Environmental Noise Control Study
Proposed Semi-Detached Dwellings

1346 Avenue Q
Ottawa, Ontario

Prepared for Mr. Andrew Clark

Report PG6720-1 Revision 1 dated July 21, 2023

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Appendices

1.0 Introduction

Paterson Group (Paterson) was commissioned by Mr. Andrew Clark to conduct an environmental noise control study for the proposed semi-detached dwellings to be located at 1346 Avenue Q, in the City of Ottawa.

The objective of the current study is to:

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

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

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

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

2.0 Proposed Development

It is understood that the proposed development will consist of two (2) storey semi-detached dwellings. The dwellings will extend 7 m above grade. Associated interlock paver walkways, asphalt driveways, and landscaped areas are further anticipated. An outdoor living area identifies as the rear yards are noted 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 Methodology and Vibration Assessment Criteria

Due to the location of the existing VIA-Train Railway Alexandria-Ottawa Corridor, a ground vibration and ground-borne noise review was also performed for this development.

Effects of the Rail Corridor on the Proposed Development

The human body can be affected by exposure to vibration, in particular ground-borne vibrations occurring at low frequencies. These can be caused by the surrounding vibration sources previously identified, such as wheels on a road or rail system. These ground-borne vibrations can cause the building to shake (ground-borne vibration) and/or cause rumbling sounds (ground-borne noise).

The methods of defining and measuring vibrations has its own challenges, based on the oscillatory motion identified as a vibration. Due to the nature of the oscillatory motion of the vibration, there is no net movement of the vibration element, and therefore motion descriptors are zero.

There are two (2) main methods of defining the magnitude of the overall vibration. The main one utilized in construction activities is the peak particle velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration signal and is often used when monitoring blasting vibrations and is ideal for evaluating the potential for building damage.

However, human responses require a different method of analysis as the human body requires time to respond to vibration signals. The average vibration amplitude would be an applicable method of reporting the ground-borne vibrations that humans would respond to, however, with the vibration being represented as a sine wave, the average vibration amplitude would be zero. Therefore, the root mean square (RMS) amplitude, typically calculated over a 1 second interval, is utilized for the analysis. The RMS value is always less than the PPV.

General factors that could affect the magnitude of the created vibrations include, but are not limited to, whether the rail is above grade or below grade, speed, vehicle suspension, wheel and track condition, track support system, depth of system and soil conditions. It should be noted that vibrations that travel through the bedrock surface should be minimal, but can travel a further distance.

The Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual: FTA Report No. 0123 dated September 2018 outlines the vibration standards caused by rail sources. Upon review of this document, the following standards were obtained that are applicable to this analysis.

The criteria for the environmental impact from vibrations are based on the RMS vibration levels for repeated events. The proposed development would be classified as a Vibration Category 2 - Residential. The following table outlines the limits for ground-borne vibrations.

Table 5 - Ground-Borne Vibration (GBV) for General Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch/sec)		
	Frequent Events	Occasional Events	Infrequent Events
Category 2	72 VdB	75 VdB	80 VdB

Notes:
Standards taken from Table 6.3; Indoor Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for General Vibration Assessment

- Frequent events is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category
- Occasional events is define as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
- Infrequent events is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

Ground-borne vibration can also result in ground-borne noise. This is separate from the noise caused by the trains directly, and instead focuses on the vibration of objects to emit noise. Similar to ground-borne vibration, the noise impacts are based on a criteria for human annoyance and activity interference. For residential buildings, the criteria for acceptability is given in the table on the following page:

Table 6 - Ground-Borne Noise (GBN) for General Assessment

Land Use Category	GBN Impact Levels (dBA re 20 micro Pascals)		
	Frequent Events	Occasional Events	Infrequent Events
Category 2	35 dBA	38 dBA	43 dBA

Notes:
Standards taken from Table 6.3; Indoor Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for General Vibration Assessment

- Frequent events is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category
- Occasional events is define as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
- Infrequent events is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

5.0 Analysis

Surface Transportation Noise

The subject development is bordered to the north by residential dwellings followed by Tremblay Road, O-train railway, and highway, to the east by Avenue Q followed by residential dwellings and Avenue R, to the south by Avenue P and residential dwellings followed by VIA-train railway, and to the west by residential dwellings and Avenue P. Avenue P, Avenue Q, and Avenue R are identified within the 100 m radius of proposed development.

Based on the City of Ottawa's Official Plan, Schedule C4, the 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. Additionally, the 4-lane Highway 417 Westbound and the 4-lane Highway 417 Eastbound are within the 500 m radius from the proposed building and are therefore included in this study.

