 500 m of an existing 400 series provincial highway, freeway or principle main railway line.

The Environmental Noise Guidelines for Stationary and Transportation Sources – NPC-300 outlines the limitations of noise levels in relation to the location of the receptors. These can be found in the following tables:

Table 1 – Noise Level Limit for Outdoor Living Areas

Time Period	L_{eq} Level (dBA)
Daytime, 7:00-23:00	55

- Standard taken from Table 2.2a; Sound Level Limit for Outdoor Living Areas – Road and Rail

Table 2 – Noise Level Limits for Indoor Living Areas

Type of Space	Time Period	L_{eq} Level (dBA)	
		Road	Rail
General offices, reception areas, retail stores, etc.	Daytime 7:00-23:00	50	45
Theatres, places of worship, libraries, individual or semi-private offices, conference rooms, reading rooms, etc.	Daytime 7:00-23:00	45	40
Living/dining/den areas of **residences**, hospitals, nursing/retirement homes, schools, day-care centres	Daytime 7:00-23:00	45	40
Living/dining/den areas of **residences**, hospitals, nursing/retirement homes etc. (except schools or day-care centres)	Nighttime 23:00-7:00	45	40
Sleeping quarters of hotels/motels	Nighttime 23:00-7:00	45	40
Sleeping quarters of **residences**, hospitals, nursing/retirement homes, etc.	Nighttime 23:00-7:00	40	35

- Standards taken from Table 2.2b, Sound Level Limit for Indoor Living Areas – Road and Rail and Table 2.2c, Supplementary Sound Level Limits for Indoor Spaces – Road and Rail

Predicted noise levels at the pane of window dictate the action required to achieve recommended noise levels. It is noted in ENCG that the limits outlined in Table 2 are for the noise levels on the interior of the window glass pane. An open window is considered to provide a 10 dBA noise reduction, while a standard closed window is capable to provide a minimum 20 dBA noise reduction. Therefore, where noise levels exceed 55 dBA daytime and 50 dBA nighttime, the ventilation for the building should consider the provision for central air conditioning. Where noise levels exceed 65 dBA daytime and 60 dBA nighttime, central air conditioning will be required, and the building components will require higher levels of sound attenuation.

If the noise level limits are exceeded, the following Warning Clauses should be included in related deeds of sale:

Table 3 – Warning Clauses for Noise Level Exceedances

Warning Clause	Description
Warning Clause Type A	"Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type B	"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic (rail traffic) (air traffic) may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type C	"This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type D	"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."
➢ Clauses taken from section C8 Warning Clauses; Environmental Noise Guidelines for Stationary and Transportation Sources - NPC-300	

Stationary Noise

Stationary noise sources include sources or facilities that are fixed or mobile and can cause a combination of sound and vibration levels emitted beyond the property line. These sources may include commercial air conditioner units, generators and fans. Facilities that may contribute to stationary noise may include car washes, snow disposal sites, transit stations and manufacturing facilities.

The subject site is not in proximity to existing or approved stationary sources of noise. Therefore, a stationary noise analysis will not be required.

Aircraft / Airport Noise

The subject site is not located within the Airport Vicinity Development Zone. Therefore this project will not require an aircraft/airport noise analysis. No warning clauses regarding aircraft or airport noise will be required.

4.0 Analysis

Surface Transportation Noise

The subject buildings are bordered to the north by undeveloped treed area, commercial buildings, Ogilvie Road, and Murdock Gate, to the east by undeveloped treed area, institutional building, commercial building, and Cummings Avenue, to the south by Cyrville Road followed by Michael Street North, institutional building, and commercial buildings, and to the west by commercial buildings. Ogilvie Road, Murdock Gate, Cummings Avenue, Cyrville Road, and Michael Street North are identified within the 100 m radius of subject buildings.

Based on the City of Ottawa's Official Plan, Schedule F, Ogilvie Road is considered a 4 lane urban arterial divided road (4-UAD), Cummings Avenue is considered a 2 lane urban arterial road (2-UAU), and Cyrville Road is considered a 2 lane urban collector road (2-UCU). Other roads within the 100 m radius of the subject buildings are not classified as either arterial, collector or major collector roads and therefore are not included in this study. Additionally, the 4 lane highway 417 westbound and the 4 lane highway 417 eastbound are within the 500 m radius from the subject buildings. The major sources of traffic noise are due to the Ogilvie Road, Cummings Avenue, Cyrville Road, Highway 417 Westbound, and Highway 417 Eastbound to the north, east, and south of the subject buildings.

All noise sources are presented in Drawings PG6041-3 – Site Geometry (Building A) and PG6041-4 – Site Geometry (Building B) located in Appendix 1.

The noise levels from road traffic are provided by the City of Ottawa, taking into consideration the right-of-way width and the implied roadway classification. It is understood that these values represent the maximum allowable capacity of the proposed roadways. The parameters to be used for sound level predictions can be found below.

Table 4 – Traffic and Road Parameters

Segment	Roadway Classification	AADT Veh/Day	Speed Limit (km/h)	Day/Night Split %	Medium Truck %	Heavy Truck %
Highway 417 Westbound	4-Queensway	73332	100	92/8	7	5
Highway 417 Eastbound	4-Queensway	73332	100	92/8	7	5
Ogilvie Road	4-UAD	35000	60	92/8	7	5
Cummings Avenue	2-UAU	15000	50	92/8	7	5
Cyrville Road	2-UCU	8000	50	92/8	7	5

- Data obtained from the City of Ottawa document ENCG

Two (2) levels and four (4) levels of reception points were selected at Building A and Building B, respectively, for this analysis. One (1) level of receptor point was also selected at the at-grade amenity terrace located at the rear yard of Building A. The following elevations were selected from the heights provided on the survey plan for the subject buildings.

Table 5 – Elevations of Reception Points

Floor Number	Elevation at Centre of Window (m)	Floor Use	Daytime / Nighttime Analysis
Building A:			
First Floor	1.5	Living Area/Bedroom	Daytime / Nighttime
Sixth Floor	17.5	Living Area/Bedroom	Daytime / Nighttime
Sixth Floor Rooftop Terrace	17.5	Outdoor Living Area	Daytime / Nighttime
At-Grade Amenity Terrace at Rear Yard	1.5	Outdoor Living Area	Daytime / Nighttime
Building B:			
First Floor	1.5	Living Area/Bedroom	Daytime / Nighttime
Sixth Floor	17.5	Living Area/Bedroom	Daytime / Nighttime
Twelve Floor	36	Living Area/Bedroom	Daytime / Nighttime
Seventh Floor Rooftop Terrace	20.5	Outdoor Living Area	Daytime / Nighttime

For this analysis, a reception point was taken at the centre of each floor, at the first floor and top floor. Outdoor Living Areas - amenity terraces are anticipated at the sixth floor rooftop of Building A, the seventh floor rooftop of Building B, and the rear yard of Building A. Reception points in the centre of sixth floor rooftop terrace, seventh floor rooftop terrace, and at-grade amenity terrace, 17.5 m high, 20.5 m high, and 1.5 m high, respectively, were selected for the analysis. Reception points are detailed on Drawing PG6041-2 - Receptor Locations presented in Appendix 1.

All horizontal distances have been measured from the reception point to the edge of the right-of-way. The highway was analyzed where it intersected the 500 m buffer zone, and the roadway was analyzed where it intersected the 100 m buffer zone, which is reflected in the local angles described in Paterson Drawings PG6041-3A to 3H and PG6041-4A to 4G - Site Geometry in Appendix 1.

Table 7 and Table 8 - Summary of Reception Points and Geometry, located in Appendix 1, provides a summary of the points of reception and their geometry with respect to the noise sources. The analysis is completed so that no effects of sound reflection off of the building facade are considered, as stipulated by the ENGC.

The subject site is relatively level and at grade with the neighbouring roads within 500 m radius.

The analysis was completed using STAMSON version 5.04, a computer program which uses the road and rail traffic noise prediction methods using ORNAMENT (Ontario Road Noise Analysis Method for Environment and Transportation) and STEAM (Sound from Trains Environment Analysis Method), publications from the Ontario Ministry of Environment and Energy.

5.0 Results

Surface Transportation Noise

The primary descriptors are the 16-hour daytime (7:00-23:00) and the 8-hour nighttime (23:00-7:00) equivalent sound levels, $L_{eq(16)}$ and $L_{eq(8)}$ for City roads.

The exterior noise levels due to roadway traffic sources were analyzed with the STAMSON version 5.04 software at all reception points. The input and output data of the STAMSON modeling can be found in Appendix 2, and the summary of the results can be found in Table 6.

Table 6: Exterior Noise Levels due to Roadway Traffic Sources

Reception Point	Height Above Grade (m)	Receptor Location	Daytime $L_{eq(16)}$ (dBA)	Nighttime $L_{eq(8)}$ (dBA)
REC 1-1	1.5	Building A, Northern Elevation (East Side), 1st Floor (Before Construction of Building B)	52	44
REC 1-1	1.5	Building A, Northern Elevation (East Side), 1st Floor (After Construction of Building B)	50	43
REC 1-6	17.5	Building A, Northern Elevation (East Side), 6th Floor (Before Construction of Building B)	57	50
REC 1-6	17.5	Building A, Northern Elevation (East Side), 6th Floor (After Construction of Building B)	55	47
REC 2-1	1.5	Building A, Eastern Elevation, 1st Floor	54	47
REC 2-6	17.5	Building A, Eastern Elevation, 6th Floor	59	51
REC 3-1	1.5	Building A, Southern Elevation (East Side), 1st Floor	65	57
REC 3-6	17.5	Building A, Southern Elevation (East Side), 6th Floor	66	59
REC 4-1	1.5	Building A, Southern Elevation (West Side), 1st Floor	65	57
REC 4-6	17.5	Building A, Southern Elevation (West Side), 1st Floor	66	59
REC 5-1	1.5	Building A, Western Elevation, 1st Floor	56	49
REC 5-6	17.5	Building A, Western Elevation, 6th Floor	61	53
REC 6-1	1.5	Building A, Northern Elevation (West Side), 1st Floor (Before Construction of Building B)	53	46
REC 6-1	1.5	Building A, Northern Elevation (West Side), 1st Floor (After Construction of Building B)	49	41

Table 6: Exterior Noise Levels due to Roadway Traffic Sources

Reception Point	Height Above Grade (m)	Receptor Location	Daytime $L_{eq(16)}$ (dBA)	Nighttime $L_{eq(8)}$ (dBA)
REC 6-6	17.5	Building A, Northern Elevation (West Side), 6th Floor (Before Construction of Building B)	58	50
REC 6-6	17.5	Building A, Northern Elevation (West Side), 6th Floor (After Construction of Building B)	53	46
REC 7	17.5	OLA – 6th Floor Rooftop Terrace	59	N/A*
REC 15	1.5	OLA- At-Grade Amenity Terrace (Before Construction of Building B)	52	N/A*
REC 15	1.5	OLA- At-Grade Amenity Terrace (After Construction of Building B)	N/A**	N/A**
REC 8-1	1.5	Building B, Northern Elevation, 1st Floor	56	49
REC 8-12	36	Building B, Northern Elevation, 12th Floor	63	55
REC 9-1	1.5	Building B, Eastern Elevation, 1st Floor	52	45
REC 9-6	17.5	Building B, Eastern Elevation, 6th Floor	58	50
REC 10-1	1.5	Building B, Southern Elevation (East Side), 1st Floor	50	42
REC 10-6	17.5	Building B, Southern Elevation (East Side), 6th Floor	58	50
REC 11-1	1.5	Building B, Southern Elevation (West Side), 1st Floor	50	42
REC 11-12	36	Building B, Southern Elevation (West Side), 12th Floor	61	54
REC 12-1	1.5	Building B, Western Elevation, 1st Floor	57	50
REC 12-12	36	Building B, Western Elevation, 12th Floor	63	56
REC 13-12	36	Building B, Eastern Elevation, 12th Floor	61	53
REC 14	20.5	OLA – 7th Floor Rooftop Terrace	60	N/A*

*Nighttime noise levels at OLA are not considered as per ENCG
** At-grade amenity area will be isolated from all major noise sources after the construction of Building B

6.0 Discussion and Recommendations

6.1 Outdoor Living Areas

There is a rooftop terrace amenity area that will serve as an Outdoor Living Area (OLA) at each proposed building (Phase 1 - Building A and Phase 2 - Building B). One (1) receptor point (REC 7) was selected in the centre of sixth floor rooftop terrace of Building A, and one (1) receptor point (REC 14) was selected in the centre of seventh floor rooftop terrace of Building B. It is assumed that the rooftop terrace will only be utilized as OLA provided that each proposed building is constructed. The noise levels at both rooftop terraces at Building A and Building B will be below 60 dBA during the daytime period (7:00-23:00), which exceed the 55 dBA threshold value specified by the ENCG.

Upon review of the aforementioned result for each proposed building, a noise attenuation feature consisting of a solid glass railing surrounding the proposed rooftop terrace was considered. This solid glass railing would be considered a noise barrier and is designed to be 1 m high. This glass railing, in addition to utilizing the exterior of each building (Building A and Building B) as a noise barrier, was completed as REC 7TR and REC 14TR, respectively, and is included in Appendix 2. The results of STAMSON modeling indicate that, with the combination of the application of exterior cladding and the 1 m high noise barrier, the anticipated noise levels at rooftop terraces of Building A and Building B will be 58 dBA and 59 dBA, respectively, during the daytime period (7:00-23:00). Since noise levels, with the inclusion of noise barrier, cannot be economically reduced to 55 dBA, this exceedance in noise levels is considered acceptable provided that a Warning Clause Type A is provided on all deeds of sale.

There is also an at-grade amenity area that will serve as an OLA at the rear yard of Building A. One (1) receptor point (REC 15) was selected at the northern boundary of at-grade amenity terrace. It is assumed that the at-grade terrace will only be utilized as OLA provided that proposed Building A is constructed. The noise levels at the at-grade terrace will be 52 dBA before the construction of Building B, and that will be negligible after the construction of Building B due to the isolation from all major noise sources. Therefore, the noise levels at the at-grade terrace will be below the 55 dBA threshold value specified by the ENCG.

6.2 Indoor Living Areas and Ventilation

The STAMSON modeling for Building A was completed for two scenarios, one before the construction of Building B and one after the construction of Building B. The results of the STAMSON modeling indicate that the noise levels at Building A will range between 52 dBA and 66 dBA during the daytime period (07:00-23:00) and between 44 dBA and 59 dBA during the nighttime period (23:00-7:00) before the construction of Building B, while that will range between 49 dBA and 66 dBA during the daytime period (07:00-23:00) and between 41 dBA and 59 dBA during the nighttime period (23:00-7:00) after the construction of Building B. The STAMSON modeling for Building B was completed with the assumption that the proposed Building A is already constructed. The results of STAMSON modeling indicate that the noise levels at Building B will range between 50 dBA and 63 dBA during the daytime period and between 42 dBA and 56 dBA during the nighttime period. The noise levels on the northern, eastern, southern, and western elevations of Building A and Building B will exceed the limit for the exterior of the pane of glass (55 dBA) specified by the ENCG. It is also noted that the noise levels on the southern elevation of Building A will exceed 65 dBA. Therefore, all units of Building A should be supplied with a central air conditioning unit, along with the warning clause Type D, as outlined in Table 3, and all units of Building B should be designed with the provision for adding a central air conditioning unit, along with the warning clause Type C, as outlined in Table 3.

The Building A does exceed the 65 dBA threshold for noise on the southern elevation. Therefore, an analysis of the building materials will be required. However, at this time the building materials and exterior wall construction details have not been finalized. Therefore, a review of the proposed building materials on the southern elevation of Building A will need to be completed.

Proposed Construction Specifications

It is understood that typical window and wall details are proposed for the residential buildings. The effectiveness of the noise insulation can be expressed as the Acoustical Insulation Factor (AIF), calculated as follows:

$$AIF = L_{eq(16)(Exterior)} - L_{eq(16)(Interior)} + 10\log_{10}(N) + 2 \text{ dBA}$$

Where:

$L_{eq(16)(Exterior)}$ = Calculated value at the window pane
$L_{eq(16)(Interior)}$ = 45 dBA
N = number of components in the room

No floor plans or detailed design drawings were provided for this portion of the review. A conservative approach is to assume that there are 2 components per room. Therefore, the AIF would need to be at least 26 dBA.

A conversion from AIF to a Standard Transmission Class (STC) rating will require the knowledge of room dimensions in addition to the wall and window dimensions. However, a conservative approach would be to increase the AIF factor by 3. **Therefore, provided the building materials of either the windows and/or exterior walls have an STC rating of 29 or higher, this would be a sufficient noise attenuation device.**

A review of industry standards for construction material indicates that, as long as the exterior cladding of the southern elevation of Building A consists of brick or concrete panels and that all windows consist of double pane glass, these materials have an STC rating of greater than 29 and are considered acceptable. If alternative materials are to be utilized on the southern elevation of Building A, then a review will need to be completed once design details are finalized.

7.0 Summary of Findings

The subject site is located at 1125-1149 Cyrville Road, in the City of Ottawa. It is understood that the proposed development will consist of two residential buildings, Phase 1 - Building A and Phase 2 - Building B. Building A will have six (6) stories and rise approximately 19 metres above grade. Building B will have six (6) stories and rise approximately 19 metres above grade on the east side, and the building will have twelve (12) stories and rise approximately 38 metres above grade on the west side. There are five major sources of surface transportation noise to the subject buildings: Ogilvie Road, Cummings Avenue, Cyrville Road, Highway 417 Westbound and Highway 417 Eastbound.

Several reception points were selected for the surface transportation noise analysis, consisting of the centre of first level and top level. The results of STAMSON modeling indicate that the northern, eastern, southern, and western elevations of both subject buildings (Building A and Building B) are expected to exceed the 55 dBA threshold specified by the ENCG. It is also noted that the noise levels on the southern elevation of Building A will exceed 65 dBA. Therefore, all units of Building A should be supplied with a central air conditioning unit, along with the warning clause Type D, as outlined in Table 3, and all units of Building B should be designed with the provision for adding a central air conditioning unit, along with the warning clause Type C, as outlined in Table 3. A review of industry standards for construction material indicates that, provided the exterior cladding of the southern elevation of Building A consist of brick or concrete panels and that all windows consist of double pane glass, these materials have an STC rating of greater than 29 and are considered acceptable.

The surface transportation noise analysis was completed at the Outdoor Living Area – at-grade terrace at the rear yard of Building A. The results of STAMSON modeling indicate that the noise levels at the at-grade terrace is expected to be 52 dBA before the construction of Building B, and that is expected to be negligible after the construction of Building B due to the isolation from all major noise sources. Therefore, the noise levels at the at-grade terrace will be below the 55 dBA threshold specified by ENCG.

The surface transportation noise analysis was also completed at the Outdoor Living Areas – sixth floor rooftop terrace at Building A, and seventh floor rooftop terrace at Building B. The results of STAMSON modeling indicate that the noise levels at both rooftop terraces of Building A and Building B is expected to be less than 60 dBA during the daytime period. According to ENCG, noise control measures (i.e. barriers) are required to reduce the L_{eq} to 55 dBA where technically and economically feasible. An investigation including noise barriers, which included both the exterior cladding of the proposed building in addition to the addition of a solid 1 m noise barrier around the perimeter of the outdoor living area found that the noise levels of both rooftop terraces of Building A and Building B cannot be reduced to 55 dBA without the application of an excessively tall barrier. Therefore, since noise levels cannot be economically reduced to 55 dBA, this exceedance in noise level is considered acceptable provided that the warning clause Type A is included on all deeds of sale.

The following warning clause is to be included on all Offers of Purchase and Sale and/or lease agreements:

> "Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."

The following warning clause is to be included on all Offers of Purchase and Sale and/or lease agreements at all units in Phase 1 – Building A:

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

The following warning clause is to be included on all Offers of Purchase and Sale and/or lease agreements at all units in Phase 2 – Building B:

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

8.0 Statement of Limitations

The recommendations made in this report are in accordance with our present understanding of the project. Our recommendations should be reviewed when the project drawings and specifications are complete.

The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Westrich Management Ltd or their agent(s) is not authorized without review by this firm for the applicability of our recommendations to the altered use of the report.

Paterson Group Inc.

November 18, 2021

Yolanda Tang, M.Sc.Eng

Stephanie A. Boisvenue, P.Eng.

Report Distribution:

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APPENDIX 1

TABLE 7 - SUMMARY OF RECEPTION POINTS AND GEOMETRY (BUILDING A)

TABLE 8 - SUMMARY OF RECEPTION POINTS AND GEOMETRY (BUILDING B)

DRAWING PG6041-1 - SITE PLAN

DRAWING PG6041-2 - RECEPTOR LOCATION PLAN

DRAWING PG6041-3 – SITE GEOMETRY (BUILDING A)

DRAWING PG6041-3A - SITE GEOMETRY (REC 1-1 and REC 1-6)

DRAWING PG6041-3B - SITE GEOMETRY (REC 2-1 and REC 2-6)

DRAWING PG6041-3C - SITE GEOMETRY (REC 3-1 and REC 3-6)

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DRAWING PG6041-3F - SITE GEOMETRY (REC 6-1 and REC 6-6)

DRAWING PG6041-3G - SITE GEOMETRY (REC 7)

DRAWING PG6041-3H - SITE GEOMETRY (REC 15)

DRAWING PG6041-4 – SITE GEOMETRY (BUILDING B)

DRAWING PG6041-4A - SITE GEOMETRY (REC 8-1 and REC 8-12)

DRAWING PG6041-4B - SITE GEOMETRY (REC 9-1 and REC 9-6)

DRAWING PG6041-4C - SITE GEOMETRY (REC 10-1 and REC 10-6)

DRAWING PG6041-4D - SITE GEOMETRY (REC 11-1 and REC 11-12)

DRAWING PG6041-4E - SITE GEOMETRY (REC 12-1 and REC 12-12)

DRAWING PG6041-4F - SITE GEOMETRY (REC 13-12)

DRAWING PG6041-4G - SITE GEOMETRY (REC 14)

Table 7 - Summary of Reception Points and Geometry (Building A)
1125 - 1149 Cyrville Road

Point of Reception	Location	Leq Day (dBA)	Ogilvie Road								Cyrville Road							
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)	Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)
REC 1-1	Building A, Northern Elevation (East Side), 1st Floor (Before Construction of Building B)	52	140	1.5	140.0	-73, -28	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-6	Building A, Northern Elevation (East Side), 6th Floor (Before Construction of Building B)	57	140	17.5	141.1	-73, -28	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-1	Building A, Northern Elevation (East Side), 1st Floor (After Construction of Building B)	50	140	1.5	140.0	-40, -28	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
						-50, -40			19	20								
						-73, -50			38	40								
REC 1-6	Building A, Northern Elevation (East Side), 6th Floor (After Construction of Building B)	55	140	17.5	141.1	-40, -28	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
						-50, -40			19	20								
						-73, -50			38	40								
REC 2-1	Building A, Eastern Elevation, 1st Floor	54	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	60	1.5	60.0	-32, 0	1	20	n/a	n/a
REC 2-6	Building A, Eastern Elevation, 6th Floor	59	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	60	17.5	62.5	-32, 0	1	20	n/a	n/a
REC 3-1	Building A, Southern Elevation (East Side), 1st Floor	65	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15	1.5	15.07	-82, 88	n/a	n/a	n/a	n/a
REC 3-6	Building A, Southern Elevation (East Side), 6th Floor	66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15	17.5	23.1	-82, 88	n/a	n/a	n/a	n/a
REC 4-1	Building A, Southern Elevation (West Side), 1st Floor	65	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15	1.5	15.07	-84, 89	n/a	n/a	n/a	n/a
REC 4-6	Building A, Southern Elevation (West Side), 6th Floor	66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15	17.5	23.1	-84, 89	n/a	n/a	n/a	n/a
REC 5-1	Building A, Western Elevation, 1st Floor	56	125	1.5	125.0	-39, 0	1	20	n/a	n/a	35	1.5	35.03	0, 97	1	20	n/a	n/a
REC 5-6	Building A, Western Elevation, 6th Floor	61	125	17.5	126.2	-39, 0	1	20	n/a	n/a	35	17.5	39.1	0, 97	1	20	n/a	n/a
REC 6-1	Building A, Northern Elevation (West Side), 1st Floor (Before Construction of Building B)	53	120	1.5	120.0	-49, 15	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-6	Building A, Northern Elevation (West Side), 6th Floor (Before Construction of Building B)	58	120	17.5	121.3	-49, 15	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-1	Building A, Northern Elevation (West Side), 1st Floor (After Construction of Building B)	49	120	1.5	120.0	-27, 15	1	20	38	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
						-49, -27			n/a	n/a								
REC 6-6	Building A, Northern Elevation (West Side), 6th Floor (After Construction of Building B)	53	120	17.5	121.3	-27, 15	1	20	38	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
						-49, -27			n/a	n/a								
REC 7	Building A, Rooftop Amenity at 6th Floor		170	17.5	170.9	-13, -43	1	20	16	5	20	17.5	26.6	-43, 22	n/a	n/a	1	7
REC 15	At-Grade Amenity Area (Before Construction of Building B)	52	135	1.5	135.0	-60, 4	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 7 - Summary of Reception Points and Geometry (Building A)
1125 - 1149 Cyrville Road

