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Environmental Noise Control Study

Proposed Residential Development
585 Bobolink Ridge, Ottawa

Prepared For

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Report: PG5857-1

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1.0 Introduction

Paterson Group (Paterson) was commissioned by Tamarack Homes c/o H.P. Urban Incorporation to conduct an environmental noise control study for the proposed residential development to be located at 585 Bobolink Ridge, 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 Background

It is understood that the proposed residential development will consist of eight (8) three-storey buildings. Associated at-grade roadways, parking areas and landscaped areas are also anticipated. No outdoor living areas are identified 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

The City of Ottawa's Official Plan, in addition to the ENCG dictate 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 NPC-300 outlines the limitations of the stationary and environmental noise levels in relation to the location of the receptors. These can be found in the following tables:

Table 1 - Sound Level Limits for Outdoor Living Areas	
Time Period	Required $L_{eq(16)}$ (dBA)
16-hour, 7:00-23:00	55
☐ Standards taken from Table 2.2a; Sound Level Limit for Outdoor Living Areas - Road and Rail	

Table 2 - Sound Level Limits for Indoor Living Area			
Type of Space	Time Period	Required L_{eq} (dBA)	
		Road	Rail
Living/Dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc	7:00-23:00	45	40
Theaters, place of worship, libraries, individual or semi-private offices, conference rooms, reading rooms	23:00-7:00	45	40
Sleeping quarters	7:00-23:00	45	40
	23:00-7:00	40	35
☐ Standards taken from Table 2.2b; Sound Level Limit for Indoor Living Areas - Road and Rail			

It is noted in ENCG that the limits outlined in Table 2 are for the sound levels on the interior of the glass pane. The ENCG further goes on to state that the limit for the exterior of the pane of glass will be 55 dBA.

If the sound level limits are exceeded at the window panes for the indoor living areas, the following Warning Clauses may be referenced:

Table 3 - Warning Clauses for Sound Level Exceedances	
Warning Clause	Description
Warning Clause Type A	"Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type B	"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic (rail traffic) (air traffic) may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type C	"This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type D	"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."
☐ Clauses taken from section C8 Warning Clauses; Environmental Noise Guidelines - 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 development is bordered to the north by construction site, to the east by landscaped areas followed by Robert Grant Avenue, to the west by Putney Crescent followed by Osterley Way and construction site, to the south by Bobolink Ridge followed by Embankment Street and construction site. Robert Grant Avenue, Putney Crescent, Osterley Way, Bobolink Ridge and Embankment Street are identified within the 100 m radius of proposed development.

Based on the City of Ottawa Official Plan, Schedule F, Robert Grant Avenue is considered a 2 lane urban arterial road (2-UAU). Other roads within the 100 m radius of the proposed development are not classified as either arterial, collector or major collector roads and therefore are not included in this study.

All noise sources are presented in Drawing PG5857-3 - 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 class. It is understood that these values represent the maximum allowable capacity of the proposed roadways. The parameters to be used for sound level predictions can be found below.

Table 4 - Traffic and Road Parameters						
Road	Implied Roadway	AADT (Veh/day)	Posted Speed (km/h)	Day/Night Split %	Medium Truck %	Heavy Truck %
Robert Grant Avenue	2-UAU	15000	60	92/8	7	5
☐ Data obtained from the City of Ottawa document ENCG or calculated from OC Transpo online schedules						

Two (2) 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 building.

Table 5 - Elevation of Reception Points			
Floor Number	Elevation at Centre of Window (m)	Floor Use	Daytime/Nighttime Analysis
Ground Floor	1.5	Living Area/Bedroom	daytime/nighttime
Third Floor	7.5	Living Area/Bedroom	daytime/nighttime

For this analysis, a reception point was taken at the centre of each floor, at the ground floor and third floor. Reception points are detailed on Drawing PG5857-2 - 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 roadways were analyzed where they intersected the 100 m buffer zone, which is reflected in the local angles described in Paterson Drawings PG5857-3A to 3H - Site Geometry in Appendix 1.

Table 7 - Summary of Reception Points and Geometry, located in Appendix 1, provides a summary of the points of reception and their geometry with respect to the noise sources. The analysis is completed so that no effects of sound reflection off of the building facade are considered, as stipulated by the ENG C. It should be noted that one receptor is assigned to the eastmost unit of each building. Since the single noise source, Robert Grant Avenue, is located east to the buildings, the anticipated noise at each receptor represents the worst case scenario of each building.

The subject site is relatively level 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

The primary descriptors are the 16-hour daytime and the 8-hour night time equivalent sound levels, $L_{eq(16)}$ and the $L_{eq(8)}$ for City roads.

The proposed traffic noise levels were analyzed at all reception points. The results of the STAMSON software can be located in Appendix 2, and the summary of the results can be noted in Table 6.

Table 6 - Proposed Noise Levels				
Reception Point	Description	OLA (dBA)	Daytime at Facade $L_{EQ(16)}$ (dBA)	Nighttime at Facade $L_{eq(8)}$ (dBA)
REC 1-1	Building A, Eastern Elevation, 1st Floor	--	61.17	53.58
REC 1-3	Building A, Eastern Elevation, 3rd Floor	--	62.16	54.57
REC 2-1	Building B, Eastern Elevation, 1st Floor	--	61.30	53.71
REC 2-3	Building B, Eastern Elevation, 3rd Floor	--	62.32	54.72
REC 3-1	Building C, Eastern Elevation, 1st Floor	--	60.41	52.81
REC 3-3	Building C, Eastern Elevation, 3rd Floor	--	61.51	53.91
REC 4-1	Building D, Eastern Elevation, 1st Floor	--	60.40	52.80
REC 4-3	Building D, Eastern Elevation, 3rd Floor	--	61.50	53.91
REC 5-1	Building E, Eastern Elevation, 1st Floor	--	54.38	46.78
REC 5-3	Building E, Eastern Elevation, 3rd Floor	--	55.86	48.26
REC 6-1	Building F, Eastern Elevation, 1st Floor	--	53.26	45.67
REC 6-3	Building F, Eastern Elevation, 3rd Floor	--	54.75	47.16
REC 7-1	Building G, Eastern Elevation, 1st Floor	--	52.77	45.17
REC 7-3	Building G, Eastern Elevation, 3rd Floor	--	54.30	46.70
REC 8-1	Building H, Eastern Elevation, 1st Floor	--	53.93	46.33
REC 8-3	Building H, Eastern Elevation, 3rd Floor	--	55.46	47.86

6.0 Discussion and Recommendations

6.1 Outdoor Living Areas

The subject site does not consist any outdoor living areas. Therefore, a surface transportation noise analysis for outdoor living areas will not be required.

6.2 Indoor Living Areas and Ventilation

The results of the STAMSON modeling indicates that the daytime $L_{eq(16)}$ ranges between 52.77 dBA and 62.32 dBA. The ENCG states that the limits for the exterior of the pane of glass is 55 dBA. This value was exceeded on the all units within Buildings A, B, C and D, and the eastmost units within Buildings E and H. Therefore, all units within Buildings A, B, C and D, and the eastmost units within Buildings E and H should be designed with the provision for a central air conditioning unit. Additionally, warning clause Type D, as outlined in Table 3, is recommended for all units within Buildings A, B, C and D, while warning clause Type C, as outlined in Table 3, is recommended for the eastmost units within Buildings E and H. It is also noted that the modeling indicates that the $L_{eq(16)}$ is 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 585 Bobolink Ridge, in the City of Ottawa. It is understood that the proposed development will consist of eight (8) 3-storey residential apartment buildings. The associated analysis identified one surface transportation noise source: Robert Grant Avenue.