The VIA-Train Railway Alexandria-Ottawa Corridor and O-Train Railway Confederation Line are identified within 300 m of the proposed development. It is understood that the Alexandria-Ottawa Corridor is used by VIA-Train Rail, and Confederation Line is used by O-Train Rail. The volume of trains along the VIA rail line is provided in the email discussion with Mr. Paul Charbachi, P.Eng. of VIA Rail Canada. Based on a phone discussion with OC Transpo personnel, the method to determine the volume of trains along the rail line is to count the number of departures off of the rail schedules. The copies of train schedules are included in Appendix 3. It was further confirmed by VIA Rail Canada and OC Transpo, respectively, that each VIA train consists of two diesel locomotives pulling 8 cars and each O-train consists of an electronic locomotive pulling 1 car. An email confirming the Alexandria-Ottawa Rail Line information is included in Appendix 3.

The major sources of traffic noise are due to the 4-lane Highway 417 Westbound, 4-lane Highway 417 Eastbound, and VIA-Train Railway Alexandria-Ottawa Corridor to the north, and O-Train Railway Confederation Line to the south of the proposed development.

All noise sources are presented in Drawing PG6720-3 - 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 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 7 – Traffic and Road Parameters

Segment	Roadway Classification	AADT Veh/Day	Speed Limit (km/h)	Day/Night Split %	Medium Truck %	Heavy Truck %
Highway 417 Westbound	4- Queensway	73,332	100	92/8	7	5
Highway 417 Eastbound	4- Queensway	73,332	100	92/8	7	5

- Data obtained from the City of Ottawa document ENCG

Table 8 – Rail Parameters

Rail Line	Engine Type	Maximum Speed (km/hr)	Number of Trips / day	Length of Train
VIA Train Rail	Diesel	160	16	10
O-Train Rail	Electric	80	410	2

Three (3) 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 development.

Table 9 – 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
Second Floor	4.5	Living Area/Bedroom	Daytime / Nighttime
Rear Yard	1.5	--	Outdoor Living Area

For this analysis, a reception point was taken at the centre of each floor, at the first floor and top floor. Outdoor living areas, identified as rear yards, are anticipated at the proposed development. One receptor (REC 5) was selected in the centre of rear yard, 1.5 m. Reception points are detailed on Drawing PG6720-2 - 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 railway was analyzed where it intersected the 300 m buffer zone, and the highway was analyzed where it intersected the 500 m buffer zone, which are reflected in the local angles described in Paterson Drawings PG6720-3A to 3E - Site Geometry in Appendix 1.

Table 11 - Summary of Reception Points and Geometry, located in Appendix 1, provides a summary of the points of reception and their geometry with respect to the noise sources. The analysis is completed so that no effects of sound reflection off of the building facade are considered, as stipulated by the ENGC.

The subject site is generally levelled, and it is at grade with the neighbouring roads within the 500 m radius.

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

In this analysis, it is noted that the nearest distance between the centerline of VIA-Train Rail Line and the proposed development is 95 m (310 ft), which is greater than the screening distance of 61 metres (200 ft) specified in The Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual. Therefore, vibration assessment is not required for the proposed building.

6.0 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 10.

Table 10: 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	Northern Elevation, 1st Floor	56	48
REC 1-2	4.5	Northern Elevation, 2nd Floor	57	49
REC 2-1	1.5	Eastern Elevation, 1st Floor	56	45
REC 2-2	4.5	Eastern Elevation, 2nd Floor	57	46
REC 3-1	1.5	Southern Elevation, 1st Floor	57	0
REC 3-2	4.5	Southern Elevation, 2nd Floor	58	0
REC 4-1	1.5	Western Elevation, 1st Floor	56	45
REC 4-2	4.5	Western Elevation, 2nd Floor	57	46
REC 5	1.5	Rear Yard	57	--

7.0 Discussion and Recommendations

7.1 Outdoor Living Areas

Outdoor living areas identified as the rear yards are anticipated at the proposed development. One (1) receptor point was selected for the analysis at outdoor living areas (REC 5). It is assumed that the rear yards will only be utilized as outdoor living area provided that the proposed building is constructed. Utilizing the exteriors of proposed building as noise barriers, the proposed Leq(16) at the rear yards will be 57 dBA, which slightly exceeds the 55 dBA threshold value specified by the ENCG. This exceedance is acceptable provided that Warning Clause A is included on all deeds of sale.

7.2 Indoor Living Areas and Ventilation

The results of the STAMSON modeling indicate that the noise levels at proposed semi-detached dwellings will range between 56 dBA and 58 dBA during the daytime period (07:00-23:00) and between 0 dBA and 49 dBA during the nighttime period (23:00-7:00). The noise levels on the northern, eastern, southern, and western elevations of proposed building will exceed the limit for the exterior of the pane of glass (55 dBA) specified by the ENCG. Therefore, both units at the proposed building 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 building will be below 65 dBA, and therefore standard building materials are acceptable to provide adequate soundproofing.

8.0 Summary of Findings

The subject site is located at 1346 Avenue Q, in the City of Ottawa. It is understood that the proposed development will consist of two (2) storey semi-detached dwellings. The dwellings will rise 7 metres above grade. There are four major sources of surface transportation noise to the proposed development: Highway 417 West, Highway 417 East, the Alexandria-Ottawa Corridor VIA-Train Rail Line, and the Confederation Corridor O-Train Rail Line.