Point of Reception	Location	Leq Day (dBA)	Cummings Avenue								Highway 417 Westbound							
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)	Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)
REC 1-1	Building A, Northern Elevation (East Side), 1st Floor (Before Construction of Building B)	52	105	1.5	105.0	-54, 0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-6	Building A, Northern Elevation (East Side), 6th Floor (Before Construction of Building B)	57	105	17.5	106.5	-54, 0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-1	Building A, Northern Elevation (East Side), 1st Floor (After Construction of Building B)	50	105	1.5	105.0	-54, 0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-6	Building A, Northern Elevation (East Side), 6th Floor (After Construction of Building B)	55	105	17.5	106.5	-54, 0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 2-1	Building A, Eastern Elevation, 1st Floor	54	85	1.5	85.0	-33, 39	n/a	n/a	n/a	n/a	425	1.5	425.0	-38, 0	3	60	n/a	n/a
REC 2-6	Building A, Eastern Elevation, 6th Floor	59	85	17.5	86.8	-33, 39	n/a	n/a	n/a	n/a	425	17.5	425.4	-38, 0	3	60	n/a	n/a
REC 3-1	Building A, Southern Elevation (East Side), 1st Floor	65	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	355	1.5	355.0	-77, 26	3	60	n/a	n/a
REC 3-6	Building A, Southern Elevation (East Side), 6th Floor	66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	355	17.5	355.4	-77, 26	3	60	n/a	n/a
REC 4-1	Building A, Southern Elevation (West Side), 1st Floor	65	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	395	1.5	395.0	-79, 20	3	60	n/a	n/a
REC 4-6	Building A, Southern Elevation (West Side), 6th Floor	66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	395	17.5	395.4	-79, 20	3	60	n/a	n/a
REC 5-1	Building A, Western Elevation, 1st Floor	56	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	440	1.5	440.0	0, 37	3	60	n/a	n/a
REC 5-6	Building A, Western Elevation, 6th Floor	61	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	440	17.5	440.4	0, 37	3	60	n/a	n/a
REC 6-1	Building A, Northern Elevation (West Side), 1st Floor (Before Construction of Building B)	53	150	1.5	150.0	-20, 0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-6	Building A, Northern Elevation (West Side), 6th Floor (Before Construction of Building B)	58	150	17.5	151.0	-20, 0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-1	Building A, Northern Elevation (West Side), 1st Floor (After Construction of Building B)	49	150	1.5	150.0	-3, 0 -20, -3	n/a	n/a	n/a 19	n/a 30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-6	Building A, Northern Elevation (West Side), 6th Floor (After Construction of Building B)	53	150	17.5	151.0	-3, 0 -20, -3	n/a	n/a	n/a 19	n/a 30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 7	Building A, Rooftop Amenity at 6th Floor	59	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	390	17.5	390.4	-43, 41	3	60	16	5
REC 15	At-Grade Amenity Area (Before Construction of Building B)	52	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 7 - Summary of Reception Points and Geometry (Building A)
1125 - 1149 Cyrville Road

Point of Reception	Location	Leq Day (dBA)	Highway 417 Eastbound							
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)
REC 1-1	Building A, Northern Elevation (East Side), 1st Floor (Before Construction of Building B)	52	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-6	Building A, Northern Elevation (East Side), 6th Floor (Before Construction of Building B)	57	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-1	Building A, Northern Elevation (East Side), 1st Floor (After Construction of Building B)	50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 1-6	Building A, Northern Elevation (East Side), 6th Floor (After Construction of Building B)	55	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 2-1	Building A, Eastern Elevation, 1st Floor	54	450	1.5	450.0	-32, 0	3	60	n/a	n/a
REC 2-6	Building A, Eastern Elevation, 6th Floor	59	450	17.5	450.3	-32, 0	3	60	n/a	n/a
REC 3-1	Building A, Southern Elevation (East Side), 1st Floor	65	380	1.5	380	-71, 22	3	60	n/a	n/a
REC 3-6	Building A, Southern Elevation (East Side), 6th Floor	66	380	17.5	380.4	-71, 22	3	60	n/a	n/a
REC 4-1	Building A, Southern Elevation (West Side), 1st Floor	65	415	1.5	415	-74, 16	3	60	n/a	n/a
REC 4-6	Building A, Southern Elevation (West Side), 6th Floor	66	415	17.5	415.4	-74, 16	3	60	n/a	n/a
REC 5-1	Building A, Western Elevation, 1st Floor	56	455	1.5	455.0	0, 33	3	60	n/a	n/a
REC 5-6	Building A, Western Elevation, 6th Floor	61	455	17.5	455.3	0, 33	3	60	n/a	n/a
REC 6-1	Building A, Northern Elevation (West Side), 1st Floor (Before Construction of Building B)	53	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-6	Building A, Northern Elevation (West Side), 6th Floor (Before Construction of Building B)	58	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-1	Building A, Northern Elevation (West Side), 1st Floor (After Construction of Building B)	49	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 6-6	Building A, Northern Elevation (West Side), 6th Floor (After Construction of Building B)	53	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 7	Building A, Rooftop Amenity at 6th Floor	59	420	17.5	420.4	-43, 18	3	60	16	5
REC 15	At-Grade Amenity Area (Before Construction of Building B)	52	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 8 - Summary of Reception Points and Geometry (Building B)
1125 - 1149 Cyrville Road

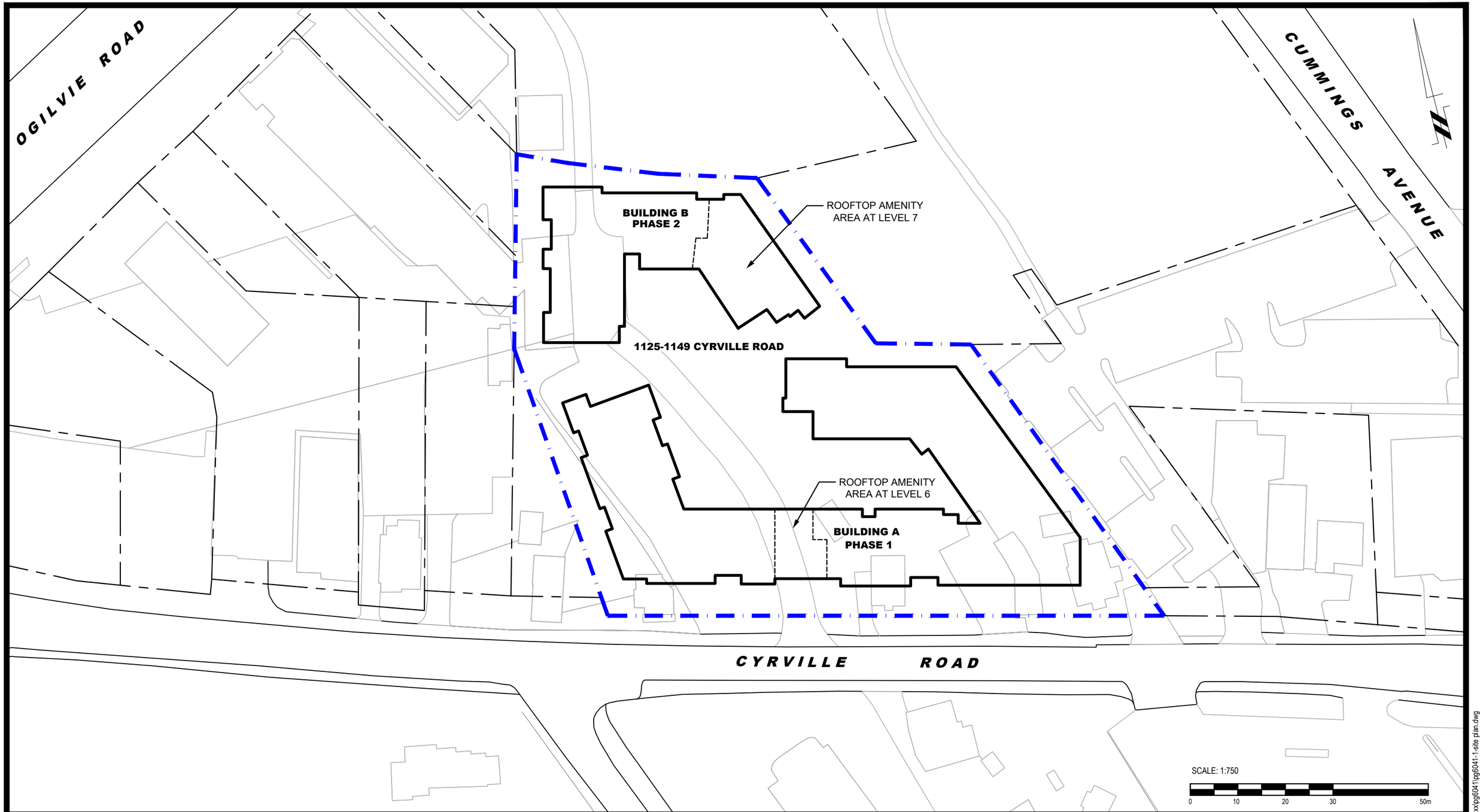
Point of Reception	Location	Leq Day (dBA)	Ogilvie Road								Cummings Avenue							
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)	Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)
REC 8-1	Building B, Northern Elevation, 1st Floor	56	85	1.5	85.0	-90, 0	1	20	n/a	n/a	130	1.5	130.0	-27, 0	n/a	n/a	n/a	n/a
REC 8-12	Building B, Northern Elevation, 12th Floor	63	85	36	92.3	-90, 0	1	20	n/a	n/a	130	36	134.9	-27, 0	n/a	n/a	n/a	n/a
REC 9-1	Building B, Eastern Elevation, 1st Floor	52	120	1.5	120.0	0, 15	n/a	n/a	n/a	n/a	110	1.5	110.0	-7, 50	n/a	n/a	n/a	n/a
REC 9-6	Building B, Eastern Elevation, 6th Floor	58	120	17.5	121.3	0, 15	n/a	n/a	n/a	n/a	110	17.5	111.4	-7, 50	n/a	n/a	n/a	n/a
REC 10-1	Building B, Southern Elevation, 1st Floor	50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	130	1.5	130.0	0, 45	n/a	n/a	n/a	n/a
REC 10-6	Building B, Southern Elevation, 6th Floor	58	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	130	17.5	131.2	0, 45	n/a	n/a	n/a	n/a
REC 11-1	Building B, Southern Elevation, 1st Floor	50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	185	1.5	185.0	0, 8	n/a	n/a	19	45
REC 11-12	Building B, Southern Elevation, 12th Floor	61	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	185	36	188.5	0, 8	n/a	n/a	19	45
REC 12-1	Building B, Western Elevation, 1st Floor	57	75	1.5	75.0	-82, 0	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 12-12	Building B, Western Elevation, 12th Floor	63	75	36	83.2	-82, 0	1	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 13-12	Building B, Eastern Elevation, 12th Floor	61	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	125	36	130.1	-36, 14	n/a	n/a	n/a	n/a
REC 14	Building B, Rooftop Amenity at 7th Floor	60	115	20.5	116.8	0, 16	n/a	n/a	19	20	120	20.5	121.7	-9, 47	n/a	n/a	19	10
						-53, 0	1	20	38	20								

Table 8 - Summary of Reception Points and Geometry (Building B)
1125 - 1149 Cyrville Road

Point of Reception	Location	Leq Day (dBA)	Cyrville Road								Highway 417 Westbound							
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)	Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)
REC 8-1	Building B, Northern Elevation, 1st Floor	56	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 8-12	Building B, Northern Elevation, 12th Floor	63	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 9-1	Building B, Eastern Elevation, 1st Floor	52	125	1.5	125.0	-26, -20	1	20	n/a	n/a	495	1.5	495.0	-36, -20	3	60	n/a	n/a
						-20, 0	n/a	n/a	19	15				-20, 0			19	15
REC 9-6	Building B, Eastern Elevation, 6th Floor	58	125	17.5	126.2	-26, -20	1	20	n/a	n/a	495	17.5	495.3	-36, -20	3	60	n/a	n/a
						-20, 0	n/a	n/a	19	15				-20, 0			19	15
REC 10-1	Building B, Southern Elevation, 1st Floor	50	65	1.5	65.0	-32, 100	n/a	n/a	19	10	430	1.5	430.0	-39, 53	3	60	19	10
REC 10-6	Building B, Southern Elevation, 6th Floor	58	65	17.5	67.3	-32, 100	n/a	n/a	19	10	430	17.5	430.4	-39, 53	3	60	19	10
REC 11-1	Building B, Southern Elevation, 1st Floor	50	60	1.5	60.0	-72, 16	n/a	n/a	19	10	450	1.5	450.0	-74, 16	3	60	19	10
						16, 62	1	20	n/a	n/a								
REC 11-12	Building B, Southern Elevation, 12th Floor	61	60	36	70.0	-72, 16	n/a	n/a	19	10	450	36	451.4	-74, 16	3	60	19	10
						16, 62	1	20	n/a	n/a								
REC 12-1	Building B, Western Elevation, 1st Floor	57	85	1.5	85.0	0, 54	1	20	n/a	n/a	520	1.5	520.0	0, 15	3	60	n/a	n/a
REC 12-12	Building B, Western Elevation, 12th Floor	63	85	36	92.3	0, 54	1	20	n/a	n/a	520	36	521.2	0, 15	3	60	n/a	n/a
REC 13-12	Building B, Eastern Elevation, 12th Floor	61	105	36	111.0	-64, -63	1	20	n/a	n/a	470	36	471.38	-71, -63	3	60	n/a	n/a
						-63, 0	n/a	n/a	19	35				-63, 0			19	35
REC 14	Building B, Rooftop Amenity at 7th Floor	60	80	20.5	82.6	-30, 88	n/a	n/a	19	20	445	20.5	445.5	-38, 52	3	60	19	20
						88, 95	1	20	19	10								

Table 8 - Summary of Reception Points and Geometry (Building B)
1125 - 1149 Cyrville Road

Point of Reception	Location	Leq Day (dBA)	Highway 417 Eastbound							
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)
REC 8-1	Building B, Northern Elevation, 1st Floor	56	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 8-12	Building B, Northern Elevation, 12th Floor	63	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 9-1	Building B, Eastern Elevation, 1st Floor	52	520	1.5	520.0	-31, -20	3	60	n/a	n/a
						-20, 0			19	15
REC 9-6	Building B, Eastern Elevation, 6th Floor	58	520	17.5	520.3	-31, -20	3	60	n/a	n/a
						-20, 0			19	15
REC 10-1	Building B, Southern Elevation, 1st Floor	50	450	1.5	450.0	-35, 49	3	60	19	10
REC 10-6	Building B, Southern Elevation, 6th Floor	58	450	17.5	450.3	-35, 49	3	60	19	10
REC 11-1	Building B, Southern Elevation, 1st Floor	50	475	1.5	475.0	-69, 12	3	60	19	10
REC 11-12	Building B, Southern Elevation, 12th Floor	61	475	36	476.4	-69, 12	3	60	19	10
REC 12-1	Building B, Western Elevation, 1st Floor	57	535	1.5	535.0	0, 11	3	60	n/a	n/a
REC 12-12	Building B, Western Elevation, 12th Floor	63	535	36	536.2	0, 11	3	60	n/a	n/a
REC 13-12	Building B, Eastern Elevation, 12th Floor	61	495	36	496.31	-66, -63	3	60	n/a	n/a
						-63, 0			19	35
REC 14	Building B, Rooftop Amenity at 7th Floor	60	465	20.5	465.5	-34, 48	3	60	19	20



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NO.	REVISIONS	DATE	INITIAL

THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE PLAN

Scale: 1:750	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-1
Approved by: SB	Revision No.:

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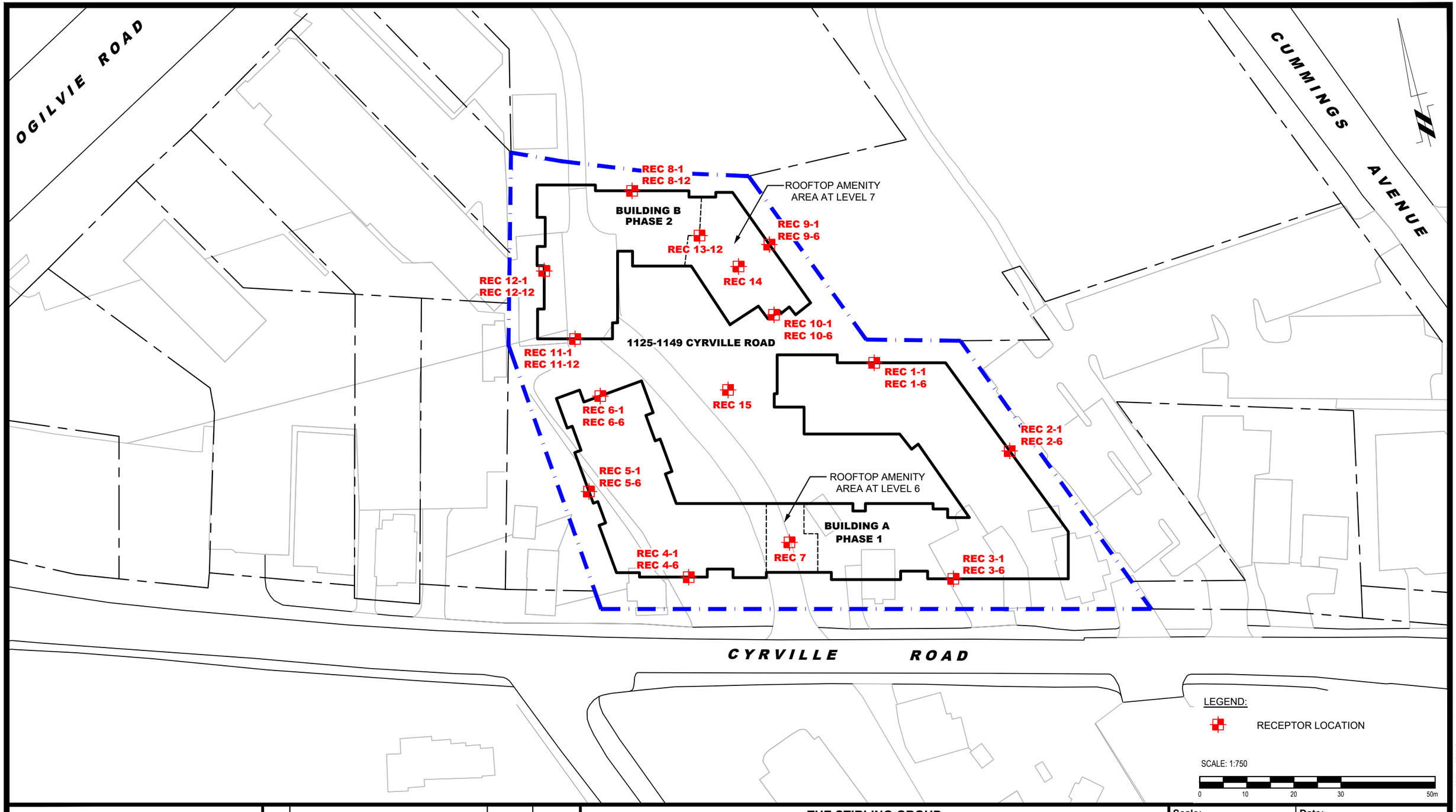

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NO.	REVISIONS	DATE	INITIAL

THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
RECEPTOR LOCATION PLAN

Scale: 1:750	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-2
Approved by: SB	Revision No.:

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Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - BUILDING A

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3
Approved by: SB	Revision No.:

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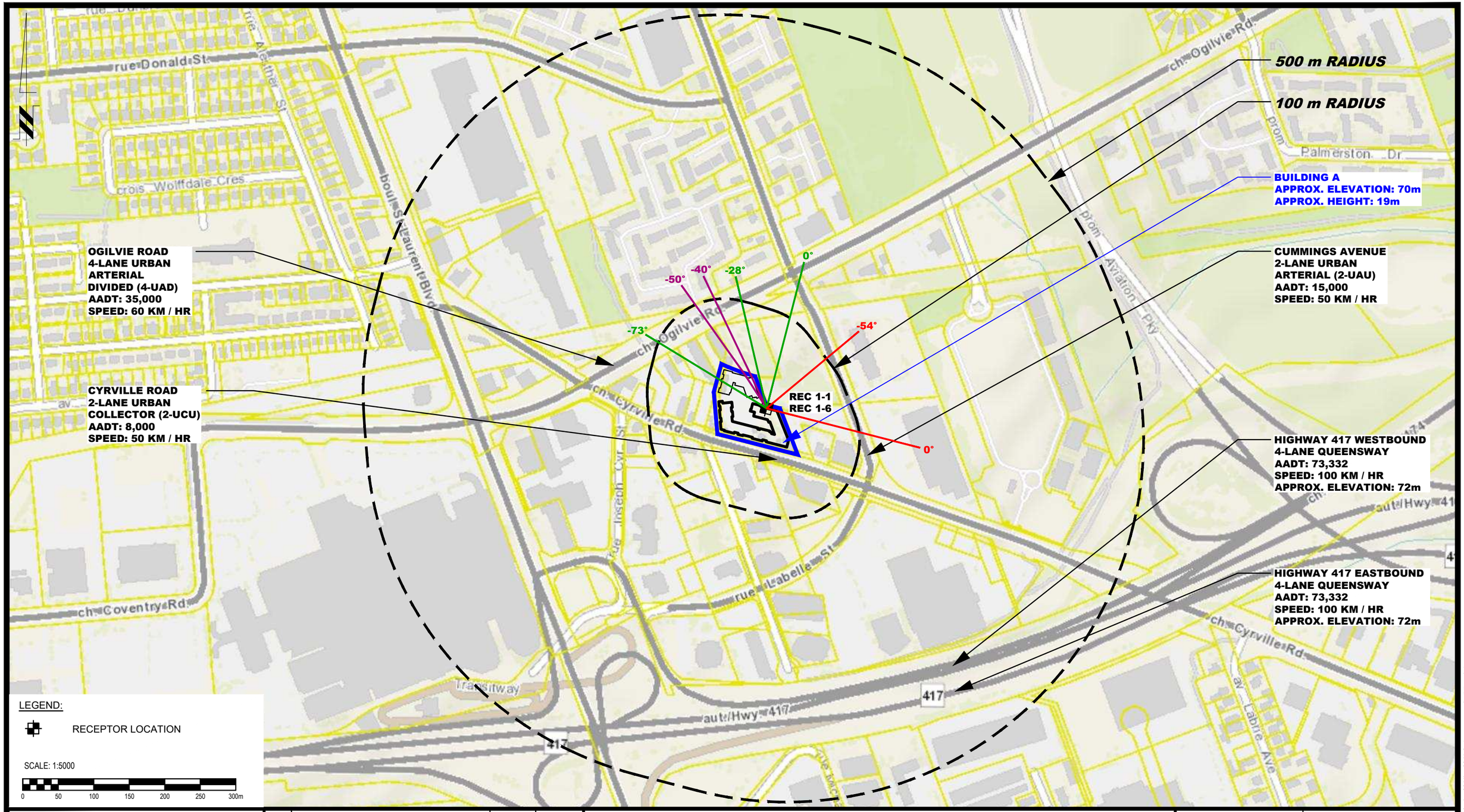

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PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 1-1 AND REC 1-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3A
Approved by: SB	Revision No.:

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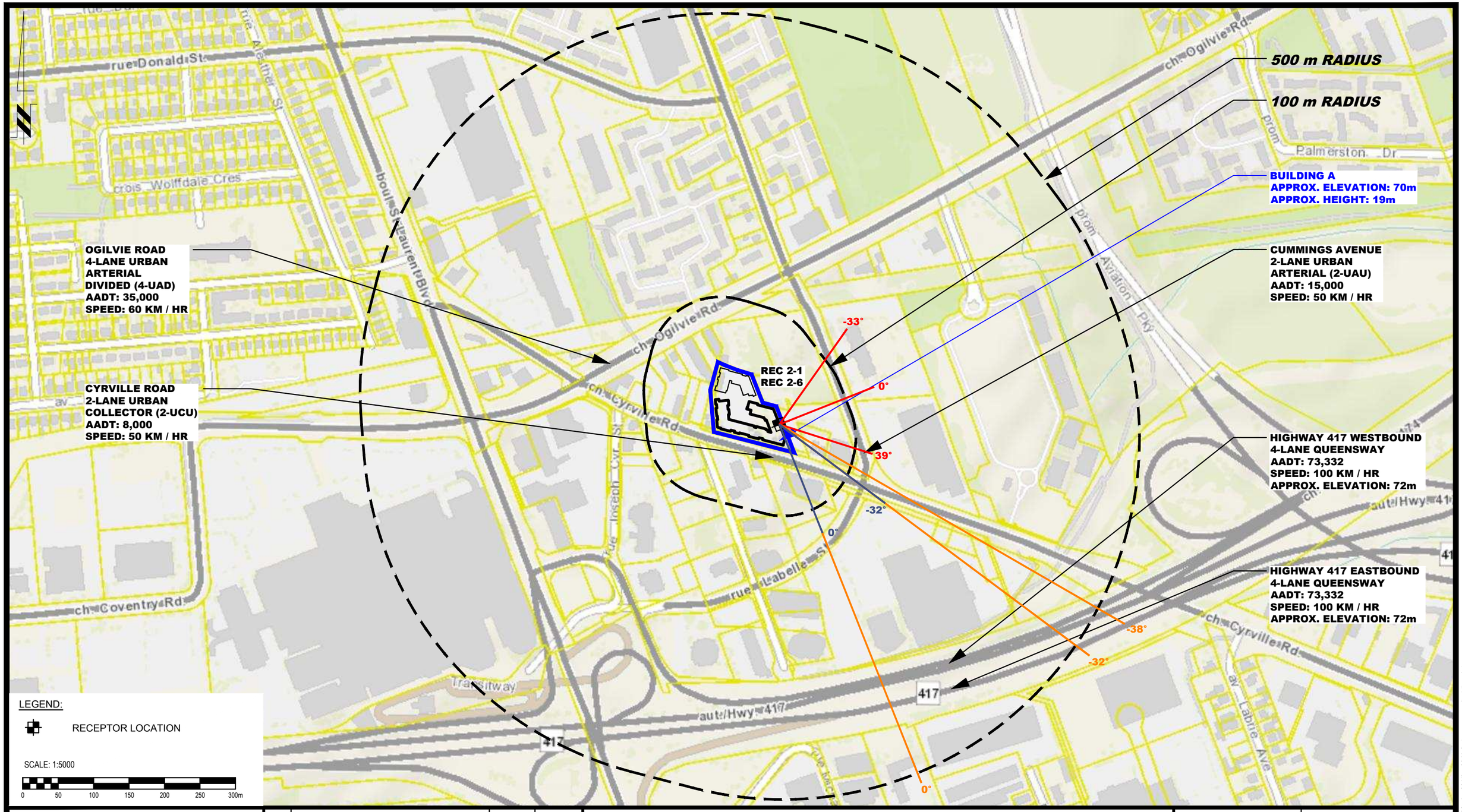

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PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 2-1 AND REC 2-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3B
Approved by: SB	Revision No.:

