Environmental Noise Control Study
Proposed Residential Buildings

3490 Innes Road
Ottawa, Ontario

Prepared for Canadian Rental Services Inc.

Report PG4488-2 Revision 4 dated November 3, 2023

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Appendix 2

STAMSON Results

1.0 Introduction

Paterson Group (Paterson) was commissioned by Canadian Rental Services Inc. to conduct an environmental noise control study for the proposed residential buildings to be located at 3490 Innes 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 residential development will consist of three multi-storey residential buildings (Pavilion A, Pavilion B, and Pavilion C), all located within Zone 1 (southern portion) of the subject site. Pavilion A has six (6) stories and rises approximately 20 metres above grade. Pavilion B and Pavilion C have seven (7) stories and rise approximately 23 metres above grade. All pavilions have two (2) levels of basement. Associated at-grade pedestrian pathways, driveways, parking areas, landscaped areas, and garbage area are also anticipated. Outdoor living areas are identified at the 5th floor and 6th floor balcony terraces at Pavilion A, the 6th floor and 7th floor balcony terraces at Pavilion B, and the 5th floor, 6th floor, and 7th floor balcony terraces at Pavilion C on the proposed site plan. At-grade common terrace and 2nd floor common terrace are also identified at the south side of Pavilion B on the proposed site plan.

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. The noise level limits of residential building are 45 dBA daytime and 40 dBA nighttime. 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.

When the noise levels are equal to or less than the specified criteria, no noise attenuation (control) measures are required.

When the exceedance of the recommended noise level limits is between 1 dBA and 5 dBA for outdoor living areas (55 dBA < Leq ≤ 60 dBA), the proposed development can be completed with no noise control measures incorporated into the site, but the prospective purchasers / tenants should be made aware by suitable Warning Clauses. When the exceedance of recommended noise level limits is more than 5 dBA for outdoor living areas (Leq > 60 dBA), noise control measures are required to reduce Leq to below 60 dBA and as close as 55 dBA as it is technically and economically feasible.

Noise attenuation (control) measures include any or all of the following:

- Noise attenuation barrier
- Provisions for the installation of central air conditioning
- Central air conditioning
- Architectural components designed to provide additional acoustic insulation

In addition to the implementation of noise attenuation features, if required, the following Warning Clauses may be recommended to advise the prospective purchasers / tenants of affected units of potential environmental noise problem:

Table 3 – Warning Clauses for Outdoor Living Areas

Leq (dBA)	Warning Clause	Description
55 dBA < $L_{eq(16)}$ ≤ 60 dBA	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."
60 dBA < $L_{eq(16)}$	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."

- Clauses taken from section C8 Warning Clauses; Environmental Noise Guidelines for Stationary and Transportation Sources - NPC-300

Table 4 – Warning Clauses for Indoor Living Areas		
Leq (dBA)	**Warning Clause**	**Description**
55 dBA < $L_{eq(16)}$ ≤ 65 dBA 50 dBA < $L_{eq(8)}$ ≤ 60 dBA	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."
65 dBA < $L_{eq(16)}$ 60 dBA < $L_{eq(8)}$	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 grassed area, to the east by Lamarche Avenue followed by undeveloped grassed area, to the south by residential dwellings, Argonaut Circle, Crevier Walk, and Darvoy Mews, to the west by residential dwellings, commercial buildings, and Page Road. Page Road, Argonaut Circle, and Darvoy Mews are identified within the 100 m radius of Pavilion A. Lamarche Avenue, Argonaut Circle, and Crevier Walk are identified within the 100 m radius of Pavilion B. Lamarche Avenue, Argonaut Circle, Crevier Walk, and Darvoy Mews are identified within the 100 m radius of Pavilion C.

Based on the City of Ottawa's Official Plan, Schedule E, Page Road is considered a 2-lane urban collector road (2-UCU), and Lamarche Avenue will bes considered a 2-lane main collector road (2-UMCU). Other roads within the 100 m radius of the proposed dwellings are not classified as either arterial, collector or major collector roads and therefore are not included in this study. It is noted that Page Road is beyond the 100 m radius of Pavilions B and C. It is also noted that Lamarche Avenue is beyond the 100 m radius of Pavilion A.

All noise sources are presented in Drawings PG4488-4, PG4488-5, PG4488-6 - Site Geometry 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 5 – Traffic and Road Parameters

Segment	Roadway Classification	AADT Veh/Day	Speed Limit (km/h)	Day/Night Split %	Medium Truck %	Heavy Truck %
Page Road	2-UCU	8000	40	92/8	7	5
Lamarche Avenue	2-UMCU	12000	40	92/8	7	5

- Data obtained from the City of Ottawa document ENCG

Seven (7) levels of reception points were selected for this analysis. The following elevations were selected from the heights provided on the survey plan for the subject buildings.

Table 6 – Elevations of Reception Points			
Floor Number	**Elevation at Centre of Window (m)**	**Floor Use**	**Daytime / Nighttime Analysis**
First Floor	1.5	Living Area/Bedroom	Daytime / Nighttime
Sixth Floor	18.0	Living Area/Bedroom	Daytime / Nighttime
Seventh Floor	21.5	Living Area/Bedroom	Daytime / Nighttime
Fifth Floor Balcony Terrace	15.0	Outdoor Living Area	--
Sixth Floor Balcony Terrace	18.0	Outdoor Living Area	--
Seventh Floor Balcony Terrace	21.5	Outdoor Living Area	--
Second Floor Common Terrace	5.5	Outdoor Living Area	--

For this analysis, a reception point was taken at the centre of each floor, at the first floor and top floor. Receptor points were also taken at Outdoor Living Areas - fifth floor and sixth floor balcony terraces at the north end and south end of proposed Pavilion A, sixth floor and seventh floor balcony terraces at the east end and second floor common terrace at the south end of proposed Pavilion B, and fifth floor, sixth floor, and seventh floor balcony terraces at the north end and south end of proposed Pavilion C. It should be noted that only terraces with widths greater than 4.0 m were analyzed as per City of Ottawa standards.

Sixth floor and seventh floor balcony terraces are anticipated at the west end of proposed Pavilion B. Due to the surrounding exterior walls of the proposed building, there is no direct line of sight to surface transportation noise sources. Therefore any noise levels due to the surface transportation surrounding the subject site will be minimal. Reception points are detailed on Drawing PG4488-2 - 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 roadway was analyzed where it intersected the 100 m buffer zone, which is reflected in the local angles described in Paterson Drawings PG4488-4A to 4I, PG4488-5A to 5H, and PG4488-6A to 6I - Site Geometry in Appendix 1.

Tables 8 to 10 - 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 from the building facade are considered, as stipulated by the ENGC.

The subject site is gently levelled and at grade with the neighbouring roads within 100 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 7.

Table 7: 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	Pavilion A, Northern Elevation, 1st Floor	41	33
REC 1-6	18	Pavilion A, Northern Elevation, 6th Floor	45	38
REC 2-1	1.5	Pavilion A, Western Elevation, 1st Floor	47	40
REC 2-6	18	Pavilion A, Western Elevation, 6th Floor	51	44
REC 3-1	1.5	Pavilion A, Southern Elevation, 1st Floor	40	33
REC 3-6	18	Pavilion A, Southern Elevation, 6th Floor	46	38
REC 4	15	Pavilion A, Balcony Terrace (North), 5th Floor	45	--
REC 5	15	Pavilion A, Balcony Terrace (South), 5th Floor	46	--
REC 6	18	Pavilion A, Balcony Terrace (North), 6th Floor	46	--
REC 7	18	Pavilion A, Balcony Terrace (South), 6th Floor	47	--
REC 8-1	1.5	Pavilion B, Northern Elevation, 1st Floor	47	39
REC 8-7	21.5	Pavilion B, Northern Elevation, 7th Floor	51	44
REC 9-1	1.5	Pavilion B, Eastern Elevation, 1st Floor	55	47
REC 9-7	21.5	Pavilion B, Eastern Elevation, 7th Floor	58	51

Table 7: 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 10-1	1.5	Pavilion B, Sothern Elevation, 1st Floor	47	40
REC 10-7	21.5	Pavilion B, Sothern Elevation, 7th Floor	52	44
REC 11	18	Pavilion B, Balcony Terrace (East), 6th Floor	57	--
REC 12	21.5	Pavilion B, Balcony Terrace (East), 7th Floor	58	--
REC 13	5.5	Pavilion B, Common Terrace (South), 2nd Floor	48	--
REC 14-1	1.5	Pavilion C, Northern Elevation, 1st Floor	58	50
REC 14-7	21.5	Pavilion C, Northern Elevation, 7th Floor	60	52
REC 15-1	1.5	Pavilion C, Eastern Elevation, 1st Floor	64	57
REC 15-7	21.5	Pavilion C, Eastern Elevation, 7th Floor	65	58
REC 16-1	1.5	Pavilion C, Southern Elevation, 1st Floor	57	50
REC 16-7	21.5	Pavilion C, Southern Elevation, 7th Floor	60	52
REC 17	15	Pavilion C, Balcony Terrace (South), 5th Floor	45	--
REC 18	18	Pavilion C, Balcony Terrace (North), 6th Floor	45	--
REC 19	21.5	Pavilion C, Balcony Terrace (South), 7th Floor	53	--
REC 20	21.5	Pavilion C, Balcony Terrace (North), 7th Floor	53	--

6.0 Discussion and Recommendations

6.1 Outdoor Living Areas

Outdoor living areas – balcony terraces are anticipated at proposed Pavilions A, B, and C. Common terraces are also anticipated at the rear yard of Pavilion B. Receptor points (REC 4 to 7) were selected in the centre of fifth floor and sixth floor balcony terraces at the north end and south end of proposed Pavilion A. Receptor points (REC 11 to 13) were selected in the centre of sixth floor and seventh floor balcony terraces at the east end and second floor common terrace at the south end of proposed Pavilion B. Receptor points (REC 17 to 20) were selected in the centre of fifth floor, sixth floor, and seventh floor balcony terraces at the north end and south end of proposed Pavilion C. It should be noted that an outdoor living area located on the 6th floor terrace on the south side of Pavilion C was initially identified for analysis, however, upon review, this terrace is too narrow to be considered an outdoor living area and therefore is not included in this analysis.

It is assumed that the balcony terraces will only be utilized as OLA provided that the proposed buildings are constructed therefore allowing the exterior walls of the proposed buildings to act as noise barriers. The noise levels at the balcony terraces at the north end and south end of proposed Pavilion A will range between 45 dBA and 47 dBA during the daytime period (7:00-23:00), which are below the 55 dBA threshold value specified by the ENCG. The noise levels at the balcony terraces at the north end and south end of proposed Pavilion C will range between 45 dBA and 53 dBA during the daytime period (7:00-23:00), which are below the 55 dBA threshold value specified by the ENCG. Therefore, no further noise attenuation measures are required for Pavilion A and Pavilion C. The noise levels at the balcony terraces of at the east end of proposed Pavilion B will range between 57 dBA and 58 dBA during the daytime period (7:00-23:00), which exceed the 55 dBA threshold value specified by the ENCG. This exceedance is acceptable provided that Warning Clause A is provided in all deeds of sale for Pavilion B.

The noise level at the second common terrace at the south end of proposed Pavilion B will be 48 dBA, which is below the 55 dBA threshold value specified by the ENCG. The noise level at the at-grade common terrace at the south side of Pavilion B is also anticipated to be below the 55 dBA threshold value specified by the ENCG.

6.2 Indoor Living Areas and Ventilation

The results of the STAMSON modeling indicate that the noise levels at proposed Pavilion A will range between 40 dBA and 51 dBA during the daytime period (07:00-23:00) and between 33 dBA and 44 dBA during the nighttime period (23:00-7:00), which are below the limit for the exterior of the pane of glass (55 dBA) specified by the ENCG. It is also noted that the results of STAMSON modeling indicate that the noise levels at proposed Pavilion A will be below 65 dBA, and therefore standard building materials are acceptable to provide adequate soundproofing.

The results of the STAMSON modeling indicate that the noise levels at proposed Pavilion B will range between 47 dBA and 58 dBA during the daytime period (07:00-23:00) and between 40 dBA and 51 dBA during the nighttime period (23:00-7:00). It is expected that the noise levels on the eastern elevation of proposed Pavilion B will exceed the limit for the exterior of the pane of glass (55 dBA) specified by the ENCG. Therefore, the units of on the eastern elevation of Pavilion B should be designed with the provision of a central air conditioning unit, along with the warning clause Type C, as outlined in Table 3. It is also noted that the results of STAMSON modeling indicate that the noise levels at proposed Pavilion B will be below 65 dBA, and therefore standard building materials are acceptable to provide adequate soundproofing.

The results of the STAMSON modeling indicate that the noise levels at proposed Pavilion C will range between 57 dBA and 65 dBA during the daytime period (07:00-23:00) and between 50 dBA and 58 dBA during the nighttime period (23:00-7:00). It is expected that the noise levels on the northern, eastern, and southern elevations of proposed Pavilion C will exceed the limit for the exterior of the pane of glass (55 dBA) specified by the ENCG. Therefore, the units of on the northern, eastern, and southern elevations of Pavilion C should be designed with the provision of a central air conditioning unit, along with the warning clause Type C, as outlined in Table 3. It is also noted that the results of STAMSON modeling indicate that the noise levels at proposed Pavilion C will be equal or below 65 dBA, and therefore standard building materials are acceptable to provide adequate soundproofing.

7.0 Summary of Findings

The subject site is located at 3490 Innes Road, in the City of Ottawa. It is understood that the proposed development will consist of three multi-storey residential buildings (Pavilion A, Pavilion B, and Pavilion C), all located within Zone 1 (southern portion) of the subject site. Pavilion A has six (6) stories and rises approximately 20 metres above grade. Pavilion B and Pavilion C have seven (7) stories and rise approximately 23 metres above grade. There are two major sources of surface transportation noise to the proposed buildings: Page Road and Lamarche Avenue.

Several tiered balcony terraces are anticipated at the Pavilions A, B, and C. Only terraces with widths greater than 4.0 m were selected for analysis. Common terraces are also anticipated at the south side of Pavilion B. The proposed Leq(16) at the balcony terraces at the north end and south end of Pavilion A and Pavilion C will be below the 55 dBA threshold value specified by the ENCG. Therefore, further noise attenuation measures are not required for Pavilion A and Pavilion C. The proposed Leq(16) at the common terraces at the south end of Pavilion B will be below the 55 dBA threshold value specified by the ENCG. The proposed Leq(16) at the balcony terraces at the east end of Pavilion B range between 57 dBA and 58 dBA during the daytime period (7:00-23:00), which exceed the 55 dBA threshold value specified by the ENCG. This exceedance is acceptable provided that Warning Clause A is provided in all deeds of sale for Pavilion B.