It is noted that the separation of the centerline of VIA-Train Rail Line and the proposed development exceeds the screening distance of 61 metres (200 ft) specified in The Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual. Therefore, vibration assessment is not required for the proposed building.

Outdoor Living Areas – rear yards are anticipated at the proposed development. Utilizing the exteriors of proposed building as noise barriers, the results of STAMSON modeling indicate that the noise level at the rear yards of proposed development is expected to be 57 dBA, during the daytime period, which slightly exceeds the 55 dBA threshold value specified by the ENCG. This exceedance is considered acceptable provided that the warning clause Type A is included on all deeds of sale.

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 noise levels on the northern, eastern, southern, and western elevations of proposed building 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 both semi-detached dwelling units. It is also noted that the modeling indicates that the noise levels are 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 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."

"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."

9.0 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 Mr. Andrew Clark or his 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.A.Sc

Stephanie A. Boisvenue, P.Eng.

Report Distribution:

- ❑ Mr. Andrew Clark (email copy)
- ❑ Paterson Group (1 copy)

APPENDIX 1

TABLE 11 - SUMMARY OF RECEPTION POINTS AND GEOMETRY

DRAWING PG6720-1 - SITE PLAN

DRAWING PG6720-2 - RECEPTOR LOCATION PLAN

DRAWING PG6720-3 - SITE GEOMETRY

DRAWING PG6720-3A - SITE GEOMETRY - REC 1-1 AND REC 1-2

DRAWING PG6720-3B - SITE GEOMETRY - REC 2-1 AND REC 2-2

DRAWING PG6720-3C - SITE GEOMETRY - REC 3-1 AND REC 3-2

DRAWING PG6720-3D - SITE GEOMETRY - REC 4-1 AND REC 4-2

DRAWING PG6720-3E - SITE GEOMETRY - REC 5

Table 11 - Summary of Reception Points and Geometry
1346 Avenue Q

Point of Reception	Location	Leq Day (dBA)	VIA-Train Alexandria Rail Corridor						O-Train Confederation Line					
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)
REC 1-1	Northern Elevation, 1st Elevation	56	n/a	n/a	n/a	n/a	n/a	n/a	205	1.5	205.0	-49, 46	3	60
REC 1-2	Northern Elevation, 2nd Elevation	57	n/a	n/a	n/a	n/a	n/a	n/a	205	4.5	205.1	-49, 46	3	60
REC 2-1	Eastern Elevation, 1st Elevation	56	90	1.5	90.0	-68, 0	1	20	210	1.5	210.0	0, 44	3	60
REC 2-2	Eastern Elevation, 2nd Elevation	57	90	4.5	90.1	-68, 0	1	20	210	4.5	210.1	0, 44	3	60
REC 3-1	Southern Elevation, 1st Elevation	57	85	1.5	85.0	-70, 71	1	20	n/a	n/a	n/a	n/a	n/a	n/a
REC 3-2	Southern Elevation, 2nd Elevation	58	85	4.5	85.1	-70, 71	1	20	n/a	n/a	n/a	n/a	n/a	n/a
REC 4-1	Western Elevation, 1st Elevation	56	90	1.5	90.0	0, 70	1	20	210	1.5	210.0	-47, 0	3	60
REC 4-2	Western Elevation, 2nd Elevation	57	90	4.5	90.1	0, 70	1	20	210	4.5	210.1	-47, 0	3	60
REC 5	Rear Yard	57	90	1.5	90.0	-47, 21	1	20	210	1.5	210.0	-24, 70	3	60

Point of Reception	Location	Leq Day (dBA)	Highway 417 Westbound						Highway 417 Eastbound					
			Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)	Horizontal (m)	Vertical (m)	Total (m)	Local Angle (degree)	Number of Rows of Houses	Density (%)
REC 1-1	Northern Elevation, 1st Elevation	56	260	1.5	260.0	-60, 58	3	60	235	1.5	235.0	-64, 61	3	60
REC 1-2	Northern Elevation, 2nd Elevation	57	260	4.5	260.0	-60, 58	3	60	235	4.5	235.0	-64, 61	3	60
REC 2-1	Eastern Elevation, 1st Elevation	56	265	1.5	265.0	0, 57	3	60	240	1.5	240.0	0, 60	3	60
REC 2-2	Eastern Elevation, 2nd Elevation	57	265	4.5	265.0	0, 57	3	60	240	4.5	240.0	0, 60	3	60
REC 3-1	Southern Elevation, 1st Elevation	57	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 3-2	Southern Elevation, 2nd Elevation	58	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
REC 4-1	Western Elevation, 1st Elevation	56	265	1.5	265.0	-59, 0	3	60	240	1.5	240.0	-62, 0	3	60
REC 4-2	Western Elevation, 2nd Elevation	57	265	4.5	265.0	-59, 0	3	60	240	4.5	240.0	-62, 0	3	60
REC 5	Rear Yard	57	265	1.5	265.0	-59, 21	3	60	240	1.5	240.0	-61, 21	3	60