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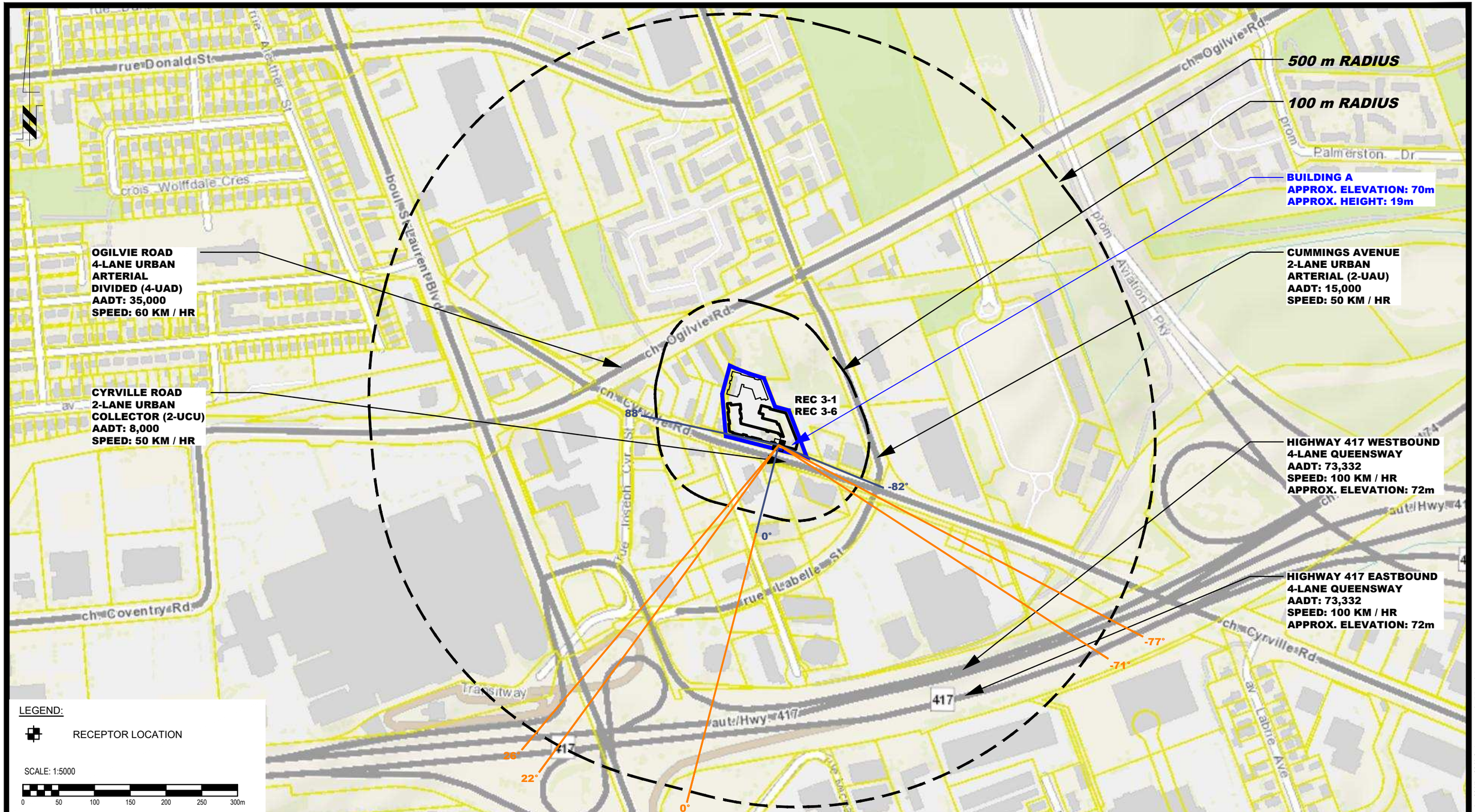

LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

0 50 100 150 200 250 300m

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0			

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1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 3-1 AND REC 3-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3C
Approved by: SB	Revision No.:

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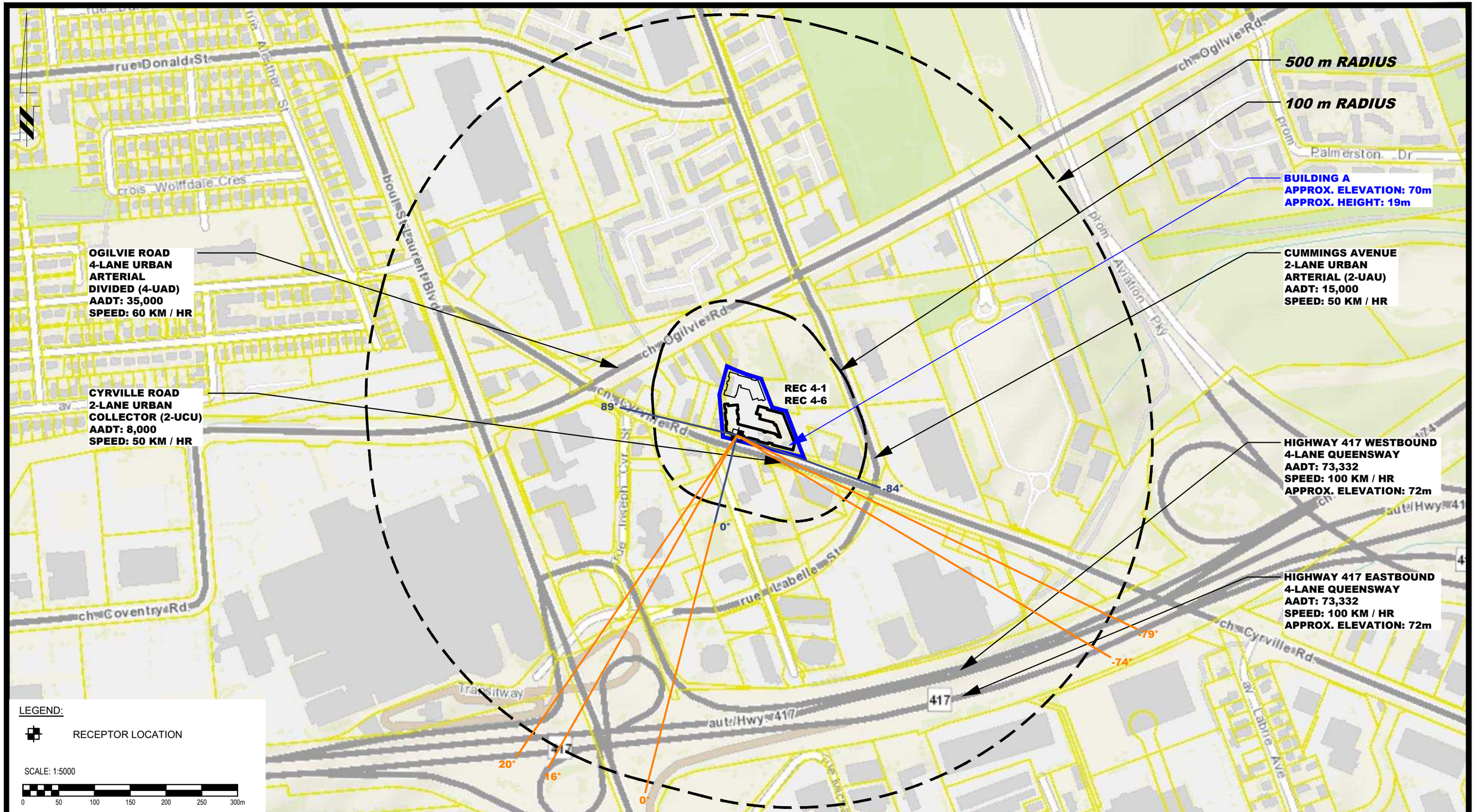

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NO.	REVISIONS	DATE	INITIAL
0			

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PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 4-1 AND REC 4-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3D
Approved by: SB	Revision No.:

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LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

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NO.	REVISIONS	DATE	INITIAL
0			

THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 5-1 AND REC 5-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3E
Approved by: SB	Revision No.:

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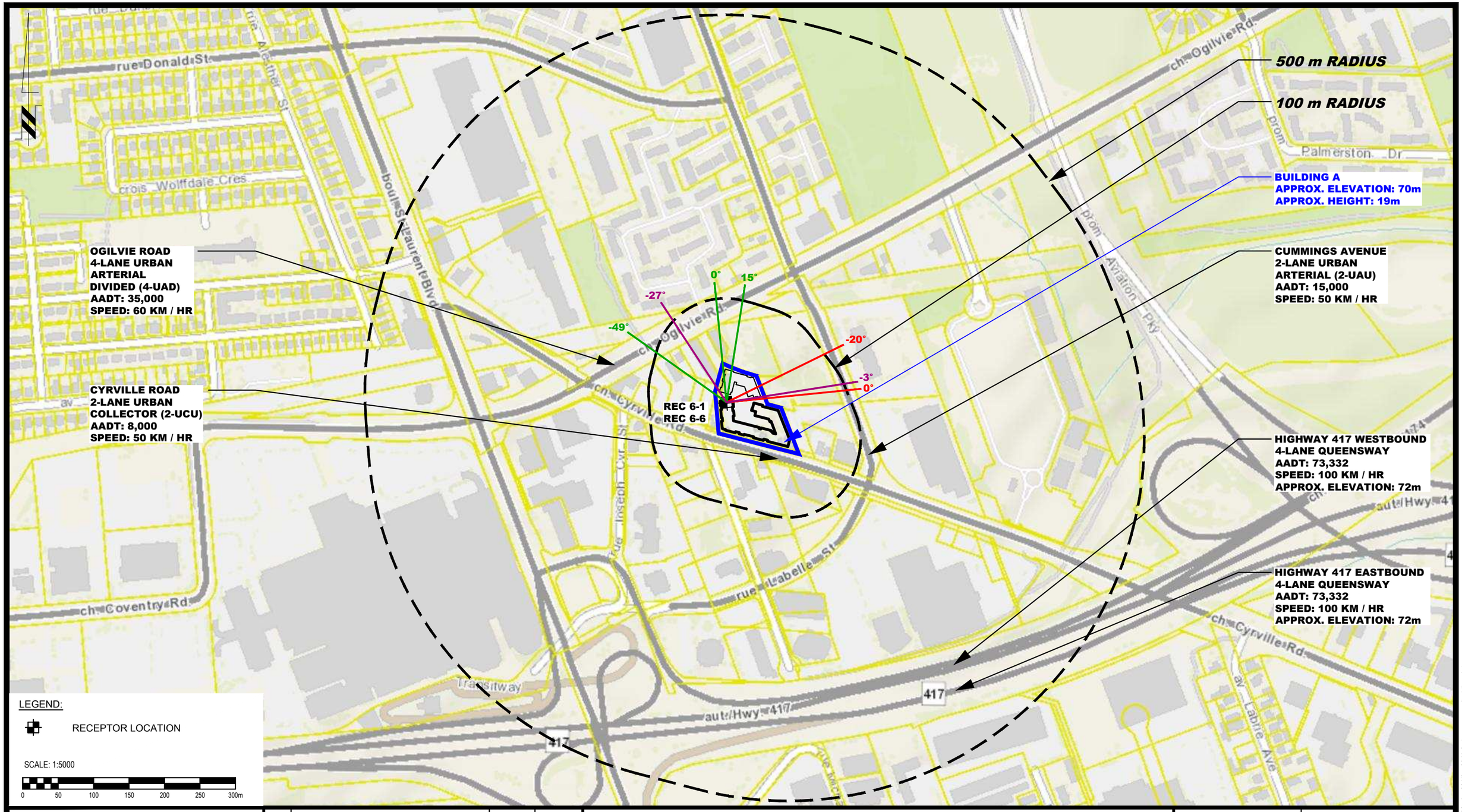

LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

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1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 6-1 AND REC 6-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3F
Approved by: SB	Revision No.:

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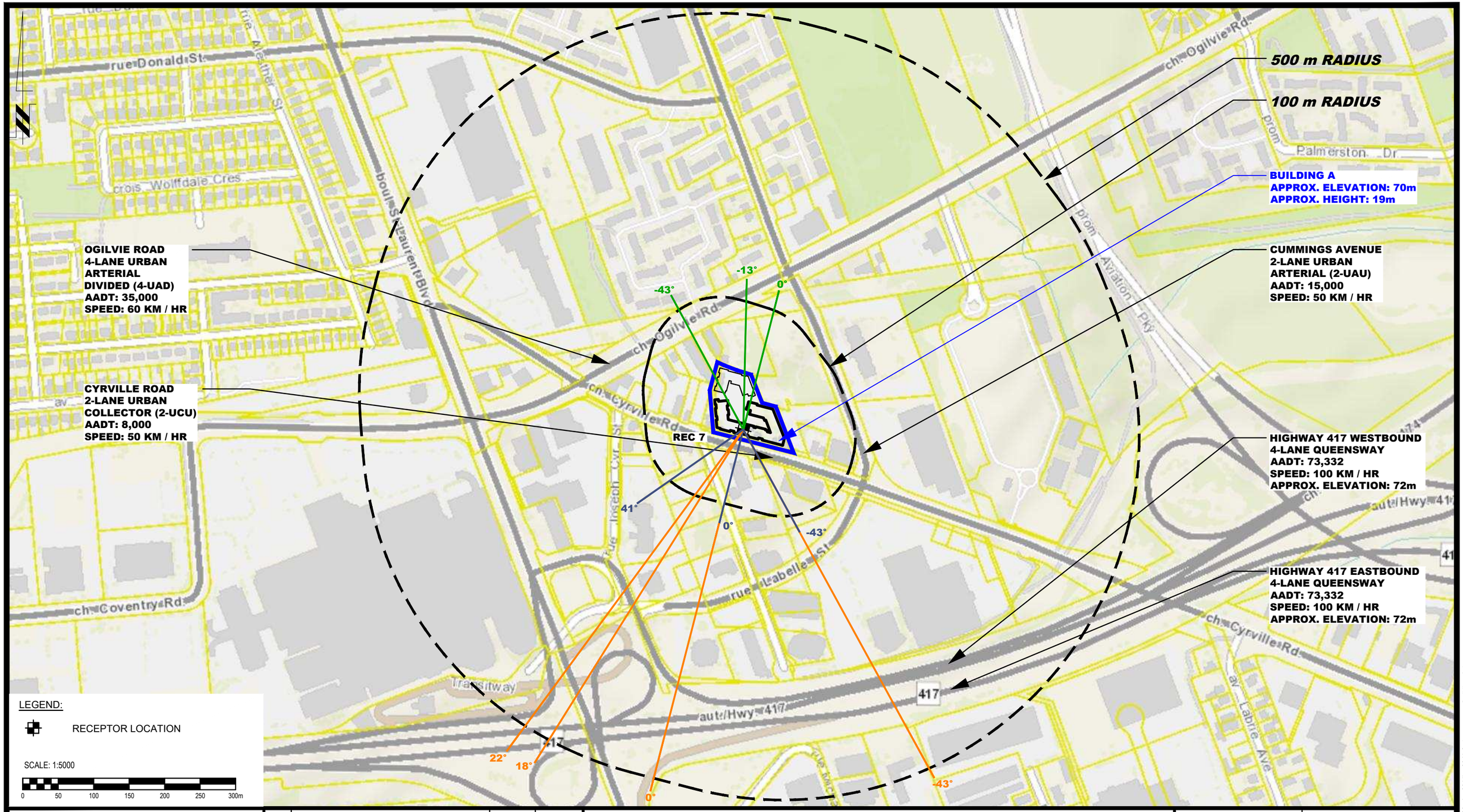

LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

0 50 100 150 200 250 300m

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THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 7

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3G
Approved by: SB	Revision No.:

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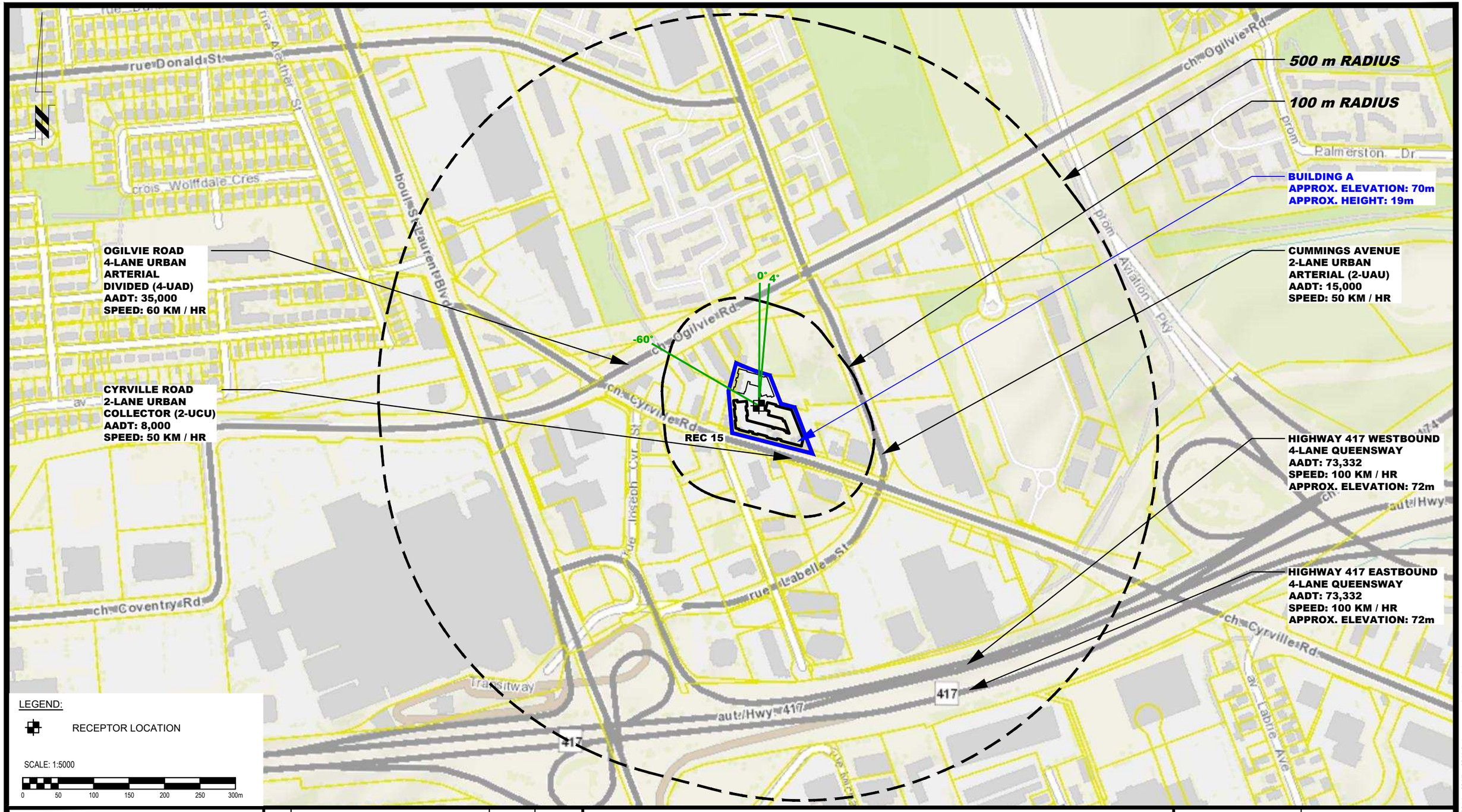

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PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 15

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-3H
Approved by: SB	Revision No.:

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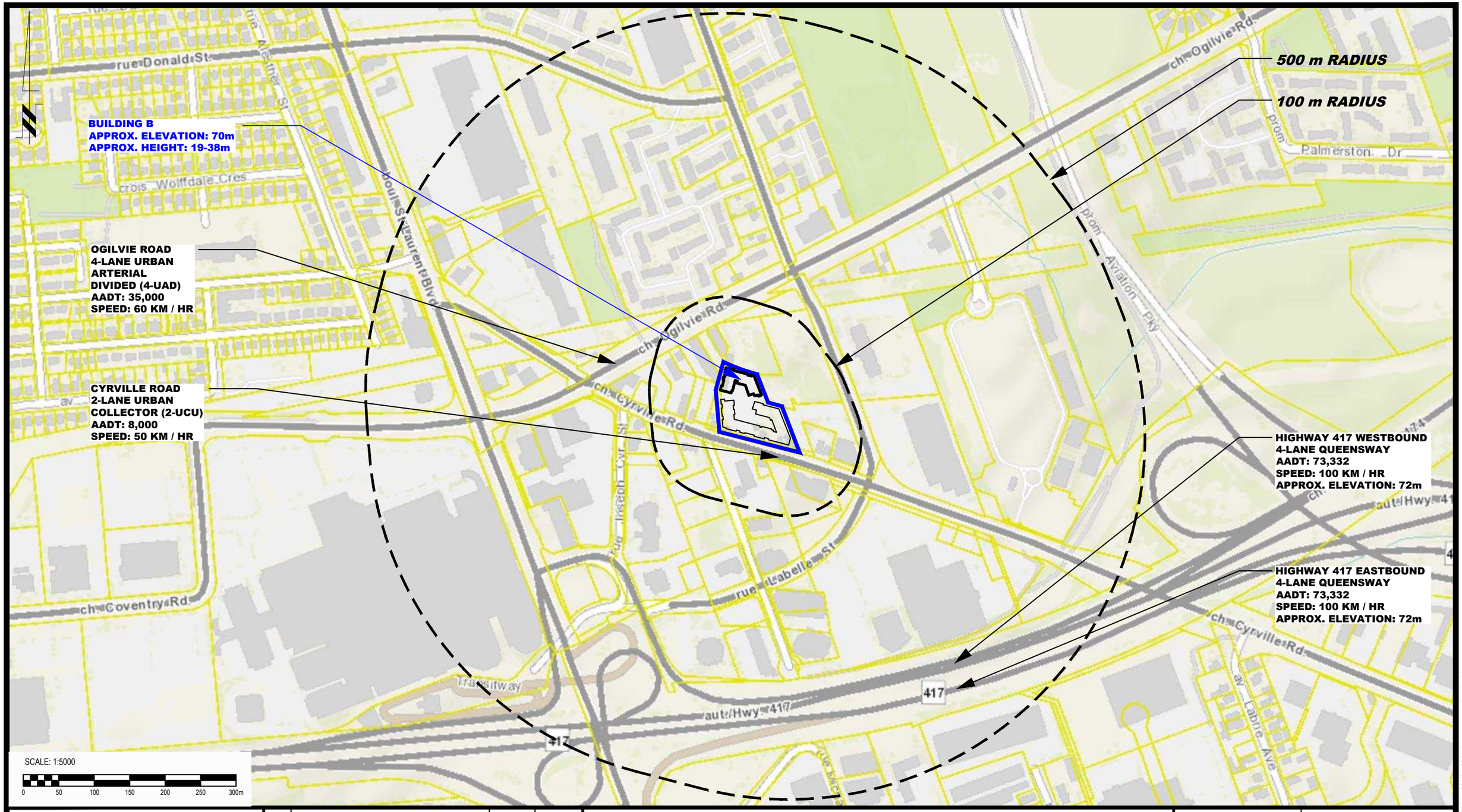

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PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - BUILDING B

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4
Approved by: SB	Revision No.:

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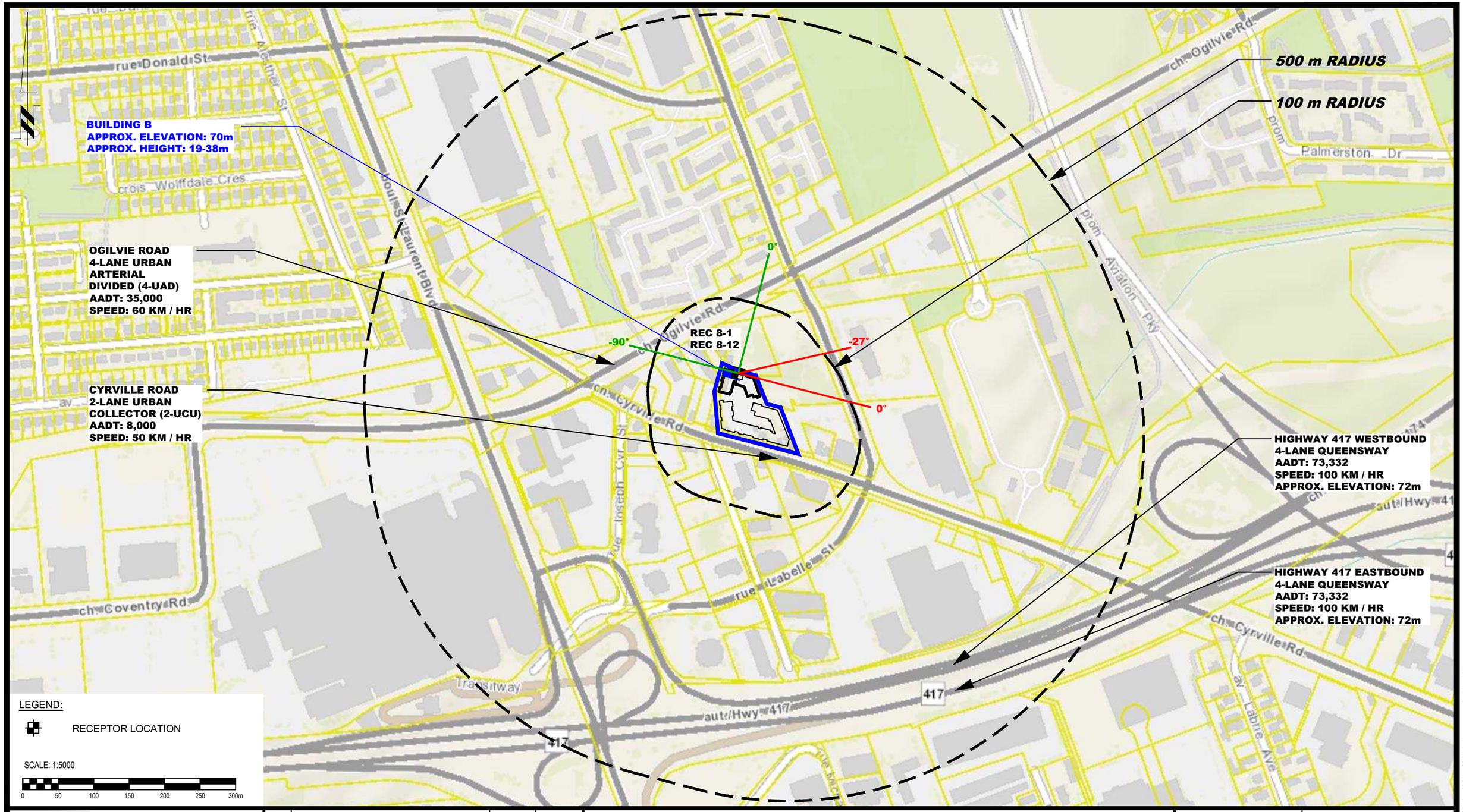