Several reception points were selected for the analysis, consisting of pane of glass reception points on both the first and top level. All units within Buildings A, B, C and D, and the eastmost units within Buildings E and H, exceeded the 55 dBA guideline specified by the ENCG. Therefore, a warning clause Type D is recommended for all units within Buildings A, B, C and D, while warning clause Type C is recommended for the eastmost units within Buildings E and H. It is also noted that the modeling indicates that the $L_{eq(16)}$ is 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:

"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."

"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 Tamarack Homes c/o H.P. Urban Incorporation 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.

Yolanda Tang, M.Sc.Eng.

Stephanie A. Boisvenue, P.Eng.



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APPENDIX 1

TABLE 7 - SUMMARY OF RECEPTION POINTS AND GEOMETRY

DRAWING PG5857-1 - SITE PLAN

DRAWING PG5857-2 - RECEPTOR LOCATION PLAN

DRAWING PG5857-3 - SITE GEOMETRY

DRAWING PG5857-3A - SITE GEOMETRY (REC 1-1 and REC 1-3)

DRAWING PG5857-3B - SITE GEOMETRY (REC 2-1 and REC 2-3)

DRAWING PG5857-3C - SITE GEOMETRY (REC 3-1 and REC 3-3)

DRAWING PG5857-3D - SITE GEOMETRY (REC 4-1 and REC 4-3)

DRAWING PG5857-3E - SITE GEOMETRY (REC 5-1 and REC 5-3)

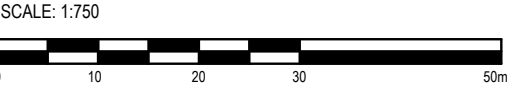
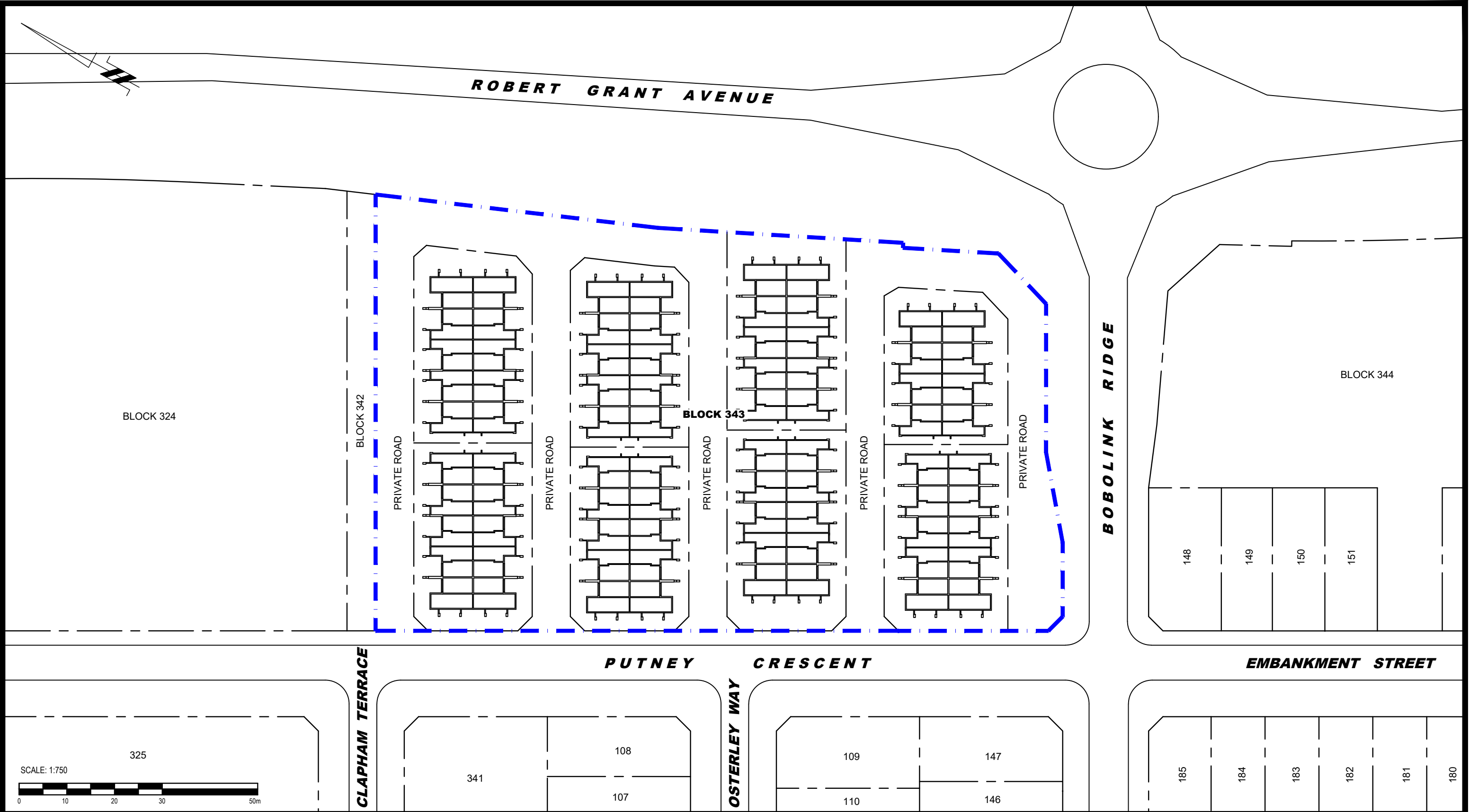
DRAWING PG5857-3F - SITE GEOMETRY (REC 6-1 and REC 6-3)

DRAWING PG5857-3G - SITE GEOMETRY (REC 7-1 and REC 7-3)

DRAWING PG5857-3H - SITE GEOMETRY (REC 8-1 and REC 8-3)

Table 7 - Summary of Reception Points and Geometry
585 Bobolink Ridge

Point of Reception	Location	Leq Day (dBA)	Robert Grant Avenue													
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Barrier Height (m)	Barrier Distance (m)						
REC 1-1	Building A, Eastern Elevation, 1st Floor	61.17	40	1.5	40.03	-77, 71	n/a	n/a	n/a	n/a						
REC 1-3	Building A, Eastern Elevation, 3rd Floor	62.16	40	7.5	40.7	-77, 71	n/a	n/a	n/a	n/a						
REC 2-1	Building B, Eastern Elevation, 1st Floor	61.30	40	1.5	40.03	-77, 80	n/a	n/a	n/a	n/a						
REC 2-3	Building B, Eastern Elevation, 3rd Floor	62.32	40	7.5	40.7	-77, 80	n/a	n/a	n/a	n/a						
REC 3-1	Building C, Eastern Elevation, 1st Floor	60.41	45	1.5	45.02	-74, 80	n/a	n/a	n/a	n/a						
REC 3-3	Building C, Eastern Elevation, 3rd Floor	61.51	45	7.5	45.6	-74, 80	n/a	n/a	n/a	n/a						
REC 4-1	Building D, Eastern Elevation, 1st Floor	60.40	45	1.5	45.02	-72, 82	n/a	n/a	n/a	n/a						
REC 4-3	Building D, Eastern Elevation, 3rd Floor	61.50	45	7.5	45.62	-72, 82	n/a	n/a	n/a	n/a						
REC 5-1	Building E, Eastern Elevation, 1st Floor	54.38	80	1.5	80.01	-70, 58	1	30	n/a	n/a						
REC 5-3	Building E, Eastern Elevation, 3rd Floor	55.86	80	7.5	80.35	-70, 58	1	30	n/a	n/a						
REC 6-1	Building F, Eastern Elevation, 1st Floor	53.26	80	1.5	80.01	-68, 66	1	50	n/a	n/a						
REC 6-3	Building F, Eastern Elevation, 3rd Floor	54.75	80	7.5	80.35	-68, 66	1	50	n/a	n/a						
REC 7-1	Building G, Eastern Elevation, 1st Floor	52.77	85	1.5	85.01	-62, 69	1	50	n/a	n/a						
REC 7-3	Building G, Eastern Elevation, 3rd Floor	54.30	85	7.5	85.33	-62, 69	1	50	n/a	n/a						
REC 8-1	Building H, Eastern Elevation, 1st Floor	53.93	85	1.5	85.01	-56, 72	1	30	n/a	n/a						
REC 8-3	Building H, Eastern Elevation, 3rd Floor	55.46	85	7.5	85.33	-56, 72	1	30	n/a	n/a						