REAR WOOD

PROPOSED 2-STOREY SEMI DETACHED DWELLING

ASPHALTIC CONCRETE DRIVEWAY

AVENUE Q

SCALE: 1:150

0 1 2 3 4 5 10m

PATERSON GROUP
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OTTAWA, ON
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NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q
OTTAWA, ONTARIO

Title:

SITE PLAN

Scale: 1:150	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-1
Approved by: SB	Revision No.: 1

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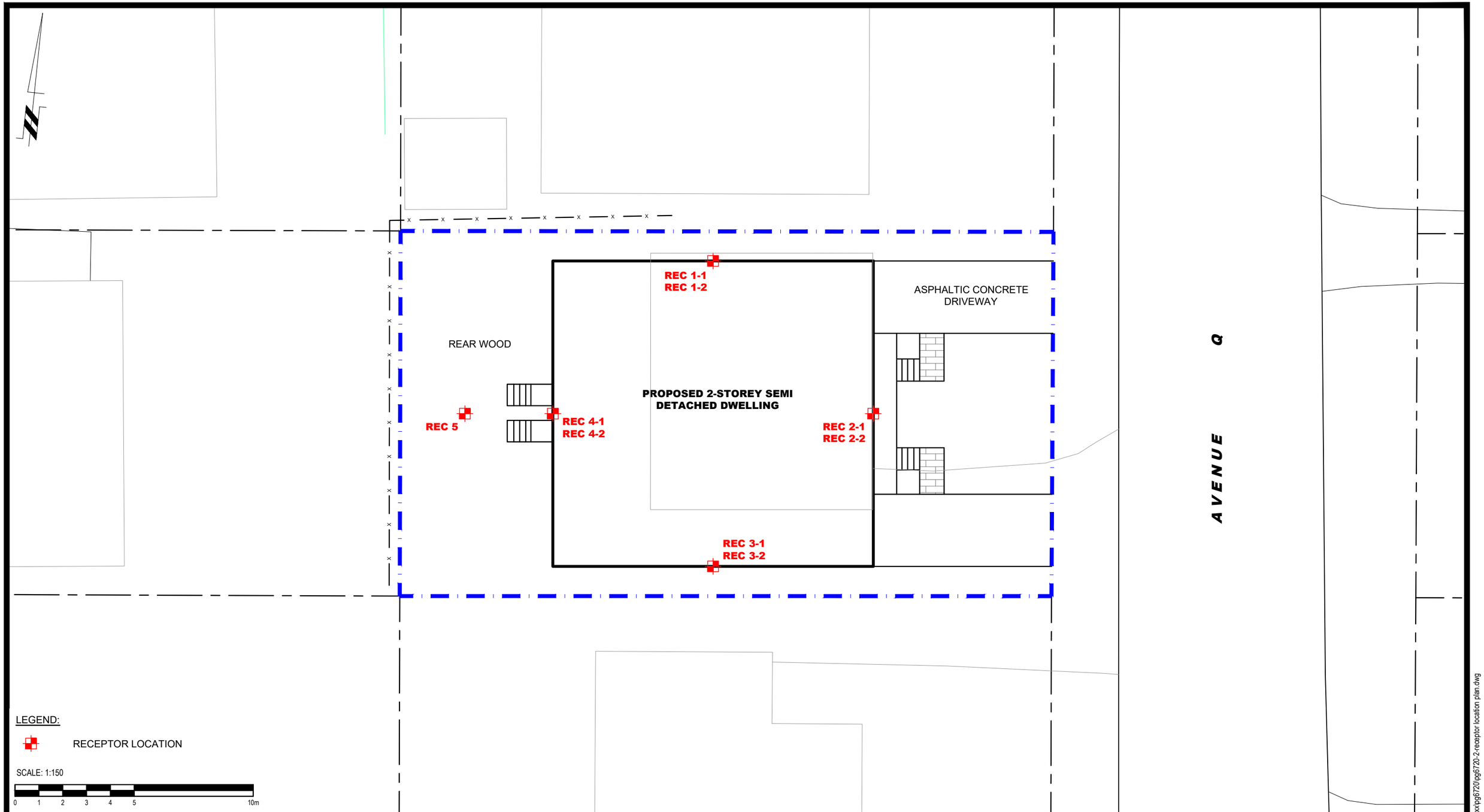

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NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q
OTTAWA, ONTARIO

Title:

RECEPTOR LOCATION PLAN

Scale: 1:150	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-2
Approved by: SB	Revision No.: 1