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1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 8-1 AND REC 8-12

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4A
Approved by: SB	Revision No.:

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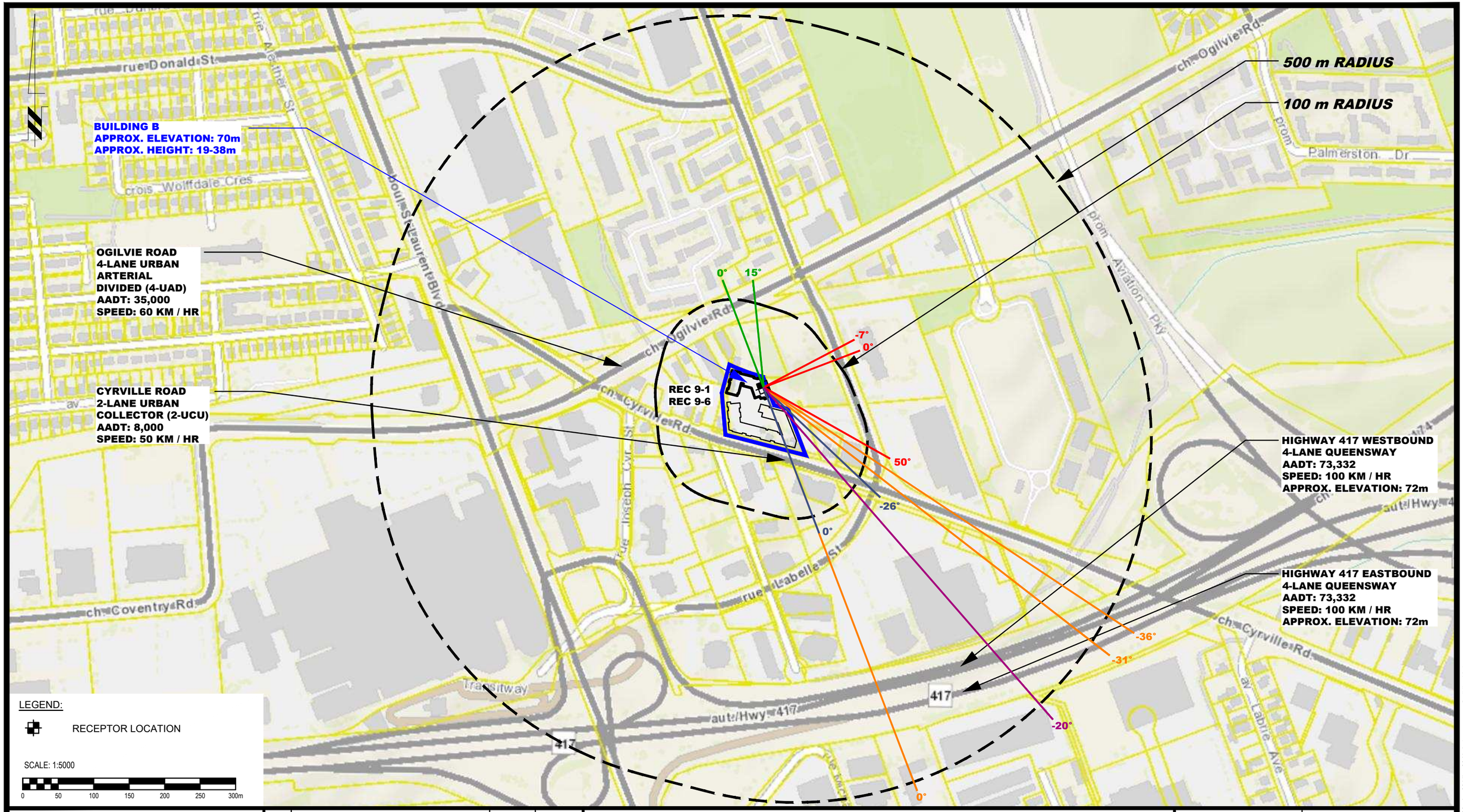

LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

0 50 100 150 200 250 300m

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PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 9-1 AND REC 9-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4B
Approved by: SB	Revision No.:

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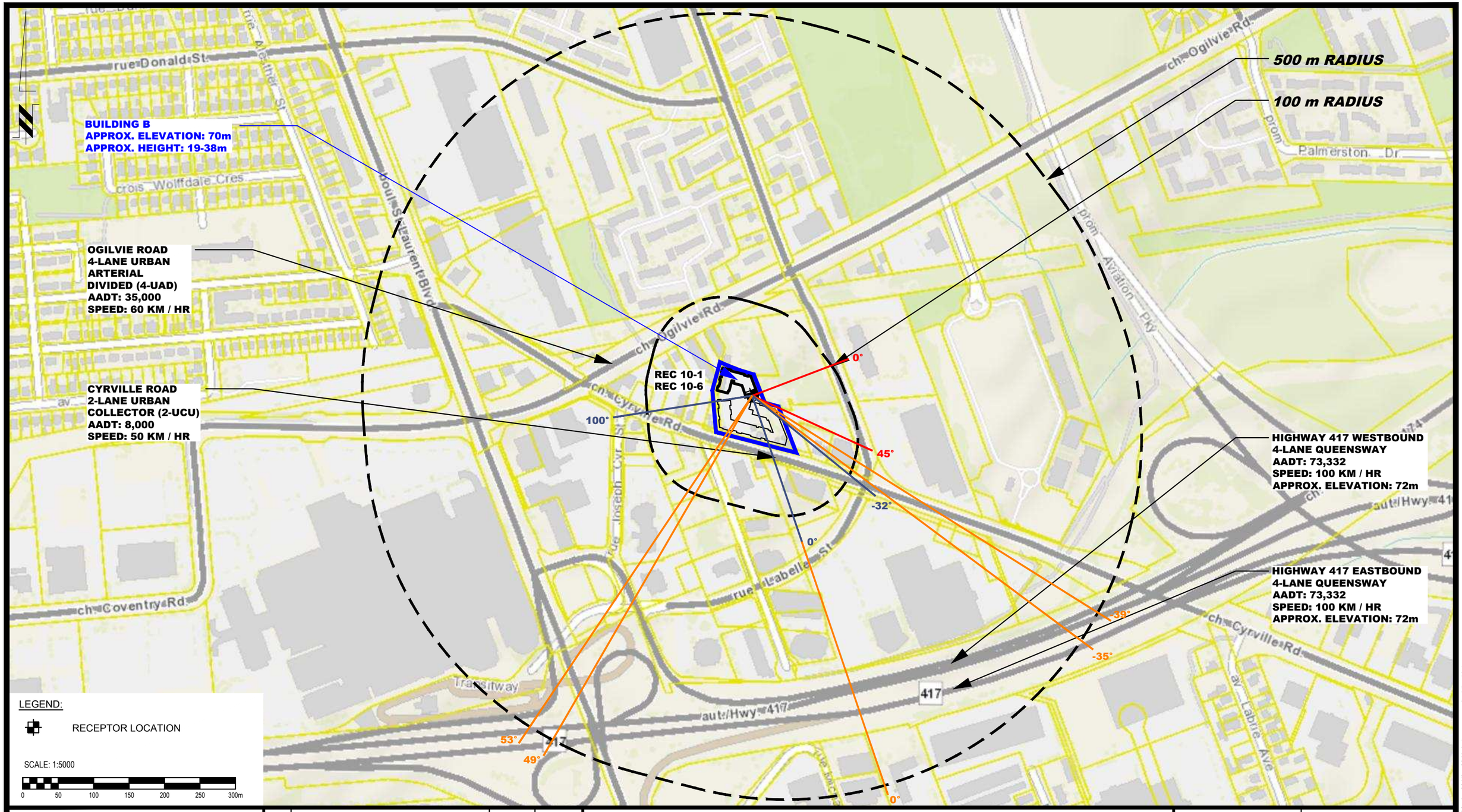

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0			

THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 10-1 AND REC 10-6

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4C
Approved by: SB	Revision No.:

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LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

0 50 100 150 200 250 300m

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0			

THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 11-1 AND REC 11-12

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4D
Approved by: SB	Revision No.:

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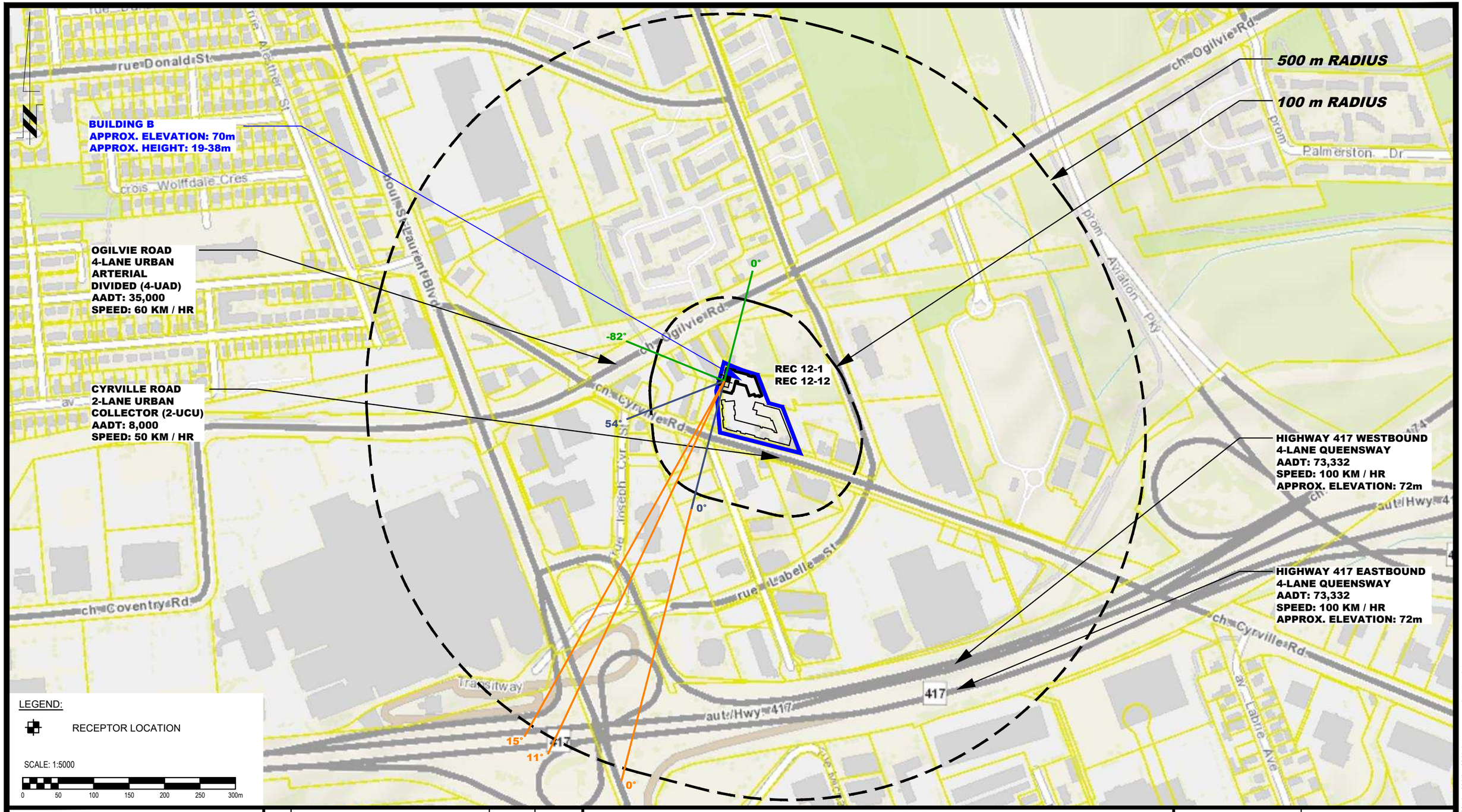

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THE STIRLING GROUP
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PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 12-1 AND REC 12-12

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4E
Approved by: SB	Revision No.:

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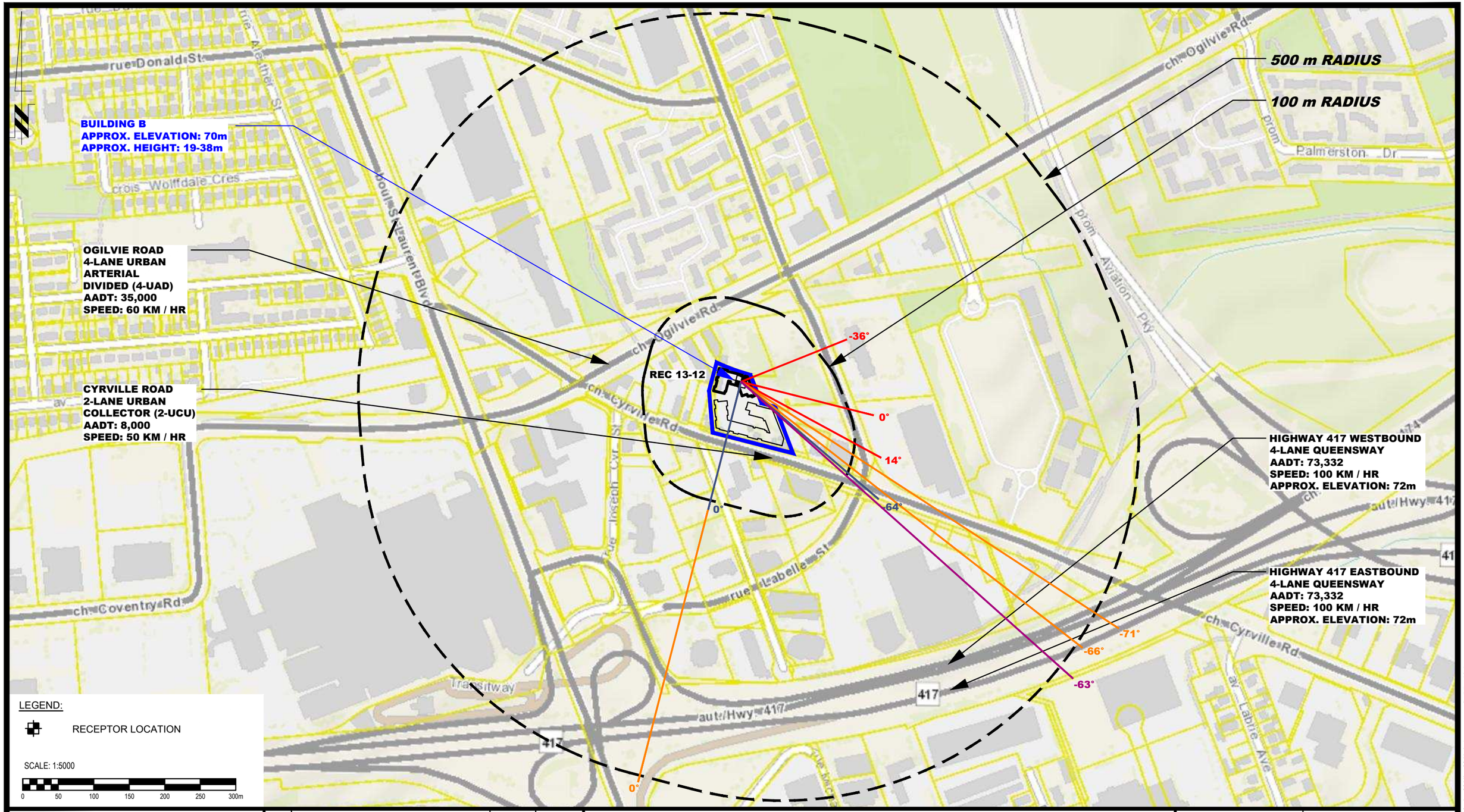

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THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 13-2

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4F
Approved by: SB	Revision No.:

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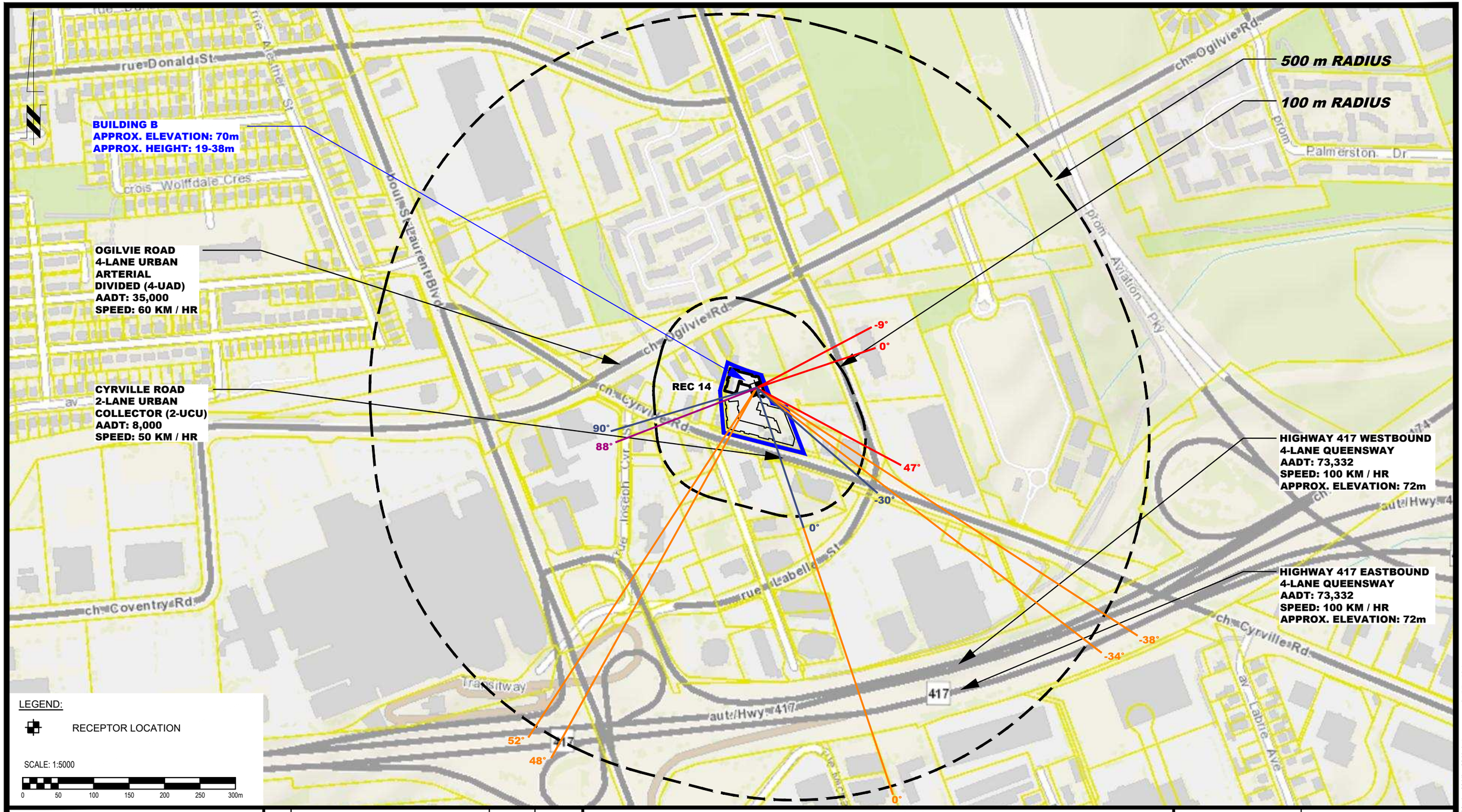

LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

0 50 100 150 200 250 300m

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NO.	REVISIONS	DATE	INITIAL
0			

THE STIRLING GROUP
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDINGS
1125-1149 CYRVILLE ROAD
OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 14

Scale: 1:5000	Date: 10/2021
Drawn by: YA	Report No.: PG6041-1
Checked by: YT	Dwg. No.: PG6041-4G
Approved by: SB	Revision No.:

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APPENDIX 2

STAMSON RESULTS

STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 11:14:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec11B.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-1(After Building B Construction)

Road data, segment # 1: OgilvieRd A (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: OgilvieRd A (day/night)

Angle1 Angle2 : -40.00 deg -28.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 140.00 / 140.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: OgilvieRd B (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: OgilvieRd B (day/night)
-----------------------------------------------
Angle1   Angle2           : -50.00 deg   -40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 140.00 / 140.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -50.00 deg   Angle2 : -40.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: OgilvieRd C (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 # 3: OgilvieRd C (day/night)
-----------------------------------------------
Angle1   Angle2           : -73.00 deg   -50.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
```

```
Receiver source distance  : 140.00 / 140.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -73.00 deg   Angle2 : -50.00 deg
Barrier height            :  38.00 m
Barrier receiver distance :  40.00 / 40.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: Cummings Ave (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Cummings Ave (day/night)
-----------------------------------------------
Angle1   Angle2           : -54.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 105.00 / 105.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Results segment # 1: OgilvieRd A (day)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 44.39 + 0.00) = 44.39 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -40    -28   0.66  73.68   0.00 -16.10 -12.30   0.00  -0.88   0.00  44.39
-------------------------------------------------------------------------------

Segment Leq : 44.39 dBA

↟
Results segment # 2: OgilvieRd B (day)
-------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 31.42 + 0.00) = 31.42 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50    -40   0.66  73.68   0.00 -16.10 -13.55   0.00  -0.88   0.00  43.14
   -50    -40   0.00  73.68   0.00  -9.70 -12.55   0.00   0.00 -20.00  31.42
-------------------------------------------------------------------------------

Segment Leq : 31.42 dBA

↟
Results segment # 3: OgilvieRd C (day)
-------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 35.04 + 0.00) = 35.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -73    -50   0.66  73.68   0.00 -16.10 -11.10   0.00  -0.88   0.00  45.59
   -73    -50   0.00  73.68   0.00  -9.70  -8.94   0.00   0.00 -20.00  35.04
-------------------------------------------------------------------------------

Segment Leq : 35.04 dBA

↟
```

Results segment # 4: Cummings Ave (day)

Source height = 1.50 m

ROAD (0.00 + 48.77 + 0.00) = 48.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	0	0.66	68.48	0.00	-14.03	-5.68	0.00	0.00	0.00	48.77

Segment Leq : 48.77 dBA

Total Leq All Segments: 50.31 dBA

Results segment # 1: OgilvieRd A (night)

Source height = 1.50 m

ROAD (0.00 + 36.79 + 0.00) = 36.79 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-40	-28	0.66	66.08	0.00	-16.10	-12.30	0.00	-0.88	0.00	36.79

Segment Leq : 36.79 dBA

Results segment # 2: OgilvieRd B (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 23.83 + 0.00) = 23.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-50	-40	0.66	66.08	0.00	-16.10	-13.55	0.00	-0.88	0.00	35.54
-50	-40	0.00	66.08	0.00	-9.70	-12.55	0.00	0.00	-20.00	23.83

Segment Leq : 23.83 dBA

↟
Results segment # 3: OgilvieRd C (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 27.44 + 0.00) = 27.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	-50	0.66	66.08	0.00	-16.10	-11.10	0.00	-0.88	0.00	37.99
-73	-50	0.00	66.08	0.00	-9.70	-8.94	0.00	0.00	-20.00	27.44

Segment Leq : 27.44 dBA

↟
Results segment # 4: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 41.18 + 0.00) = 41.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	0	0.66	60.88	0.00	-14.03	-5.68	0.00	0.00	0.00	41.18

Segment Leq : 41.18 dBA

Total Leq All Segments: 42.72 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 50.31
(NIGHT): 42.72
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 10:51:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec11a.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-1(Before Building B Construction)

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -73.00 deg -28.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 140.00 / 140.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000

```
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
------------------------------------------------
Angle1   Angle2           : -54.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 105.00 / 105.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠉
Results segment # 1: Ogilvie Rd (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.26 + 0.00) = 49.26 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -73    -28   0.66  73.68   0.00 -16.10  -7.43   0.00  -0.88   0.00  49.26
-------------------------------------------------------------------------------

Segment Leq : 49.26 dBA

🠉
Results segment # 2: Cummings Ave (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.77 + 0.00) = 48.77 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -54      0   0.66  68.48   0.00 -14.03  -5.68   0.00   0.00   0.00  48.77
-------------------------------------------------------------------------------

Segment Leq : 48.77 dBA

Total Leq All Segments: 52.03 dBA

🠉
Results segment # 1: Ogilvie Rd (night)
-------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 41.66 + 0.00) = 41.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	-28	0.66	66.08	0.00	-16.10	-7.43	0.00	-0.88	0.00	41.66

Segment Leq : 41.66 dBA

Results segment # 2: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 41.18 + 0.00) = 41.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	0	0.66	60.88	0.00	-14.03	-5.68	0.00	0.00	0.00	41.18

Segment Leq : 41.18 dBA

Total Leq All Segments: 44.44 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.03
(NIGHT): 44.44

STAMSON 5.0 NORMAL REPORT Date: 08-11-2021 14:27:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec15.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 15

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -60.00 deg 4.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 135.00 / 135.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Ogilvie Rd (day)

Source height = 1.50 m

ROAD (0.00 + 51.93 + 0.00) = 51.93 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	4	0.66	73.68	0.00	-15.84	-5.02	0.00	-0.89	0.00	51.93

Segment Leq : 51.93 dBA

Total Leq All Segments: 51.93 dBA

↟

Results segment # 1: Ogilvie Rd (night)

Source height = 1.50 m

ROAD (0.00 + 44.34 + 0.00) = 44.34 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	4	0.66	66.08	0.00	-15.84	-5.02	0.00	-0.89	0.00	44.34

Segment Leq : 44.34 dBA

Total Leq All Segments: 44.34 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 51.93
(NIGHT): 44.34

↟

↟

STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 11:16:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec16B.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-6(After Building B Construction)

Road data, segment # 1: OgilvieRd A (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: OgilvieRd A (day/night)

Angle1 Angle2 : -40.00 deg -28.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 140.00 / 140.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: OgilvieRd B (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: OgilvieRd B (day/night)
-----------------------------------------------
Angle1   Angle2           : -50.00 deg   -40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 140.00 / 140.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -50.00 deg   Angle2 : -40.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: OgilvieRd C (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 # 3: OgilvieRd C (day/night)
-----------------------------------------------
Angle1   Angle2           : -73.00 deg   -50.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
```