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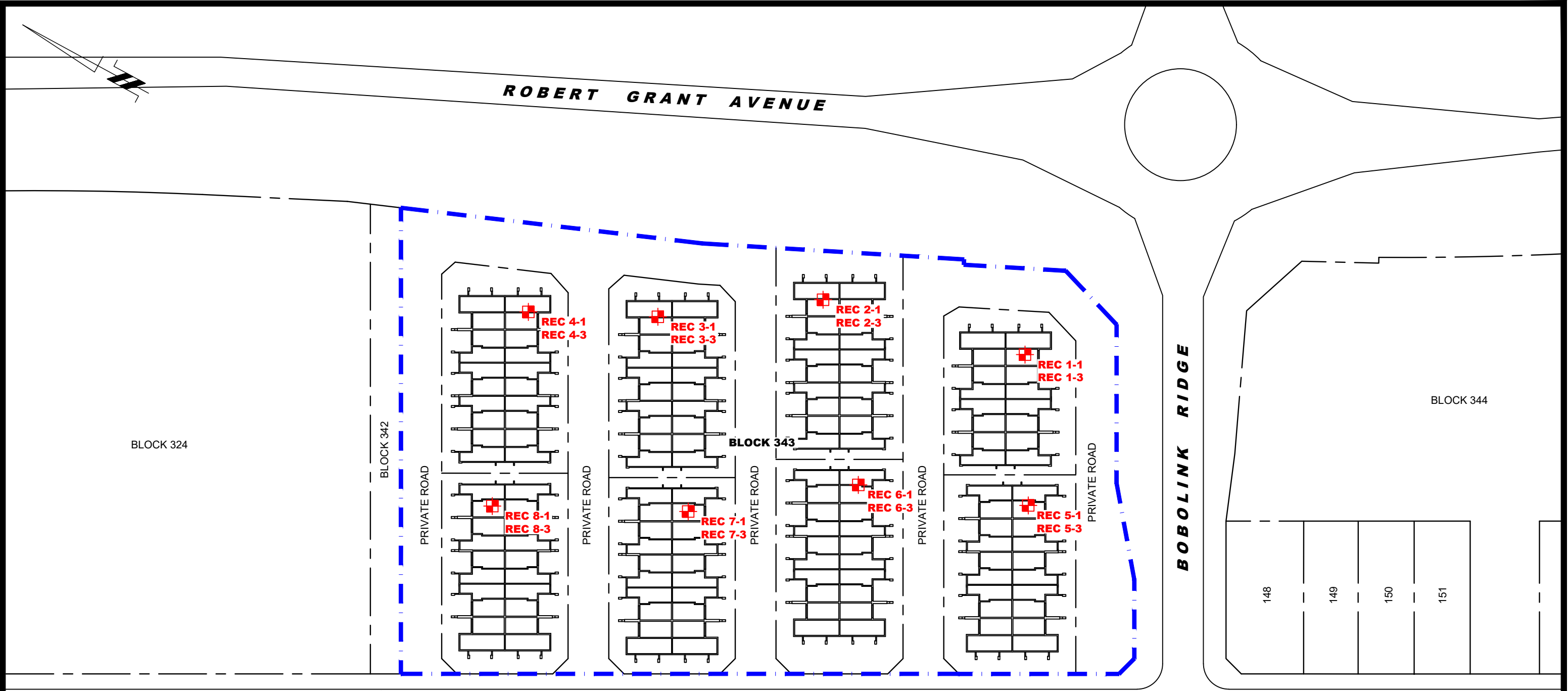
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NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
585 BOBOLINK RIDGE

ONTARIO

SITE PLAN

Scale:	1:750	Date:	06/2021
Drawn by:	YA	Report No.:	PG5857-1
Checked by:	SB	Dwg. No.:	PG5857-1
Approved by:	DJG	Revision No.:	



LEGEND:

 RECEPTOR LOCATION



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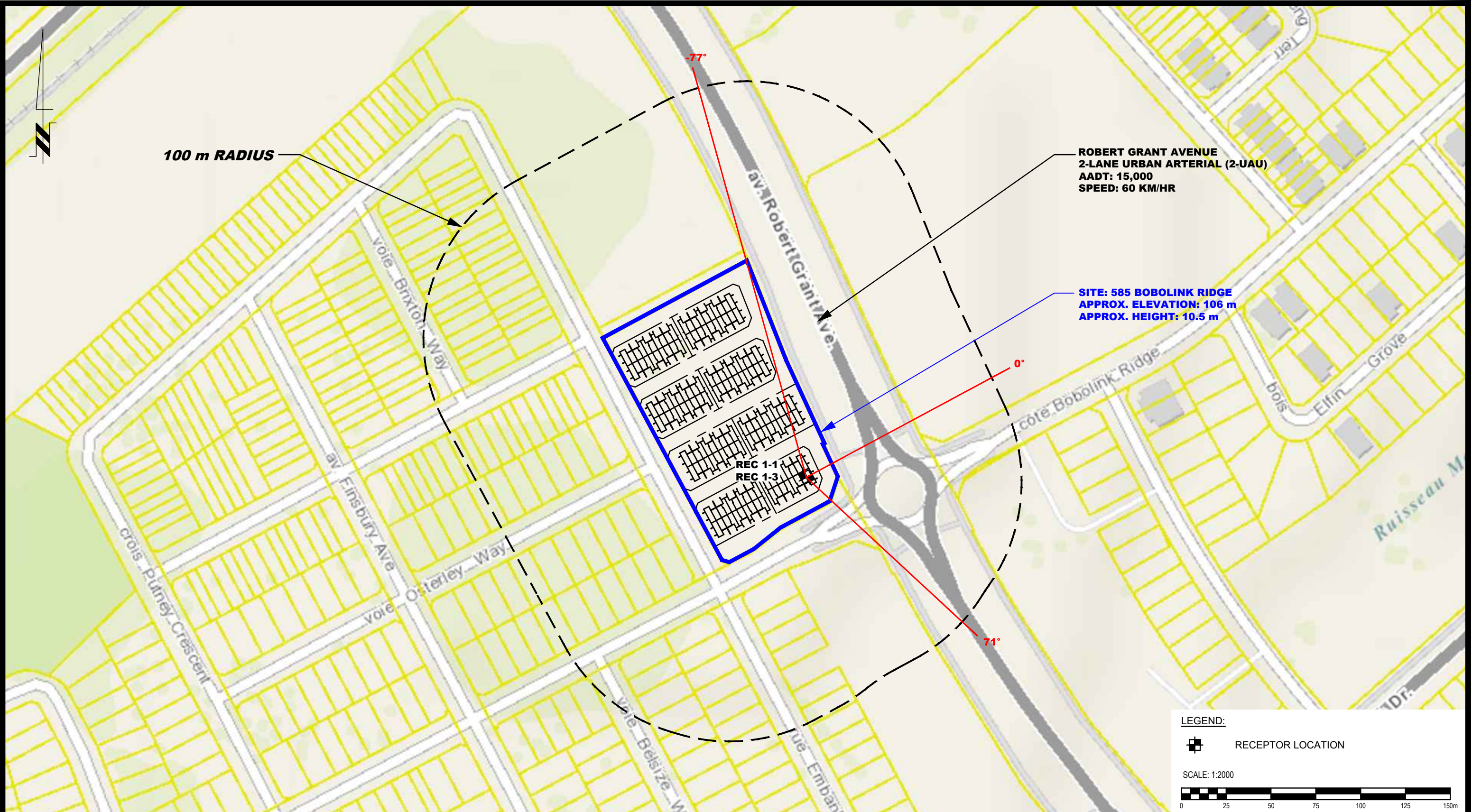
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RECEPTOR LOCATION PLAN