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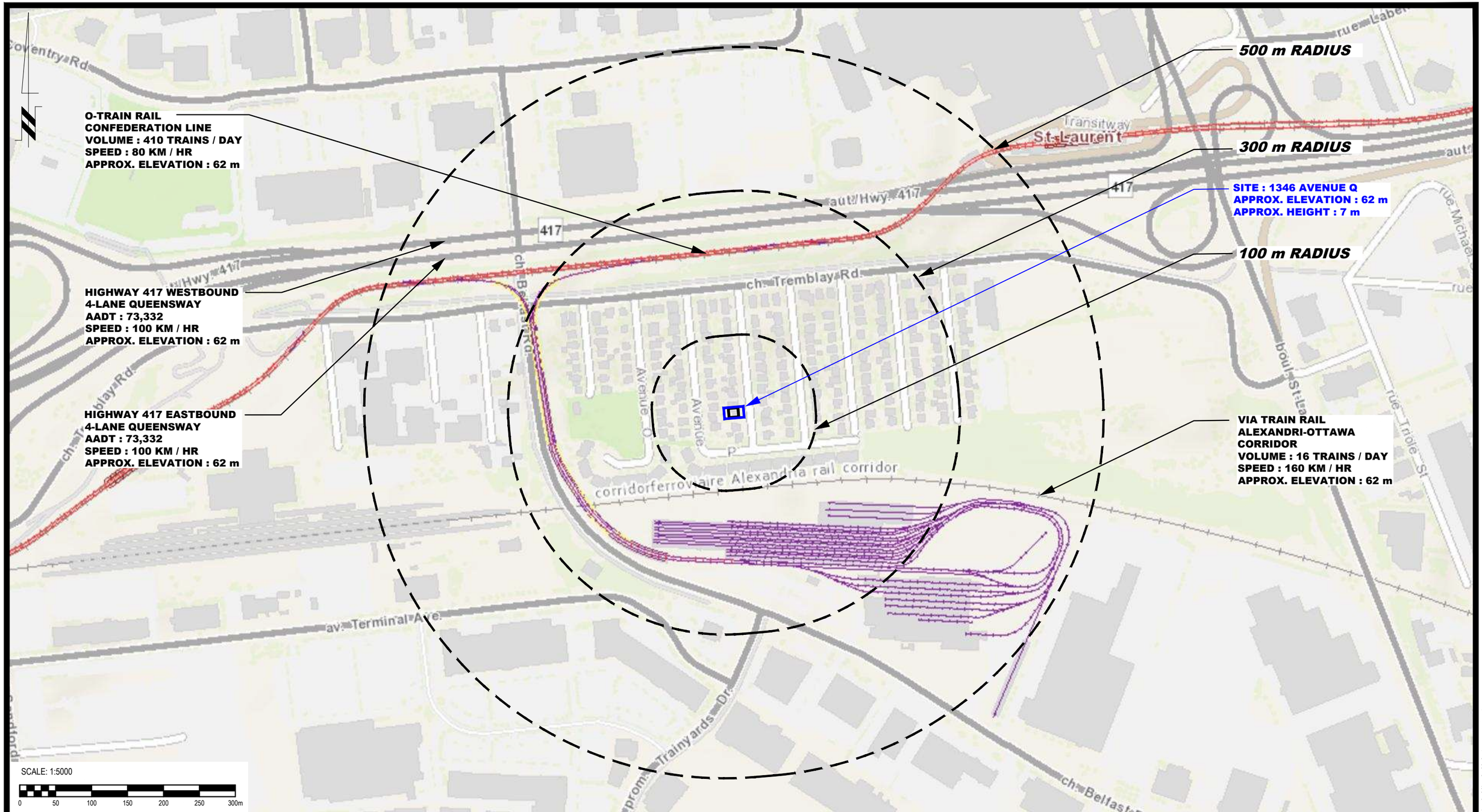

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K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q

OTTAWA, ONTARIO

Title:

SITE GEOMETRY

Scale: 1:3000	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-3
Approved by: SB	Revision No.: 1