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 eastern elevation of Pavilion B, and the northern, eastern, and southern elevations of Pavilion C are expected to exceed the 55 dBA threshold specified by the ENCG. Therefore, design with the provision for a central air conditioning unit, along with a warning clause Type C, will be required for the units on the eastern elevation of Pavilion B, and the northern, eastern, and southern elevations of Pavilion C. It is also noted that the modeling indicates that the noise levels at Pavilions A, B, and C are expected to be equal or below 65 dBA, and therefore standard building materials are acceptable to provide adequate soundproofing.

The following warning clause is to be included on all Offers of Purchase and Sale and/or lease agreements for the units at Pavilion B:

> "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 for the units on the eastern elevation of Pavilion B, and the northern, eastern, and southern elevations of Pavilion 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."

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 Canadian Rental Services Inc. 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.

Otillia McLaughlin B. Eng. Stephanie A. Boisvenue, P.Eng.

Report Distribution:

- ❑ Canadian Rental Services Inc. (email copy)
- ❑ Paterson Group (1 copy)

APPENDIX 1

Table 8 - Summary of Reception Points and Geometry (Pavilion A)

Table 9 - Summary of Reception Points and Geometry (Pavilion B)

Table 10 - Summary of Reception Points and Geometry (Pavilion C)

Drawing PG4488-1 - Site Plan

Drawing PG4488-2 - Receptor Location Plan

Drawing PG4488-4 - Site Geometry (Pavilion A)

Drawing PG4488-4A - Site Geometry (REC 1-1)

Drawing PG4488-4B - Site Geometry (REC 1-6)

Drawing PG4488-4C - Site Geometry (REC 2-1 and REC 2-6)

Drawing PG4488-4D - Site Geometry (REC 3-1)

Drawing PG4488-4E - Site Geometry (REC 3-6)

Drawing PG4488-4F - Site Geometry (REC 4)

Drawing PG4488-4G - Site Geometry (REC 5)

Drawing PG4488-4H - Site Geometry (REC 6)

Drawing PG4488-4I - Site Geometry (REC 7)

APPENDIX 1
(Cont'd)

Drawing PG4488-5 - Site Geometry (Pavilion B)

Drawing PG4488-5A - Site Geometry (REC 8-1 and REC 8-7)

Drawing PG4488-5B - Site Geometry (REC 9-1)

Drawing PG4488-5C - Site Geometry (REC 9-7)

Drawing PG4488-5D - Site Geometry (REC 10-1)

Drawing PG4488-5E - Site Geometry (REC 10-7)

Drawing PG4488-5F - Site Geometry (REC 11)

Drawing PG4488-5G - Site Geometry (REC 12)

Drawing PG4488-5H - Site Geometry (REC 13)

Drawing PG4488-6 - Site Geometry (Pavilion C)

Drawing PG4488-6A - Site Geometry (REC 14-1)

Drawing PG4488-6B - Site Geometry (REC 14-7)

Drawing PG4488-6C - Site Geometry (REC 15-1 and REC 15-7)

Drawing PG4488-6D - Site Geometry (REC 16-1)

Drawing PG4488-6E - Site Geometry (REC 16-7)

Drawing PG4488-6F - Site Geometry (REC 17)

Drawing PG4488-6G - Site Geometry (REC 18)

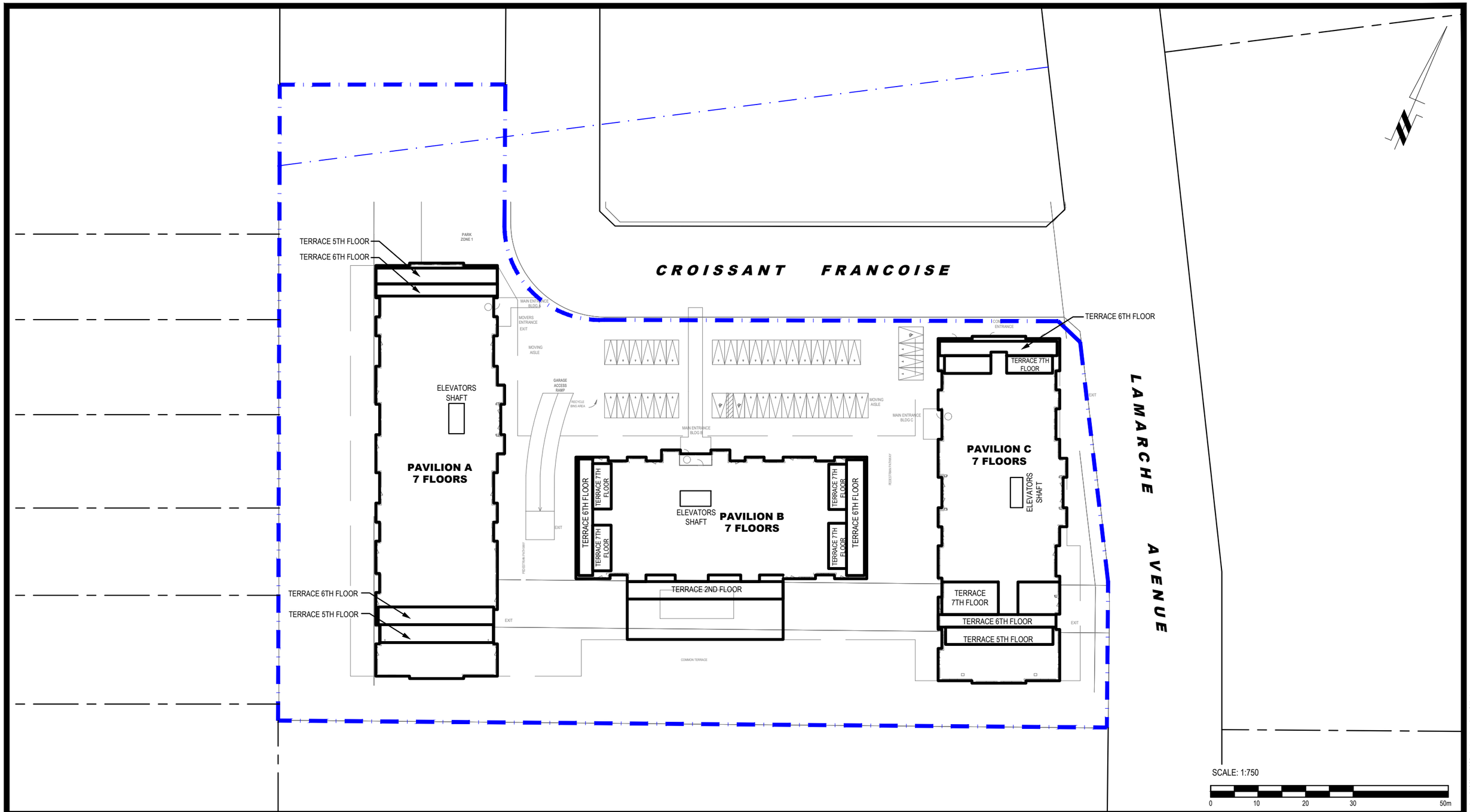
Drawing PG4488-6H - Site Geometry (REC 19)

Drawing PG4488-6I - Site Geometry (REC 20)

Table 8 - Summary of Reception Points and Geometry									
3490 Innes Road (Pavilion A)									
Point of Reception	Location	Leq Day (dBA)	Leq Night (dBA)	PAGE ROAD					
				Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)
REC 1-1	Pavilion A, Northern Elevation, 1st Floor	41	33	100	1.5	100.0	0, 24	1	20
REC 1-6	Pavilion A, Northern Elevation, 6th Floor	45	38	100	18.0	101.6	0, 27	1	20
REC 2-1	Pavilion A, Western Elevation, 1st Floor	47	40	85	1.5	85.0	-42, 46	1	20
REC 2-6	Pavilion A, Western Elevation, 6th Floor	51	44	85	18.0	86.9	-42, 46	1	20
REC 3-1	Pavilion A, Sothern Elevation, 1st Floor	40	33	100	1.5	100.0	-22, 0	1	20
REC 3-6	Pavilion A, Sothern Elevation, 6th Floor	46	38	100	18.0	101.6	-29, 0	1	20
REC 4	Pavilion A, Balcony Terrace (North), 5th Floor	45	n/a	100	15.0	101.1	-6, 25	1	20
REC 5	Pavilion A, Balcony Terrace (South), 5th Floor	46	n/a	100	15.0	101.1	-27, 8	1	20
REC 6	Pavilion A, Balcony Terrace (North), 6th Floor	46	n/a	100	18.0	101.6	-2, 27	1	20
REC 7	Pavilion A, Balcony Terrace (South), 6th Floor	47	n/a	100	18.0	101.6	-28, 10	1	20

Table 9 - Summary of Reception Points and Geometry									
3490 Innes Road (Pavilion B)									
Point of Reception	Location	Leq Day (dBA)	Leq Night (dBA)	LAMARCHE AVENUE					
				Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)
REC 8-1	Pavilion B, Northern Elevation, 1st Floor	47	39	85	1.5	85.0	-42, 0	n/a	n/a
REC 8-7	Pavilion B, Northern Elevation, 7th Floor	51	44	85	21.5	87.68	-42, 0	n/a	n/a
REC 9-1	Pavilion B, Eastern Elevation, 1st Floor	55	47	52	1.5	52.0	-68, 61	n/a	n/a
REC 9-7	Pavilion B, Eastern Elevation, 7th Floor	58	51	52	21.5	56.27	-66, 61	n/a	n/a
REC 10-1	Pavilion B, Sothern Elevation, 1st Floor	47	40	80	1.5	80.0	0, 44	n/a	n/a
REC 10-7	Pavilion B, Sothern Elevation, 7th Floor	52	44	80	21.5	82.84	0, 45	n/a	n/a
REC 11	Pavilion B, Balcony Terrace (East), 6th Floor	57	n/a	55	18.0	57.9	-67, 60	n/a	n/a
REC 12	Pavilion B, Balcony Terrace (East), 7th Floor	58	n/a	58	21.5	61.86	-65, 58	n/a	n/a
REC 13	Pavilion B, Common Terrace (South), 2nd Floor	48	n/a	80	5.5	80.19	-4, 43	n/a	n/a

Table 10 - Summary of Reception Points and Geometry									
3490 Innes Road (Pavilion C)									
Point of Reception	Location	Leq Day (dBA)	Leq Night (dBA)	LAMARCHE AVENUE					
				Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)
REC 14-1	Pavilion C, Northern Elevation, 1st Floor	58	50	25	1.5	25.0	-86, 0	n/a	n/a
REC 14-7	Pavilion C, Northern Elevation, 7th Floor	60	52	25	21.5	33.0	-86, 0	n/a	n/a
REC 15-1	Pavilion C, Eastern Elevation, 1st Floor	64	57	15	1.5	15.1	-90, 86	n/a	n/a
REC 15-7	Pavilion C, Eastern Elevation, 7th Floor	65	58	15	21.5	26.2	-90, 86	n/a	n/a
REC 16-1	Pavilion C, Sothern Elevation, 1st Floor	57	50	25	1.5	25.0	0, 76	n/a	n/a
REC 16-7	Pavilion C, Sothern Elevation, 7th Floor	60	52	25	21.5	33.0	0, 80	n/a	n/a
REC 17	Pavilion C, Balcony Terrace (South), 5th Floor	45	n/a	25	15.0	29.2	-8, 77	n/a	n/a
REC 18	Pavilion C, Balcony Terrace (North), 6th Floor	45	n/a	25	18.0	30.8	-87, 6	n/a	n/a
REC 19	Pavilion C, Balcony Terrace (South), 7th Floor	53	n/a	18	21.5	28.0	-43, 82	n/a	n/a
REC 20	Pavilion C, Balcony Terrace (North), 7th Floor	53	n/a	18	21.5	28.0	-89, 15	n/a	n/a



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LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE PLAN

Scale: 1:750	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-1
Approved by: SB	Revision No.: 1

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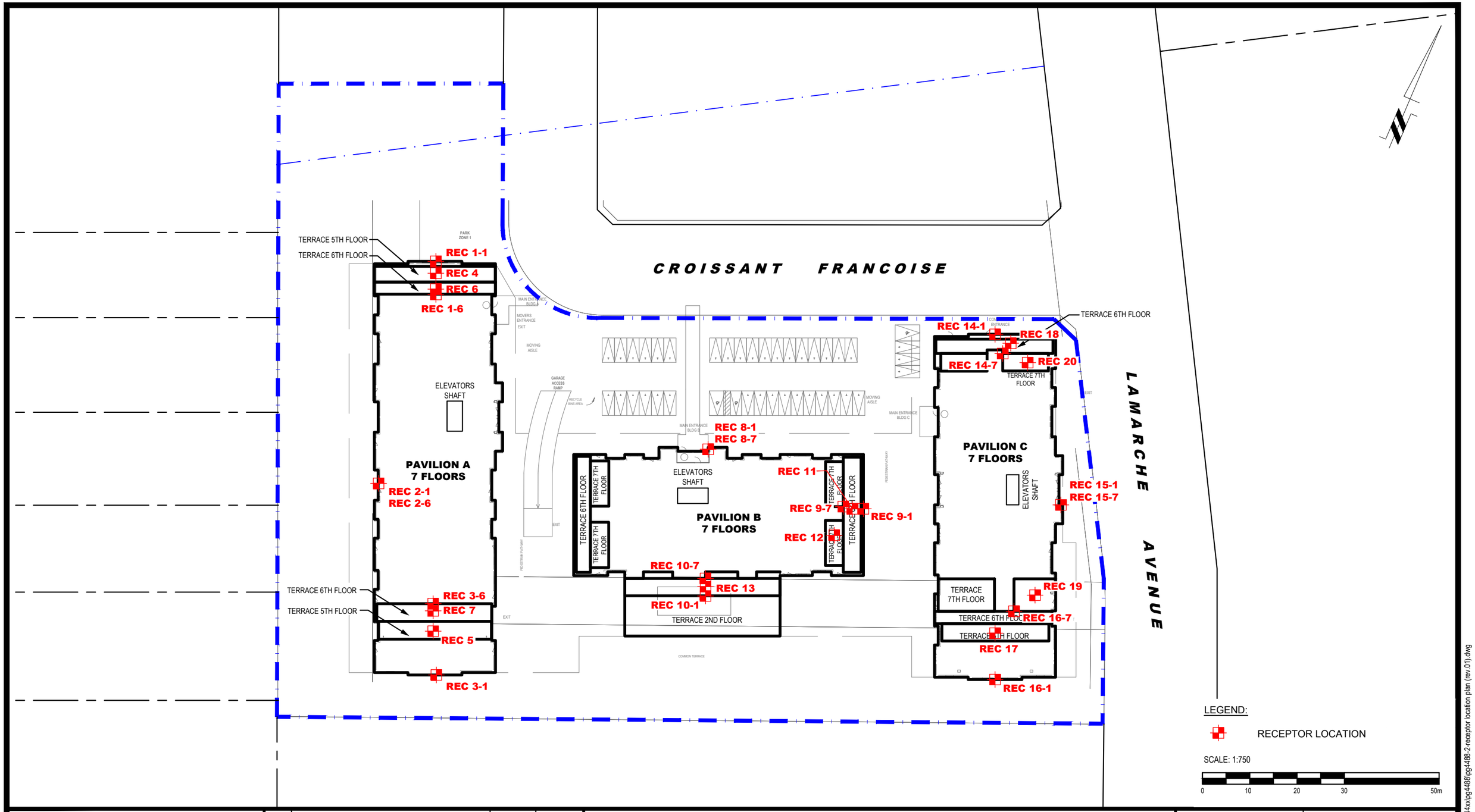