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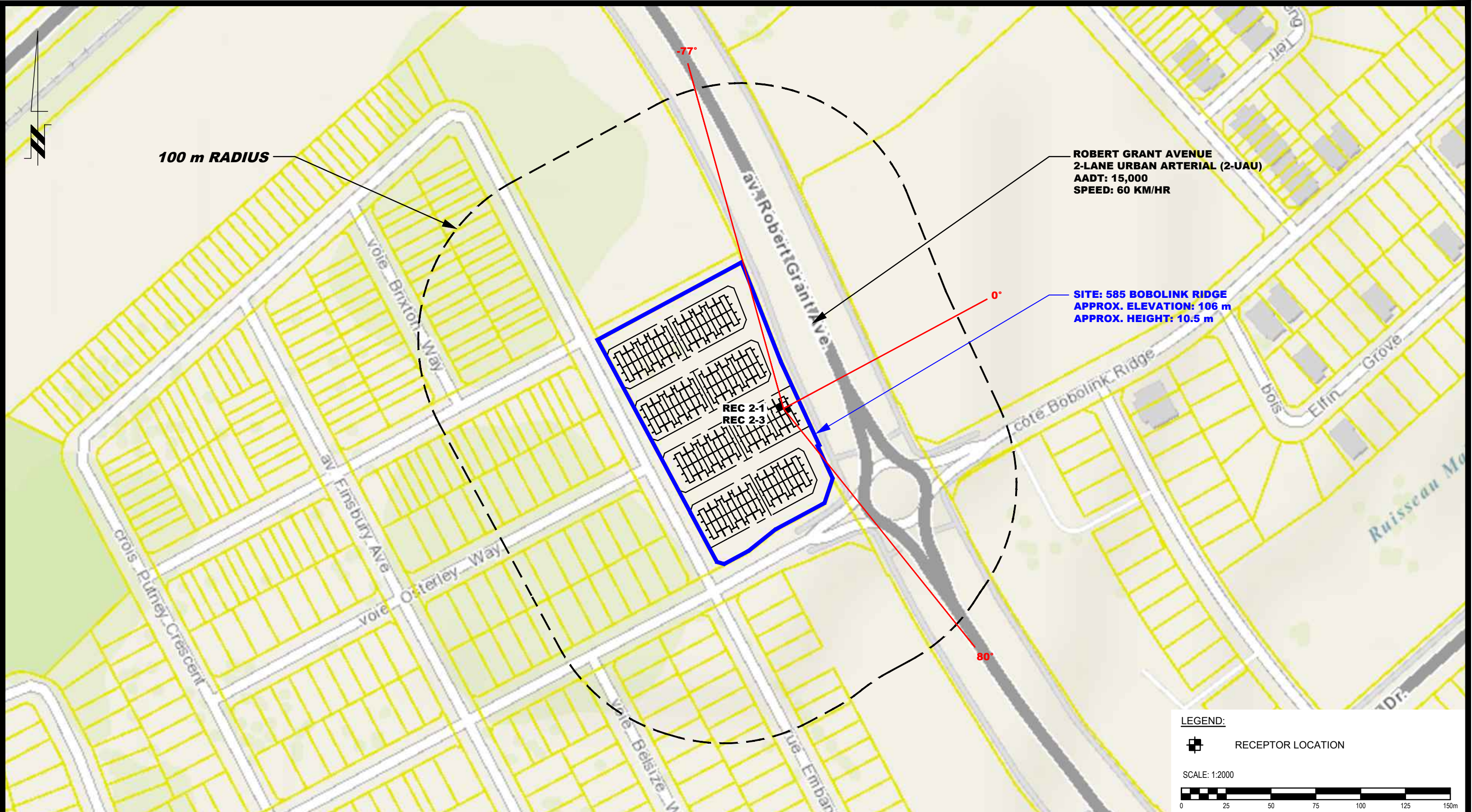
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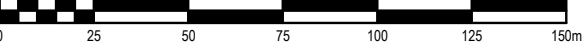
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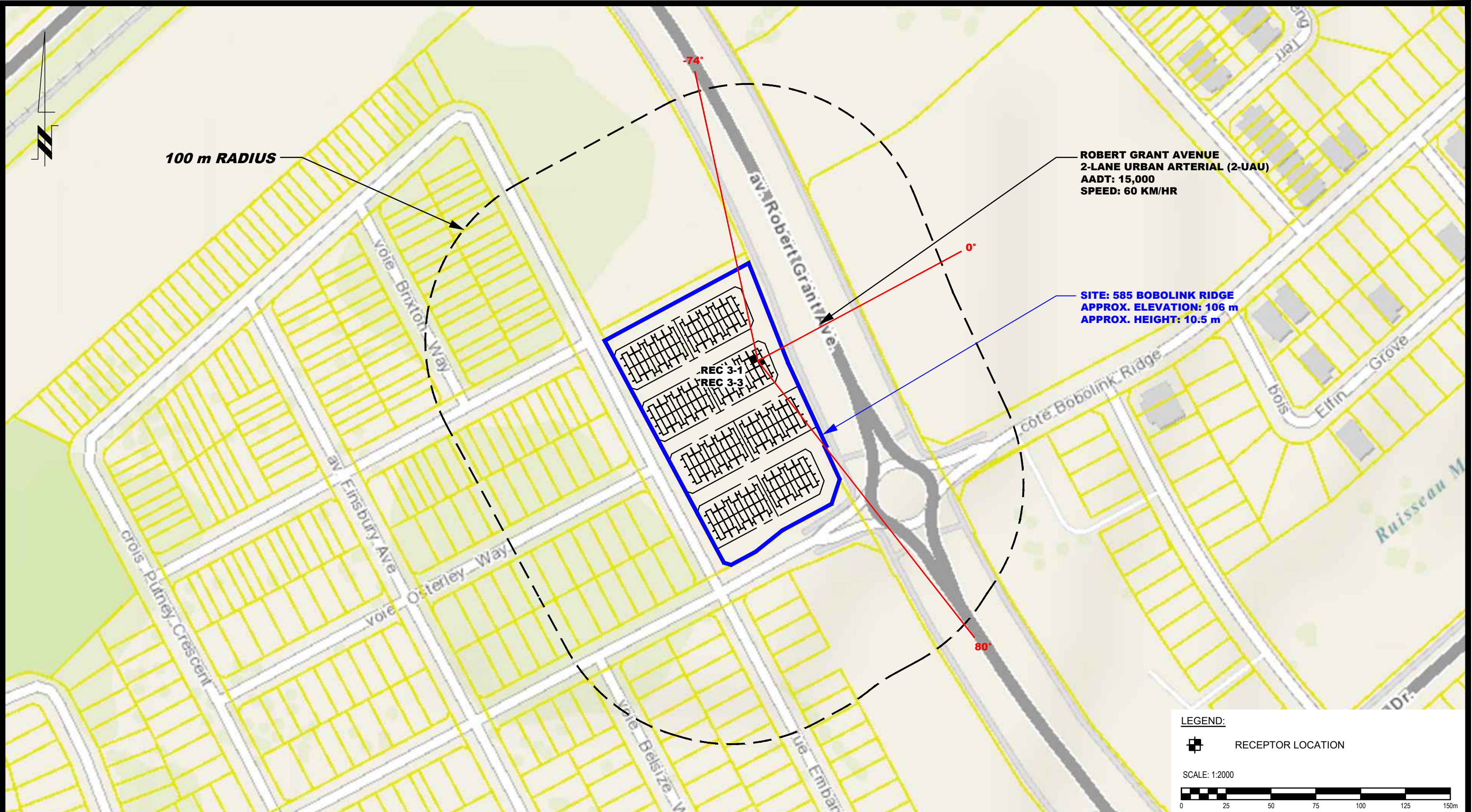