11x17

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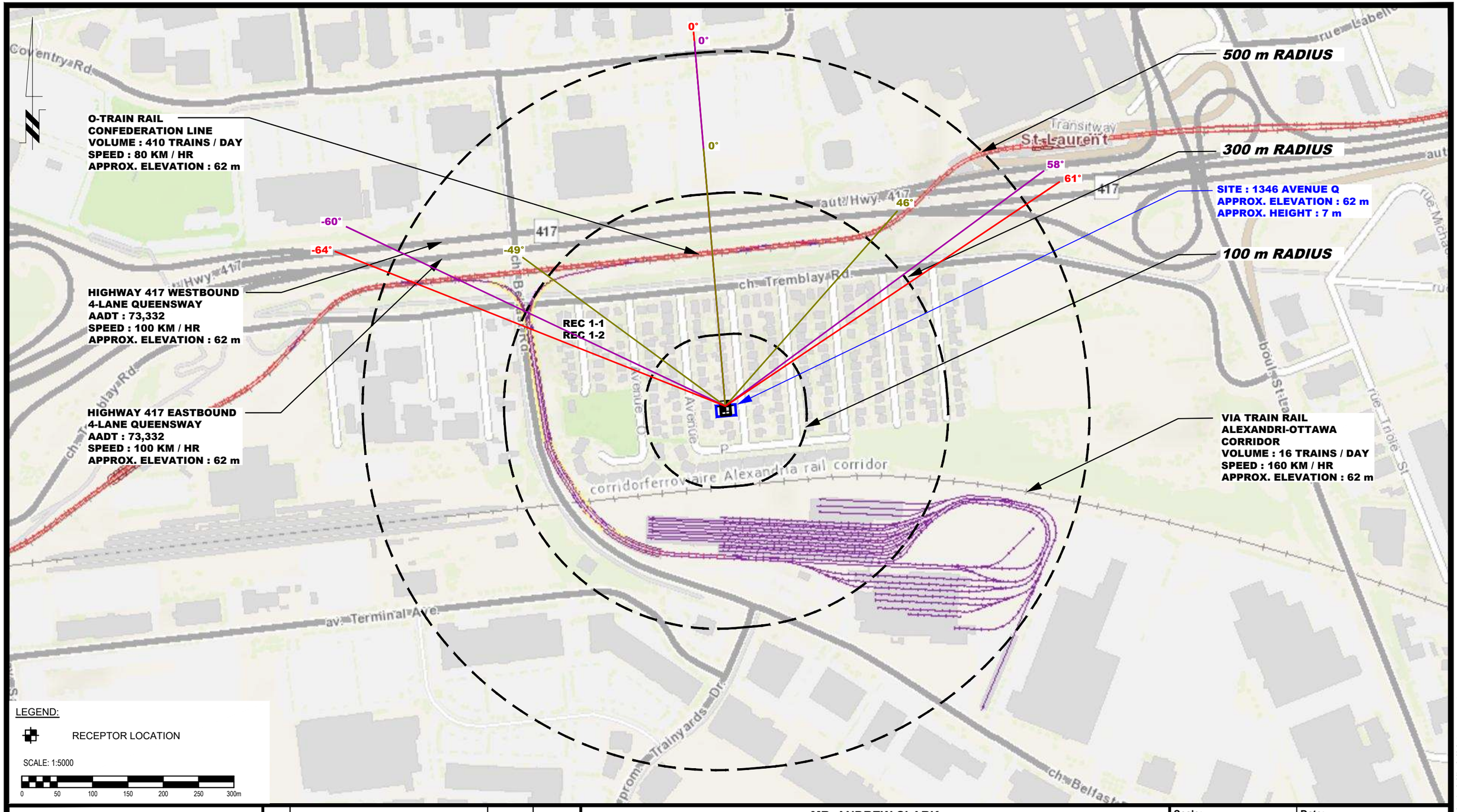

LEGEND:

RECEPTOR LOCATION

SCALE: 1:5000

0 50 100 150 200 250 300m

PATERSON GROUP

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

NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 1-1 AND REC 1-2

Scale: 1:3000	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-3A
Approved by: SB	Revision No.: 1

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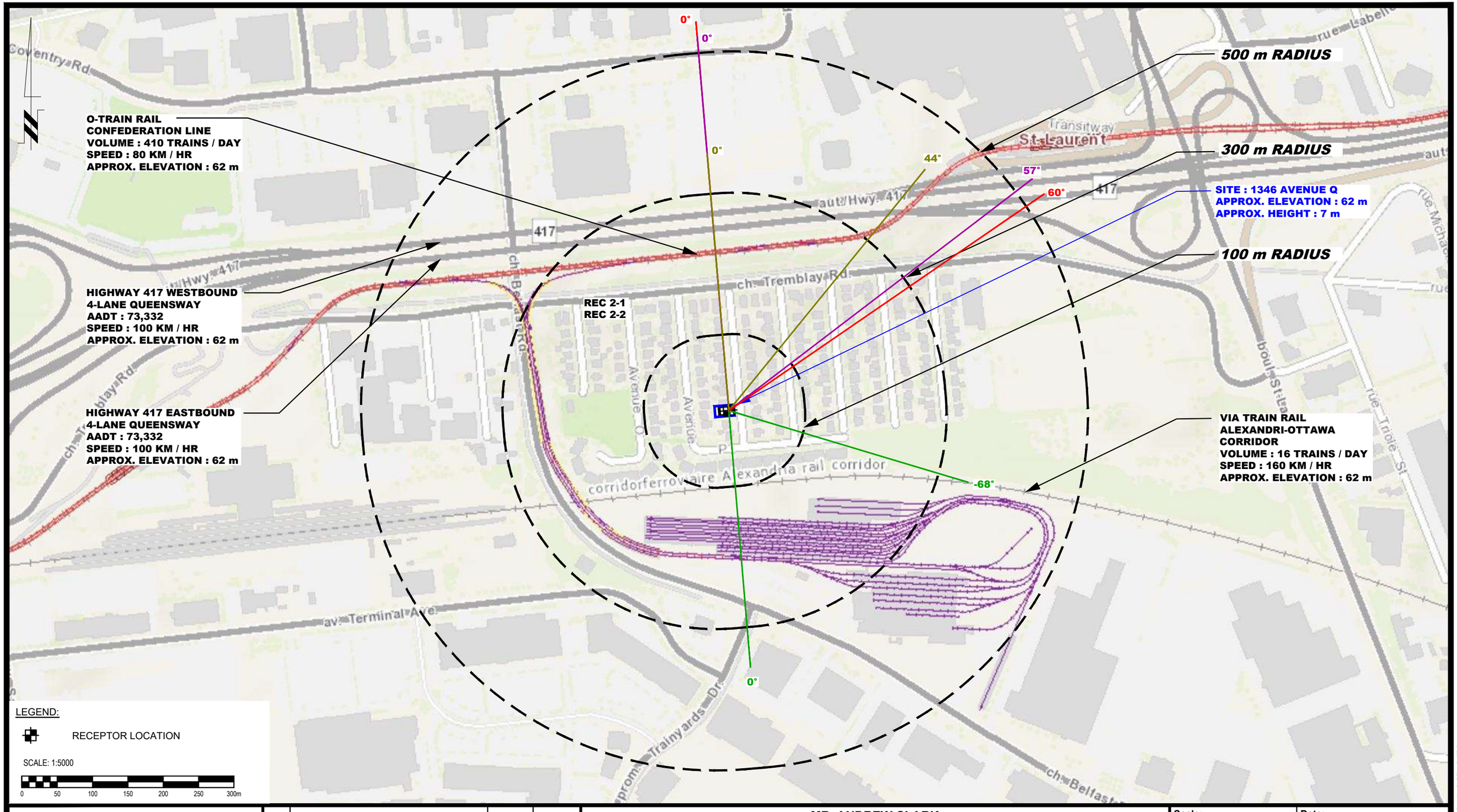