```
Receiver source distance  : 140.00 / 140.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -73.00 deg   Angle2 : -50.00 deg
Barrier height            :  38.00 m
Barrier receiver distance :  40.00 / 40.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: Cummings Ave (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Cummings Ave (day/night)
-----------------------------------------------
Angle1   Angle2           : -54.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 105.00 / 105.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Results segment # 1: OgilvieRd A (day)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.44 + 0.00) = 49.44 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -40    -28   0.18  73.68   0.00 -11.45 -11.91   0.00  -0.88   0.00  49.44
-------------------------------------------------------------------------------

Segment Leq : 49.44 dBA

↟
Results segment # 2: OgilvieRd B (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 !       17.50 !       15.21 !        85.21

ROAD (0.00 + 38.97 + 0.00) = 38.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50    -40   0.18  73.68   0.00 -11.45 -12.83   0.00  -0.88   0.00  48.52
   -50    -40   0.00  73.68   0.00  -9.70 -12.55   0.00   0.00 -12.45  38.97
-------------------------------------------------------------------------------

Segment Leq : 38.97 dBA

↟
Results segment # 3: OgilvieRd C (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 !       17.50 !       12.93 !        82.93

ROAD (0.00 + 35.04 + 0.00) = 35.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -73    -50   0.18  73.68   0.00 -11.45  -9.54   0.00  -0.88   0.00  51.81
   -73    -50   0.00  73.68   0.00  -9.70  -8.94   0.00   0.00 -20.00  35.04
-------------------------------------------------------------------------------

Segment Leq : 35.04 dBA

↟
```

Results segment # 4: Cummings Ave (day)

Source height = 1.50 m

ROAD (0.00 + 53.15 + 0.00) = 53.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	0	0.18	68.48	0.00	-9.97	-5.36	0.00	0.00	0.00	53.15

Segment Leq : 53.15 dBA

Total Leq All Segments: 54.85 dBA

Results segment # 1: OgilvieRd A (night)

Source height = 1.50 m

ROAD (0.00 + 41.84 + 0.00) = 41.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-40	-28	0.18	66.08	0.00	-11.45	-11.91	0.00	-0.88	0.00	41.84

Segment Leq : 41.84 dBA

Results segment # 2: OgilvieRd B (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	15.21	85.21

ROAD (0.00 + 31.37 + 0.00) = 31.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-50	-40	0.18	66.08	0.00	-11.45	-12.83	0.00	-0.88	0.00	40.92
-50	-40	0.00	66.08	0.00	-9.70	-12.55	0.00	0.00	-12.45	31.37

Segment Leq : 31.37 dBA

↟
Results segment # 3: OgilvieRd C (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	12.93	82.93

ROAD (0.00 + 27.44 + 0.00) = 27.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	-50	0.18	66.08	0.00	-11.45	-9.54	0.00	-0.88	0.00	44.21
-73	-50	0.00	66.08	0.00	-9.70	-8.94	0.00	0.00	-20.00	27.44

Segment Leq : 27.44 dBA

↟
Results segment # 4: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 45.55 + 0.00) = 45.55 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	0	0.18	60.88	0.00	-9.97	-5.36	0.00	0.00	0.00	45.55

Segment Leq : 45.55 dBA

Total Leq All Segments: 47.25 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 54.85
(NIGHT): 47.25
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 10:54:21
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec16a.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-6(Before Building B Construction)

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -73.00 deg -28.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 140.00 / 140.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000

```
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
------------------------------------------------
Angle1   Angle2           : -54.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 105.00 / 105.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠝
Results segment # 1: Ogilvie Rd (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.92 + 0.00) = 54.92 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -73    -28   0.18  73.68   0.00 -11.45  -6.42   0.00  -0.88   0.00  54.92
-------------------------------------------------------------------------------

Segment Leq : 54.92 dBA

🠝
Results segment # 2: Cummings Ave (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.15 + 0.00) = 53.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -54      0   0.18  68.48   0.00  -9.97  -5.36   0.00   0.00   0.00  53.15
-------------------------------------------------------------------------------

Segment Leq : 53.15 dBA

Total Leq All Segments: 57.13 dBA

🠝
Results segment # 1: Ogilvie Rd (night)
---------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 47.33 + 0.00) = 47.33 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	-28	0.18	66.08	0.00	-11.45	-6.42	0.00	-0.88	0.00	47.33

Segment Leq : 47.33 dBA

↟
Results segment # 2: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 45.55 + 0.00) = 45.55 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-54	0	0.18	60.88	0.00	-9.97	-5.36	0.00	0.00	0.00	45.55

Segment Leq : 45.55 dBA

Total Leq All Segments: 49.54 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 57.13
(NIGHT): 49.54
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↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 16:09:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec21.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 2-1

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : -32.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 60.00 / 60.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332

```
    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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -38.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 425.00 / 425.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -32.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 450.00 / 450.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Road data, segment # 4: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Cummings Ave (day/night)

Angle1 Angle2 : -33.00 deg 39.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 85.00 / 85.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 47.20 + 0.00) = 47.20 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.66	65.75	0.00	-9.99	-7.65	0.00	-0.90	0.00	47.20

Segment Leq : 47.20 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 45.16 + 0.00) = 45.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-38	0	0.60	81.40	0.00	-23.24	-6.95	0.00	-6.05	0.00	45.16

Segment Leq : 45.16 dBA

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 44.10 + 0.00) = 44.10 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.60	81.40	0.00	-23.64	-7.64	0.00	-6.03	0.00	44.10

Segment Leq : 44.10 dBA

Results segment # 4: Cummings Ave (day)

Source height = 1.50 m

ROAD (0.00 + 51.80 + 0.00) = 51.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-33	39	0.66	68.48	0.00	-12.51	-4.18	0.00	0.00	0.00	51.80

Segment Leq : 51.80 dBA

Total Leq All Segments: 54.19 dBA

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 39.61 + 0.00) = 39.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.66	58.16	0.00	-9.99	-7.65	0.00	-0.90	0.00	39.61

Segment Leq : 39.61 dBA

↟
Results segment # 2: Hwy417 West (night)

Source height = 1.49 m

ROAD (0.00 + 37.56 + 0.00) = 37.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-38	0	0.60	73.80	0.00	-23.24	-6.95	0.00	-6.05	0.00	37.56

Segment Leq : 37.56 dBA

↟
Results segment # 3: Hwy417 East (night)

Source height = 1.49 m

ROAD (0.00 + 36.50 + 0.00) = 36.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.60	73.80	0.00	-23.64	-7.64	0.00	-6.03	0.00	36.50

Segment Leq : 36.50 dBA

↟
Results segment # 4: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 44.20 + 0.00) = 44.20 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-33	39	0.66	60.88	0.00	-12.51	-4.18	0.00	0.00	0.00	44.20

Segment Leq : 44.20 dBA

Total Leq All Segments: 46.59 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 54.19
(NIGHT): 46.59

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 16:11:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec26.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 2-6

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : -32.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 60.00 / 60.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332

```
    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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -38.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 425.00 / 425.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -32.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 450.00 / 450.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Road data, segment # 4: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Cummings Ave (day/night)

Angle1 Angle2 : -33.00 deg 39.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 85.00 / 85.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 50.20 + 0.00) = 50.20 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.18	65.75	0.00	-7.11	-7.54	0.00	-0.90	0.00	50.20

Segment Leq : 50.20 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 52.29 + 0.00) = 52.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-38	0	0.12	81.40	0.00	-16.27	-6.79	0.00	-6.05	0.00	52.29

Segment Leq : 52.29 dBA

↟

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 51.30 + 0.00) = 51.30 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.12	81.40	0.00	-16.55	-7.53	0.00	-6.03	0.00	51.30

Segment Leq : 51.30 dBA

↟

Results segment # 4: Cummings Ave (day)

Source height = 1.50 m

ROAD (0.00 + 55.56 + 0.00) = 55.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-33	39	0.18	68.48	0.00	-8.89	-4.03	0.00	0.00	0.00	55.56

Segment Leq : 55.56 dBA

Total Leq All Segments: 58.86 dBA

↟

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 42.61 + 0.00) = 42.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.18	58.16	0.00	-7.11	-7.54	0.00	-0.90	0.00	42.61

Segment Leq : 42.61 dBA

↟
Results segment # 2: Hwy417 West (night)

Source height = 1.49 m

ROAD (0.00 + 44.69 + 0.00) = 44.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-38	0	0.12	73.80	0.00	-16.27	-6.79	0.00	-6.05	0.00	44.69

Segment Leq : 44.69 dBA

↟
Results segment # 3: Hwy417 East (night)

Source height = 1.49 m

ROAD (0.00 + 43.70 + 0.00) = 43.70 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	0	0.12	73.80	0.00	-16.55	-7.53	0.00	-6.03	0.00	43.70

Segment Leq : 43.70 dBA

↟
Results segment # 4: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 47.96 + 0.00) = 47.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-33	39	0.18	60.88	0.00	-8.89	-4.03	0.00	0.00	0.00	47.96

Segment Leq : 47.96 dBA

Total Leq All Segments: 51.26 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.86
(NIGHT): 51.26

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:39:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec31.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 3-1

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : -82.00 deg 88.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332
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: Hwy417 West (day/night)
---------------------------------------------
Angle1   Angle2           : -77.00 deg   26.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 355.00 / 355.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 East (day/night)
---------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
---------------------------------------------
Angle1   Angle2           : -71.00 deg   22.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 380.00 / 380.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 64.24 + 0.00) = 64.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	88	0.66	65.75	0.00	0.00	-1.51	0.00	0.00	0.00	64.24

Segment Leq : 64.24 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 50.20 + 0.00) = 50.20 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	26	0.60	81.40	0.00	-21.99	-3.11	0.00	-6.10	0.00	50.20

Segment Leq : 50.20 dBA

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 49.41 + 0.00) = 49.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	22	0.60	81.40	0.00	-22.46	-3.44	0.00	-6.08	0.00	49.41

Segment Leq : 49.41 dBA

Total Leq All Segments: 64.54 dBA

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 56.65 + 0.00) = 56.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	88	0.66	58.16	0.00	0.00	-1.51	0.00	0.00	0.00	56.65

Segment Leq : 56.65 dBA

↟

Results segment # 2: Hwy417 West (night)

Source height = 1.49 m

ROAD (0.00 + 42.60 + 0.00) = 42.60 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	26	0.60	73.80	0.00	-21.99	-3.11	0.00	-6.10	0.00	42.60

Segment Leq : 42.60 dBA

↟

Results segment # 3: Hwy417 East (night)

Source height = 1.49 m

ROAD (0.00 + 41.81 + 0.00) = 41.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	22	0.60	73.80	0.00	-22.46	-3.44	0.00	-6.08	0.00	41.81

Segment Leq : 41.81 dBA

Total Leq All Segments: 56.95 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 64.54
(NIGHT): 56.95

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:42:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec36.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 3-6

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : -82.00 deg 88.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332
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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -77.00 deg   26.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 355.00 / 355.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -71.00 deg   22.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 380.00 / 380.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 65.10 + 0.00) = 65.10 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	88	0.18	65.75	0.00	0.00	-0.65	0.00	0.00	0.00	65.10

Segment Leq : 65.10 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 57.32 + 0.00) = 57.32 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	26	0.12	81.40	0.00	-15.39	-2.58	0.00	-6.10	0.00	57.32

Segment Leq : 57.32 dBA

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 56.60 + 0.00) = 56.60 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	22	0.12	81.40	0.00	-15.72	-2.99	0.00	-6.08	0.00	56.60

Segment Leq : 56.60 dBA

Total Leq All Segments: 66.27 dBA

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 57.51 + 0.00) = 57.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	88	0.18	58.16	0.00	0.00	-0.65	0.00	0.00	0.00	57.51

Segment Leq : 57.51 dBA

↟

Results segment # 2: Hwy417 West (night)

Source height = 1.49 m

ROAD (0.00 + 49.73 + 0.00) = 49.73 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	26	0.12	73.80	0.00	-15.39	-2.58	0.00	-6.10	0.00	49.73

Segment Leq : 49.73 dBA

↟

Results segment # 3: Hwy417 East (night)

Source height = 1.49 m

ROAD (0.00 + 49.00 + 0.00) = 49.00 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	22	0.12	73.80	0.00	-15.72	-2.99	0.00	-6.08	0.00	49.00

Segment Leq : 49.00 dBA

Total Leq All Segments: 58.67 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 66.27
(NIGHT): 58.67

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:44:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec41.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 4-1

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : -84.00 deg 89.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332
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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -79.00 deg   20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 395.00 / 395.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -74.00 deg   16.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 415.00 / 415.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 64.26 + 0.00) = 64.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-84	89	0.66	65.75	0.00	0.00	-1.49	0.00	0.00	0.00	64.26

Segment Leq : 64.26 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 49.24 + 0.00) = 49.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-79	20	0.60	81.40	0.00	-22.73	-3.36	0.00	-6.07	0.00	49.24

Segment Leq : 49.24 dBA

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 48.59 + 0.00) = 48.59 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	16	0.60	81.40	0.00	-23.07	-3.68	0.00	-6.05	0.00	48.59

Segment Leq : 48.59 dBA

Total Leq All Segments: 64.51 dBA

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 56.67 + 0.00) = 56.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-84	89	0.66	58.16	0.00	0.00	-1.49	0.00	0.00	0.00	56.67

Segment Leq : 56.67 dBA

↟

Results segment # 2: Hwy417 West (night)

Source height = 1.49 m

ROAD (0.00 + 41.64 + 0.00) = 41.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-79	20	0.60	73.80	0.00	-22.73	-3.36	0.00	-6.07	0.00	41.64

Segment Leq : 41.64 dBA

↟

Results segment # 3: Hwy417 East (night)

Source height = 1.49 m

ROAD (0.00 + 40.99 + 0.00) = 40.99 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	16	0.60	73.80	0.00	-23.07	-3.68	0.00	-6.05	0.00	40.99

Segment Leq : 40.99 dBA

Total Leq All Segments: 56.92 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 64.51
(NIGHT): 56.92

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↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:45:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec46.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 4-6

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : -84.00 deg 89.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332
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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -79.00 deg   20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 395.00 / 395.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -74.00 deg   16.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 415.00 / 415.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 65.16 + 0.00) = 65.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-84	89	0.18	65.75	0.00	0.00	-0.59	0.00	0.00	0.00	65.16

Segment Leq : 65.16 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 56.65 + 0.00) = 56.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-79	20	0.12	81.40	0.00	-15.91	-2.77	0.00	-6.07	0.00	56.65

Segment Leq : 56.65 dBA

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 56.03 + 0.00) = 56.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	16	0.12	81.40	0.00	-16.15	-3.16	0.00	-6.05	0.00	56.03

Segment Leq : 56.03 dBA

Total Leq All Segments: 66.17 dBA

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 57.56 + 0.00) = 57.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-84	89	0.18	58.16	0.00	0.00	-0.59	0.00	0.00	0.00	57.56

Segment Leq : 57.56 dBA

↟

Results segment # 2: Hwy417 West (night)

Source height = 1.49 m

ROAD (0.00 + 49.05 + 0.00) = 49.05 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-79	20	0.12	73.80	0.00	-15.91	-2.77	0.00	-6.07	0.00	49.05

Segment Leq : 49.05 dBA

↟

Results segment # 3: Hwy417 East (night)

Source height = 1.49 m

ROAD (0.00 + 48.43 + 0.00) = 48.43 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	16	0.12	73.80	0.00	-16.15	-3.16	0.00	-6.05	0.00	48.43

Segment Leq : 48.43 dBA

Total Leq All Segments: 58.57 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 66.17
(NIGHT): 58.57

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:48:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec51.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 5-1

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 35.00 / 35.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332

```
    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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   37.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 440.00 / 440.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   33.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 455.00 / 455.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Road data, segment # 4: Ogilvie Rd (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 # 4: Ogilvie Rd (day/night)

Angle1 Angle2 : -39.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 125.00 / 125.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 54.27 + 0.00) = 54.27 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.66	65.75	0.00	-6.11	-4.47	0.00	-0.90	0.00	54.27

Segment Leq : 54.27 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 44.83 + 0.00) = 44.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	37	0.60	81.40	0.00	-23.48	-7.06	0.00	-6.03	0.00	44.83

Segment Leq : 44.83 dBA

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 44.15 + 0.00) = 44.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	33	0.60	81.40	0.00	-23.71	-7.51	0.00	-6.02	0.00	44.15

Segment Leq : 44.15 dBA

Results segment # 4: Ogilvie Rd (day)

Source height = 1.50 m

ROAD (0.00 + 50.63 + 0.00) = 50.63 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-39	0	0.66	73.68	0.00	-15.29	-6.87	0.00	-0.90	0.00	50.63

Segment Leq : 50.63 dBA

Total Leq All Segments: 56.43 dBA

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 46.68 + 0.00) = 46.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.66	58.16	0.00	-6.11	-4.47	0.00	-0.90	0.00	46.68

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

Segment Leq : 46.68 dBA

🠉
Results segment # 2: Hwy417 West (night)
----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 37.23 + 0.00) = 37.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     37   0.60  73.80   0.00 -23.48  -7.06   0.00  -6.03   0.00  37.23
--------------------------------------------------------------------------------

Segment Leq : 37.23 dBA

🠉
Results segment # 3: Hwy417 East (night)
----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 36.55 + 0.00) = 36.55 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     33   0.60  73.80   0.00 -23.71  -7.51   0.00  -6.02   0.00  36.55
--------------------------------------------------------------------------------

Segment Leq : 36.55 dBA

🠉
Results segment # 4: Ogilvie Rd (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 43.03 + 0.00) = 43.03 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
   -39      0   0.66  66.08   0.00 -15.29  -6.87   0.00  -0.90   0.00  43.03
--------------------------------------------------------------------------------

Segment Leq : 43.03 dBA

Total Leq All Segments: 48.83 dBA

🠉
```

TOTAL Leq FROM ALL SOURCES (DAY): 56.43
(NIGHT): 48.83

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:50:34
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec56.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 5-6

Road data, segment # 1: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 35.00 / 35.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332

```
    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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   37.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 440.00 / 440.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 East (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   33.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 455.00 / 455.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Road data, segment # 4: Ogilvie Rd (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 # 4: Ogilvie Rd (day/night)

Angle1 Angle2 : -39.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 125.00 / 125.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 57.01 + 0.00) = 57.01 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.18	65.75	0.00	-4.34	-3.50	0.00	-0.90	0.00	57.01

Segment Leq : 57.01 dBA

Results segment # 2: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 52.02 + 0.00) = 52.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	37	0.12	81.40	0.00	-16.44	-6.91	0.00	-6.03	0.00	52.02

Segment Leq : 52.02 dBA

Results segment # 3: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 51.38 + 0.00) = 51.38 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	33	0.12	81.40	0.00	-16.60	-7.40	0.00	-6.02	0.00	51.38

Segment Leq : 51.38 dBA

Results segment # 4: Ogilvie Rd (day)

Source height = 1.50 m

ROAD (0.00 + 55.21 + 0.00) = 55.21 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-39	0	0.18	73.68	0.00	-10.87	-6.71	0.00	-0.90	0.00	55.21

Segment Leq : 55.21 dBA

Total Leq All Segments: 60.53 dBA

Results segment # 1: Cyrville Rd (night)

Source height = 1.50 m

ROAD (0.00 + 49.41 + 0.00) = 49.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.18	58.16	0.00	-4.34	-3.50	0.00	-0.90	0.00	49.41

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

Segment Leq : 49.41 dBA

🠉
Results segment # 2: Hwy417 West (night)
----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 44.42 + 0.00) = 44.42 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     37   0.12  73.80   0.00 -16.44  -6.91   0.00  -6.03   0.00  44.42
--------------------------------------------------------------------------------

Segment Leq : 44.42 dBA

🠉
Results segment # 3: Hwy417 East (night)
----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 43.78 + 0.00) = 43.78 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     33   0.12  73.80   0.00 -16.60  -7.40   0.00  -6.02   0.00  43.78
--------------------------------------------------------------------------------

Segment Leq : 43.78 dBA

🠉
Results segment # 4: Ogilvie Rd (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.61 + 0.00) = 47.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
   -39      0   0.18  66.08   0.00 -10.87  -6.71   0.00  -0.90   0.00  47.61
--------------------------------------------------------------------------------

Segment Leq : 47.61 dBA

Total Leq All Segments: 52.93 dBA

🠉
```

TOTAL Leq FROM ALL SOURCES (DAY): 60.53
(NIGHT): 52.93

STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 11:17:52
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec61B.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 6-1(After Building B Construction)

Road data, segment # 1: OgilvieRd A (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: OgilvieRd A (day/night)

Angle1 Angle2 : -27.00 deg 15.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 120.00 / 120.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -27.00 deg Angle2 : 15.00 deg
Barrier height : 38.00 m
Barrier receiver distance : 15.00 / 15.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

↑
Road data, segment # 2: OgilvieRd B (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: OgilvieRd B (day/night)
--------------------------------------------
Angle1   Angle2           : -49.00 deg   -27.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 120.00 / 120.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

↟
Road data, segment # 3: CummingsAveA (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: CummingsAveA (day/night)
---------------------------------------------
Angle1   Angle2           :  -3.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 150.00 / 150.00 m
```

```
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: CummingsAveB (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: CummingsAveB (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   -3.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 150.00 / 150.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : -3.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  30.00 / 30.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Results segment # 1: OgilvieRd A (day)
--------------------------------------

Source height = 1.50 m

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

```
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 38.32 + 0.00) = 38.32 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27     15   0.66  73.68   0.00 -14.99  -6.40   0.00  -0.90   0.00  51.38
   -27     15   0.00  73.68   0.00  -9.03  -6.32   0.00   0.00 -20.00  38.32
-------------------------------------------------------------------------------

Segment Leq : 38.32 dBA

↟
Results segment # 2: OgilvieRd B (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.95 + 0.00) = 47.95 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -49    -27   0.66  73.68   0.00 -14.99  -9.83   0.00  -0.90   0.00  47.95
-------------------------------------------------------------------------------

Segment Leq : 47.95 dBA

↟
Results segment # 3: CummingsAveA (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 34.10 + 0.00) = 34.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -3      0   0.66  68.48   0.00 -16.60 -17.78   0.00   0.00   0.00  34.10
-------------------------------------------------------------------------------

Segment Leq : 34.10 dBA

↟
Results segment # 4: CummingsAveB (day)
---------------------------------------

Source height = 1.50 m

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

```
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 28.23 + 0.00) = 28.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     -3   0.00  68.48   0.00 -10.00 -10.25   0.00   0.00 -20.00  28.23
-------------------------------------------------------------------------------

Segment Leq : 28.23 dBA

Total Leq All Segments: 48.60 dBA

↟
Results segment # 1: OgilvieRd A (night)
----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 30.73 + 0.00) = 30.73 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27     15   0.66  66.08   0.00 -14.99  -6.40   0.00  -0.90   0.00  43.79
   -27     15   0.00  66.08   0.00  -9.03  -6.32   0.00   0.00 -20.00  30.73
-------------------------------------------------------------------------------

Segment Leq : 30.73 dBA

↟
Results segment # 2: OgilvieRd B (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 40.36 + 0.00) = 40.36 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -49    -27   0.66  66.08   0.00 -14.99  -9.83   0.00  -0.90   0.00  40.36
-------------------------------------------------------------------------------

Segment Leq : 40.36 dBA

↟
```

```
Results segment # 3: CummingsAveA (night)
------------------------------------------

Source height = 1.50 m

ROAD (0.00 + 26.50 + 0.00) = 26.50 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -3      0   0.66  60.88   0.00 -16.60 -17.78   0.00   0.00   0.00  26.50
-------------------------------------------------------------------------------

Segment Leq : 26.50 dBA

↟
Results segment # 4: CummingsAveB (night)
------------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 20.64 + 0.00) = 20.64 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     -3   0.00  60.88   0.00 -10.00 -10.25   0.00   0.00 -20.00  20.64
-------------------------------------------------------------------------------

Segment Leq : 20.64 dBA

Total Leq All Segments: 41.01 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 48.60
                          (NIGHT): 41.01
↟
↟
```

STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 11:05:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec61a.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 6-1(Before Building B Construction)

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -49.00 deg 15.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 120.00 / 120.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000

```
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
------------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 150.00 / 150.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠉
Results segment # 1: Ogilvie Rd (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.01 + 0.00) = 53.01 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -49     15   0.66  73.68   0.00 -14.99  -4.78   0.00  -0.90   0.00  53.01
-------------------------------------------------------------------------------

Segment Leq : 53.01 dBA

🠉
Results segment # 2: Cummings Ave (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 42.28 + 0.00) = 42.28 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20      0   0.66  68.48   0.00 -16.60  -9.60   0.00   0.00   0.00  42.28
-------------------------------------------------------------------------------

Segment Leq : 42.28 dBA

Total Leq All Segments: 53.36 dBA

🠉
Results segment # 1: Ogilvie Rd (night)
-------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 45.41 + 0.00) = 45.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	15	0.66	66.08	0.00	-14.99	-4.78	0.00	-0.90	0.00	45.41

Segment Leq : 45.41 dBA

↟

Results segment # 2: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 34.68 + 0.00) = 34.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	0	0.66	60.88	0.00	-16.60	-9.60	0.00	0.00	0.00	34.68

Segment Leq : 34.68 dBA

Total Leq All Segments: 45.76 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 53.36
(NIGHT): 45.76

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STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 11:19:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec66B.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 6-6(After Building B Construction)

Road data, segment # 1: OgilvieRd A (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: OgilvieRd A (day/night)

Angle1 Angle2 : -27.00 deg 15.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 120.00 / 120.00 m
Receiver height : 17.50 / 17.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -27.00 deg Angle2 : 15.00 deg
Barrier height : 38.00 m
Barrier receiver distance : 15.00 / 15.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

Road data, segment # 2: OgilvieRd B (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: OgilvieRd B (day/night)
--------------------------------------------
Angle1   Angle2           : -49.00 deg   -27.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 120.00 / 120.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

↟
Road data, segment # 3: CummingsAveA (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: CummingsAveA (day/night)
---------------------------------------------
Angle1   Angle2           :  -3.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 150.00 / 150.00 m
```

```
Receiver height           :  17.50 / 17.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: CummingsAveB (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: CummingsAveB (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   -3.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 150.00 / 150.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : -3.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  30.00 / 30.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Results segment # 1: OgilvieRd A (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 !       17.50 !       15.50 !        85.50