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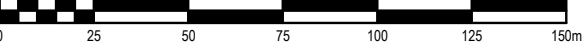
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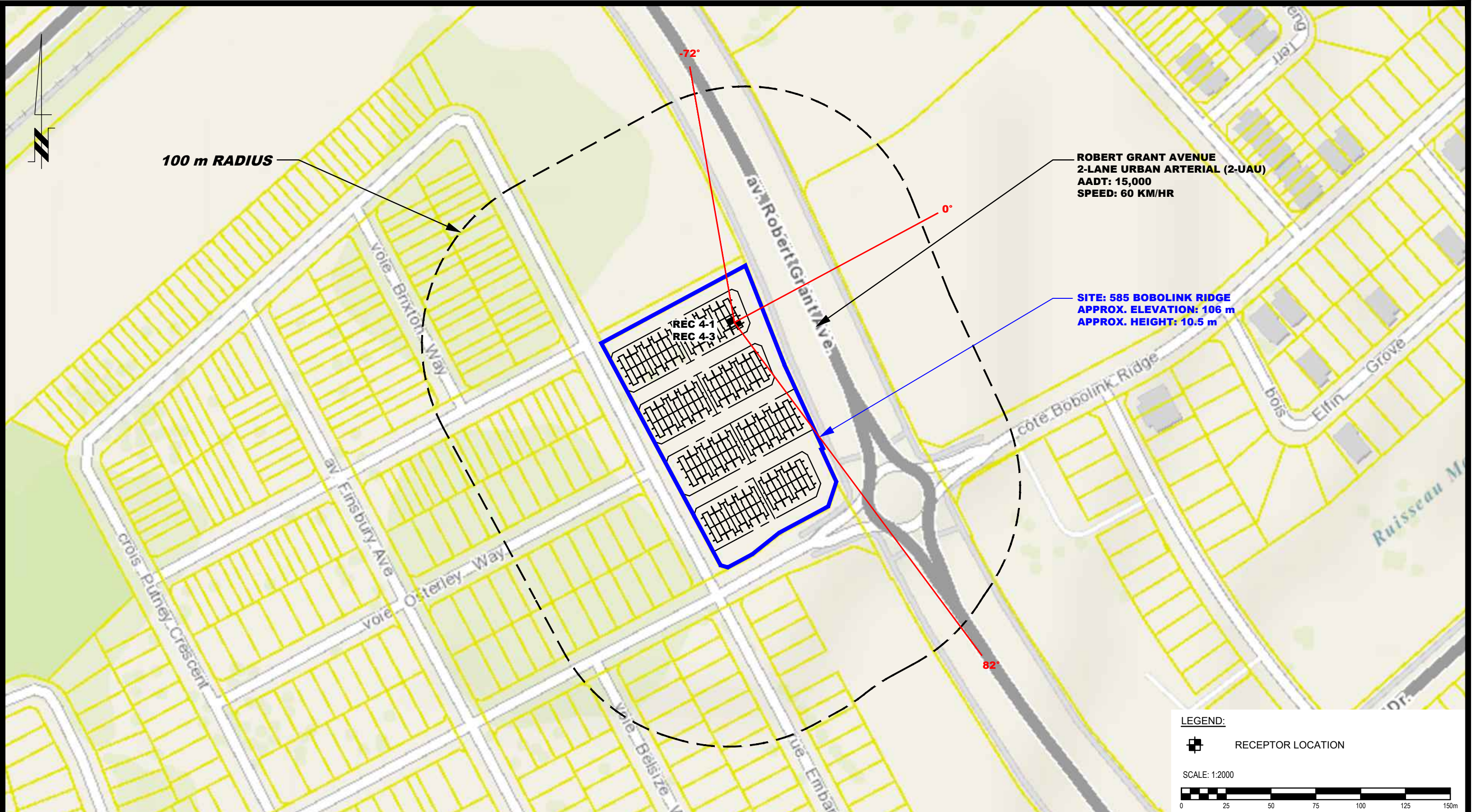
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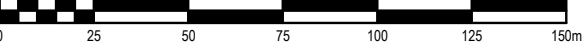