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Title:
RECEPTOR LOCATION PLAN

Scale: 1:750	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-2
Approved by: SB	Revision No.: 1

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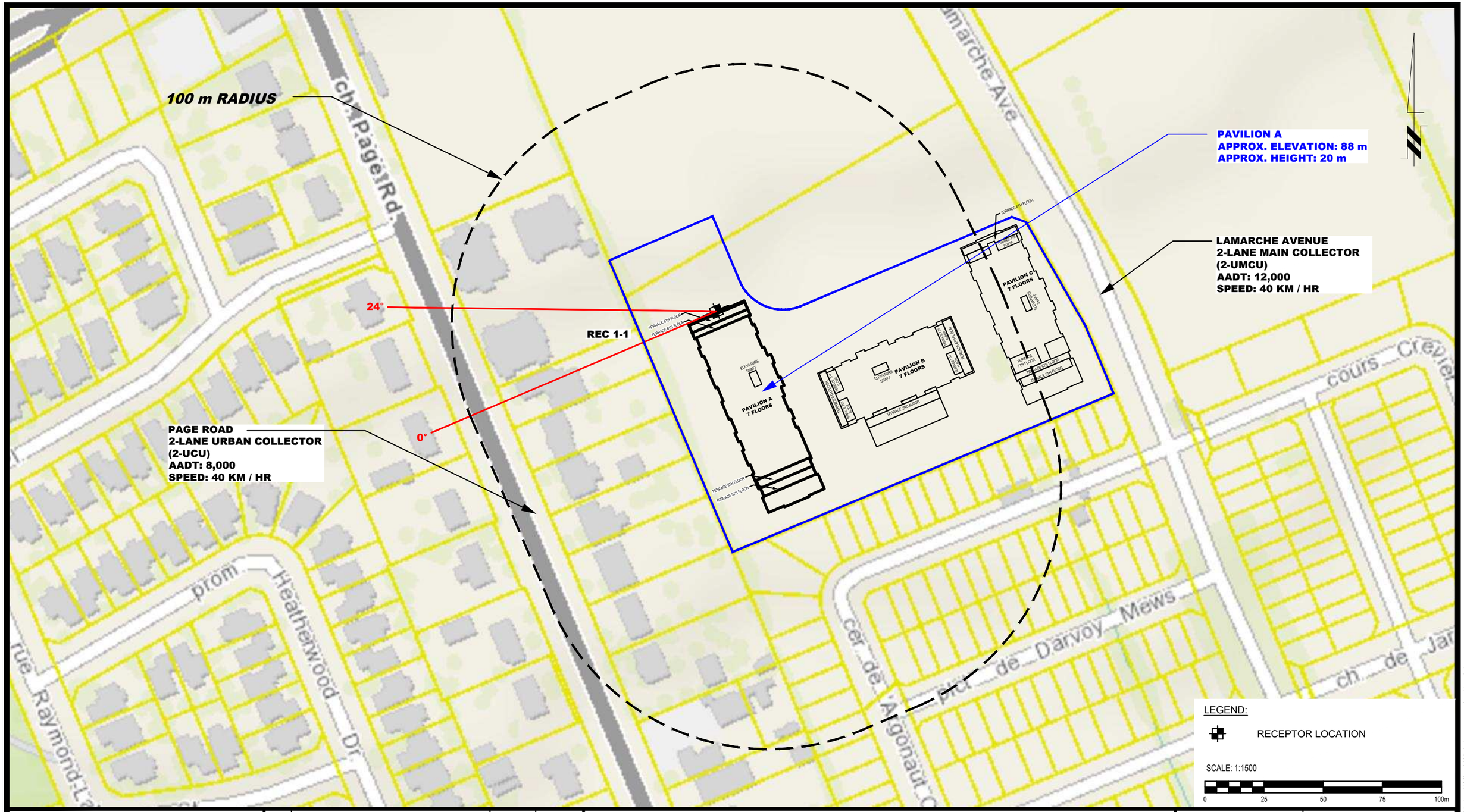

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PROPOSED MULTI-STOREY BUILDING
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OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 1-1

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4A
Approved by: SB	Revision No.: 1

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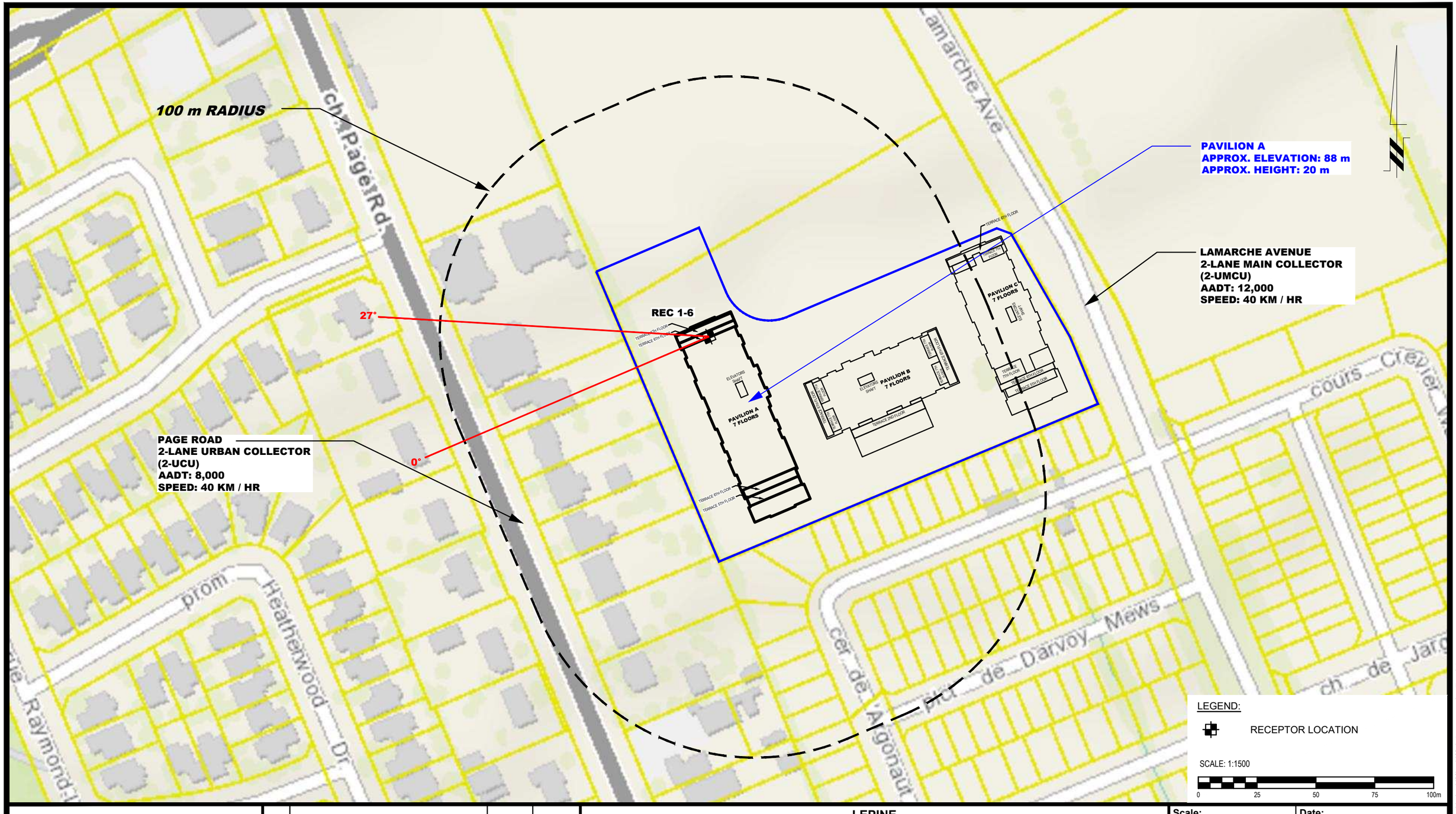

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Title:
SITE GEOMETRY - REC 1-6

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4B
Approved by: SB	Revision No.: 1

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PROPOSED MULTI-STOREY BUILDING
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Title:
SITE GEOMETRY - REC 2-1 AND REC 2-6

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4C
Approved by: SB	Revision No.: 1

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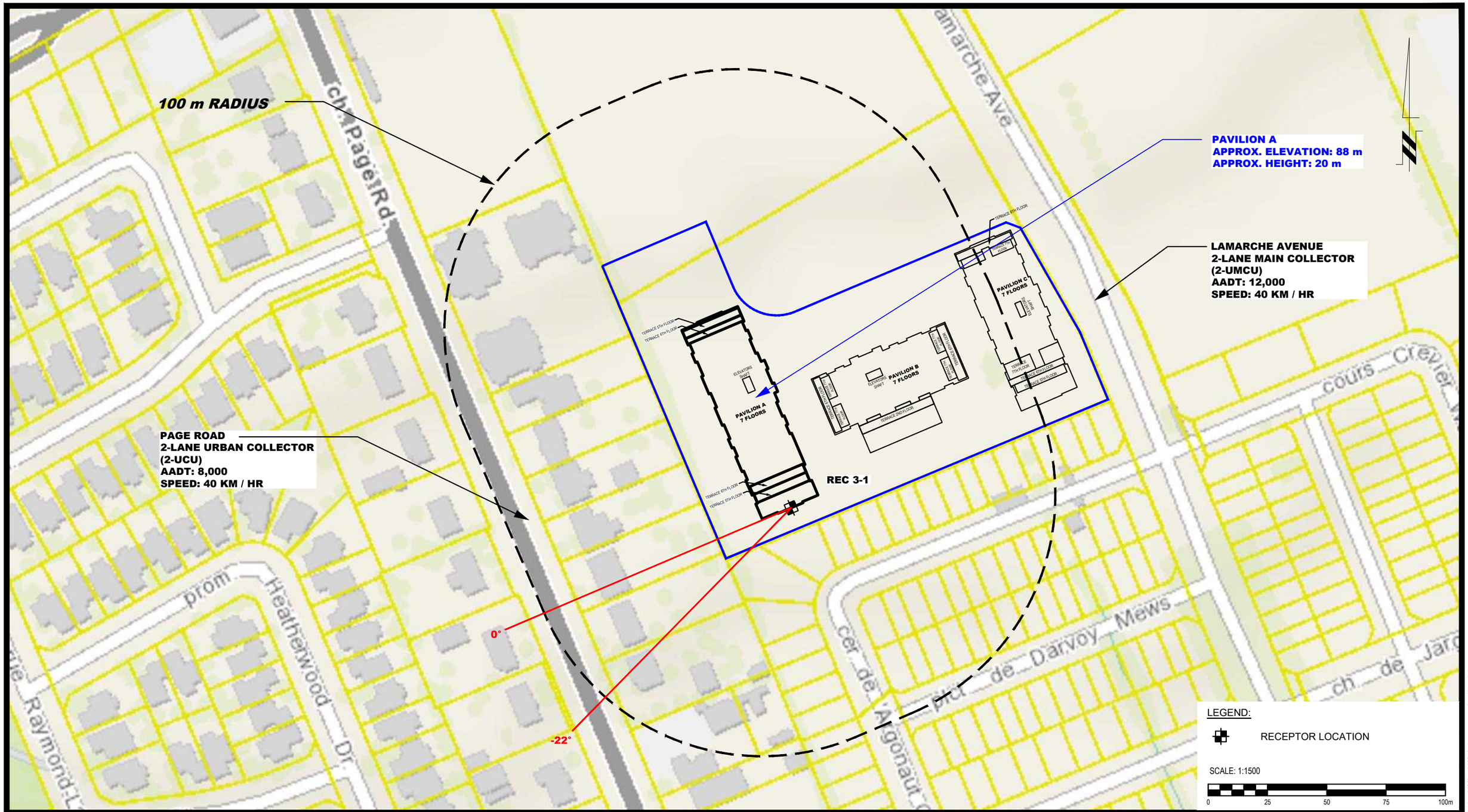

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Title:
SITE GEOMETRY - REC 3-1

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4D
Approved by: SB	Revision No.: 1

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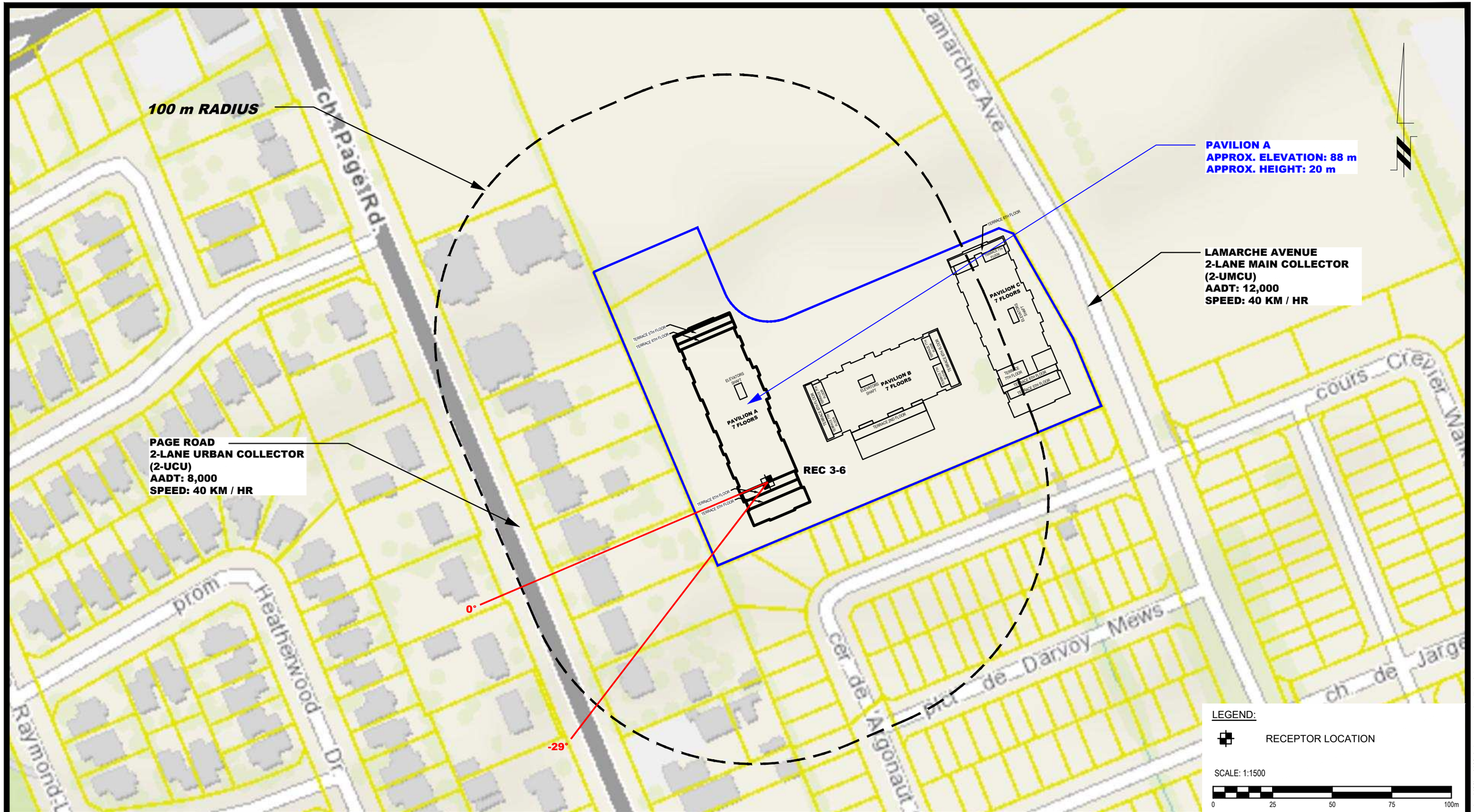