ROAD (0.00 + 38.32 + 0.00) = 38.32 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27     15   0.18  73.68   0.00 -10.66  -6.34   0.00  -0.90   0.00  55.78
   -27     15   0.00  73.68   0.00  -9.03  -6.32   0.00   0.00 -20.00  38.32
-------------------------------------------------------------------------------

Segment Leq : 38.32 dBA

↟
Results segment # 2: OgilvieRd B (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.80 + 0.00) = 52.80 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -49    -27   0.18  73.68   0.00 -10.66  -9.32   0.00  -0.90   0.00  52.80
-------------------------------------------------------------------------------

Segment Leq : 52.80 dBA

↟
Results segment # 3: CummingsAveA (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 38.90 + 0.00) = 38.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -3      0   0.18  68.48   0.00 -11.80 -17.78   0.00   0.00   0.00  38.90
-------------------------------------------------------------------------------

Segment Leq : 38.90 dBA

↟
Results segment # 4: CummingsAveB (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 !       17.50 !       14.30 !        84.30

ROAD (0.00 + 34.06 + 0.00) = 34.06 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20     -3   0.00  68.48   0.00 -10.00 -10.25   0.00   0.00 -14.17  34.06
-------------------------------------------------------------------------------

Segment Leq : 34.06 dBA

Total Leq All Segments: 53.17 dBA

↟
Results segment # 1: OgilvieRd A (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 !       17.50 !       15.50 !        85.50

ROAD (0.00 + 30.73 + 0.00) = 30.73 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27     15   0.18  66.08   0.00 -10.66  -6.34   0.00  -0.90   0.00  48.18
   -27     15   0.00  66.08   0.00  -9.03  -6.32   0.00   0.00 -20.00  30.73
-------------------------------------------------------------------------------

Segment Leq : 30.73 dBA

↟
Results segment # 2: OgilvieRd B (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 45.20 + 0.00) = 45.20 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -49    -27   0.18  66.08   0.00 -10.66  -9.32   0.00  -0.90   0.00  45.20
-------------------------------------------------------------------------------

Segment Leq : 45.20 dBA

↟
```

Results segment # 3: CummingsAveA (night)

Source height = 1.50 m

ROAD (0.00 + 31.30 + 0.00) = 31.30 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-3	0	0.18	60.88	0.00	-11.80	-17.78	0.00	0.00	0.00	31.30

Segment Leq : 31.30 dBA

↟

Results segment # 4: CummingsAveB (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	14.30	84.30

ROAD (0.00 + 26.46 + 0.00) = 26.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-3	0.00	60.88	0.00	-10.00	-10.25	0.00	0.00	-14.17	26.46

Segment Leq : 26.46 dBA

Total Leq All Segments: 45.57 dBA

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TOTAL Leq FROM ALL SOURCES (DAY): 53.17
(NIGHT): 45.57

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 05-11-2021 11:08:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec66a.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 6-6(Before Building B Construction)

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -49.00 deg 15.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 120.00 / 120.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000

```
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
------------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 150.00 / 150.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠝
Results segment # 1: Ogilvie Rd (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 57.55 + 0.00) = 57.55 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -49     15   0.18  73.68   0.00 -10.66  -4.57   0.00  -0.90   0.00  57.55
-------------------------------------------------------------------------------

Segment Leq : 57.55 dBA

🠝
Results segment # 2: Cummings Ave (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.12 + 0.00) = 47.12 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20      0   0.18  68.48   0.00 -11.80  -9.56   0.00   0.00   0.00  47.12
-------------------------------------------------------------------------------

Segment Leq : 47.12 dBA

Total Leq All Segments: 57.93 dBA

🠝
Results segment # 1: Ogilvie Rd (night)
-------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 49.95 + 0.00) = 49.95 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	15	0.18	66.08	0.00	-10.66	-4.57	0.00	-0.90	0.00	49.95

Segment Leq : 49.95 dBA

Results segment # 2: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 39.52 + 0.00) = 39.52 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	0	0.18	60.88	0.00	-11.80	-9.56	0.00	0.00	0.00	39.52

Segment Leq : 39.52 dBA

Total Leq All Segments: 50.33 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.93
(NIGHT): 50.33

STAMSON 5.0 NORMAL REPORT Date: 18-11-2021 14:22:03
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: steph.te Time Period: Day/Night 16/8 hours
Description: Reception Point 7

Road data, segment # 1: Ogilvie (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: Ogilvie (day/night)

Angle1 Angle2 : -43.00 deg -13.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 170.00 / 170.00 m
Receiver height : 17.50 / 17.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -43.00 deg Angle2 : -13.00 deg
Barrier height : 16.00 m
Barrier receiver distance : 5.00 / 5.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

Road data, segment # 2: Cyrville (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 : 50 km/h

```
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: Cyrville (day/night)
-----------------------------------------
Angle1   Angle2           : -43.00 deg   41.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -43.00 deg   Angle2 : 41.00 deg
Barrier height            :  16.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: HWY 417E (day/night)
-------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: HWY 417E (day/night)
-----------------------------------------
```

```
Angle1   Angle2           : -43.00 deg   18.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 420.00 / 420.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -43.00 deg   Angle2 : 18.00 deg
Barrier height            :  16.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↑

```
Road data, segment # 4: HWY 417W (day/night)
-------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: HWY 417W (day/night)
-----------------------------------------
Angle1   Angle2           : -43.00 deg   22.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 390.00 / 390.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -43.00 deg   Angle2 : 22.00 deg
Barrier height            :  16.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
```

Barrier elevation   : 70.00 m
Reference angle   :   0.00

🡅
Results segment # 1: Ogilvie (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.03	87.03

ROAD (0.00 + 52.48 + 0.00) = 52.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	-13	0.18	73.68	0.00	-12.44	-7.89	0.00	-0.86	0.00	52.48
-43	-13	0.00	73.68	0.00	-10.54	-7.78	0.00	0.00	0.00	55.35*
-43	-13	0.18	73.68	0.00	-12.44	-7.89	0.00	0.00	0.00	53.34

 * Bright Zone !

Segment Leq : 52.48 dBA

🡅
Results segment # 2: Cyrville (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	13.50	83.50

ROAD (0.00 + 47.20 + 0.00) = 47.20 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	41	0.00	65.75	0.00	-1.25	-3.31	0.00	0.00	-13.99	47.20

Segment Leq : 47.20 dBA

🡅

Results segment # 3: HWY 417E (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.31	87.31

ROAD (0.00 + 53.51 + 0.00) = 53.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	18	0.18	81.40	0.00	-17.08	-4.76	0.00	-6.05	0.00	53.51
-43	18	0.00	81.40	0.00	-14.47	-4.70	0.00	0.00	0.00	62.23*
-43	18	0.18	81.40	0.00	-17.08	-4.76	0.00	0.00	0.00	59.56

* Bright Zone !

Segment Leq : 53.51 dBA

Results segment # 4: HWY 417W (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.29	87.29

ROAD (0.00 + 54.14 + 0.00) = 54.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	22	0.18	81.40	0.00	-16.70	-4.48	0.00	-6.07	0.00	54.14
-43	22	0.00	81.40	0.00	-14.15	-4.42	0.00	0.00	0.00	62.82*
-43	22	0.18	81.40	0.00	-16.70	-4.48	0.00	0.00	0.00	60.22

* Bright Zone !

Segment Leq : 54.14 dBA

Total Leq All Segments: 58.53 dBA

Results segment # 1: Ogilvie (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.03	87.03

ROAD (0.00 + 44.89 + 0.00) = 44.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	-13	0.18	66.08	0.00	-12.44	-7.89	0.00	-0.86	0.00	44.89
-43	-13	0.00	66.08	0.00	-10.54	-7.78	0.00	0.00	0.00	47.75*
-43	-13	0.18	66.08	0.00	-12.44	-7.89	0.00	0.00	0.00	45.75

* Bright Zone !

Segment Leq : 44.89 dBA

Results segment # 2: Cyrville (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	13.50	83.50

ROAD (0.00 + 39.61 + 0.00) = 39.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	41	0.00	58.16	0.00	-1.25	-3.31	0.00	0.00	-13.99	39.61

Segment Leq : 39.61 dBA

Results segment # 3: HWY 417E (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	17.50	17.31	87.31

ROAD (0.00 + 45.91 + 0.00) = 45.91 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	18	0.18	73.80	0.00	-17.08	-4.76	0.00	-6.05	0.00	45.91
-43	18	0.00	73.80	0.00	-14.47	-4.70	0.00	0.00	0.00	54.63*
-43	18	0.18	73.80	0.00	-17.08	-4.76	0.00	0.00	0.00	51.96

* Bright Zone !

Segment Leq : 45.91 dBA

Results segment # 4: HWY 417W (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	17.50	17.29	87.29

ROAD (0.00 + 46.54 + 0.00) = 46.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	22	0.18	73.80	0.00	-16.70	-4.48	0.00	-6.07	0.00	46.54
-43	22	0.00	73.80	0.00	-14.15	-4.42	0.00	0.00	0.00	55.23*
-43	22	0.18	73.80	0.00	-16.70	-4.48	0.00	0.00	0.00	52.62

* Bright Zone !

Segment Leq : 46.54 dBA

Total Leq All Segments: 50.94 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 58.53
(NIGHT): 50.94

STAMSON 5.0 NORMAL REPORT Date: 18-11-2021 21:21:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: REC7R.te Time Period: Day/Night 16/8 hours
Description: Reception Point 7 with barrier

Road data, segment # 1: Ogilvie (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: Ogilvie (day/night)

Angle1 Angle2 : -43.00 deg -13.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 170.00 / 170.00 m
Receiver height : 17.50 / 17.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -43.00 deg Angle2 : -13.00 deg
Barrier height : 17.00 m
Barrier receiver distance : 5.00 / 5.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

Road data, segment # 2: Cyrville (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 : 50 km/h

```
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: Cyrville (day/night)
-----------------------------------------
Angle1   Angle2           : -43.00 deg   41.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  20.00 / 20.00  m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -43.00 deg   Angle2 : 41.00 deg
Barrier height            :  17.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: HWY 417E (day/night)
-------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: HWY 417E (day/night)
-----------------------------------------
```

```
Angle1   Angle2           : -43.00 deg   18.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 420.00 / 420.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -43.00 deg   Angle2 : 18.00 deg
Barrier height            :  17.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: HWY 417W (day/night)
-------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: HWY 417W (day/night)
-------------------------------------------
Angle1   Angle2           : -43.00 deg   22.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 390.00 / 390.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -43.00 deg   Angle2 : 22.00 deg
Barrier height            :  17.00 m
Barrier receiver distance :   5.00 / 5.00   m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
```

Barrier elevation   : 70.00 m
Reference angle   :   0.00

↟
Results segment # 1: Ogilvie (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.03	87.03

ROAD (0.00 + 52.48 + 0.00) = 52.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	-13	0.18	73.68	0.00	-12.44	-7.89	0.00	-0.86	0.00	52.48
-43	-13	0.00	73.68	0.00	-10.54	-7.78	0.00	0.00	-5.00	50.35*
-43	-13	0.18	73.68	0.00	-12.44	-7.89	0.00	0.00	0.00	53.34

 * Bright Zone !

Segment Leq : 52.48 dBA

↟
Results segment # 2: Cyrville (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	13.50	83.50

ROAD (0.00 + 44.06 + 0.00) = 44.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	41	0.00	65.75	0.00	-1.25	-3.31	0.00	0.00	-17.13	44.06

Segment Leq : 44.06 dBA

↟

Results segment # 3: HWY 417E (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.31	87.31

ROAD (0.00 + 53.51 + 0.00) = 53.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	18	0.18	81.40	0.00	-17.08	-4.76	0.00	-6.05	0.00	53.51
-43	18	0.00	81.40	0.00	-14.47	-4.70	0.00	0.00	-4.51	57.72*
-43	18	0.18	81.40	0.00	-17.08	-4.76	0.00	0.00	0.00	59.56

* Bright Zone !

Segment Leq : 53.51 dBA

Results segment # 4: HWY 417W (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.29	87.29

ROAD (0.00 + 54.14 + 0.00) = 54.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	22	0.18	81.40	0.00	-16.70	-4.48	0.00	-6.07	0.00	54.14
-43	22	0.00	81.40	0.00	-14.15	-4.42	0.00	0.00	-4.55	58.27*
-43	22	0.18	81.40	0.00	-16.70	-4.48	0.00	0.00	0.00	60.22

* Bright Zone !

Segment Leq : 54.14 dBA

Total Leq All Segments: 58.37 dBA

Results segment # 1: Ogilvie (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.03	87.03

ROAD (0.00 + 44.89 + 0.00) = 44.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	-13	0.18	66.08	0.00	-12.44	-7.89	0.00	-0.86	0.00	44.89
-43	-13	0.00	66.08	0.00	-10.54	-7.78	0.00	0.00	-5.00	42.76*
-43	-13	0.18	66.08	0.00	-12.44	-7.89	0.00	0.00	0.00	45.75

* Bright Zone !

Segment Leq : 44.89 dBA

Results segment # 2: Cyrville (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	13.50	83.50

ROAD (0.00 + 36.47 + 0.00) = 36.47 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	41	0.00	58.16	0.00	-1.25	-3.31	0.00	0.00	-17.13	36.47

Segment Leq : 36.47 dBA

Results segment # 3: HWY 417E (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	17.50	17.31	87.31

ROAD (0.00 + 45.91 + 0.00) = 45.91 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	18	0.18	73.80	0.00	-17.08	-4.76	0.00	-6.05	0.00	45.91
-43	18	0.00	73.80	0.00	-14.47	-4.70	0.00	0.00	-4.50	50.12*
-43	18	0.18	73.80	0.00	-17.08	-4.76	0.00	0.00	0.00	51.96

* Bright Zone !

Segment Leq : 45.91 dBA

Results segment # 4: HWY 417W (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	17.50	17.29	87.29

ROAD (0.00 + 46.54 + 0.00) = 46.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-43	22	0.18	73.80	0.00	-16.70	-4.48	0.00	-6.07	0.00	46.54
-43	22	0.00	73.80	0.00	-14.15	-4.42	0.00	0.00	-4.55	50.67*
-43	22	0.18	73.80	0.00	-16.70	-4.48	0.00	0.00	0.00	52.62

* Bright Zone !

Segment Leq : 46.54 dBA

Total Leq All Segments: 50.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 58.37
(NIGHT): 50.77

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 15:37:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec14.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 14

Road data, segment # 1: Ogilvie Rd A (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: Ogilvie Rd A (day/night)

Angle1 Angle2 : 0.00 deg 16.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 115.00 / 115.00 m
Receiver height : 20.50 / 20.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 0.00 deg Angle2 : 16.00 deg
Barrier height : 19.00 m
Barrier receiver distance : 20.00 / 20.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

↑
Road data, segment # 2: Ogilvie Rd B (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: Ogilvie Rd B (day/night)
-----------------------------------------------
Angle1   Angle2           : -53.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 115.00 / 115.00 m
Receiver height           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -53.00 deg   Angle2 : 0.00 deg
Barrier height            :  38.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: Cummings Ave (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Cummings Ave (day/night)
-----------------------------------------------
```

```
Angle1   Angle2           :  -9.00 deg   47.00 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           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -9.00 deg   Angle2 : 47.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: CyrvilleRd A (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 4: CyrvilleRd A (day/night)
---------------------------------------------
Angle1   Angle2           : -30.00 deg   88.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  80.00 / 80.00  m
Receiver height           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -30.00 deg   Angle2 : 88.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

Road data, segment # 5: CyrvilleRd B (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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 # 5: CyrvilleRd B (day/night)

Angle1 Angle2 : 88.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 80.00 / 80.00 m
Receiver height : 20.50 / 20.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 88.00 deg Angle2 : 90.00 deg
Barrier height : 19.00 m
Barrier receiver distance : 10.00 / 10.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

Road data, segment # 6: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

```
    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 6: Hwy417 West (day/night)
---------------------------------------------
Angle1   Angle2           : -38.00 deg   52.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 445.00 / 445.00 m
Receiver height           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -38.00 deg   Angle2 : 52.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 7: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 7: Hwy417 East (day/night)
---------------------------------------------
Angle1   Angle2           : -34.00 deg   48.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
```

```
Surface                    :      1       (Absorptive ground surface)
Receiver source distance   : 465.00 / 465.00 m
Receiver height            :  20.50 / 20.50  m
Topography                 :      2       (Flat/gentle slope; with barrier)
Barrier angle1             : -34.00 deg   Angle2 : 48.00 deg
Barrier height             :  19.00 m
Barrier receiver distance  :  20.00 / 20.00  m
Source elevation           :  72.00 m
Receiver elevation         :  70.00 m
Barrier elevation          :  70.00 m
Reference angle            :   0.00
```

↟

```
Results segment # 1: Ogilvie Rd A (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       17.19 !        87.19

ROAD (0.00 + 45.69 + 0.00) = 45.69 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     16   0.00  73.68   0.00  -8.85 -10.51   0.00   0.00  -8.63  45.69
-------------------------------------------------------------------------------

Segment Leq : 45.69 dBA
```

↟

```
Results segment # 2: Ogilvie Rd B (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       17.19 !        87.19

ROAD (0.00 + 39.52 + 0.00) = 39.52 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -53      0   0.09  73.68   0.00  -9.64  -5.37   0.00  -0.90   0.00  57.76
```

```
   -53      0   0.00  73.68   0.00  -8.85  -5.31   0.00   0.00 -20.00  39.52
-------------------------------------------------------------------------------

Segment Leq : 39.52 dBA

↟
Results segment # 3: Cummings Ave (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       18.92 !        88.92

ROAD (0.00 + 49.36 + 0.00) = 49.36 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -9     47   0.00  68.48   0.00  -9.03  -5.07   0.00   0.00  -5.02  49.36
-------------------------------------------------------------------------------

Segment Leq : 49.36 dBA

↟
Results segment # 4: CyrvilleRd A (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       15.75 !        85.75

ROAD (0.00 + 45.75 + 0.00) = 45.75 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -30     88   0.00  65.75   0.00  -7.27  -1.83   0.00   0.00 -10.89  45.75
-------------------------------------------------------------------------------

Segment Leq : 45.75 dBA

↟
Results segment # 5: CyrvilleRd B (day)
---------------------------------------
```

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	20.50	18.12	88.12

ROAD (0.00 + 33.90 + 0.00) = 33.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
88	90	0.09	65.75	0.00	-7.93	-21.23	0.00	-0.90	0.00	35.69
88	90	0.00	65.75	0.00	-7.27	-19.54	0.00	0.00	-5.04	33.90

Segment Leq : 33.90 dBA

Results segment # 6: Hwy417 West (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	20.50	19.74	89.74

ROAD (0.00 + 56.26 + 0.00) = 56.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-38	52	0.09	81.40	0.00	-16.05	-3.06	0.00	-6.03	0.00	56.26
-38	52	0.00	81.40	0.00	-14.72	-3.01	0.00	0.00	-4.29	59.37*
-38	52	0.09	81.40	0.00	-16.05	-3.06	0.00	0.00	0.00	62.29

* Bright Zone !

Segment Leq : 56.26 dBA

Results segment # 7: Hwy417 East (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	20.50	19.77	89.77

ROAD (0.00 + 55.67 + 0.00) = 55.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-34	48	0.09	81.40	0.00	-16.26	-3.45	0.00	-6.01	0.00	55.67
-34	48	0.00	81.40	0.00	-14.91	-3.41	0.00	0.00	-4.21	58.86*
-34	48	0.09	81.40	0.00	-16.26	-3.45	0.00	0.00	0.00	61.69

* Bright Zone !

Segment Leq : 55.67 dBA

Total Leq All Segments: 59.84 dBA

Results segment # 1: Ogilvie Rd A (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	20.50	17.19	87.19

ROAD (0.00 + 38.09 + 0.00) = 38.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	16	0.00	66.08	0.00	-8.85	-10.51	0.00	0.00	-8.63	38.09

Segment Leq : 38.09 dBA

Results segment # 2: Ogilvie Rd B (night)

Source height = 1.50 m

Barrier height for grazing incidence

```
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       17.19 !        87.19

ROAD (0.00 + 31.92 + 0.00) = 31.92 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -53      0   0.09  66.08   0.00  -9.64  -5.37   0.00  -0.90   0.00  50.16
   -53      0   0.00  66.08   0.00  -8.85  -5.31   0.00   0.00 -20.00  31.92
-------------------------------------------------------------------------------

Segment Leq : 31.92 dBA

🠉
Results segment # 3: Cummings Ave (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       18.92 !        88.92

ROAD (0.00 + 41.76 + 0.00) = 41.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -9     47   0.00  60.88   0.00  -9.03  -5.07   0.00   0.00  -5.02  41.76
-------------------------------------------------------------------------------

Segment Leq : 41.76 dBA

🠉
Results segment # 4: CyrvilleRd A (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       15.75 !        85.75

ROAD (0.00 + 38.16 + 0.00) = 38.16 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
```

```
-------------------------------------------------------------------------------
   -30     88   0.00  58.16   0.00  -7.27  -1.83   0.00   0.00 -10.89  38.16
-------------------------------------------------------------------------------

Segment Leq : 38.16 dBA

🠉
Results segment # 5: CyrvilleRd B (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       18.12 !        88.12

ROAD (0.00 + 26.31 + 0.00) = 26.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    88     90   0.09  58.16   0.00  -7.93 -21.23   0.00  -0.90   0.00  28.10
    88     90   0.00  58.16   0.00  -7.27 -19.54   0.00   0.00  -5.04  26.31
-------------------------------------------------------------------------------

Segment Leq : 26.31 dBA

🠉
Results segment # 6: Hwy417 West (night)
----------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.49 !       20.50 !       19.74 !        89.74

ROAD (0.00 + 48.66 + 0.00) = 48.66 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -38     52   0.09  73.80   0.00 -16.05  -3.06   0.00  -6.03   0.00  48.66
   -38     52   0.00  73.80   0.00 -14.72  -3.01   0.00   0.00  -4.29  51.78*
   -38     52   0.09  73.80   0.00 -16.05  -3.06   0.00   0.00   0.00  54.69
-------------------------------------------------------------------------------

 * Bright Zone !
```

Segment Leq : 48.66 dBA

↟
Results segment # 7: Hwy417 East (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	20.50	19.77	89.77

ROAD (0.00 + 48.08 + 0.00) = 48.08 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-34	48	0.09	73.80	0.00	-16.26	-3.45	0.00	-6.01	0.00	48.08
-34	48	0.00	73.80	0.00	-14.91	-3.41	0.00	0.00	-4.21	51.26*
-34	48	0.09	73.80	0.00	-16.26	-3.45	0.00	0.00	0.00	54.09

 * Bright Zone !

Segment Leq : 48.08 dBA

Total Leq All Segments: 52.25 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 59.84
(NIGHT): 52.25
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 15:42:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec14tr.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 14tr

Road data, segment # 1: Ogilvie Rd A (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: Ogilvie Rd A (day/night)

Angle1 Angle2 : 0.00 deg 16.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 115.00 / 115.00 m
Receiver height : 20.50 / 20.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 0.00 deg Angle2 : 16.00 deg
Barrier height : 20.00 m
Barrier receiver distance : 20.00 / 20.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

↑
Road data, segment # 2: Ogilvie Rd B (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: Ogilvie Rd B (day/night)
-----------------------------------------------
Angle1   Angle2           : -53.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 115.00 / 115.00 m
Receiver height           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -53.00 deg   Angle2 : 0.00 deg
Barrier height            :  38.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: Cummings Ave (day/night)
-----------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Cummings Ave (day/night)
-----------------------------------------------
```

```
Angle1   Angle2           :  -9.00 deg   47.00 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           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -9.00 deg   Angle2 : 47.00 deg
Barrier height            :  20.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: CyrvilleRd A (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 4: CyrvilleRd A (day/night)
-----------------------------------------------
Angle1   Angle2           : -30.00 deg   88.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  80.00 / 80.00  m
Receiver height           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -30.00 deg   Angle2 : 88.00 deg
Barrier height            :  20.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

Road data, segment # 5: CyrvilleRd B (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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 # 5: CyrvilleRd B (day/night)

Angle1 Angle2 : 88.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 80.00 / 80.00 m
Receiver height : 20.50 / 20.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 88.00 deg Angle2 : 90.00 deg
Barrier height : 20.00 m
Barrier receiver distance : 10.00 / 10.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

Road data, segment # 6: Hwy417 West (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

```
    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 6: Hwy417 West (day/night)
---------------------------------------------
Angle1   Angle2           : -38.00 deg   52.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 445.00 / 445.00 m
Receiver height           :  20.50 / 20.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -38.00 deg   Angle2 : 52.00 deg
Barrier height            :  20.00 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

♠
Road data, segment # 7: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 7: Hwy417 East (day/night)
---------------------------------------------
Angle1   Angle2           : -34.00 deg   48.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
```

```
Surface                    :      1       (Absorptive ground surface)
Receiver source distance   : 465.00 / 465.00 m
Receiver height            :  20.50 / 20.50  m
Topography                 :      2       (Flat/gentle slope; with barrier)
Barrier angle1             : -34.00 deg   Angle2 : 48.00 deg
Barrier height             :  20.00 m
Barrier receiver distance  :  20.00 / 20.00  m
Source elevation           :  72.00 m
Receiver elevation         :  70.00 m
Barrier elevation          :  70.00 m
Reference angle            :   0.00
```

↟

```
Results segment # 1: Ogilvie Rd A (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       17.19 !        87.19

ROAD (0.00 + 42.80 + 0.00) = 42.80 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     16   0.00  73.68   0.00  -8.85 -10.51   0.00   0.00 -11.51  42.80
-------------------------------------------------------------------------------

Segment Leq : 42.80 dBA
```

↟

```
Results segment # 2: Ogilvie Rd B (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       17.19 !        87.19

ROAD (0.00 + 39.52 + 0.00) = 39.52 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -53      0   0.09  73.68   0.00  -9.64  -5.37   0.00  -0.90   0.00  57.76
```

```
   -53      0   0.00  73.68   0.00  -8.85  -5.31   0.00   0.00 -20.00  39.52
--------------------------------------------------------------------------------

Segment Leq : 39.52 dBA

↟
Results segment # 3: Cummings Ave (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       18.92 !        88.92

ROAD (0.00 + 46.94 + 0.00) = 46.94 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
    -9     47   0.00  68.48   0.00  -9.03  -5.07   0.00   0.00  -7.43  46.94
--------------------------------------------------------------------------------