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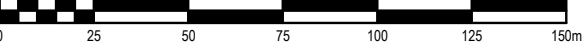
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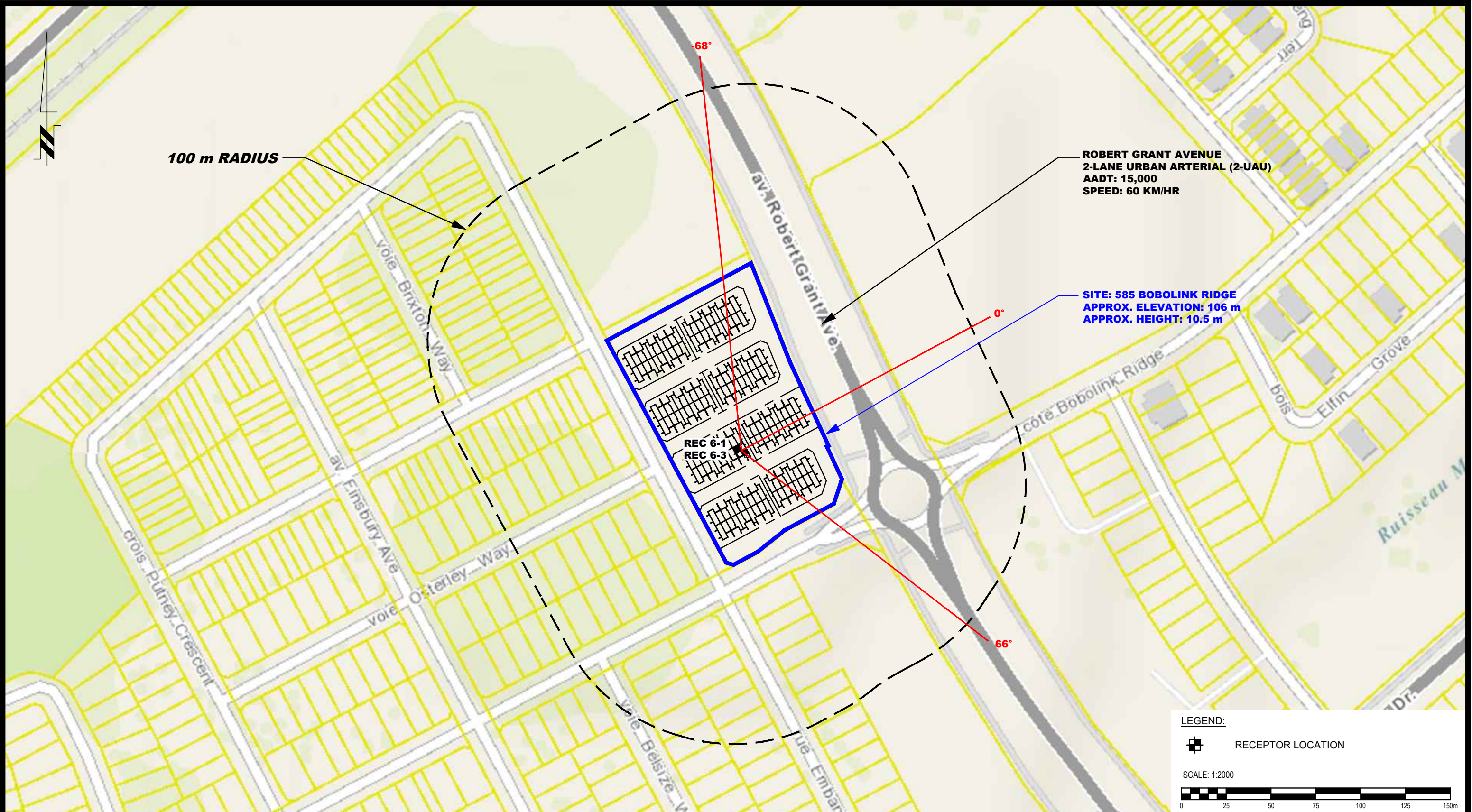
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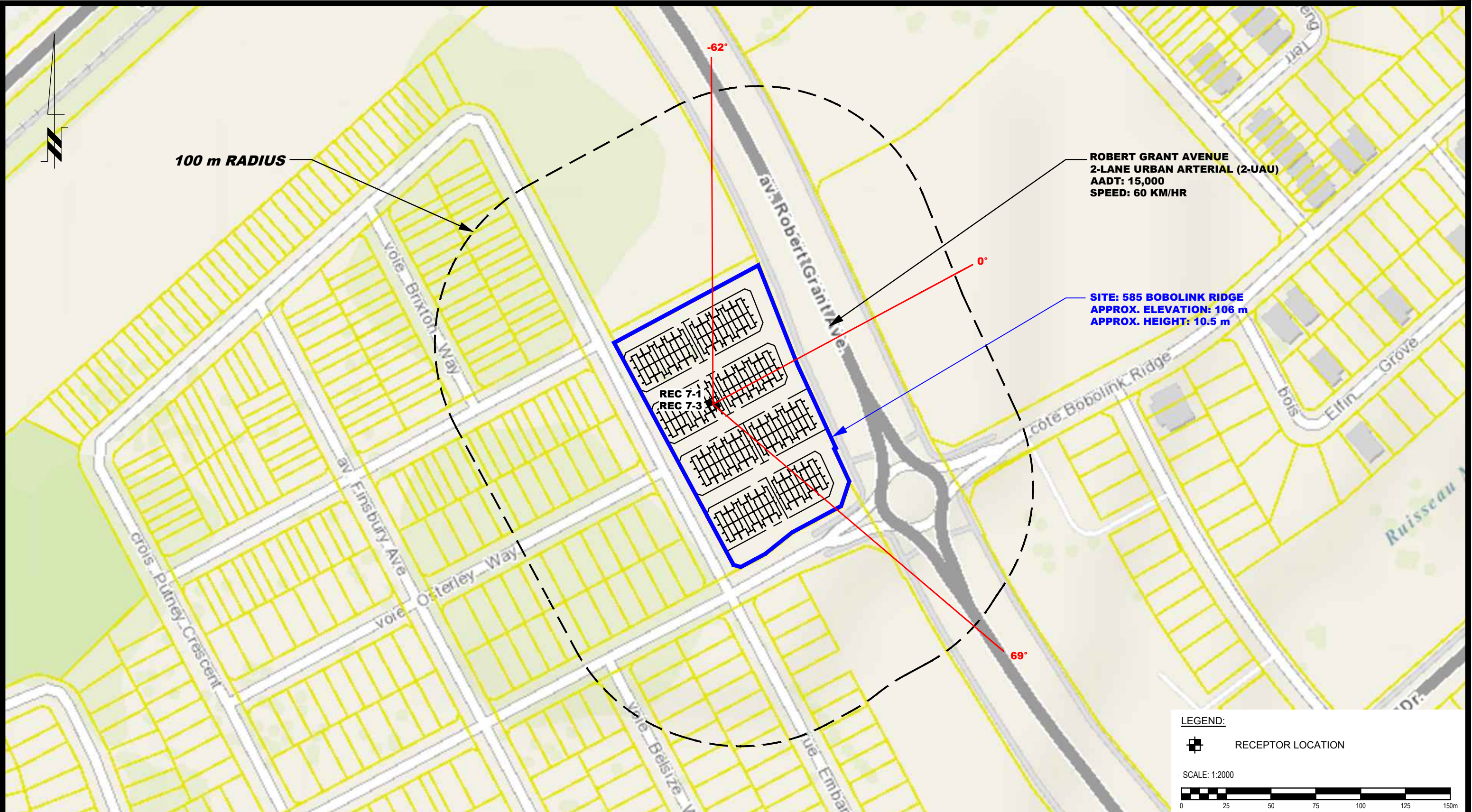
154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL

TAMARACK HOMES c/o HP URBAN INC.
NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
585 BOBOLINK RIDGE
OTTAWA, ONTARIO
Title: **SITE GEOMETRY - REC 6-1 AND REC 6-3**

Scale:	1:2000	Date:	06/2021
Drawn by:	YA	Report No.:	PG5857-1
Checked by:	SB	Dwg. No.:	PG5857-3F
Approved by:	DJG	Revision No.:	

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OTTAWA,
Title:

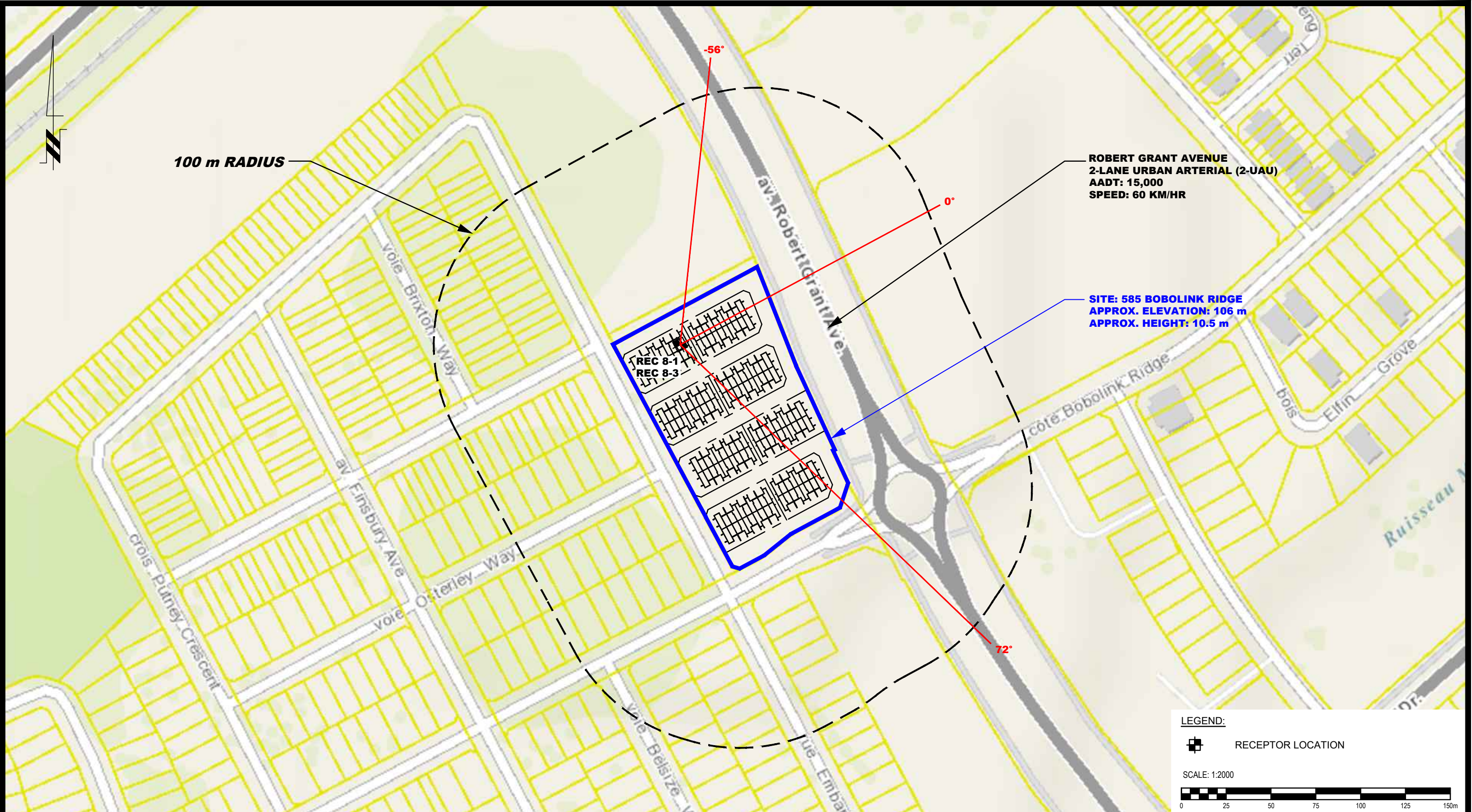
SITE GEOMETRY - REC 7-1 AND REC 7-3

TAMARACK HOMES c/o HP URBAN INC.
NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
585 BOBOLINK RIDGE

ONTARIO

Scale:	1:2000	Date:	06/2021
Drawn by:	YA	Report No.:	PG5857-1
Checked by:	SB	Dwg. No.:	PG5857-3G
Approved by:	DJG	Revision No.:	

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TAMARACK HOMES c/o HP URBAN INC.
NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
585 BOBOLINK RIDGE
OTTAWA, ONTARIO
Title: **SITE GEOMETRY - REC 8-1 AND REC 8-3**

Scale:	1:2000	Date:	06/2021
Drawn by:	YA	Report No.:	PG5857-1
Checked by:	SB	Dwg. No.:	PG5857-3H
Approved by:	DJG	Revision No.:	

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NO.	REVISIONS	DATE	INITIAL

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Title:

**TAMARACK HOMES c/o HP URBAN INC.
NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
585 BOBOLINK RIDGE**

SITE GEOMETRY

ONTARIO

Scale:	1:2000	Date:	06/2021
Drawn by:	YA	Report No.:	PG5857-1
Checked by:	SB	Dwg. No.:	PG5857-3
Approved by:	DJG	Revision No.:	

APPENDIX 2

STAMSON RESULTS

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 09:04:11
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: Robert Grant (day/night)

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -77.00 deg 71.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 61.17 + 0.00) = 61.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	71	0.66	70.00	0.00	-7.07	-1.75	0.00	0.00	0.00	61.17

Segment Leq : 61.17 dBA

Total Leq All Segments: 61.17 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 53.58 + 0.00) = 53.58 dBA

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

-77	71	0.66	62.40	0.00	-7.07	-1.75	0.00	0.00	0.00	53.58
-----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 53.58 dBA

Total Leq All Segments: 53.58 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 61.17

(NIGHT): 53.58

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 09:05:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec13.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -77.00 deg 71.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 62.16 + 0.00) = 62.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	71	0.48	70.00	0.00	-6.30	-1.53	0.00	0.00	0.00	62.16

Segment Leq : 62.16 dBA

Total Leq All Segments: 62.16 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 54.57 + 0.00) = 54.57 dBA

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

-77	71	0.48	62.40	0.00	-6.30	-1.53	0.00	0.00	0.00	54.57
-----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 54.57 dBA

Total Leq All Segments: 54.57 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 62.16
(NIGHT): 54.57

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 09:10:57
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: Robert Grant (day/night)

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -77.00 deg 80.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 61.30 + 0.00) = 61.30 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	80	0.66	70.00	0.00	-7.07	-1.62	0.00	0.00	0.00	61.30

Segment Leq : 61.30 dBA

Total Leq All Segments: 61.30 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 53.71 + 0.00) = 53.71 dBA

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

-77	80	0.66	62.40	0.00	-7.07	-1.62	0.00	0.00	0.00	53.71
-----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 53.71 dBA

Total Leq All Segments: 53.71 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 61.30

(NIGHT): 53.71

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 09:12:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec23.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 2-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -77.00 deg 80.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 62.32 + 0.00) = 62.32 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	80	0.48	70.00	0.00	-6.30	-1.37	0.00	0.00	0.00	62.32

Segment Leq : 62.32 dBA

Total Leq All Segments: 62.32 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 54.72 + 0.00) = 54.72 dBA

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

-77	80	0.48	62.40	0.00	-6.30	-1.37	0.00	0.00	0.00	54.72
-----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 54.72 dBA

Total Leq All Segments: 54.72 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 62.32

(NIGHT): 54.72

↑

↑

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

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

 Angle1 Angle2 : -74.00 deg 80.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 1 (Absorptive ground surface)
 Receiver source distance : 45.00 / 45.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑
 Result summary (day)

	! source !	Road !	Total
	! height !	Leq !	Leq
	! (m) !	(dBA) !	(dBA)
1.Robert Grant	! 1.50 !	60.41 !	60.41
Total			60.41 dBA

↑
 Result summary (night)

	! source	! Road	! Total
	! height	! Leq	! Leq
	! (m)	! (dBA)	! (dBA)
1.Robert Grant	! 1.50	! 52.81	! 52.81
	Total		52.81 dBA

⬆

TOTAL Leq FROM ALL SOURCES (DAY): 60.41
(NIGHT): 52.81

⬆

⬆

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 09:17:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec33.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 3-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -74.00 deg 80.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 45.00 / 45.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 61.51 + 0.00) = 61.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-74	80	0.48	70.00	0.00	-7.06	-1.42	0.00	0.00	0.00	61.51

Segment Leq : 61.51 dBA

Total Leq All Segments: 61.51 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 53.91 + 0.00) = 53.91 dBA

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

-74	80	0.48	62.40	0.00	-7.06	-1.42	0.00	0.00	0.00	53.91
-----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 53.91 dBA

Total Leq All Segments: 53.91 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 61.51
(NIGHT): 53.91