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Title:
SITE GEOMETRY - REC 3-6

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4E
Approved by: SB	Revision No.: 1

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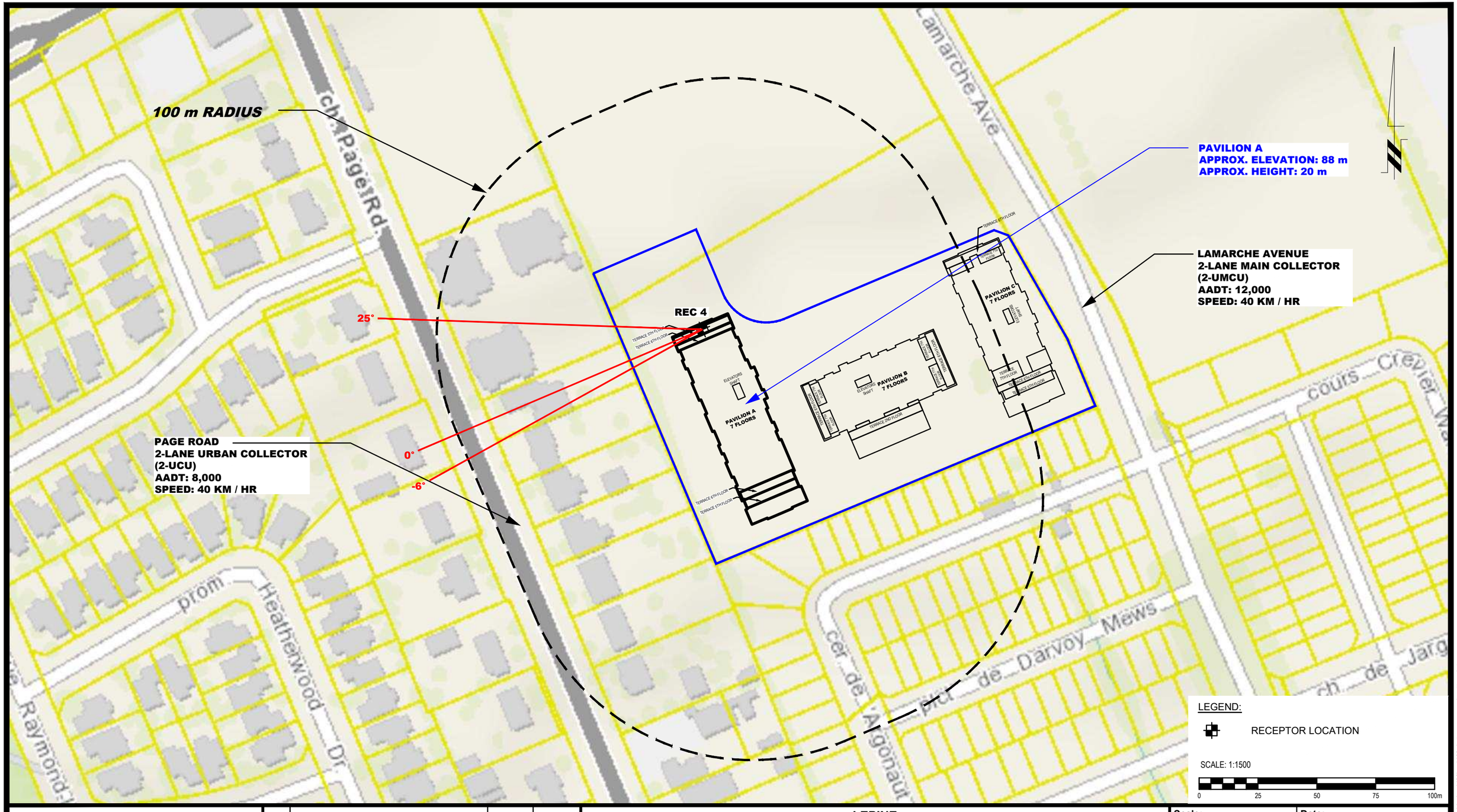

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Title:
SITE GEOMETRY - REC 4

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4F
Approved by: SB	Revision No.: 1

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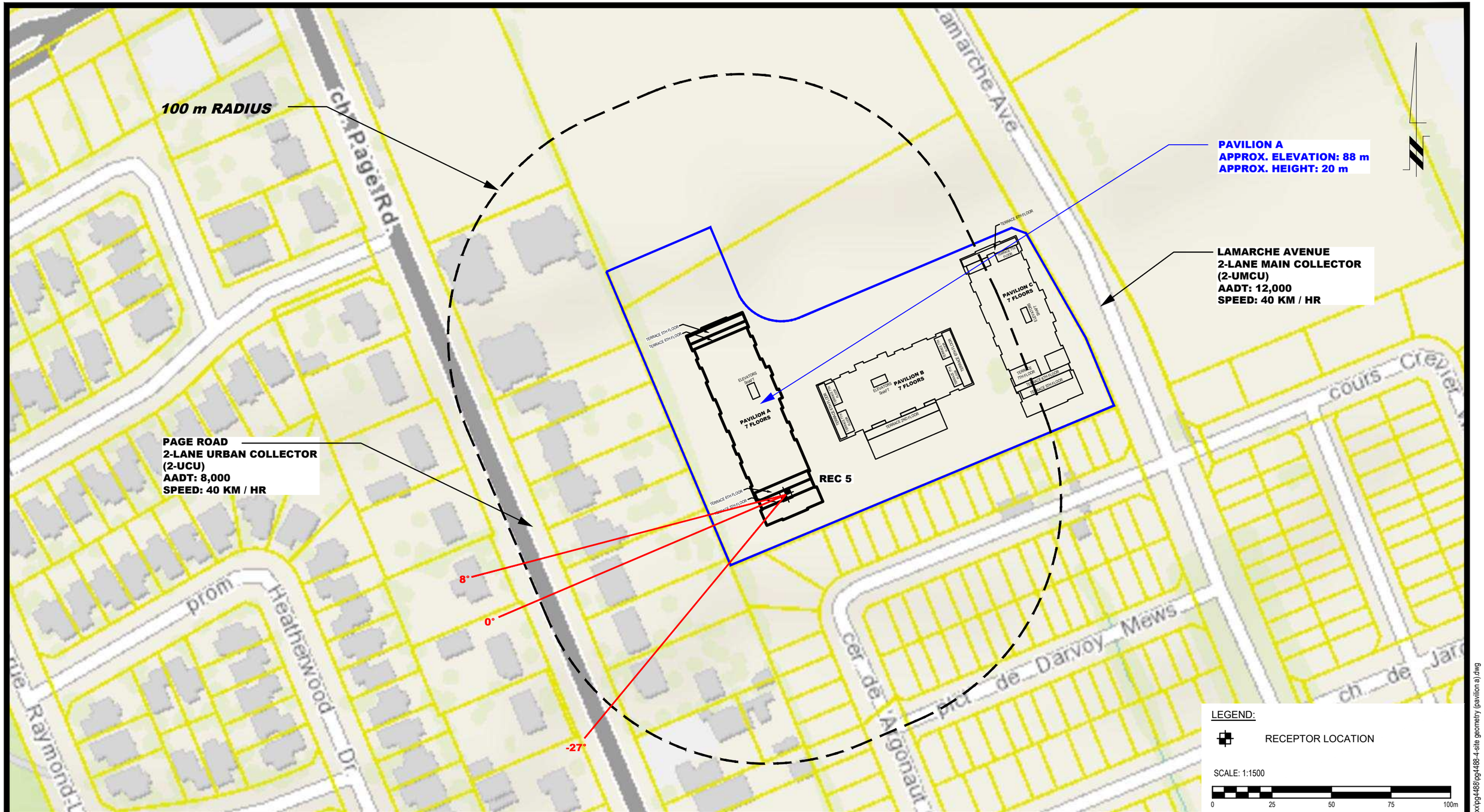

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Title:
SITE GEOMETRY - REC 5

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4G
Approved by: SB	Revision No.: 1

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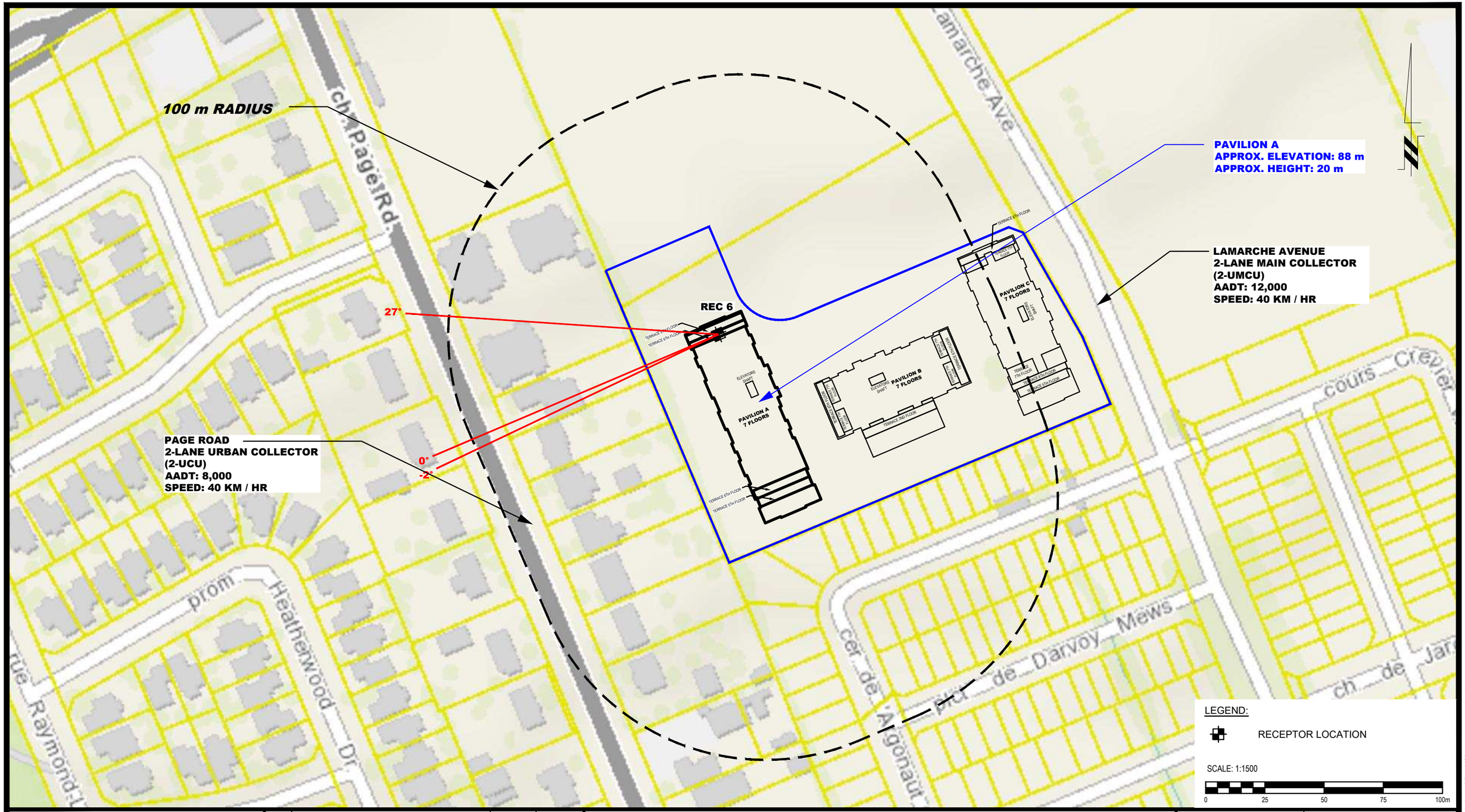

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Title:

SITE GEOMETRY - REC 6

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4H
Approved by: SB	Revision No.: 1

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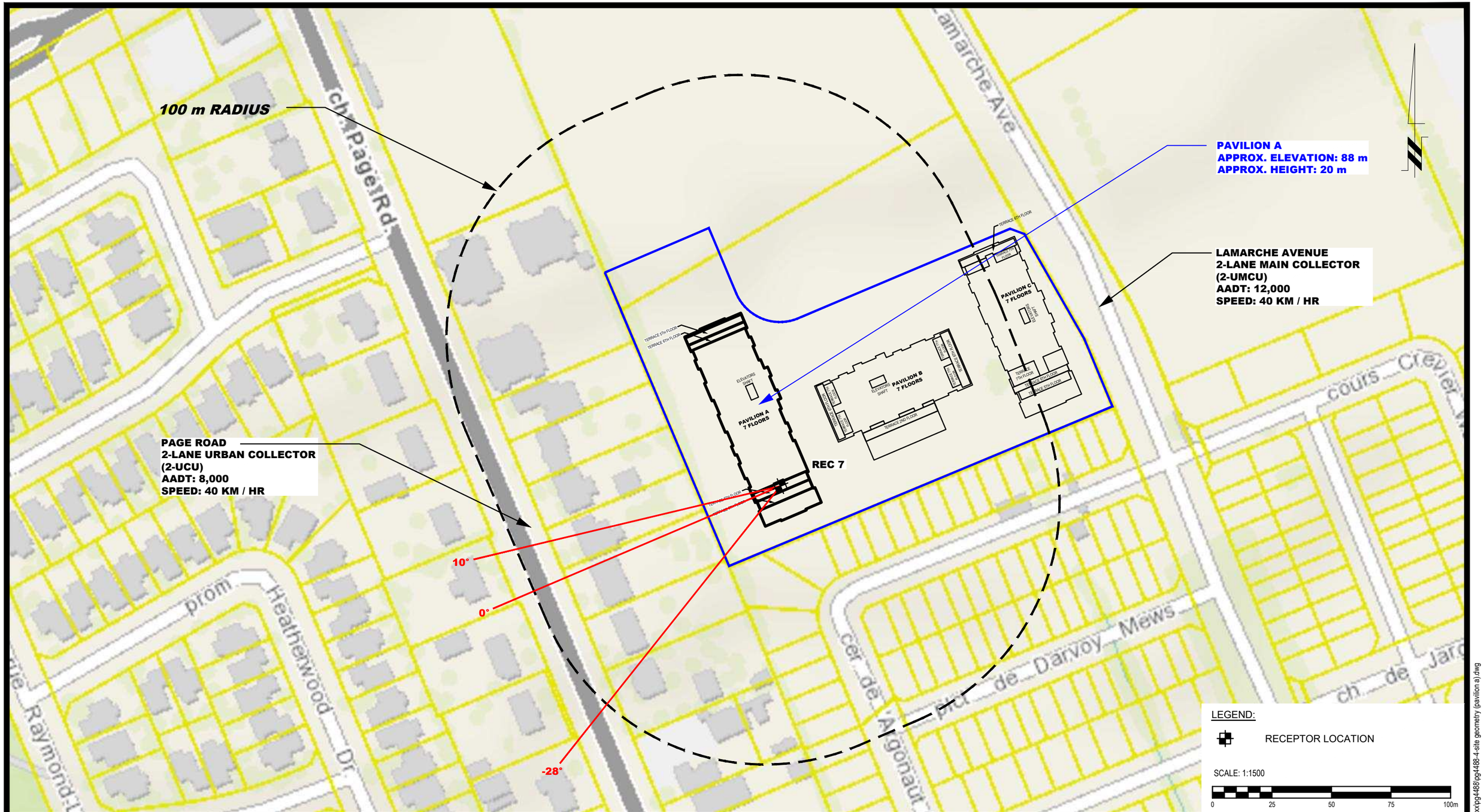