Segment Leq : 46.94 dBA

↟
Results segment # 4: CyrvilleRd A (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       15.75 !        85.75

ROAD (0.00 + 43.97 + 0.00) = 43.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
   -30     88   0.00  65.75   0.00  -7.27  -1.83   0.00   0.00 -12.68  43.97
--------------------------------------------------------------------------------

Segment Leq : 43.97 dBA

↟
Results segment # 5: CyrvilleRd B (day)
---------------------------------------
```

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	20.50	18.12	88.12

ROAD (0.00 + 33.77 + 0.00) = 33.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
88	90	0.09	65.75	0.00	-7.93	-21.23	0.00	-0.90	0.00	35.69
88	90	0.00	65.75	0.00	-7.27	-19.54	0.00	0.00	-5.17	33.77

Segment Leq : 33.77 dBA

Results segment # 6: Hwy417 West (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	20.50	19.74	89.74

ROAD (0.00 + 56.26 + 0.00) = 56.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-38	52	0.09	81.40	0.00	-16.05	-3.06	0.00	-6.03	0.00	56.26
-38	52	0.00	81.40	0.00	-14.72	-3.01	0.00	0.00	-5.09	58.58

Segment Leq : 56.26 dBA

Results segment # 7: Hwy417 East (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source	Receiver	Barrier	Elevation of

```
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       19.77 !        89.77

ROAD (0.00 + 55.67 + 0.00) = 55.67 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -34     48   0.09  81.40   0.00 -16.26  -3.45   0.00  -6.01   0.00  55.67
   -34     48   0.00  81.40   0.00 -14.91  -3.41   0.00   0.00  -5.07  58.00
-------------------------------------------------------------------------------

Segment Leq : 55.67 dBA

Total Leq All Segments: 59.53 dBA

↟
Results segment # 1: Ogilvie Rd A (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       17.19 !        87.19

ROAD (0.00 + 35.21 + 0.00) = 35.21 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     16   0.00  66.08   0.00  -8.85 -10.51   0.00   0.00 -11.51  35.21
-------------------------------------------------------------------------------

Segment Leq : 35.21 dBA

↟
Results segment # 2: Ogilvie Rd B (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       17.19 !        87.19

ROAD (0.00 + 31.92 + 0.00) = 31.92 dBA
```

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -53      0   0.09  66.08   0.00  -9.64  -5.37   0.00  -0.90   0.00  50.16
   -53      0   0.00  66.08   0.00  -8.85  -5.31   0.00   0.00 -20.00  31.92
-------------------------------------------------------------------------

Segment Leq : 31.92 dBA

↟
Results segment # 3: Cummings Ave (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       18.92 !        88.92

ROAD (0.00 + 39.35 + 0.00) = 39.35 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
    -9     47   0.00  60.88   0.00  -9.03  -5.07   0.00   0.00  -7.43  39.35
-------------------------------------------------------------------------

Segment Leq : 39.35 dBA

↟
Results segment # 4: CyrvilleRd A (night)
-----------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !       20.50 !       15.75 !        85.75

ROAD (0.00 + 36.38 + 0.00) = 36.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -30     88   0.00  58.16   0.00  -7.27  -1.83   0.00   0.00 -12.68  36.38
-------------------------------------------------------------------------

Segment Leq : 36.38 dBA
```

↟
Results segment # 5: CyrvilleRd B (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	20.50	18.12	88.12

ROAD (0.00 + 26.17 + 0.00) = 26.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
88	90	0.09	58.16	0.00	-7.93	-21.23	0.00	-0.90	0.00	28.10
88	90	0.00	58.16	0.00	-7.27	-19.54	0.00	0.00	-5.17	26.17

Segment Leq : 26.17 dBA

↟
Results segment # 6: Hwy417 West (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	20.50	19.74	89.74

ROAD (0.00 + 48.66 + 0.00) = 48.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-38	52	0.09	73.80	0.00	-16.05	-3.06	0.00	-6.03	0.00	48.66
-38	52	0.00	73.80	0.00	-14.72	-3.01	0.00	0.00	-5.09	50.98

Segment Leq : 48.66 dBA

↟
Results segment # 7: Hwy417 East (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	20.50	19.77	89.77

ROAD (0.00 + 48.08 + 0.00) = 48.08 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-34	48	0.09	73.80	0.00	-16.26	-3.45	0.00	-6.01	0.00	48.08
-34	48	0.00	73.80	0.00	-14.91	-3.41	0.00	0.00	-5.07	50.40

Segment Leq : 48.08 dBA

Total Leq All Segments: 51.93 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.53
(NIGHT): 51.93

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:25:27
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec81.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 8-1

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 85.00 / 85.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000

```
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
-----------------------------------------------
Angle1   Angle2           : -27.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 130.00 / 130.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠉
Results segment # 1: Ogilvie Rd (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.80 + 0.00) = 55.80 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.66  73.68   0.00 -12.51  -4.47   0.00  -0.90   0.00  55.80
-------------------------------------------------------------------------------

Segment Leq : 55.80 dBA

🠉
Results segment # 2: Cummings Ave (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 44.57 + 0.00) = 44.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27      0   0.66  68.48   0.00 -15.57  -8.35   0.00   0.00   0.00  44.57
-------------------------------------------------------------------------------

Segment Leq : 44.57 dBA

Total Leq All Segments: 56.12 dBA

🠉
Results segment # 1: Ogilvie Rd (night)
-------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 48.21 + 0.00) = 48.21 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.66	66.08	0.00	-12.51	-4.47	0.00	-0.90	0.00	48.21

Segment Leq : 48.21 dBA

Results segment # 2: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 36.97 + 0.00) = 36.97 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-27	0	0.66	60.88	0.00	-15.57	-8.35	0.00	0.00	0.00	36.97

Segment Leq : 36.97 dBA

Total Leq All Segments: 48.52 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.12
(NIGHT): 48.52

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:23:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec91.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 9-1

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : 0.00 deg 15.00 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 : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00

```
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
-----------------------------------------------
Angle1   Angle2           :  -7.00 deg   50.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 110.00 / 110.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 3: CyrvilleRd A (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: CyrvilleRd A (day/night)
-----------------------------------------------
Angle1   Angle2           : -26.00 deg   -20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 125.00 / 125.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: CyrvilleRd B (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 4: CyrvilleRd B (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 125.00 / 125.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  15.00 / 15.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 5: Hwy417West A (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 5: Hwy417West A (day/night)
-----------------------------------------------
Angle1   Angle2           : -36.00 deg   -20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 495.00 / 495.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

↟
Road data, segment # 6: Hwy417West B (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 6: Hwy417West B (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 495.00 / 495.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  15.00 / 15.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
```

```
Reference angle           :   0.00

↑
Road data, segment # 7: Hwy417East A (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 7: Hwy417East A (day/night)
----------------------------------------------
Angle1   Angle2           : -31.00 deg   -20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 500.00 / 500.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

↑
Road data, segment # 8: Hwy417East B (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 8: Hwy417East B (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 500.00 / 500.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  15.00 / 15.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

🠉
Results segment # 1: Ogilvie Rd (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 47.86 + 0.00) = 47.86 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     15   0.66  73.68   0.00 -14.99 -10.82   0.00   0.00   0.00  47.86
-------------------------------------------------------------------------------

Segment Leq : 47.86 dBA

🠉
Results segment # 2: Cummings Ave (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 48.79 + 0.00) = 48.79 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -7     50   0.66  68.48   0.00 -14.36  -5.33   0.00   0.00   0.00  48.79
-------------------------------------------------------------------------------

Segment Leq : 48.79 dBA

🠉
```

Results segment # 3: CyrvilleRd A (day)

Source height = 1.50 m

ROAD (0.00 + 34.56 + 0.00) = 34.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-26	-20	0.66	65.75	0.00	-15.29	-15.01	0.00	-0.90	0.00	34.56

Segment Leq : 34.56 dBA

↟

Results segment # 4: CyrvilleRd B (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 27.00 + 0.00) = 27.00 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	0	0.00	65.75	0.00	-9.21	-9.54	0.00	0.00	-20.00	27.00

Segment Leq : 27.00 dBA

↟

Results segment # 5: Hwy417West A (day)

Source height = 1.50 m

ROAD (0.00 + 40.25 + 0.00) = 40.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-36	-20	0.60	81.40	0.00	-24.30	-10.85	0.00	-6.00	0.00	40.25

Segment Leq : 40.25 dBA

↟

Results segment # 6: Hwy417West B (day)

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

Source height = 1.50 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.56 !        71.56

ROAD (0.00 + 36.67 + 0.00) = 36.67 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20      0   0.66  81.40   0.00 -25.21  -9.60   0.00  -6.00   0.00  40.59
   -20      0   0.00  81.40   0.00 -15.19  -9.54   0.00   0.00 -20.00  36.67
-------------------------------------------------------------------------------

Segment Leq : 36.67 dBA

↟
Results segment # 7: Hwy417East A (day)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 38.62 + 0.00) = 38.62 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -31    -20   0.60  81.40   0.00 -24.37 -12.41   0.00  -6.00   0.00  38.62
-------------------------------------------------------------------------------

Segment Leq : 38.62 dBA

↟
Results segment # 8: Hwy417East B (day)
--------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.56 !        71.56

ROAD (0.00 + 36.63 + 0.00) = 36.63 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -20      0   0.66  81.40   0.00 -25.28  -9.60   0.00  -6.00   0.00  40.52
   -20      0   0.00  81.40   0.00 -15.23  -9.54   0.00   0.00 -20.00  36.63
-------------------------------------------------------------------------------

Segment Leq : 36.63 dBA

Total Leq All Segments: 52.23 dBA

↟
Results segment # 1: Ogilvie Rd (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 40.26 + 0.00) = 40.26 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     15   0.66  66.08   0.00 -14.99 -10.82   0.00   0.00   0.00  40.26
-------------------------------------------------------------------------------

Segment Leq : 40.26 dBA

↟
Results segment # 2: Cummings Ave (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 41.19 + 0.00) = 41.19 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -7     50   0.66  60.88   0.00 -14.36  -5.33   0.00   0.00   0.00  41.19
-------------------------------------------------------------------------------

Segment Leq : 41.19 dBA

↟
Results segment # 3: CyrvilleRd A (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 26.97 + 0.00) = 26.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -26    -20   0.66  58.16   0.00 -15.29 -15.01   0.00  -0.90   0.00  26.97
-------------------------------------------------------------------------------

Segment Leq : 26.97 dBA
```

↟
Results segment # 4: CyrvilleRd B (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 19.41 + 0.00) = 19.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	0	0.00	58.16	0.00	-9.21	-9.54	0.00	0.00	-20.00	19.41

Segment Leq : 19.41 dBA

↟
Results segment # 5: Hwy417West A (night)

Source height = 1.49 m

ROAD (0.00 + 32.66 + 0.00) = 32.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-36	-20	0.60	73.80	0.00	-24.30	-10.85	0.00	-6.00	0.00	32.66

Segment Leq : 32.66 dBA

↟
Results segment # 6: Hwy417West B (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	1.50	1.56	71.56

ROAD (0.00 + 29.07 + 0.00) = 29.07 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq

```
-------------------------------------------------------------------------------
   -20      0   0.66  73.80   0.00 -25.21  -9.60   0.00  -6.00   0.00  32.99
   -20      0   0.00  73.80   0.00 -15.19  -9.54   0.00   0.00 -20.00  29.07
-------------------------------------------------------------------------------

Segment Leq : 29.07 dBA

↟
Results segment # 7: Hwy417East A (night)
-----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 31.02 + 0.00) = 31.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -31    -20   0.60  73.80   0.00 -24.37 -12.41   0.00  -6.00   0.00  31.02
-------------------------------------------------------------------------------

Segment Leq : 31.02 dBA

↟
Results segment # 8: Hwy417East B (night)
-----------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.49 !        1.50 !        1.56 !        71.56

ROAD (0.00 + 29.03 + 0.00) = 29.03 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20      0   0.66  73.80   0.00 -25.28  -9.60   0.00  -6.00   0.00  32.92
   -20      0   0.00  73.80   0.00 -15.23  -9.54   0.00   0.00 -20.00  29.03
-------------------------------------------------------------------------------

Segment Leq : 29.03 dBA

Total Leq All Segments: 44.63 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 52.23
```

(NIGHT): 44.63

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:59:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec96.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 9-6

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : 0.00 deg 15.00 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 : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00

```
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
-----------------------------------------------
Angle1   Angle2           :  -7.00 deg   50.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 110.00 / 110.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 3: CyrvilleRd A (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: CyrvilleRd A (day/night)
-----------------------------------------------
Angle1   Angle2           : -26.00 deg   -20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 125.00 / 125.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: CyrvilleRd B (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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 # 4: CyrvilleRd B (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 125.00 / 125.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  15.00 / 15.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 5: Hwy417West A (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 5: Hwy417West A (day/night)
-----------------------------------------------
Angle1   Angle2           : -36.00 deg   -20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 495.00 / 495.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

↟
Road data, segment # 6: Hwy417West B (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 6: Hwy417West B (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 495.00 / 495.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  15.00 / 15.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
```

```
Reference angle           :   0.00

↟
Road data, segment # 7: Hwy417East A (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 7: Hwy417East A (day/night)
----------------------------------------------
Angle1   Angle2           : -31.00 deg   -20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 500.00 / 500.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00

↟
Road data, segment # 8: Hwy417East B (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 8: Hwy417East B (day/night)
-----------------------------------------------
Angle1   Angle2           : -20.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 500.00 / 500.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -20.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  15.00 / 15.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Results segment # 1: Ogilvie Rd (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.22 + 0.00) = 52.22 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     15   0.18  73.68   0.00 -10.66 -10.80   0.00   0.00   0.00  52.22
-------------------------------------------------------------------------------

Segment Leq : 52.22 dBA

↟
Results segment # 2: Cummings Ave (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.18 + 0.00) = 53.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -7     50   0.18  68.48   0.00 -10.21  -5.09   0.00   0.00   0.00  53.18
-------------------------------------------------------------------------------

Segment Leq : 53.18 dBA

↟
```

Results segment # 3: CyrvilleRd A (day)

Source height = 1.50 m

ROAD (0.00 + 39.15 + 0.00) = 39.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-26	-20	0.18	65.75	0.00	-10.87	-14.84	0.00	-0.90	0.00	39.15

Segment Leq : 39.15 dBA

↟

Results segment # 4: CyrvilleRd B (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	15.58	85.58

ROAD (0.00 + 32.98 + 0.00) = 32.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	0	0.00	65.75	0.00	-9.21	-9.54	0.00	0.00	-14.02	32.98

Segment Leq : 32.98 dBA

↟

Results segment # 5: Hwy417West A (day)

Source height = 1.50 m

ROAD (0.00 + 47.81 + 0.00) = 47.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-36	-20	0.12	81.40	0.00	-17.01	-10.58	0.00	-6.00	0.00	47.81

Segment Leq : 47.81 dBA

↟

Results segment # 6: Hwy417West B (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 !       17.50 !       17.08 !        87.08

ROAD (0.00 + 47.24 + 0.00) = 47.24 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20      0   0.18  81.40   0.00 -17.92  -9.56   0.00  -6.00   0.00  47.92
   -20      0   0.00  81.40   0.00 -15.19  -9.54   0.00   0.00  -9.43  47.24
-------------------------------------------------------------------------------

Segment Leq : 47.24 dBA

↟
Results segment # 7: Hwy417East A (day)
--------------------------------------

Source height = 1.50 m

ROAD (0.00 + 46.15 + 0.00) = 46.15 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -31    -20   0.12  81.40   0.00 -17.06 -12.19   0.00  -6.00   0.00  46.15
-------------------------------------------------------------------------------

Segment Leq : 46.15 dBA

↟
Results segment # 8: Hwy417East B (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 !       17.50 !       17.08 !        87.08

ROAD (0.00 + 47.21 + 0.00) = 47.21 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -20      0   0.18  81.40   0.00 -17.97  -9.56   0.00  -6.00   0.00  47.87
   -20      0   0.00  81.40   0.00 -15.23  -9.54   0.00   0.00  -9.41  47.21
-------------------------------------------------------------------------------

Segment Leq : 47.21 dBA

Total Leq All Segments: 57.72 dBA

↟
Results segment # 1: Ogilvie Rd (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 44.62 + 0.00) = 44.62 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     15   0.18  66.08   0.00 -10.66 -10.80   0.00   0.00   0.00  44.62
-------------------------------------------------------------------------------

Segment Leq : 44.62 dBA

↟
Results segment # 2: Cummings Ave (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 45.58 + 0.00) = 45.58 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -7     50   0.18  60.88   0.00 -10.21  -5.09   0.00   0.00   0.00  45.58
-------------------------------------------------------------------------------

Segment Leq : 45.58 dBA

↟
Results segment # 3: CyrvilleRd A (night)
-----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 31.56 + 0.00) = 31.56 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -26    -20   0.18  58.16   0.00 -10.87 -14.84   0.00  -0.90   0.00  31.56
-------------------------------------------------------------------------------

Segment Leq : 31.56 dBA
```

↟
Results segment # 4: CyrvilleRd B (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	15.58	85.58

ROAD (0.00 + 25.39 + 0.00) = 25.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	0	0.00	58.16	0.00	-9.21	-9.54	0.00	0.00	-14.02	25.39

Segment Leq : 25.39 dBA

↟
Results segment # 5: Hwy417West A (night)

Source height = 1.49 m

ROAD (0.00 + 40.21 + 0.00) = 40.21 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-36	-20	0.12	73.80	0.00	-17.01	-10.58	0.00	-6.00	0.00	40.21

Segment Leq : 40.21 dBA

↟
Results segment # 6: Hwy417West B (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	17.50	17.08	87.08

ROAD (0.00 + 39.64 + 0.00) = 39.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq

```
-------------------------------------------------------------------------------
   -20      0   0.18  73.80   0.00 -17.92  -9.56   0.00  -6.00   0.00  40.32
   -20      0   0.00  73.80   0.00 -15.19  -9.54   0.00   0.00  -9.43  39.64
-------------------------------------------------------------------------------

Segment Leq : 39.64 dBA

↟
Results segment # 7: Hwy417East A (night)
-----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 38.55 + 0.00) = 38.55 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -31    -20   0.12  73.80   0.00 -17.06 -12.19   0.00  -6.00   0.00  38.55
-------------------------------------------------------------------------------

Segment Leq : 38.55 dBA

↟
Results segment # 8: Hwy417East B (night)
-----------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.49 !       17.50 !       17.08 !        87.08

ROAD (0.00 + 39.61 + 0.00) = 39.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -20      0   0.18  73.80   0.00 -17.97  -9.56   0.00  -6.00   0.00  40.27
   -20      0   0.00  73.80   0.00 -15.23  -9.54   0.00   0.00  -9.41  39.61
-------------------------------------------------------------------------------

Segment Leq : 39.61 dBA

Total Leq All Segments: 50.12 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 57.72
```

(NIGHT): 50.12

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 11:33:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec101.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 10-1

Road data, segment # 1: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Cummings Ave (day/night)

Angle1 Angle2 : 0.00 deg 45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 130.00 / 130.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)
-----------------------------------------------
Angle1   Angle2           : -32.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  65.00 / 65.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -32.00 deg   Angle2 : 90.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: Hwy417 West (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -39.00 deg   53.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 430.00 / 430.00 m
Receiver height           :   1.50 / 1.50   m
```

```
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -39.00 deg   Angle2 : 53.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Hwy417 East (day/night)
---------------------------------------------
Angle1   Angle2           : -35.00 deg   49.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 450.00 / 450.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -35.00 deg   Angle2 : 49.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Results segment # 1: Cummings Ave (day)
---------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 46.59 + 0.00) = 46.59 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	45	0.66	68.48	0.00	-15.57	-6.33	0.00	0.00	0.00	46.59

Segment Leq : 46.59 dBA

Results segment # 2: Cyrville Rd (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 38.41 + 0.00) = 38.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	90	0.00	65.75	0.00	-6.37	-1.69	0.00	0.00	-19.28	38.41

Segment Leq : 38.41 dBA

Results segment # 3: Hwy417 West (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.55	71.55

ROAD (0.00 + 43.91 + 0.00) = 43.91 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-39	53	0.66	81.40	0.00	-24.19	-3.26	0.00	-6.04	0.00	47.90
-39	53	0.00	81.40	0.00	-14.57	-2.91	0.00	0.00	-20.00	43.91

Segment Leq : 43.91 dBA

↟
Results segment # 4: Hwy417 East (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)

1.50 ! 1.50 ! 1.54 ! 71.54

ROAD (0.00 + 43.32 + 0.00) = 43.32 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-35	49	0.66	81.40	0.00	-24.52	-3.60	0.00	-6.03	0.00	47.25
-35	49	0.00	81.40	0.00	-14.77	-3.31	0.00	0.00	-20.00	43.32

Segment Leq : 43.32 dBA

Total Leq All Segments: 49.94 dBA

↟
Results segment # 1: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 38.99 + 0.00) = 38.99 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	45	0.66	60.88	0.00	-15.57	-6.33	0.00	0.00	0.00	38.99

Segment Leq : 38.99 dBA

↟
Results segment # 2: Cyrville Rd (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of

```
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 30.82 + 0.00) = 30.82 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -32     90   0.00  58.16   0.00  -6.37  -1.69   0.00   0.00 -19.28  30.82
-------------------------------------------------------------------------------

Segment Leq : 30.82 dBA

🠉
Results segment # 3: Hwy417 West (night)
---------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.49 !        1.50 !        1.55 !        71.55

ROAD (0.00 + 36.31 + 0.00) = 36.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -39     53   0.66  73.80   0.00 -24.19  -3.26   0.00  -6.04   0.00  40.31
   -39     53   0.00  73.80   0.00 -14.57  -2.91   0.00   0.00 -20.00  36.31
-------------------------------------------------------------------------------

Segment Leq : 36.31 dBA

🠉
Results segment # 4: Hwy417 East (night)
---------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.49 !        1.50 !        1.54 !        71.54

ROAD (0.00 + 35.72 + 0.00) = 35.72 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

-35	49	0.66	73.80	0.00	-24.52	-3.60	0.00	-6.03	0.00	39.66
-35	49	0.00	73.80	0.00	-14.77	-3.31	0.00	0.00	-20.00	35.72

Segment Leq : 35.72 dBA

Total Leq All Segments: 42.34 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 49.94
(NIGHT): 42.34

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 11:40:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec106.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 10-6

Road data, segment # 1: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Cummings Ave (day/night)

Angle1 Angle2 : 0.00 deg 45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 130.00 / 130.00 m
Receiver height : 17.50 / 17.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)
-----------------------------------------------
Angle1   Angle2           : -32.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  65.00 / 65.00  m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -32.00 deg   Angle2 : 90.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: Hwy417 West (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -39.00 deg   53.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 430.00 / 430.00 m
Receiver height           :  17.50 / 17.50  m
```

```
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -39.00 deg   Angle2 : 53.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Hwy417 East (day/night)
---------------------------------------------
Angle1   Angle2           : -35.00 deg   49.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 450.00 / 450.00 m
Receiver height           :  17.50 / 17.50  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -35.00 deg   Angle2 : 49.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Results segment # 1: Cummings Ave (day)
---------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 51.31 + 0.00) = 51.31 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	45	0.18	68.48	0.00	-11.07	-6.11	0.00	0.00	0.00	51.31

Segment Leq : 51.31 dBA

Results segment # 2: Cyrville Rd (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	15.04	85.04

ROAD (0.00 + 43.81 + 0.00) = 43.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-32	90	0.00	65.75	0.00	-6.37	-1.69	0.00	0.00	-13.89	43.81

Segment Leq : 43.81 dBA

Results segment # 3: Hwy417 West (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.17	87.17

ROAD (0.00 + 53.90 + 0.00) = 53.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-39	53	0.18	81.40	0.00	-17.20	-3.01	0.00	-6.04	0.00	55.14
-39	53	0.00	81.40	0.00	-14.57	-2.91	0.00	0.00	-10.01	53.90

Segment Leq : 53.90 dBA

↟
Results segment # 4: Hwy417 East (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	17.50	17.19	87.19

ROAD (0.00 + 53.29 + 0.00) = 53.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-35	49	0.18	81.40	0.00	-17.43	-3.39	0.00	-6.03	0.00	54.55
-35	49	0.00	81.40	0.00	-14.77	-3.31	0.00	0.00	-10.03	53.29

Segment Leq : 53.29 dBA

Total Leq All Segments: 57.91 dBA

↟
Results segment # 1: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 43.71 + 0.00) = 43.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	45	0.18	60.88	0.00	-11.07	-6.11	0.00	0.00	0.00	43.71

Segment Leq : 43.71 dBA

↟
Results segment # 2: Cyrville Rd (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 !       17.50 !       15.04 !        85.04

ROAD (0.00 + 36.21 + 0.00) = 36.21 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -32     90   0.00  58.16   0.00  -6.37  -1.69   0.00   0.00 -13.89  36.21
-------------------------------------------------------------------------------

Segment Leq : 36.21 dBA

🠉
Results segment # 3: Hwy417 West (night)
-----------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.49 !       17.50 !       17.17 !        87.17

ROAD (0.00 + 46.30 + 0.00) = 46.30 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -39     53   0.18  73.80   0.00 -17.20  -3.01   0.00  -6.04   0.00  47.55
   -39     53   0.00  73.80   0.00 -14.57  -2.91   0.00   0.00 -10.01  46.30
-------------------------------------------------------------------------------

Segment Leq : 46.30 dBA

🠉
Results segment # 4: Hwy417 East (night)
-----------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.49 !       17.50 !       17.19 !        87.19

ROAD (0.00 + 45.69 + 0.00) = 45.69 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -35     49   0.18  73.80   0.00 -17.43  -3.39   0.00  -6.03   0.00  46.95
   -35     49   0.00  73.80   0.00 -14.77  -3.31   0.00   0.00 -10.03  45.69
-------------------------------------------------------------------------------