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 2-1 AND REC 1-2

Scale: 1:3000	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-3B
Approved by: SB	Revision No.: 1

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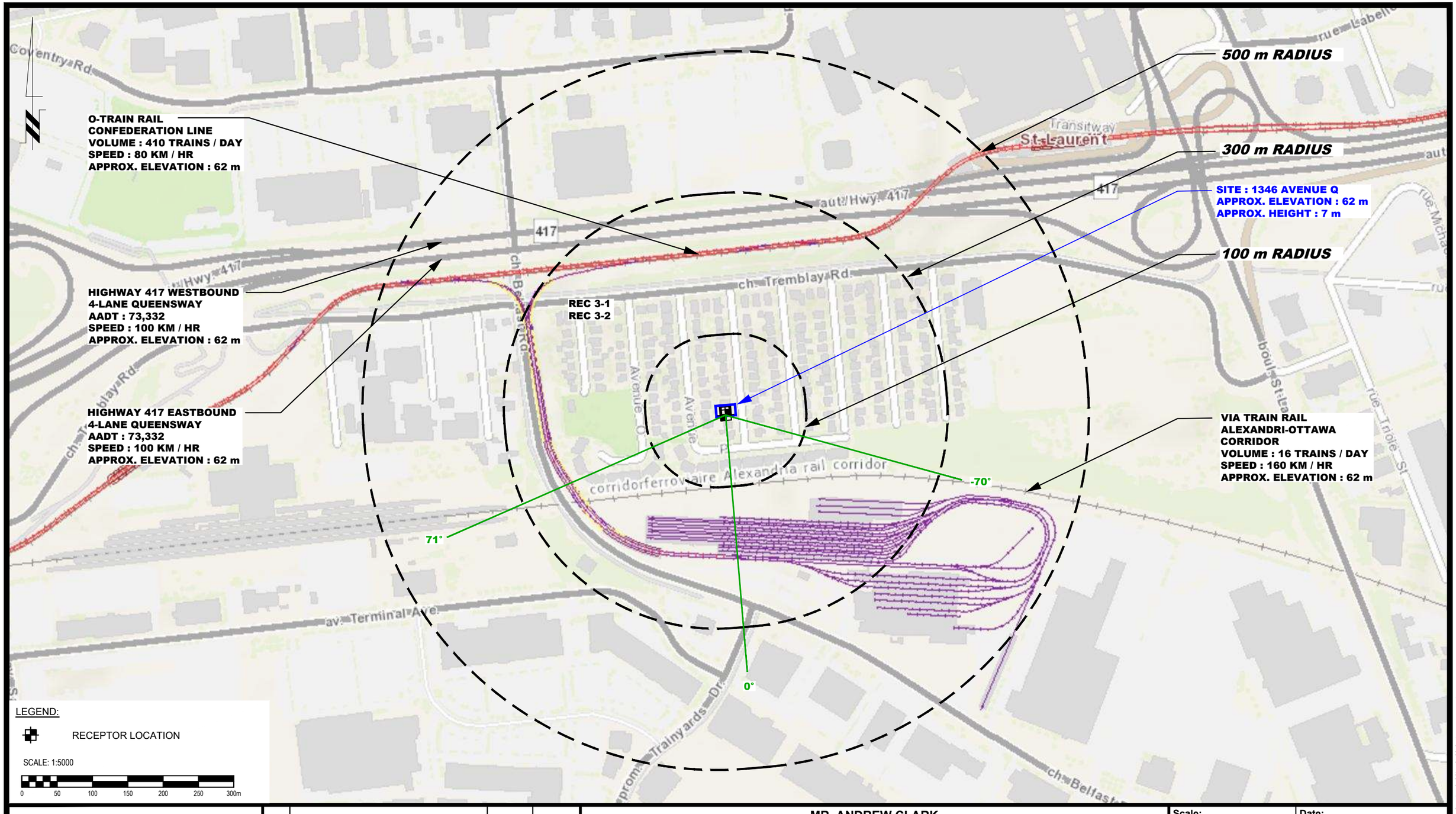