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Title:
SITE GEOMETRY - REC 7

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4I
Approved by: SB	Revision No.: 1

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PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - PAVILION A

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-4
Approved by: SB	Revision No.: 1

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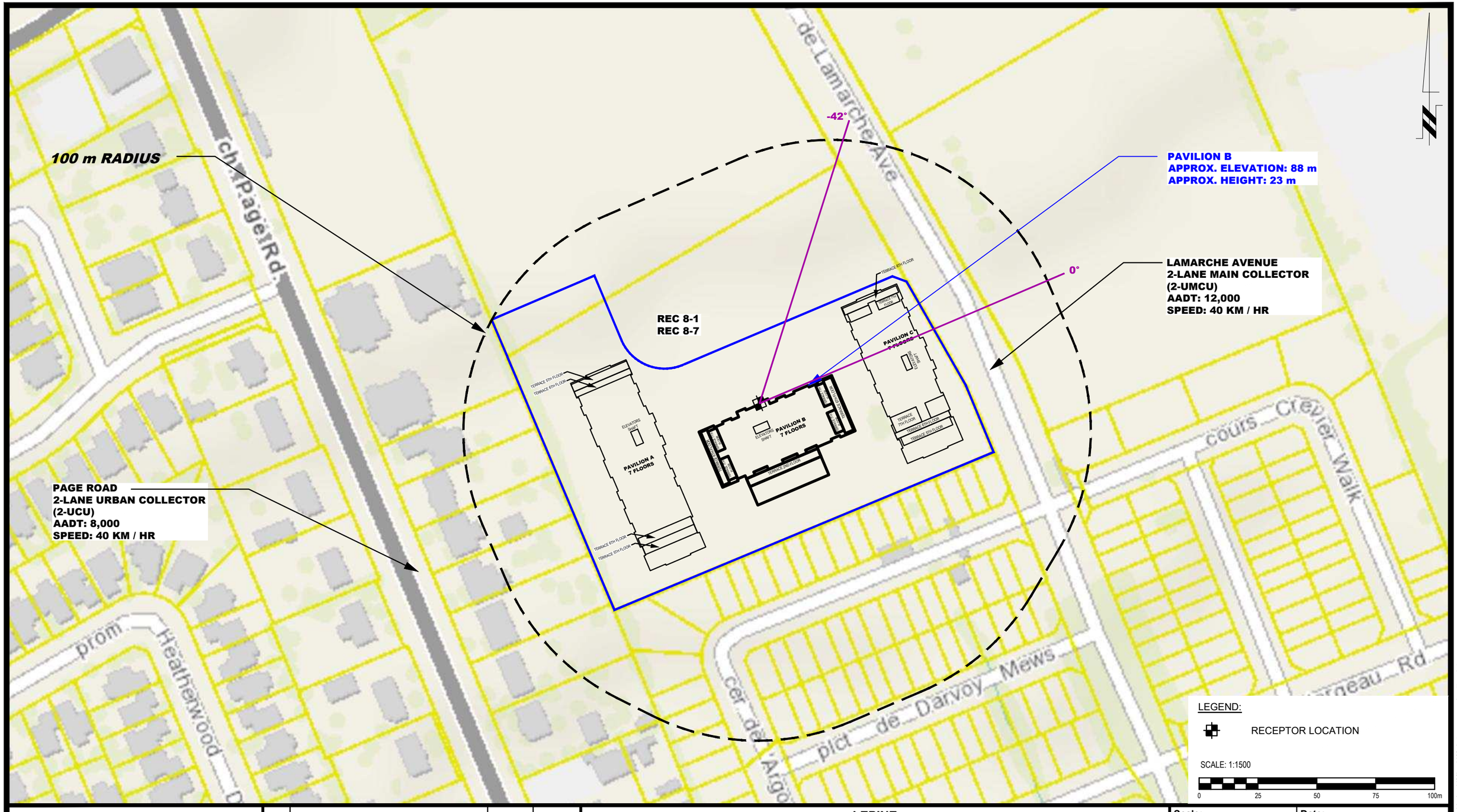

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1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

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PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
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Title:
SITE GEOMETRY - REC 8-1 AND REC 8-7

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5A
Approved by: SB	Revision No.: 1

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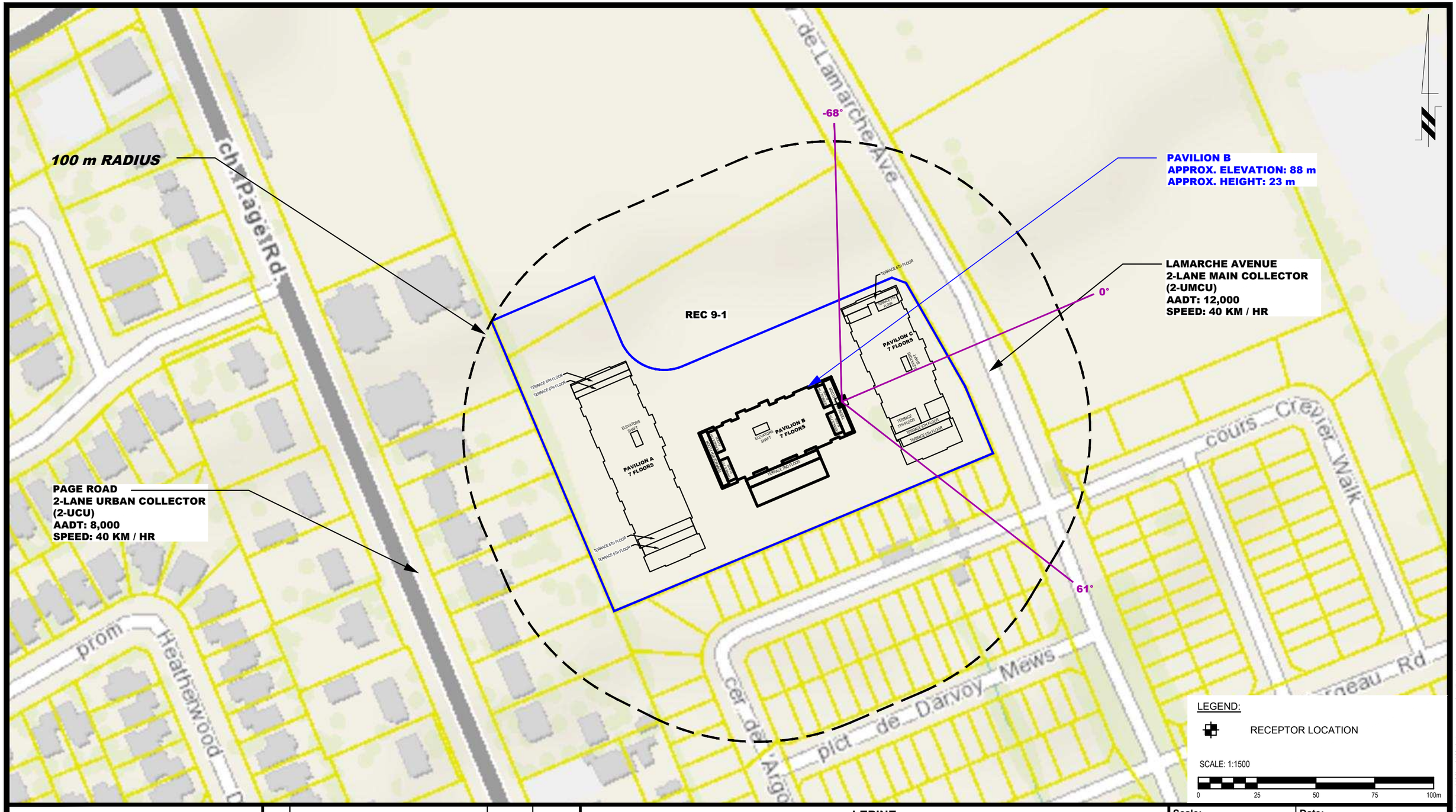

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1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 9-1

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5B
Approved by: SB	Revision No.: 1

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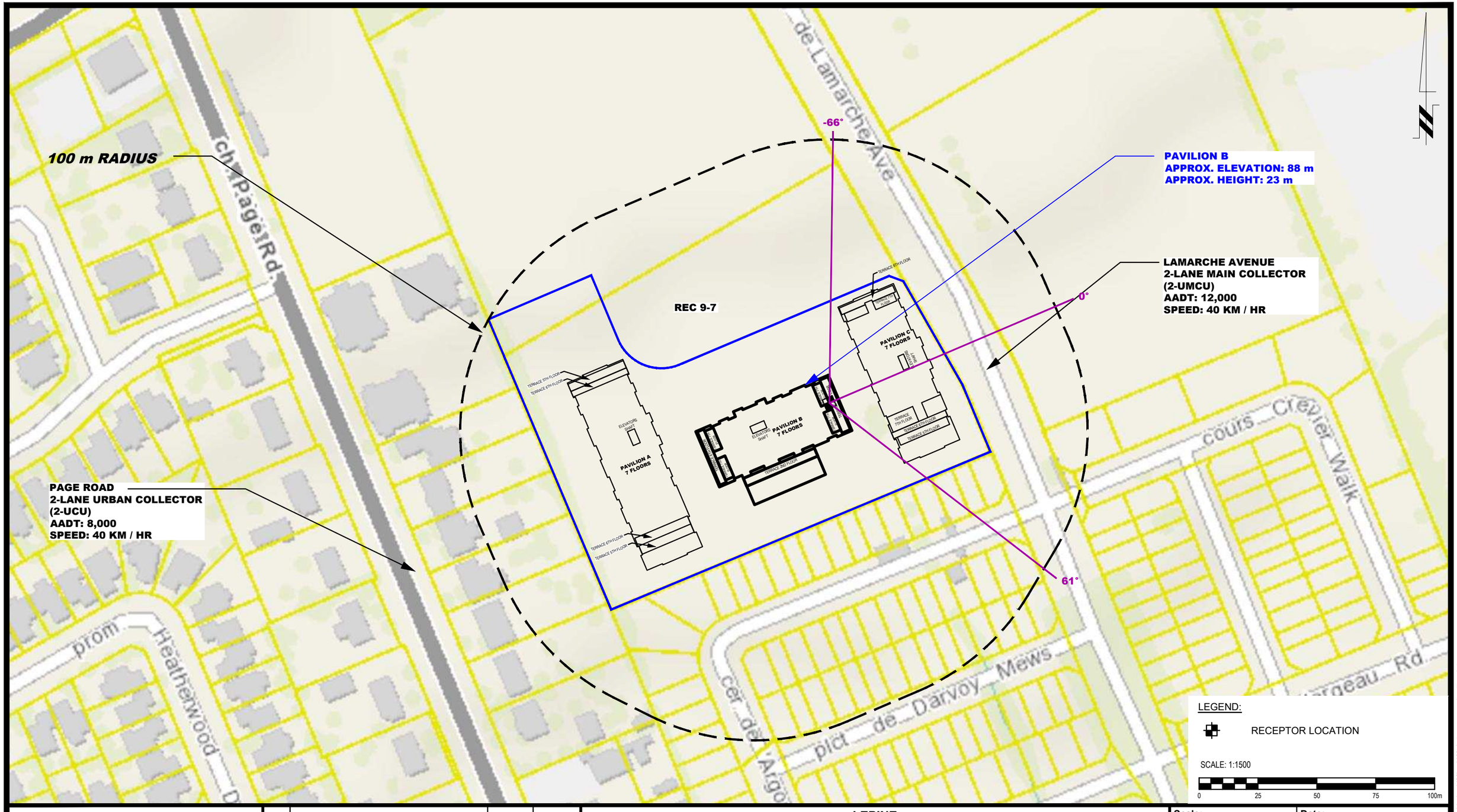

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1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

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NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 9-7

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5C
Approved by: SB	Revision No.: 1