Segment Leq : 45.69 dBA

Total Leq All Segments: 50.31 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 57.91
                           (NIGHT): 50.31
↟
↟
```

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 12:04:36
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec111.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 11-1

Road data, segment # 1: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Cummings Ave (day/night)

Angle1 Angle2 : 0.00 deg 8.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 185.00 / 185.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 0.00 deg Angle2 : 8.00 deg
Barrier height : 19.00 m
Barrier receiver distance : 45.00 / 45.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

↑
Road data, segment # 2: CyrvilleRd A (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 : 50 km/h
Road gradient : 0 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: CyrvilleRd A (day/night)
-----------------------------------------------
Angle1   Angle2           : -72.00 deg   16.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -72.00 deg   Angle2 : 16.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: CyrvilleRd B (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: CyrvilleRd B (day/night)
-----------------------------------------------
Angle1   Angle2           :  16.00 deg   62.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: Hwy417 West (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -74.00 deg   16.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 450.00 / 450.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -74.00 deg   Angle2 : 16.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 5: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  :  1600/800   veh/TimePeriod
```

```
Medium truck volume :   320/160   veh/TimePeriod
Heavy truck volume  :   160/80    veh/TimePeriod
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 5: Hwy417 East (day/night)
---------------------------------------------
Angle1   Angle2           : -69.00 deg   12.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 475.00 / 475.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -69.00 deg   Angle2 : 12.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

🠉
Results segment # 1: Cummings Ave (day)
---------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        1.50 !        71.50

ROAD (0.00 + 24.05 + 0.00) = 24.05 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0      8   0.00  68.48   0.00 -10.91 -13.52   0.00   0.00 -20.00  24.05
-------------------------------------------------------------------------------

Segment Leq : 24.05 dBA

🠉
Results segment # 2: CyrvilleRd A (day)
---------------------------------------

Source height = 1.50 m
```

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 36.62 + 0.00) = 36.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-72	16	0.00	65.75	0.00	-6.02	-3.11	0.00	0.00	-20.00	36.62

Segment Leq : 36.62 dBA

↟
Results segment # 3: CyrvilleRd B (day)

Source height = 1.50 m

ROAD (0.00 + 48.11 + 0.00) = 48.11 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
16	62	0.66	65.75	0.00	-9.99	-6.74	0.00	-0.90	0.00	48.11

Segment Leq : 48.11 dBA

↟
Results segment # 4: Hwy417 West (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.54	71.54

ROAD (0.00 + 43.62 + 0.00) = 43.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	16	0.66	81.40	0.00	-24.52	-3.74	0.00	-6.03	0.00	47.11
-74	16	0.00	81.40	0.00	-14.77	-3.01	0.00	0.00	-20.00	43.62

Segment Leq : 43.62 dBA

↟
Results segment # 5: Hwy417 East (day)

Source height = 1.67 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.67	1.50	1.55	71.55

ROAD (0.00 + 29.61 + 0.00) = 29.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-69	12	0.66	68.08	0.00	-24.84	-4.11	0.00	-6.00	0.00	33.13
-69	12	0.00	68.08	0.00	-15.01	-3.47	0.00	0.00	-20.00	29.61

Segment Leq : 29.61 dBA

Total Leq All Segments: 49.71 dBA

↟
Results segment # 1: Cummings Ave (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 16.45 + 0.00) = 16.45 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	8	0.00	60.88	0.00	-10.91	-13.52	0.00	0.00	-20.00	16.45

Segment Leq : 16.45 dBA

↟
Results segment # 2: CyrvilleRd A (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	1.50	1.50	71.50

ROAD (0.00 + 29.03 + 0.00) = 29.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-72	16	0.00	58.16	0.00	-6.02	-3.11	0.00	0.00	-20.00	29.03

Segment Leq : 29.03 dBA

↟

Results segment # 3: CyrvilleRd B (night)

Source height = 1.50 m

ROAD (0.00 + 40.52 + 0.00) = 40.52 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
16	62	0.66	58.16	0.00	-9.99	-6.74	0.00	-0.90	0.00	40.52

Segment Leq : 40.52 dBA

↟

Results segment # 4: Hwy417 West (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	1.50	1.54	71.54

ROAD (0.00 + 36.02 + 0.00) = 36.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	16	0.66	73.80	0.00	-24.52	-3.74	0.00	-6.03	0.00	39.51
-74	16	0.00	73.80	0.00	-14.77	-3.01	0.00	0.00	-20.00	36.02

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

Segment Leq : 36.02 dBA

↟
Results segment # 5: Hwy417 East (night)
----------------------------------------

Source height = 1.67 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.67 !        1.50 !        1.55 !        71.55

ROAD (0.00 + 29.61 + 0.00) = 29.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -69     12   0.66  68.08   0.00 -24.84  -4.11   0.00  -6.00   0.00  33.13
   -69     12   0.00  68.08   0.00 -15.01  -3.47   0.00   0.00 -20.00  29.61
-------------------------------------------------------------------------------

Segment Leq : 29.61 dBA

Total Leq All Segments: 42.31 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 49.71
                           (NIGHT): 42.31
↟
↟
```

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 13:55:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec121.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 12-1

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -82.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 75.00 / 75.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)
---------------------------------------------
Angle1   Angle2           :   0.00 deg   54.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  85.00 / 85.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 West (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 West (day/night)
---------------------------------------------
Angle1   Angle2           :   0.00 deg   15.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 500.00 / 500.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Road data, segment # 4: Hwy417 East (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Hwy417 East (day/night)

Angle1 Angle2 : 0.00 deg 11.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3 / 3
House density : 60 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 500.00 / 500.00 m
Receiver height : 1.50 / 1.50 m
Topography : 3 (Elevated; no barrier)
Elevation : 2.00 m
Reference angle : 0.00

Results segment # 1: Ogilvie Rd (day)

Source height = 1.50 m

ROAD (0.00 + 56.62 + 0.00) = 56.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	0	0.66	73.68	0.00	-11.60	-4.56	0.00	-0.90	0.00	56.62

Segment Leq : 56.62 dBA

Results segment # 2: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 46.67 + 0.00) = 46.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	54	0.66	65.75	0.00	-12.51	-5.68	0.00	-0.90	0.00	46.67

Segment Leq : 46.67 dBA

Results segment # 3: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 40.21 + 0.00) = 40.21 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	15	0.60	81.40	0.00	-24.37	-10.82	0.00	-6.00	0.00	40.21

Segment Leq : 40.21 dBA

Results segment # 4: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 38.87 + 0.00) = 38.87 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	11	0.60	81.40	0.00	-24.37	-12.15	0.00	-6.00	0.00	38.87

Segment Leq : 38.87 dBA

Total Leq All Segments: 57.19 dBA

Results segment # 1: Ogilvie Rd (night)

Source height = 1.50 m

ROAD (0.00 + 49.02 + 0.00) = 49.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	0	0.66	66.08	0.00	-11.60	-4.56	0.00	-0.90	0.00	49.02

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

Segment Leq : 49.02 dBA

🠉
Results segment # 2: Cyrville Rd (night)
----------------------------------------

Source height = 1.50 m

ROAD (0.00 + 39.07 + 0.00) = 39.07 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     54   0.66  58.16   0.00 -12.51  -5.68   0.00  -0.90   0.00  39.07
--------------------------------------------------------------------------------

Segment Leq : 39.07 dBA

🠉
Results segment # 3: Hwy417 West (night)
----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 32.61 + 0.00) = 32.61 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     15   0.60  73.80   0.00 -24.37 -10.82   0.00  -6.00   0.00  32.61
--------------------------------------------------------------------------------

Segment Leq : 32.61 dBA

🠉
Results segment # 4: Hwy417 East (night)
----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 31.28 + 0.00) = 31.28 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     11   0.60  73.80   0.00 -24.37 -12.15   0.00  -6.00   0.00  31.28
--------------------------------------------------------------------------------

Segment Leq : 31.28 dBA

Total Leq All Segments: 49.59 dBA

🠉
```

TOTAL Leq FROM ALL SOURCES (DAY): 57.19
(NIGHT): 49.59

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 10:27:37
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec812.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 8-12

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 85.00 / 85.00 m
Receiver height : 36.00 / 36.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000

```
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Cummings Ave (day/night)
------------------------------------------------
Angle1   Angle2           : -27.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 130.00 / 130.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠝
Results segment # 1: Ogilvie Rd (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 62.23 + 0.00) = 62.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  73.68   0.00  -7.53  -3.01   0.00  -0.90   0.00  62.23
-------------------------------------------------------------------------------

Segment Leq : 62.23 dBA

🠝
Results segment # 2: Cummings Ave (day)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.86 + 0.00) = 50.86 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27      0   0.00  68.48   0.00  -9.38  -8.24   0.00   0.00   0.00  50.86
-------------------------------------------------------------------------------

Segment Leq : 50.86 dBA

Total Leq All Segments: 62.54 dBA

🠝
Results segment # 1: Ogilvie Rd (night)
-------------------------------------
```

Source height = 1.50 m

ROAD (0.00 + 54.64 + 0.00) = 54.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	66.08	0.00	-7.53	-3.01	0.00	-0.90	0.00	54.64

Segment Leq : 54.64 dBA

↟
Results segment # 2: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 43.27 + 0.00) = 43.27 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-27	0	0.00	60.88	0.00	-9.38	-8.24	0.00	0.00	0.00	43.27

Segment Leq : 43.27 dBA

Total Leq All Segments: 54.95 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 62.54
(NIGHT): 54.95
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 12:06:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec1112.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 11-12

Road data, segment # 1: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Cummings Ave (day/night)

Angle1 Angle2 : 0.00 deg 8.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 185.00 / 185.00 m
Receiver height : 36.00 / 36.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 0.00 deg Angle2 : 8.00 deg
Barrier height : 19.00 m
Barrier receiver distance : 45.00 / 45.00 m
Source elevation : 70.00 m
Receiver elevation : 70.00 m
Barrier elevation : 70.00 m
Reference angle : 0.00

↑
Road data, segment # 2: CyrvilleRd A (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 : 50 km/h
Road gradient : 0 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: CyrvilleRd A (day/night)
-----------------------------------------------
Angle1   Angle2           : -72.00 deg   16.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :  36.00 / 36.00  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -72.00 deg   Angle2 : 16.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: CyrvilleRd B (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: CyrvilleRd B (day/night)
-----------------------------------------------
Angle1   Angle2           :  16.00 deg   62.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :  36.00 / 36.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Road data, segment # 4: Hwy417 West (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Hwy417 West (day/night)
-----------------------------------------------
Angle1   Angle2           : -74.00 deg   16.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 450.00 / 450.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -74.00 deg   Angle2 : 16.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```



```
Road data, segment # 5: Hwy417 East (day/night)
-----------------------------------------------
Car traffic volume  :  1600/800   veh/TimePeriod
```

```
Medium truck volume :   320/160   veh/TimePeriod
Heavy truck volume  :   160/80    veh/TimePeriod
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 5: Hwy417 East (day/night)
---------------------------------------------
Angle1   Angle2           : -69.00 deg   12.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 475.00 / 475.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -69.00 deg   Angle2 : 12.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  10.00 / 10.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

🠝
Results segment # 1: Cummings Ave (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 !       36.00 !       27.61 !        97.61

ROAD (0.00 + 44.05 + 0.00) = 44.05 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0      8   0.00  68.48   0.00 -10.91 -13.52   0.00   0.00   0.00  44.05*
     0      8   0.00  68.48   0.00 -10.91 -13.52   0.00   0.00   0.00  44.05
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 44.05 dBA

🠝
Results segment # 2: CyrvilleRd A (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 !       36.00 !       30.25 !       100.25

ROAD (0.00 + 56.62 + 0.00) = 56.62 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -72     16   0.00  65.75   0.00  -6.02  -3.11   0.00   0.00   0.00  56.62*
   -72     16   0.00  65.75   0.00  -6.02  -3.11   0.00   0.00   0.00  56.62
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 56.62 dBA

↟
Results segment # 3: CyrvilleRd B (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.90 + 0.00) = 52.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    16     62   0.00  65.75   0.00  -6.02  -5.93   0.00  -0.90   0.00  52.90
-------------------------------------------------------------------------------

Segment Leq : 52.90 dBA

↟
Results segment # 4: Hwy417 West (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 !       36.00 !       35.28 !       105.28

ROAD (0.00 + 57.59 + 0.00) = 57.59 dBA
```

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -74     16   0.00  81.40   0.00 -14.77  -3.01   0.00  -6.03   0.00  57.59
   -74     16   0.00  81.40   0.00 -14.77  -3.01   0.00   0.00   0.00  63.62*
   -74     16   0.00  81.40   0.00 -14.77  -3.01   0.00   0.00   0.00  63.62
-------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 57.59 dBA

↟
Results segment # 5: Hwy417 East (day)
--------------------------------------

Source height = 1.67 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.67 !       36.00 !       35.32 !       105.32

ROAD (0.00 + 43.60 + 0.00) = 43.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -69     12   0.00  68.08   0.00 -15.01  -3.47   0.00  -6.00   0.00  43.60
   -69     12   0.00  68.08   0.00 -15.01  -3.47   0.00   0.00   0.00  49.61*
   -69     12   0.00  68.08   0.00 -15.01  -3.47   0.00   0.00   0.00  49.61
-------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 43.60 dBA

Total Leq All Segments: 61.06 dBA

↟
Results segment # 1: Cummings Ave (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 !       36.00 !       27.61 !        97.61
```

ROAD (0.00 + 36.45 + 0.00) = 36.45 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	8	0.00	60.88	0.00	-10.91	-13.52	0.00	0.00	0.00	36.45*
0	8	0.00	60.88	0.00	-10.91	-13.52	0.00	0.00	0.00	36.45

* Bright Zone !

Segment Leq : 36.45 dBA

↟

Results segment # 2: CyrvilleRd A (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	36.00	30.25	100.25

ROAD (0.00 + 49.03 + 0.00) = 49.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-72	16	0.00	58.16	0.00	-6.02	-3.11	0.00	0.00	0.00	49.03*
-72	16	0.00	58.16	0.00	-6.02	-3.11	0.00	0.00	0.00	49.03

* Bright Zone !

Segment Leq : 49.03 dBA

↟

Results segment # 3: CyrvilleRd B (night)

Source height = 1.50 m

ROAD (0.00 + 45.31 + 0.00) = 45.31 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
16	62	0.00	58.16	0.00	-6.02	-5.93	0.00	-0.90	0.00	45.31

Segment Leq : 45.31 dBA

↟
Results segment # 4: Hwy417 West (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.49	36.00	35.28	105.28

ROAD (0.00 + 49.99 + 0.00) = 49.99 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	16	0.00	73.80	0.00	-14.77	-3.01	0.00	-6.03	0.00	49.99
-74	16	0.00	73.80	0.00	-14.77	-3.01	0.00	0.00	0.00	56.02*
-74	16	0.00	73.80	0.00	-14.77	-3.01	0.00	0.00	0.00	56.02

* Bright Zone !

Segment Leq : 49.99 dBA

↟
Results segment # 5: Hwy417 East (night)

Source height = 1.67 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.67	36.00	35.32	105.32

ROAD (0.00 + 43.60 + 0.00) = 43.60 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-69	12	0.00	68.08	0.00	-15.01	-3.47	0.00	-6.00	0.00	43.60
-69	12	0.00	68.08	0.00	-15.01	-3.47	0.00	0.00	0.00	49.61*
-69	12	0.00	68.08	0.00	-15.01	-3.47	0.00	0.00	0.00	49.61

* Bright Zone !

Segment Leq : 43.60 dBA

Total Leq All Segments: 53.82 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 61.06
(NIGHT): 53.82

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 13:59:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec1212.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 12-12

Road data, segment # 1: Ogilvie Rd (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: Ogilvie Rd (day/night)

Angle1 Angle2 : -82.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 75.00 / 75.00 m
Receiver height : 36.00 / 36.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Cyrville Rd (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: Cyrville Rd (day/night)
----------------------------------------------
Angle1   Angle2           :   0.00 deg   54.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  85.00 / 85.00  m
Receiver height           :  36.00 / 36.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

♠
Road data, segment # 3: Hwy417 West (day/night)
----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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: Hwy417 West (day/night)
----------------------------------------------
Angle1   Angle2           :   0.00 deg   15.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 500.00 / 500.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

Road data, segment # 4: Hwy417 East (day/night)

Car traffic volume : 59370/5163 veh/TimePeriod *
Medium truck volume : 4723/411 veh/TimePeriod *
Heavy truck volume : 3373/293 veh/TimePeriod *
Posted speed limit : 100 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 73332
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Hwy417 East (day/night)

Angle1 Angle2 : 0.00 deg 11.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3 / 3
House density : 60 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 500.00 / 500.00 m
Receiver height : 36.00 / 36.00 m
Topography : 3 (Elevated; no barrier)
Elevation : 2.00 m
Reference angle : 0.00

Results segment # 1: Ogilvie Rd (day)

Source height = 1.50 m

ROAD (0.00 + 62.37 + 0.00) = 62.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	0	0.00	73.68	0.00	-6.99	-3.41	0.00	-0.90	0.00	62.37

Segment Leq : 62.37 dBA

Results segment # 2: Cyrville Rd (day)

Source height = 1.50 m

ROAD (0.00 + 52.09 + 0.00) = 52.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	54	0.00	65.75	0.00	-7.53	-5.23	0.00	-0.90	0.00	52.09

Segment Leq : 52.09 dBA

Results segment # 3: Hwy417 West (day)

Source height = 1.50 m

ROAD (0.00 + 49.38 + 0.00) = 49.38 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	15	0.00	81.40	0.00	-15.23	-10.79	0.00	-6.00	0.00	49.38

Segment Leq : 49.38 dBA

Results segment # 4: Hwy417 East (day)

Source height = 1.50 m

ROAD (0.00 + 48.03 + 0.00) = 48.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	11	0.00	81.40	0.00	-15.23	-12.14	0.00	-6.00	0.00	48.03

Segment Leq : 48.03 dBA

Total Leq All Segments: 63.09 dBA

Results segment # 1: Ogilvie Rd (night)

Source height = 1.50 m

ROAD (0.00 + 54.78 + 0.00) = 54.78 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-82	0	0.00	66.08	0.00	-6.99	-3.41	0.00	-0.90	0.00	54.78

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

Segment Leq : 54.78 dBA

↟
Results segment # 2: Cyrville Rd (night)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 44.49 + 0.00) = 44.49 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     54   0.00  58.16   0.00  -7.53  -5.23   0.00  -0.90   0.00  44.49
-------------------------------------------------------------------------------

Segment Leq : 44.49 dBA

↟
Results segment # 3: Hwy417 West (night)
---------------------------------------

Source height = 1.49 m

ROAD (0.00 + 41.78 + 0.00) = 41.78 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     15   0.00  73.80   0.00 -15.23 -10.79   0.00  -6.00   0.00  41.78
-------------------------------------------------------------------------------

Segment Leq : 41.78 dBA

↟
Results segment # 4: Hwy417 East (night)
---------------------------------------

Source height = 1.49 m

ROAD (0.00 + 40.43 + 0.00) = 40.43 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     11   0.00  73.80   0.00 -15.23 -12.14   0.00  -6.00   0.00  40.43
-------------------------------------------------------------------------------

Segment Leq : 40.43 dBA

Total Leq All Segments: 55.50 dBA

↟
```

TOTAL Leq FROM ALL SOURCES (DAY): 63.09
(NIGHT): 55.50

STAMSON 5.0 NORMAL REPORT Date: 29-10-2021 14:22:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec1312.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 13-12

Road data, segment # 1: Cummings Ave (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Cummings Ave (day/night)

Angle1 Angle2 : -36.00 deg 14.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 125.00 / 125.00 m
Receiver height : 36.00 / 36.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: CyrvilleRd A (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 : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 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: CyrvilleRd A (day/night)
-----------------------------------------------
Angle1   Angle2           : -64.00 deg   -63.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 105.00 / 105.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 3: CyrvilleRd B (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  :    50 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: CyrvilleRd B (day/night)
-----------------------------------------------
Angle1   Angle2           : -63.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 105.00 / 105.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -63.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  35.00 / 35.00  m
Source elevation          :  70.00 m
Receiver elevation        :  70.00 m
```

```
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: Hwy417West A (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Hwy417West A (day/night)
-----------------------------------------------
Angle1   Angle2           : -71.00 deg   -63.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 470.00 / 470.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 5: Hwy417West B (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 5: Hwy417West B (day/night)
-----------------------------------------------
Angle1   Angle2           : -63.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 470.00 / 470.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -63.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  35.00 / 35.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00

↟
Road data, segment # 6: Hwy417East A (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 6: Hwy417East A (day/night)
-----------------------------------------------
Angle1   Angle2           : -66.00 deg   -63.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 495.00 / 495.00 m
Receiver height           :  36.00 / 36.00  m
```

```
Topography                :      3       (Elevated; no barrier)
Elevation                 :   2.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 7: Hwy417East B (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  73332
    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 # 7: Hwy417East B (day/night)
-----------------------------------------------
Angle1   Angle2           : -63.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 495.00 / 495.00 m
Receiver height           :  36.00 / 36.00  m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -63.00 deg   Angle2 : 0.00 deg
Barrier height            :  19.00 m
Barrier receiver distance :  35.00 / 35.00  m
Source elevation          :  72.00 m
Receiver elevation        :  70.00 m
Barrier elevation         :  70.00 m
Reference angle           :   0.00
```

↟

```
Results segment # 1: Cummings Ave (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.71 + 0.00) = 53.71 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -36     14   0.00  68.48   0.00  -9.21  -5.56   0.00   0.00   0.00  53.71
-------------------------------------------------------------------------------

Segment Leq : 53.71 dBA

↟
Results segment # 2: CyrvilleRd A (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 33.85 + 0.00) = 33.85 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -64    -63   0.00  65.75   0.00  -8.45 -22.55   0.00  -0.90   0.00  33.85
-------------------------------------------------------------------------------

Segment Leq : 33.85 dBA

↟
Results segment # 3: CyrvilleRd B (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 !       36.00 !       24.50 !        94.50

ROAD (0.00 + 52.74 + 0.00) = 52.74 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -63      0   0.00  65.75   0.00  -8.45  -4.56   0.00   0.00   0.00  52.74*
   -63      0   0.00  65.75   0.00  -8.45  -4.56   0.00   0.00   0.00  52.74
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 52.74 dBA

↟
Results segment # 4: Hwy417West A (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 46.91 + 0.00) = 46.91 dBA
```

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -71    -63   0.00  81.40   0.00 -14.96 -13.52   0.00  -6.01   0.00  46.91
-------------------------------------------------------------------------

Segment Leq : 46.91 dBA

↟
Results segment # 5: Hwy417West B (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 !       36.00 !       33.58 !       103.58

ROAD (0.00 + 55.87 + 0.00) = 55.87 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -63      0   0.00  81.40   0.00 -14.96  -4.56   0.00  -6.01   0.00  55.87
   -63      0   0.00  81.40   0.00 -14.96  -4.56   0.00   0.00   0.00  61.88*
   -63      0   0.00  81.40   0.00 -14.96  -4.56   0.00   0.00   0.00  61.88
-------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 55.87 dBA

↟
Results segment # 6: Hwy417East A (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 42.43 + 0.00) = 42.43 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -66    -63   0.00  81.40   0.00 -15.19 -17.78   0.00  -6.00   0.00  42.43
-------------------------------------------------------------------------

Segment Leq : 42.43 dBA

↟
Results segment # 7: Hwy417East B (day)
---------------------------------------
```

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	36.00	33.70	103.70

ROAD (0.00 + 55.65 + 0.00) = 55.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-63	0	0.00	81.40	0.00	-15.19	-4.56	0.00	-6.00	0.00	55.65
-63	0	0.00	81.40	0.00	-15.19	-4.56	0.00	0.00	0.00	61.65*
-63	0	0.00	81.40	0.00	-15.19	-4.56	0.00	0.00	0.00	61.65

* Bright Zone !

Segment Leq : 55.65 dBA

Total Leq All Segments: 60.95 dBA

Results segment # 1: Cummings Ave (night)

Source height = 1.50 m

ROAD (0.00 + 46.11 + 0.00) = 46.11 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-36	14	0.00	60.88	0.00	-9.21	-5.56	0.00	0.00	0.00	46.11

Segment Leq : 46.11 dBA

Results segment # 2: CyrvilleRd A (night)

Source height = 1.50 m

ROAD (0.00 + 26.25 + 0.00) = 26.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-64	-63	0.00	58.16	0.00	-8.45	-22.55	0.00	-0.90	0.00	26.25

Segment Leq : 26.25 dBA

↟
Results segment # 3: CyrvilleRd B (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	36.00	24.50	94.50

ROAD (0.00 + 45.15 + 0.00) = 45.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-63	0	0.00	58.16	0.00	-8.45	-4.56	0.00	0.00	0.00	45.15*
-63	0	0.00	58.16	0.00	-8.45	-4.56	0.00	0.00	0.00	45.15

 * Bright Zone !

Segment Leq : 45.15 dBA

↟
Results segment # 4: Hwy417West A (night)

Source height = 1.49 m

ROAD (0.00 + 39.31 + 0.00) = 39.31 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-71	-63	0.00	73.80	0.00	-14.96	-13.52	0.00	-6.01	0.00	39.31

Segment Leq : 39.31 dBA

↟
Results segment # 5: Hwy417West B (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)

```
       1.49 !       36.00 !       33.58 !       103.58

ROAD (0.00 + 48.27 + 0.00) = 48.27 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -63      0   0.00  73.80   0.00 -14.96  -4.56   0.00  -6.01   0.00  48.27
   -63      0   0.00  73.80   0.00 -14.96  -4.56   0.00   0.00   0.00  54.28*
   -63      0   0.00  73.80   0.00 -14.96  -4.56   0.00   0.00   0.00  54.28
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 48.27 dBA

↟
Results segment # 6: Hwy417East A (night)
-----------------------------------------

Source height = 1.49 m

ROAD (0.00 + 34.83 + 0.00) = 34.83 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -66    -63   0.00  73.80   0.00 -15.19 -17.78   0.00  -6.00   0.00  34.83
-------------------------------------------------------------------------------

Segment Leq : 34.83 dBA

↟
Results segment # 7: Hwy417East B (night)
-----------------------------------------

Source height = 1.49 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+---------------
       1.49 !       36.00 !       33.70 !       103.70

ROAD (0.00 + 48.05 + 0.00) = 48.05 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -63      0   0.00  73.80   0.00 -15.19  -4.56   0.00  -6.00   0.00  48.05
   -63      0   0.00  73.80   0.00 -15.19  -4.56   0.00   0.00   0.00  54.05*
   -63      0   0.00  73.80   0.00 -15.19  -4.56   0.00   0.00   0.00  54.05
-------------------------------------------------------------------------------

 * Bright Zone !
```

Segment Leq : 48.05 dBA

Total Leq All Segments: 53.36 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.95
(NIGHT): 53.36