↑

↑

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

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

 Angle1 Angle2 : -72.00 deg 82.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 1 (Absorptive ground surface)
 Receiver source distance : 45.00 / 45.00 m
 Receiver height : 1.50 / 1.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑
 Result summary (day)

	! source !	Road !	Total
	! height !	Leq !	Leq
	! (m) !	(dBA) !	(dBA)
1.Robert Grant	! 1.50 !	60.40 !	60.40
Total			60.40 dBA

↑
 Result summary (night)

	! source	! Road	! Total
	! height	! Leq	! Leq
	! (m)	! (dBA)	! (dBA)
1.Robert Grant	! 1.50	! 52.80	! 52.80
	Total		52.80 dBA

⬆

TOTAL Leq FROM ALL SOURCES (DAY): 60.40
(NIGHT): 52.80

⬆

⬆

Filename: rec43.te Time Period: Day/Night 16/8 hours
 Description: Receptor Point 4-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

 Angle1 Angle2 : -72.00 deg 82.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 1 (Absorptive ground surface)
 Receiver source distance : 45.00 / 45.00 m
 Receiver height : 7.50 / 7.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Result summary (day)

	! source !	Road !	Total
	! height !	Leq !	Leq
	! (m) !	(dBA) !	(dBA)
1.Robert Grant	! 1.50 !	61.50 !	61.50
Total			61.50 dBA

↑

Result summary (night)

	! source	! Road	! Total
	! height	! Leq	! Leq
	! (m)	! (dBA)	! (dBA)
1.Robert Grant	! 1.50	! 53.91	! 53.91
	Total		53.91 dBA

⬆

TOTAL Leq FROM ALL SOURCES (DAY): 61.50
(NIGHT): 53.91

⬆

⬆

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:19:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -70.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 30 %
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: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 54.38 + 0.00) = 54.38 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	58	0.66	70.00	0.00	-12.07	-2.15	0.00	-1.40	0.00	54.38

Segment Leq : 54.38 dBA

Total Leq All Segments: 54.38 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 46.78 + 0.00) = 46.78 dBA

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

-70	58	0.66	62.40	0.00	-12.07	-2.15	0.00	-1.40	0.00	46.78
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 46.78 dBA

Total Leq All Segments: 46.78 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 54.38

(NIGHT): 46.78

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:20:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec53.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 5-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -70.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 30 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 80.00 / 80.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 55.86 + 0.00) = 55.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	58	0.48	70.00	0.00	-10.76	-1.98	0.00	-1.40	0.00	55.86

Segment Leq : 55.86 dBA

Total Leq All Segments: 55.86 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 48.26 + 0.00) = 48.26 dBA

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

-70	58	0.48	62.40	0.00	-10.76	-1.98	0.00	-1.40	0.00	48.26
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 48.26 dBA

Total Leq All Segments: 48.26 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 55.86
(NIGHT): 48.26

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:23:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec61.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 6-1

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -68.00 deg 66.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 50 %
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: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 53.26 + 0.00) = 53.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	66	0.66	70.00	0.00	-12.07	-2.00	0.00	-2.67	0.00	53.26

Segment Leq : 53.26 dBA

Total Leq All Segments: 53.26 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 45.67 + 0.00) = 45.67 dBA

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

-68	66	0.66	62.40	0.00	-12.07	-2.00	0.00	-2.67	0.00	45.67
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 45.67 dBA

Total Leq All Segments: 45.67 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 53.26
(NIGHT): 45.67

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:25:06
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec63.te Time Period: Day/Night 16/8 hours
 Description: Receptor Point 6-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

```
-----
Angle1   Angle2       : -68.00 deg   66.00 deg
Wood depth :      0      (No woods.)
No of house rows :      1 / 1
House density :     50 %
Surface      :      1      (Absorptive ground surface)
Receiver source distance : 80.00 / 80.00 m
Receiver height :    7.50 / 7.50 m
Topography    :      1      (Flat/gentle slope; no barrier)
Reference angle :    0.00
```

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 54.75 + 0.00) = 54.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	66	0.48	70.00	0.00	-10.76	-1.81	0.00	-2.67	0.00	54.75

Segment Leq : 54.75 dBA

Total Leq All Segments: 54.75 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 47.16 + 0.00) = 47.16 dBA

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

-68	66	0.48	62.40	0.00	-10.76	-1.81	0.00	-2.67	0.00	47.16
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 47.16 dBA

Total Leq All Segments: 47.16 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 54.75
(NIGHT): 47.16

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:28:34
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec71.te Time Period: Day/Night 16/8 hours
 Description: Receptor Point 7-1

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

```
-----
Angle1  Angle2      : -62.00 deg   69.00 deg
Wood depth          :      0      (No woods.)
No of house rows    :      1 / 1
House density       :     50 %
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: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 52.77 + 0.00) = 52.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-62	69	0.66	70.00	0.00	-12.51	-2.07	0.00	-2.66	0.00	52.77

Segment Leq : 52.77 dBA

Total Leq All Segments: 52.77 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 45.17 + 0.00) = 45.17 dBA

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

-62	69	0.66	62.40	0.00	-12.51	-2.07	0.00	-2.66	0.00	45.17
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 45.17 dBA

Total Leq All Segments: 45.17 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 52.77
(NIGHT): 45.17

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:29:33
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec73.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 7-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -62.00 deg 69.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 50 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 85.00 / 85.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 54.30 + 0.00) = 54.30 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-62	69	0.48	70.00	0.00	-11.15	-1.89	0.00	-2.66	0.00	54.30

Segment Leq : 54.30 dBA

Total Leq All Segments: 54.30 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 46.70 + 0.00) = 46.70 dBA

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

-62	69	0.48	62.40	0.00	-11.15	-1.89	0.00	-2.66	0.00	46.70
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 46.70 dBA

Total Leq All Segments: 46.70 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 54.30

(NIGHT): 46.70

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:32:13
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: Robert Grant (day/night)

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -56.00 deg 72.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 30 %
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: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 53.93 + 0.00) = 53.93 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-56	72	0.66	70.00	0.00	-12.51	-2.16	0.00	-1.40	0.00	53.93

Segment Leq : 53.93 dBA

Total Leq All Segments: 53.93 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 46.33 + 0.00) = 46.33 dBA

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

-56	72	0.66	62.40	0.00	-12.51	-2.16	0.00	-1.40	0.00	46.33
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 46.33 dBA

Total Leq All Segments: 46.33 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 53.93

(NIGHT): 46.33

↑

↑

STAMSON 5.0 NORMAL REPORT Date: 16-06-2021 10:34:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec83.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 8-3

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

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

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

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

Data for Segment # 1: Robert Grant (day/night)

Angle1 Angle2 : -56.00 deg 72.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 30 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 85.00 / 85.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑

Results segment # 1: Robert Grant (day)

Source height = 1.50 m

ROAD (0.00 + 55.46 + 0.00) = 55.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-56	72	0.48	70.00	0.00	-11.15	-1.99	0.00	-1.40	0.00	55.46

Segment Leq : 55.46 dBA

Total Leq All Segments: 55.46 dBA

↑

Results segment # 1: Robert Grant (night)

Source height = 1.50 m

ROAD (0.00 + 47.86 + 0.00) = 47.86 dBA

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

-56	72	0.48	62.40	0.00	-11.15	-1.99	0.00	-1.40	0.00	47.86
-----	----	------	-------	------	--------	-------	------	-------	------	-------

Segment Leq : 47.86 dBA

Total Leq All Segments: 47.86 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 55.46
(NIGHT): 47.86

↑

↑