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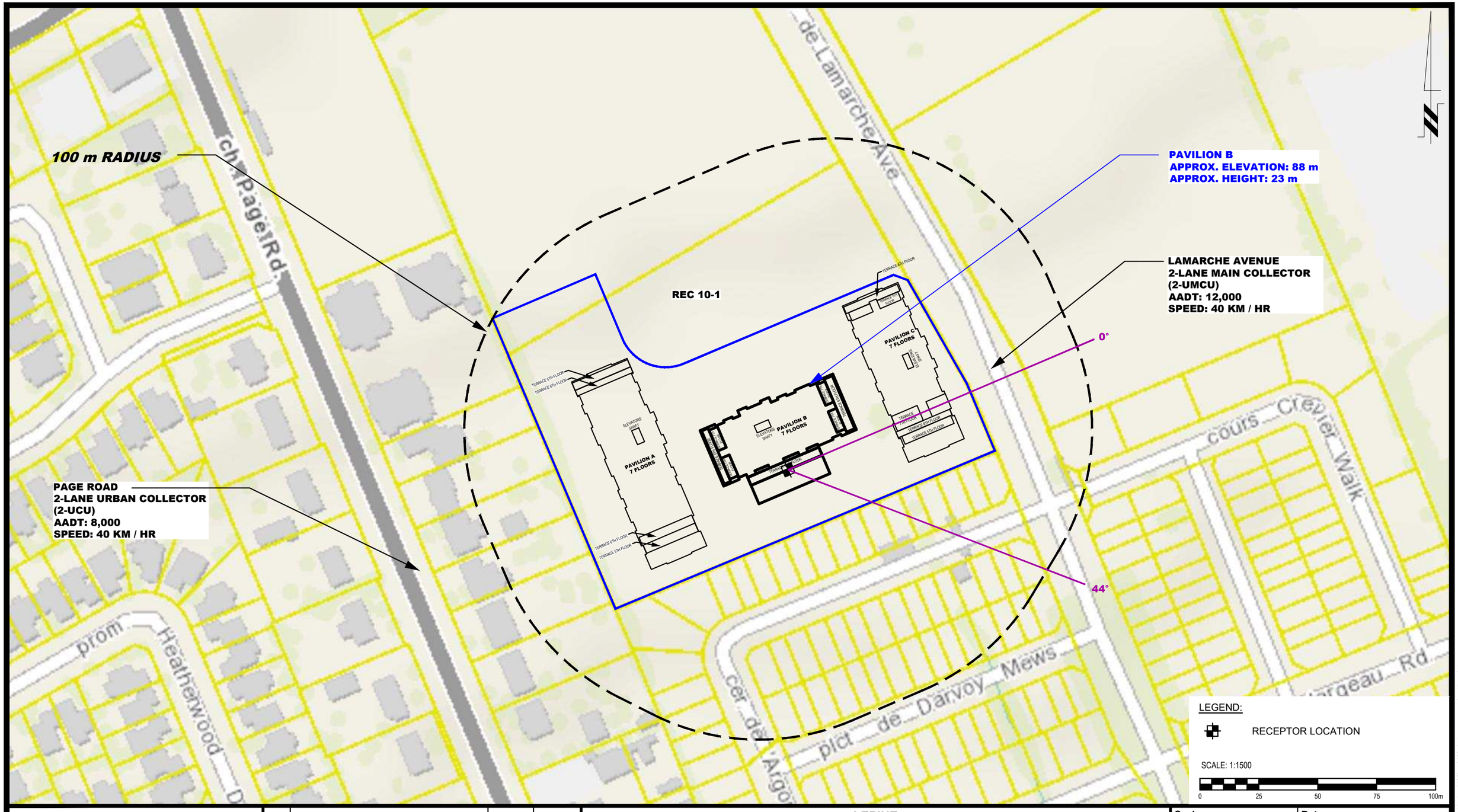

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NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 10-1

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5D
Approved by: SB	Revision No.: 1

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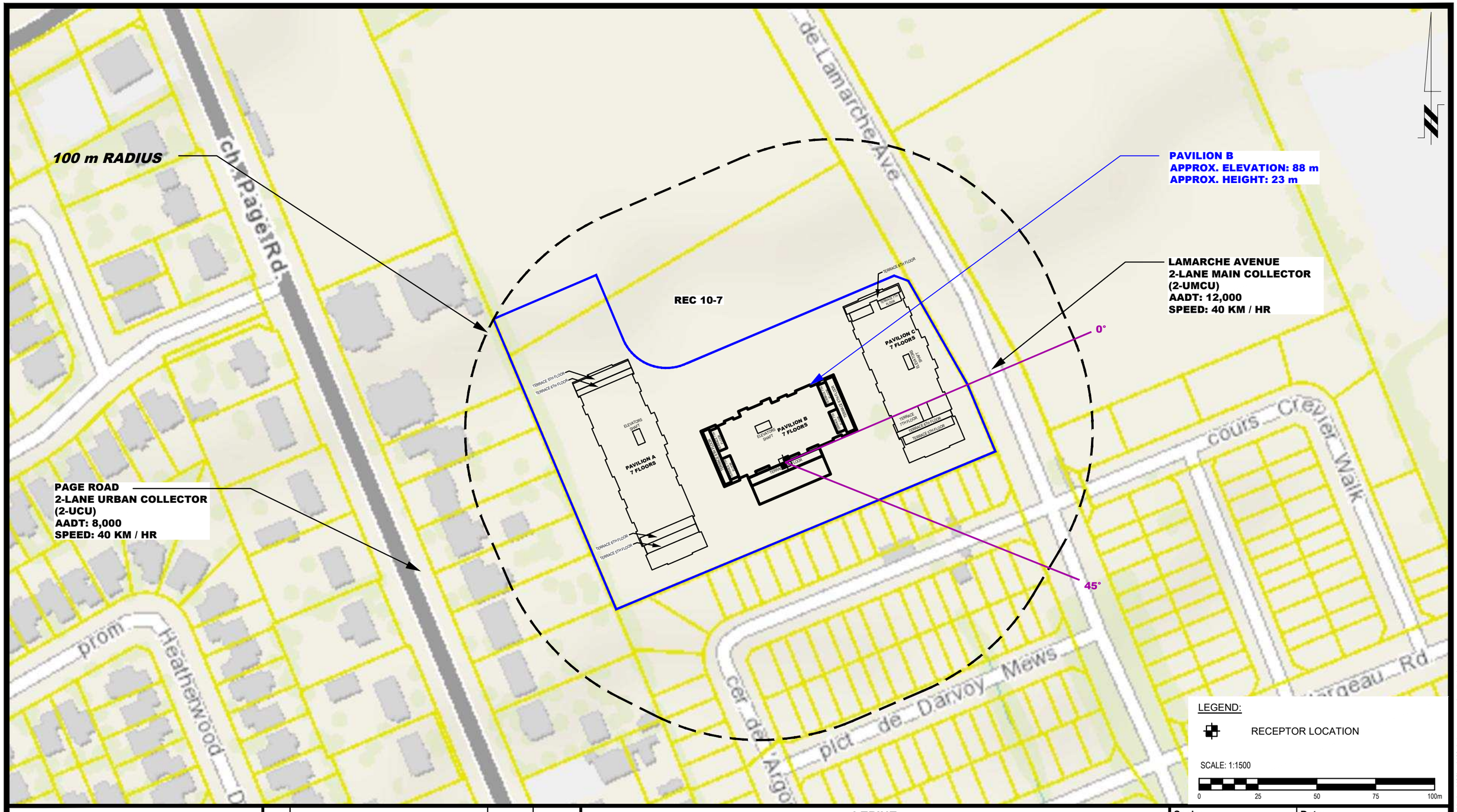

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NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

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NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 10-7

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5E
Approved by: SB	Revision No.: 1

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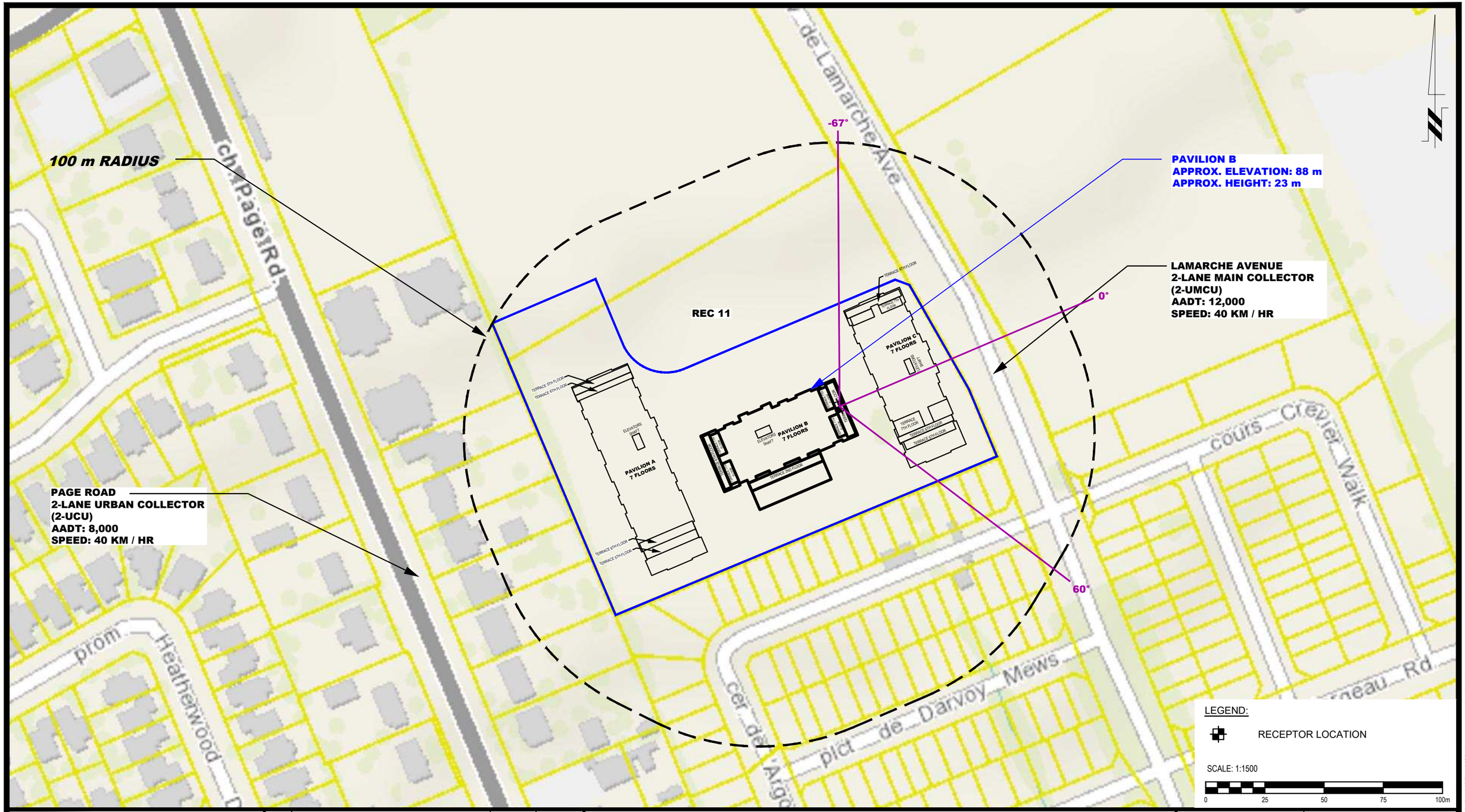

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NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

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NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 11

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5F
Approved by: SB	Revision No.: 1

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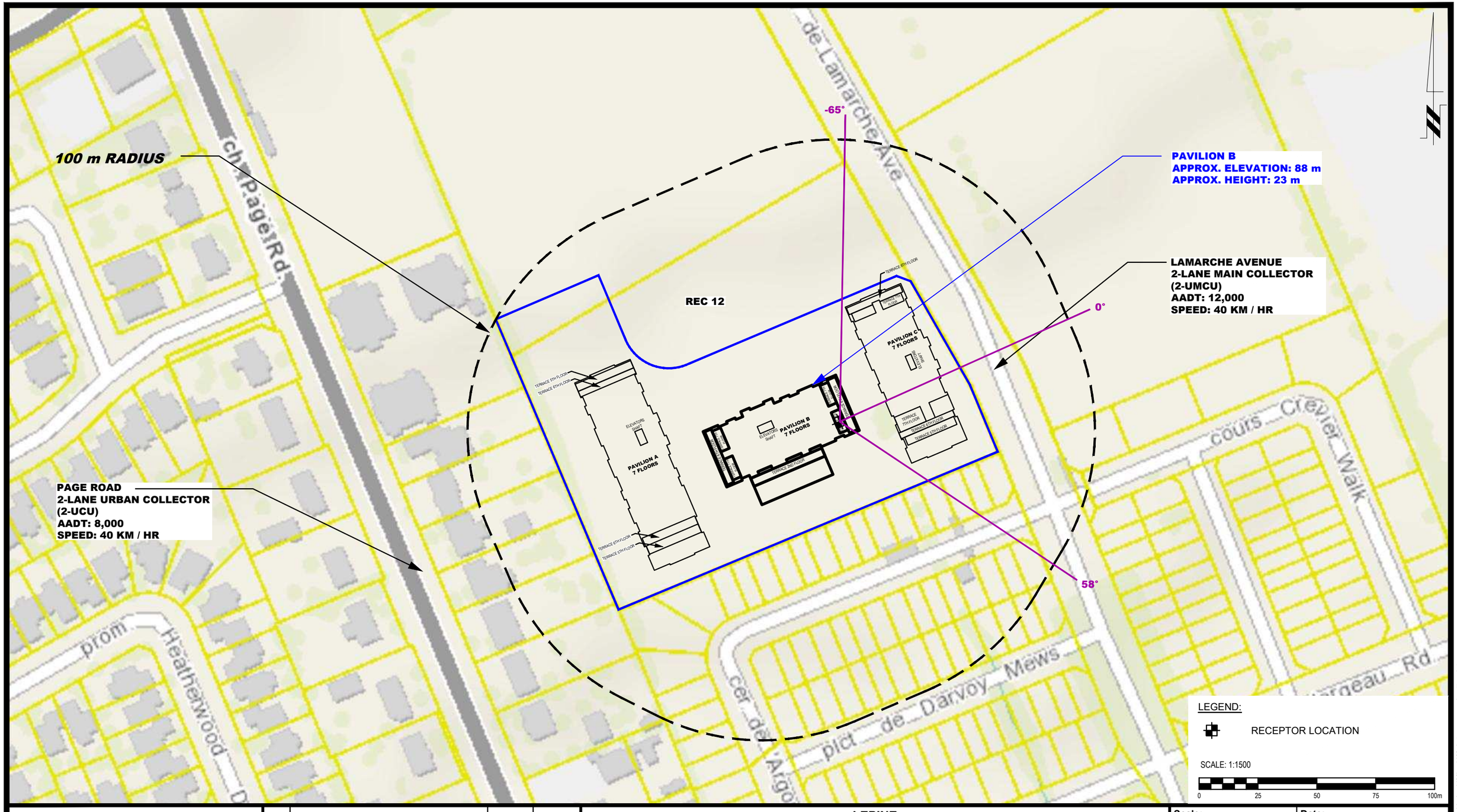

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NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

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PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
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Title:
SITE GEOMETRY - REC 12

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5G
Approved by: SB	Revision No.: 1

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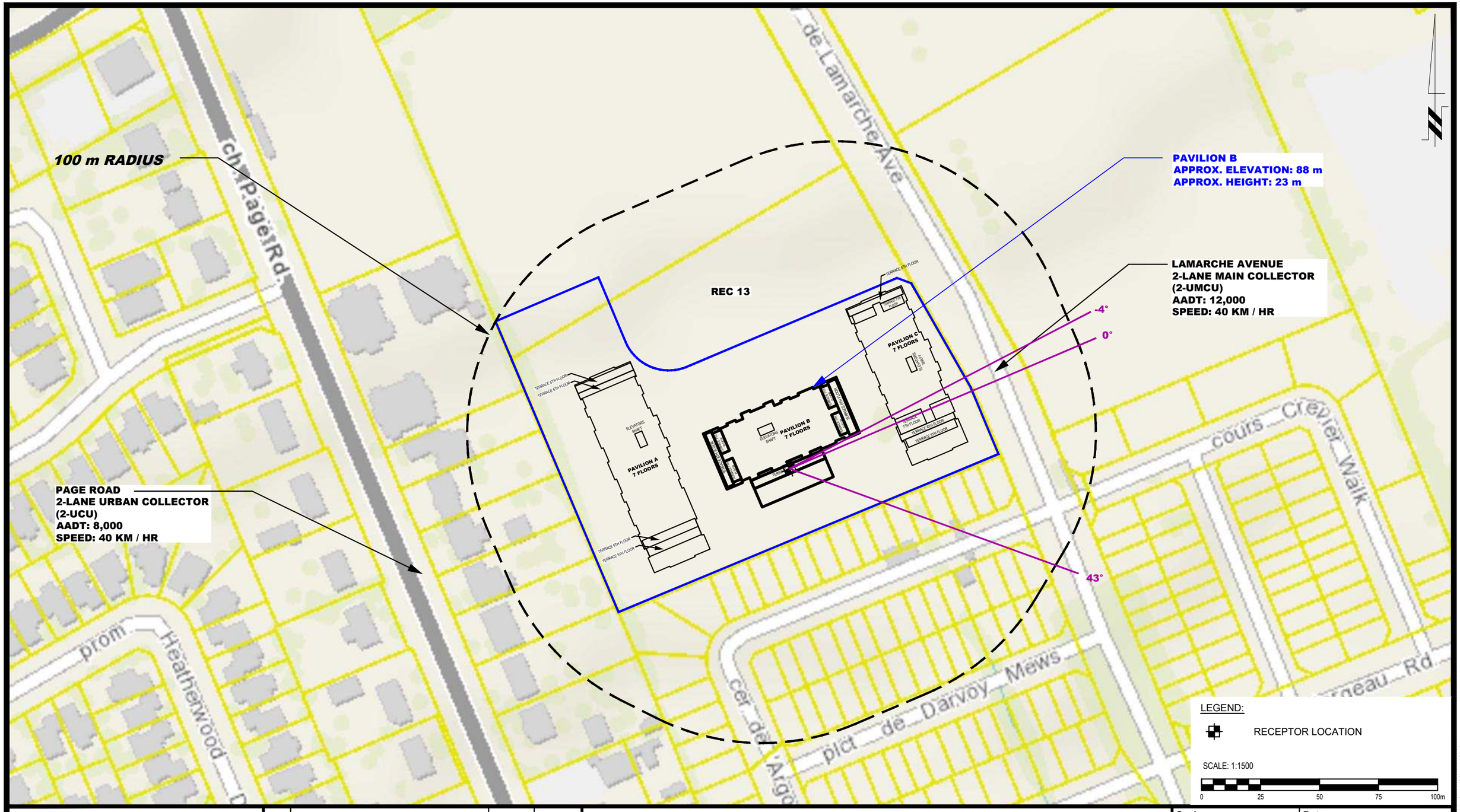

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K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 12

Scale: 1:1500	Date: 12/2022
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5H
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - PAVILION B

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-5
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 14-1

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6A
Approved by: SB	Revision No.: 1

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100 m RADIUS

-86°

0°

PAVILION C
APPROX. ELEVATION: 88 m
APPROX. HEIGHT: 23 m

LAMARCHE AVENUE
2-LANE MAIN COLLECTOR
(2-UMCU)
AADT: 12,000
SPEED: 40 KM / HR

REC 14-7

PAGE ROAD
2-LANE URBAN COLLECTOR
(2-UCU)
AADT: 8,000
SPEED: 40 KM / HR

LEGEND:

RECEPTOR LOCATION

SCALE: 1:1500

0 25 50 75 100m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 14-7

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6B
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 15-1 AND REC 15-7

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6C
Approved by: SB	Revision No.: 1

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PATERSON GROUP

9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 16-1

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6D
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 16-7

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6E
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 17

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6F
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
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K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 18

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6G
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 19

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6H
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - REC 20

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6I
Approved by: SB	Revision No.: 1

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATE ROAD CLASSIFICATION INFORMATION	12/12/2022	YT

LEPINE
NOISE ATTENUATION STUDY
PROPOSED MULTI-STOREY BUILDING
3490 INNES ROAD
OTTAWA, ONTARIO

Title:
SITE GEOMETRY - PAVILION C

Scale: 1:1500	Date: 11/2021
Drawn by: YA	Report No.: PG4488-2
Checked by: YT	Dwg. No.: PG4488-6
Approved by: SB	Revision No.: 1

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APPENDIX 2

STAMSON RESULTS

STAMSON 5.0 NORMAL REPORT Date: 14-12-2022 14:45:47
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec11.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-1

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

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : 0.00 deg 24.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Page Road (day)

Source height = 1.50 m

ROAD (0.00 + 40.54 + 0.00) = 40.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	24	0.66	63.96	0.00	-13.68	-8.84	0.00	-0.90	0.00	40.54

Segment Leq : 40.54 dBA

Total Leq All Segments: 40.54 dBA

↟
Results segment # 1: Page Road (night)

Source height = 1.50 m

ROAD (0.00 + 32.95 + 0.00) = 32.95 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	24	0.66	56.36	0.00	-13.68	-8.84	0.00	-0.90	0.00	32.95

Segment Leq : 32.95 dBA

Total Leq All Segments: 32.95 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 40.54
(NIGHT): 32.95
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 10:00:45
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec16.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-6

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

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : 0.00 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 : 100.00 / 100.00 m
Receiver height : 18.00 / 18.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Page Road (day)

Source height = 1.50 m

ROAD (0.00 + 45.19 + 0.00) = 45.19 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	27	0.17	63.96	0.00	-9.60	-8.27	0.00	-0.90	0.00	45.19

Segment Leq : 45.19 dBA

Total Leq All Segments: 45.19 dBA

↟
Results segment # 1: Page Road (night)

Source height = 1.50 m

ROAD (0.00 + 37.60 + 0.00) = 37.60 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	27	0.17	56.36	0.00	-9.60	-8.27	0.00	-0.90	0.00	37.60

Segment Leq : 37.60 dBA

Total Leq All Segments: 37.60 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 45.19
(NIGHT): 37.60
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-12-2022 14:47:11
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: Page Road (day/night)

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -42.00 deg 46.00 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

Results segment # 1: Page Road (day)

Source height = 1.50 m

ROAD (0.00 + 47.15 + 0.00) = 47.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	46	0.66	63.96	0.00	-12.51	-3.40	0.00	-0.90	0.00	47.15

Segment Leq : 47.15 dBA

Total Leq All Segments: 47.15 dBA

↟

Results segment # 1: Page Road (night)

Source height = 1.50 m

ROAD (0.00 + 39.56 + 0.00) = 39.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	46	0.66	56.36	0.00	-12.51	-3.40	0.00	-0.90	0.00	39.56

Segment Leq : 39.56 dBA

Total Leq All Segments: 39.56 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 47.15
(NIGHT): 39.56

↟

↟

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 10:29:39
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: Page Road (day/night)

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -42.00 deg 46.00 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 : 18.00 / 18.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Page Road (day)

Source height = 1.50 m

ROAD (0.00 + 51.09 + 0.00) = 51.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	46	0.17	63.96	0.00	-8.78	-3.18	0.00	-0.90	0.00	51.09

Segment Leq : 51.09 dBA

Total Leq All Segments: 51.09 dBA

↟
Results segment # 1: Page Road (night)

Source height = 1.50 m

ROAD (0.00 + 43.50 + 0.00) = 43.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	46	0.17	56.36	0.00	-8.78	-3.18	0.00	-0.90	0.00	43.50

Segment Leq : 43.50 dBA

Total Leq All Segments: 43.50 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 51.09
(NIGHT): 43.50

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-12-2022 14:48:33
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: Page Road (day/night)

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -22.00 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 : 100.00 / 100.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Page Road (day)

Source height = 1.50 m

ROAD (0.00 + 40.18 + 0.00) = 40.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-22	0	0.66	63.96	0.00	-13.68	-9.20	0.00	-0.90	0.00	40.18

Segment Leq : 40.18 dBA

Total Leq All Segments: 40.18 dBA

↟
Results segment # 1: Page Road (night)

Source height = 1.50 m

ROAD (0.00 + 32.59 + 0.00) = 32.59 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-22	0	0.66	56.36	0.00	-13.68	-9.20	0.00	-0.90	0.00	32.59

Segment Leq : 32.59 dBA

Total Leq All Segments: 32.59 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 40.18
(NIGHT): 32.59
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 10:33:58
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: Page Road (day/night)

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -29.00 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 : 100.00 / 100.00 m
Receiver height : 18.00 / 18.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Page Road (day)

Source height = 1.50 m

ROAD (0.00 + 45.50 + 0.00) = 45.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-29	0	0.17	63.96	0.00	-9.60	-7.96	0.00	-0.90	0.00	45.50

Segment Leq : 45.50 dBA

Total Leq All Segments: 45.50 dBA

↟
Results segment # 1: Page Road (night)

Source height = 1.50 m

ROAD (0.00 + 37.90 + 0.00) = 37.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-29	0	0.17	56.36	0.00	-9.60	-7.96	0.00	-0.90	0.00	37.90

Segment Leq : 37.90 dBA

Total Leq All Segments: 37.90 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 45.50
(NIGHT): 37.90

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-12-2022 14:52:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec4.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 4

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

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -6.00 deg 25.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 15.00 / 15.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -6.00 deg Angle2 : 25.00 deg
Barrier height : 13.50 m
Barrier receiver distance : 7.00 / 7.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

↑
Results segment # 1: Page Road (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 !       15.00 !       14.05 !       102.05

ROAD (0.00 + 45.05 + 0.00) = 45.05 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -6     25   0.26  63.96   0.00 -10.34  -7.67   0.00  -0.90   0.00  45.05
    -6     25   0.00  63.96   0.00  -8.24  -7.64   0.00   0.00  -3.70  44.38*
    -6     25   0.26  63.96   0.00 -10.34  -7.67   0.00   0.00   0.00  45.95
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 45.05 dBA

Total Leq All Segments: 45.05 dBA

↟
Results segment # 1: Page Road (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 !       15.00 !       14.05 !       102.05

ROAD (0.00 + 37.45 + 0.00) = 37.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -6     25   0.26  56.36   0.00 -10.34  -7.67   0.00  -0.90   0.00  37.45
    -6     25   0.00  56.36   0.00  -8.24  -7.64   0.00   0.00  -3.70  36.79*
    -6     25   0.26  56.36   0.00 -10.34  -7.67   0.00   0.00   0.00  38.35
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 37.45 dBA

Total Leq All Segments: 37.45 dBA

↟
```

TOTAL Leq FROM ALL SOURCES (DAY): 45.05
(NIGHT): 37.45

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 11:18:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec5.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 5

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

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -27.00 deg 8.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 15.00 / 15.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -27.00 deg Angle2 : 8.00 deg
Barrier height : 13.50 m
Barrier receiver distance : 7.00 / 7.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

↑
Results segment # 1: Page Road (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 !       15.00 !       14.05 !       102.05

ROAD (0.00 + 45.57 + 0.00) = 45.57 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27      8   0.26  63.96   0.00 -10.34  -7.15   0.00  -0.90   0.00  45.57
   -27      8   0.00  63.96   0.00  -8.24  -7.11   0.00   0.00  -3.70  44.90*
   -27      8   0.26  63.96   0.00 -10.34  -7.15   0.00   0.00   0.00  46.47
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 45.57 dBA

Total Leq All Segments: 45.57 dBA

↟
Results segment # 1: Page Road (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 !       15.00 !       14.05 !       102.05

ROAD (0.00 + 37.98 + 0.00) = 37.98 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -27      8   0.26  56.36   0.00 -10.34  -7.15   0.00  -0.90   0.00  37.98
   -27      8   0.00  56.36   0.00  -8.24  -7.11   0.00   0.00  -3.70  37.31*
   -27      8   0.26  56.36   0.00 -10.34  -7.15   0.00   0.00   0.00  38.88
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 37.98 dBA

Total Leq All Segments: 37.98 dBA

↟
```

TOTAL Leq FROM ALL SOURCES (DAY): 45.57
(NIGHT): 37.98

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 11:21:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec6.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 6

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

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -2.00 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 : 100.00 / 100.00 m
Receiver height : 18.00 / 18.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -2.00 deg Angle2 : 27.00 deg
Barrier height : 16.50 m
Barrier receiver distance : 7.00 / 7.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

↑
Results segment # 1: Page Road (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 !       18.00 !       16.84 !       104.84

ROAD (0.00 + 45.50 + 0.00) = 45.50 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -2     27   0.17  63.96   0.00  -9.60  -7.95   0.00  -0.90   0.00  45.50
    -2     27   0.00  63.96   0.00  -8.24  -7.93   0.00   0.00  -4.54  43.25*
    -2     27   0.17  63.96   0.00  -9.60  -7.95   0.00   0.00   0.00  46.40
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 45.50 dBA

Total Leq All Segments: 45.50 dBA

↟
Results segment # 1: Page Road (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 !       18.00 !       16.84 !       104.84

ROAD (0.00 + 37.91 + 0.00) = 37.91 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -2     27   0.17  56.36   0.00  -9.60  -7.95   0.00  -0.90   0.00  37.91
    -2     27   0.00  56.36   0.00  -8.24  -7.93   0.00   0.00  -4.54  35.66*
    -2     27   0.17  56.36   0.00  -9.60  -7.95   0.00   0.00   0.00  38.81
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 37.91 dBA

Total Leq All Segments: 37.91 dBA

↟
```

TOTAL Leq FROM ALL SOURCES (DAY): 45.50
(NIGHT): 37.91

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 11:22:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec7.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 7

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

Car traffic volume : 6477/563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 8000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Page Road (day/night)

Angle1 Angle2 : -28.00 deg 10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 20 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 18.00 / 18.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -28.00 deg Angle2 : 10.00 deg
Barrier height : 16.50 m
Barrier receiver distance : 7.00 / 7.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

↑
Results segment # 1: Page Road (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 !       18.00 !       16.84 !       104.84

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
-------------------------------------------------------------------------------
   -28     10   0.17  63.96   0.00  -9.60  -6.78   0.00  -0.90   0.00  46.68
   -28     10   0.00  63.96   0.00  -8.24  -6.75   0.00   0.00  -4.54  44.43*
   -28     10   0.17  63.96   0.00  -9.60  -6.78   0.00   0.00   0.00  47.58
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 46.68 dBA

Total Leq All Segments: 46.68 dBA

↟
Results segment # 1: Page Road (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 !       18.00 !       16.84 !       104.84

ROAD (0.00 + 39.09 + 0.00) = 39.09 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -28     10   0.17  56.36   0.00  -9.60  -6.78   0.00  -0.90   0.00  39.09
   -28     10   0.00  56.36   0.00  -8.24  -6.75   0.00   0.00  -4.54  36.83*
   -28     10   0.17  56.36   0.00  -9.60  -6.78   0.00   0.00   0.00  39.99
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 39.09 dBA

Total Leq All Segments: 39.09 dBA

↟
```

TOTAL Leq FROM ALL SOURCES (DAY): 46.68
(NIGHT): 39.09

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 11:33:09
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: Lamarche Ave (day/night)

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -42.00 deg 0.00 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: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 46.63 + 0.00) = 46.63 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	0	0.66	65.72	0.00	-12.51	-6.59	0.00	0.00	0.00	46.63

Segment Leq : 46.63 dBA

Total Leq All Segments: 46.63 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 39.03 + 0.00) = 39.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	0	0.66	58.12	0.00	-12.51	-6.59	0.00	0.00	0.00	39.03

Segment Leq : 39.03 dBA

Total Leq All Segments: 39.03 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 46.63
(NIGHT): 39.03
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 11:36:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec87.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 8-7

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -42.00 deg 0.00 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 : 21.50 / 21.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 51.39 + 0.00) = 51.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	0	0.06	65.72	0.00	-7.99	-6.34	0.00	0.00	0.00	51.39

Segment Leq : 51.39 dBA

Total Leq All Segments: 51.39 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 43.79 + 0.00) = 43.79 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-42	0	0.06	58.12	0.00	-7.99	-6.34	0.00	0.00	0.00	43.79

Segment Leq : 43.79 dBA

Total Leq All Segments: 43.79 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 51.39
(NIGHT): 43.79
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 11:39:02
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: Lamarche Ave (day/night)

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -68.00 deg 61.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 52.00 / 52.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

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
-68	61	0.66	65.72	0.00	-8.96	-2.11	0.00	0.00	0.00	54.64

Segment Leq : 54.64 dBA

Total Leq All Segments: 54.64 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 47.04 + 0.00) = 47.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	61	0.66	58.12	0.00	-8.96	-2.11	0.00	0.00	0.00	47.04

Segment Leq : 47.04 dBA

Total Leq All Segments: 47.04 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 54.64
(NIGHT): 47.04
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 11:41:36
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec97.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 9-7

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -66.00 deg 61.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 52.00 / 52.00 m
Receiver height : 21.50 / 21.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 58.42 + 0.00) = 58.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	61	0.06	65.72	0.00	-5.72	-1.58	0.00	0.00	0.00	58.42

Segment Leq : 58.42 dBA

Total Leq All Segments: 58.42 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 50.82 + 0.00) = 50.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	61	0.06	58.12	0.00	-5.72	-1.58	0.00	0.00	0.00	50.82

Segment Leq : 50.82 dBA

Total Leq All Segments: 50.82 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.42
(NIGHT): 50.82

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 11:47:45
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: Lamarche Ave (day/night)

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : 0.00 deg 44.00 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 : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

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
0	44	0.66	65.72	0.00	-12.07	-6.41	0.00	0.00	0.00	47.24

Segment Leq : 47.24 dBA

Total Leq All Segments: 47.24 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

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
0	44	0.66	58.12	0.00	-12.07	-6.41	0.00	0.00	0.00	39.64

Segment Leq : 39.64 dBA

Total Leq All Segments: 39.64 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 47.24
(NIGHT): 39.64
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 11:49:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec107.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 10-7

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche 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 : 80.00 / 80.00 m
Receiver height : 21.50 / 21.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 51.96 + 0.00) = 51.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	45	0.06	65.72	0.00	-7.71	-6.05	0.00	0.00	0.00	51.96

Segment Leq : 51.96 dBA

Total Leq All Segments: 51.96 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 44.36 + 0.00) = 44.36 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	45	0.06	58.12	0.00	-7.71	-6.05	0.00	0.00	0.00	44.36

Segment Leq : 44.36 dBA

Total Leq All Segments: 44.36 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 51.96
(NIGHT): 44.36

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 15:18:44
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec11.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 11

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -67.00 deg 60.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 55.00 / 55.00 m
Receiver height : 18.00 / 18.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -67.00 deg Angle2 : 60.00 deg
Barrier height : 16.50 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

Results segment # 1: Lamarche 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 !       18.00 !       17.10 !       105.10

ROAD (0.00 + 57.46 + 0.00) = 57.46 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -67     60   0.00  65.72   0.00  -5.64  -1.51   0.00   0.00  -2.13  56.43*
   -67     60   0.17  65.72   0.00  -6.57  -1.68   0.00   0.00   0.00  57.46
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 57.46 dBA

Total Leq All Segments: 57.46 dBA

↟
Results segment # 1: Lamarche 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 !       18.00 !       17.10 !       105.10

ROAD (0.00 + 49.86 + 0.00) = 49.86 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -67     60   0.00  58.12   0.00  -5.64  -1.51   0.00   0.00  -2.13  48.83*
   -67     60   0.17  58.12   0.00  -6.57  -1.68   0.00   0.00   0.00  49.86
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 49.86 dBA

Total Leq All Segments: 49.86 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 57.46
                           (NIGHT): 49.86
```

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 15:24:21
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec12.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 12

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -65.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 58.00 / 58.00 m
Receiver height : 21.50 / 21.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -65.00 deg Angle2 : 58.00 deg
Barrier height : 20.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

Results segment # 1: Lamarche 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 !       21.50 !       20.47 !       108.47

ROAD (0.00 + 57.78 + 0.00) = 57.78 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -65     58   0.00  65.72   0.00  -5.87  -1.65   0.00   0.00  -3.49  54.70*
   -65     58   0.06  65.72   0.00  -6.23  -1.71   0.00   0.00   0.00  57.78
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 57.78 dBA

Total Leq All Segments: 57.78 dBA

↟
Results segment # 1: Lamarche 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 !       21.50 !       20.47 !       108.47

ROAD (0.00 + 50.18 + 0.00) = 50.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -65     58   0.00  58.12   0.00  -5.87  -1.65   0.00   0.00  -3.49  47.10*
   -65     58   0.06  58.12   0.00  -6.23  -1.71   0.00   0.00   0.00  50.18
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 50.18 dBA

Total Leq All Segments: 50.18 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 57.78
                           (NIGHT): 50.18
```

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 15:28:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec13.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 13

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -4.00 deg 43.00 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 : 5.50 / 5.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -4.00 deg Angle2 : 43.00 deg
Barrier height : 4.00 m
Barrier receiver distance : 15.00 / 15.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

Results segment # 1: Lamarche 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 !        5.50 !        4.75 !        92.75

ROAD (0.00 + 48.48 + 0.00) = 48.48 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -4     43   0.30  65.72   0.00  -9.45  -5.95   0.00   0.00  -3.77  46.54*
    -4     43   0.54  65.72   0.00 -11.20  -6.04   0.00   0.00   0.00  48.48
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 48.48 dBA

Total Leq All Segments: 48.48 dBA

↟
Results segment # 1: Lamarche 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 !        5.50 !        4.75 !        92.75

ROAD (0.00 + 40.88 + 0.00) = 40.88 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -4     43   0.30  58.12   0.00  -9.45  -5.95   0.00   0.00  -3.77  38.94*
    -4     43   0.54  58.12   0.00 -11.20  -6.04   0.00   0.00   0.00  40.88
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 40.88 dBA

Total Leq All Segments: 40.88 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 48.48
                           (NIGHT): 40.88
```

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 12:19:13
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec141.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 14-1

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -86.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 57.54 + 0.00) = 57.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	0	0.66	65.72	0.00	-3.68	-4.50	0.00	0.00	0.00	57.54

Segment Leq : 57.54 dBA

Total Leq All Segments: 57.54 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 49.94 + 0.00) = 49.94 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	0	0.66	58.12	0.00	-3.68	-4.50	0.00	0.00	0.00	49.94

Segment Leq : 49.94 dBA

Total Leq All Segments: 49.94 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 57.54
(NIGHT): 49.94
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 13:56:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec147.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 14-7

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -86.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 21.50 / 21.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 60.02 + 0.00) = 60.02 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	0	0.06	65.72	0.00	-2.35	-3.35	0.00	0.00	0.00	60.02

Segment Leq : 60.02 dBA

Total Leq All Segments: 60.02 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 52.42 + 0.00) = 52.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	0	0.06	58.12	0.00	-2.35	-3.35	0.00	0.00	0.00	52.42

Segment Leq : 52.42 dBA

Total Leq All Segments: 52.42 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 60.02
(NIGHT): 52.42
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 13:58:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec151.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 15-1

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -90.00 deg 86.00 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

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 64.25 + 0.00) = 64.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	86	0.66	65.72	0.00	0.00	-1.47	0.00	0.00	0.00	64.25

Segment Leq : 64.25 dBA

Total Leq All Segments: 64.25 dBA

↟
Results segment # 1: Lamarche Ave (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
-90	86	0.66	58.12	0.00	0.00	-1.47	0.00	0.00	0.00	56.65

Segment Leq : 56.65 dBA

Total Leq All Segments: 56.65 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 64.25
(NIGHT): 56.65

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 14:00:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec157.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 15-7

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -90.00 deg 86.00 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 : 21.50 / 21.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 65.46 + 0.00) = 65.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	86	0.06	65.72	0.00	0.00	-0.26	0.00	0.00	0.00	65.46

Segment Leq : 65.46 dBA

Total Leq All Segments: 65.46 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 57.86 + 0.00) = 57.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	86	0.06	58.12	0.00	0.00	-0.26	0.00	0.00	0.00	57.86

Segment Leq : 57.86 dBA

Total Leq All Segments: 57.86 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 65.46
(NIGHT): 57.86

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 14:05:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec161.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 16-1

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : 0.00 deg 76.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 57.34 + 0.00) = 57.34 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	76	0.66	65.72	0.00	-3.68	-4.70	0.00	0.00	0.00	57.34

Segment Leq : 57.34 dBA

Total Leq All Segments: 57.34 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 49.74 + 0.00) = 49.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	76	0.66	58.12	0.00	-3.68	-4.70	0.00	0.00	0.00	49.74

Segment Leq : 49.74 dBA

Total Leq All Segments: 49.74 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 57.34
(NIGHT): 49.74
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 14:07:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec167.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 16-7

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : 0.00 deg 80.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 21.50 / 21.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Lamarche Ave (day)

Source height = 1.50 m

ROAD (0.00 + 59.73 + 0.00) = 59.73 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	80	0.06	65.72	0.00	-2.35	-3.63	0.00	0.00	0.00	59.73

Segment Leq : 59.73 dBA

Total Leq All Segments: 59.73 dBA

↟
Results segment # 1: Lamarche Ave (night)

Source height = 1.50 m

ROAD (0.00 + 52.13 + 0.00) = 52.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	80	0.06	58.12	0.00	-2.35	-3.63	0.00	0.00	0.00	52.13

Segment Leq : 52.13 dBA

Total Leq All Segments: 52.13 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 59.73
(NIGHT): 52.13
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 14:13:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec17.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 17

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -8.00 deg 77.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 15.00 / 15.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -8.00 deg Angle2 : 77.00 deg
Barrier height : 13.50 m
Barrier receiver distance : 10.00 / 10.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

↑
Results segment # 1: Lamarche 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 !       15.00 !        9.60 !        97.60

ROAD (0.00 + 44.88 + 0.00) = 44.88 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -8     77   0.00  65.72   0.00  -2.22  -3.26   0.00   0.00 -15.36  44.88
-------------------------------------------------------------------------------

Segment Leq : 44.88 dBA

Total Leq All Segments: 44.88 dBA

↟
Results segment # 1: Lamarche 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 !       15.00 !        9.60 !        97.60

ROAD (0.00 + 37.28 + 0.00) = 37.28 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -8     77   0.00  58.12   0.00  -2.22  -3.26   0.00   0.00 -15.36  37.28
-------------------------------------------------------------------------------

Segment Leq : 37.28 dBA

Total Leq All Segments: 37.28 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 44.88
                          (NIGHT): 37.28
↟
↟
```

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 14:39:51
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec18.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 18

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -87.00 deg 6.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 18.00 / 18.00 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -87.00 deg Angle2 : 6.00 deg
Barrier height : 16.50 m
Barrier receiver distance : 10.00 / 10.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

Results segment # 1: Lamarche 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 !       18.00 !       11.40 !        99.40

ROAD (0.00 + 44.98 + 0.00) = 44.98 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -87      6   0.00  65.72   0.00  -2.22  -2.87   0.00   0.00 -15.65  44.98
-------------------------------------------------------------------------------

Segment Leq : 44.98 dBA

Total Leq All Segments: 44.98 dBA

↟
Results segment # 1: Lamarche 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 !       18.00 !       11.40 !        99.40

ROAD (0.00 + 37.38 + 0.00) = 37.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -87      6   0.00  58.12   0.00  -2.22  -2.87   0.00   0.00 -15.65  37.38
-------------------------------------------------------------------------------

Segment Leq : 37.38 dBA

Total Leq All Segments: 37.38 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 44.98
                           (NIGHT): 37.38
↟
↟
```

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 14:46:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec19.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 19

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -43.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 18.00 / 18.00 m
Receiver height : 21.50 / 21.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -43.00 deg Angle2 : 82.00 deg
Barrier height : 20.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

↑
Results segment # 1: Lamarche 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 !       21.50 !       18.17 !       106.17

ROAD (0.00 + 52.69 + 0.00) = 52.69 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -43     82   0.00  65.72   0.00  -0.79  -1.58   0.00   0.00 -10.65  52.69
-------------------------------------------------------------------------------

Segment Leq : 52.69 dBA

Total Leq All Segments: 52.69 dBA

↟
Results segment # 1: Lamarche 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 !       21.50 !       18.17 !       106.17

ROAD (0.00 + 45.09 + 0.00) = 45.09 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -43     82   0.00  58.12   0.00  -0.79  -1.58   0.00   0.00 -10.65  45.09
-------------------------------------------------------------------------------

Segment Leq : 45.09 dBA

Total Leq All Segments: 45.09 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 52.69
                           (NIGHT): 45.09
↟
↟
```

STAMSON 5.0 NORMAL REPORT Date: 15-12-2022 14:50:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec20.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 20

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 12000
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: Lamarche Ave (day/night)

Angle1 Angle2 : -89.00 deg 15.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 18.00 / 18.00 m
Receiver height : 21.50 / 21.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -89.00 deg Angle2 : 15.00 deg
Barrier height : 20.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 88.00 m
Receiver elevation : 88.00 m
Barrier elevation : 88.00 m
Reference angle : 0.00

Results segment # 1: Lamarche 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 !       21.50 !       18.17 !       106.17

ROAD (0.00 + 52.60 + 0.00) = 52.60 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -89     15   0.00  65.72   0.00  -0.79  -2.38   0.00   0.00  -9.94  52.60
-------------------------------------------------------------------------------

Segment Leq : 52.60 dBA

Total Leq All Segments: 52.60 dBA

↟
Results segment # 1: Lamarche 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 !       21.50 !       18.17 !       106.17

ROAD (0.00 + 45.00 + 0.00) = 45.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -89     15   0.00  58.12   0.00  -0.79  -2.38   0.00   0.00  -9.94  45.00
-------------------------------------------------------------------------------

Segment Leq : 45.00 dBA

Total Leq All Segments: 45.00 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 52.60
                          (NIGHT): 45.00
↟
↟
```