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q
OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 3-1 AND REC 3-2

Scale: 1:3000	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-3C
Approved by: SB	Revision No.: 1

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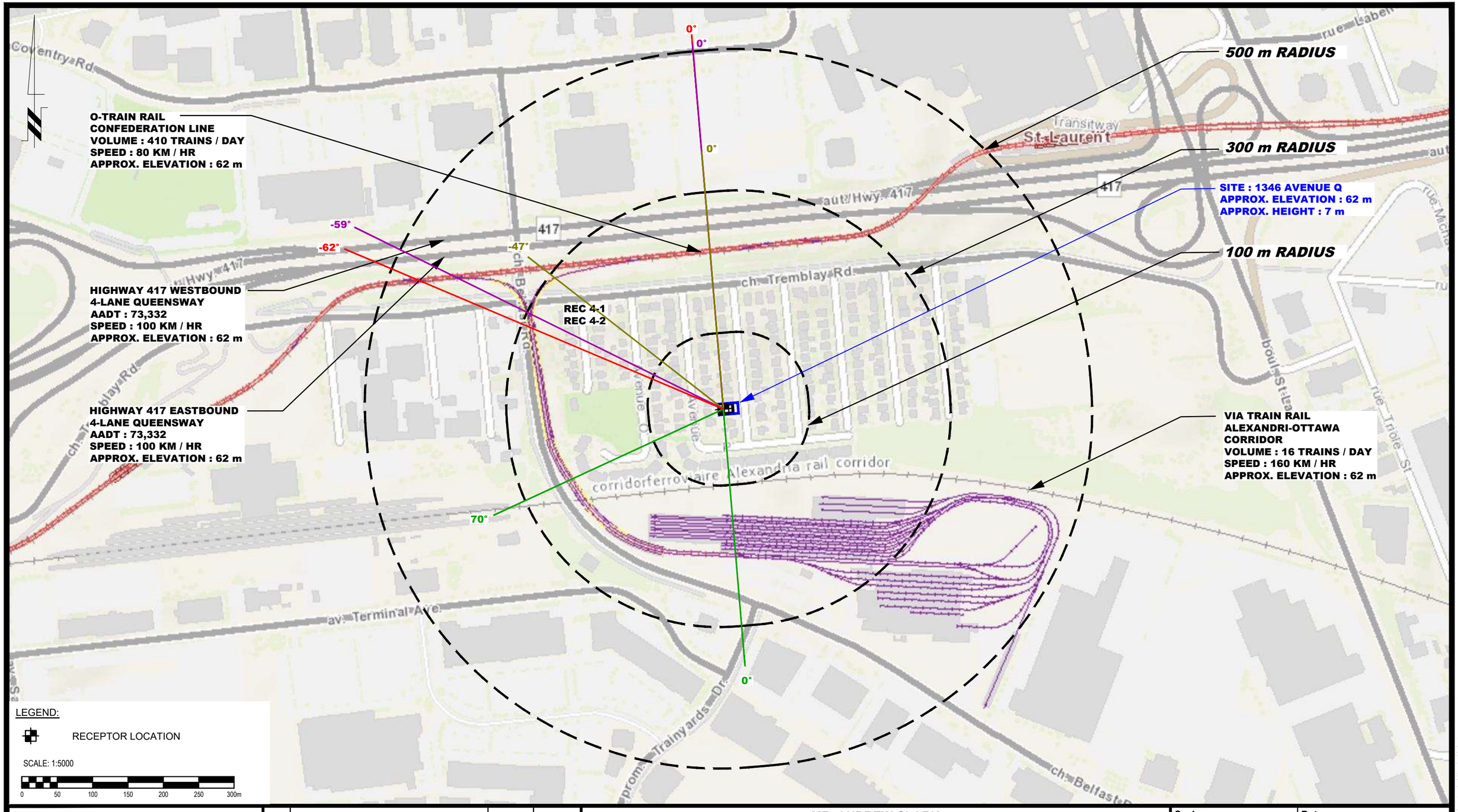

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 4-1 AND REC 4-2

Scale: 1:3000	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-3D
Approved by: SB	Revision No.: 1

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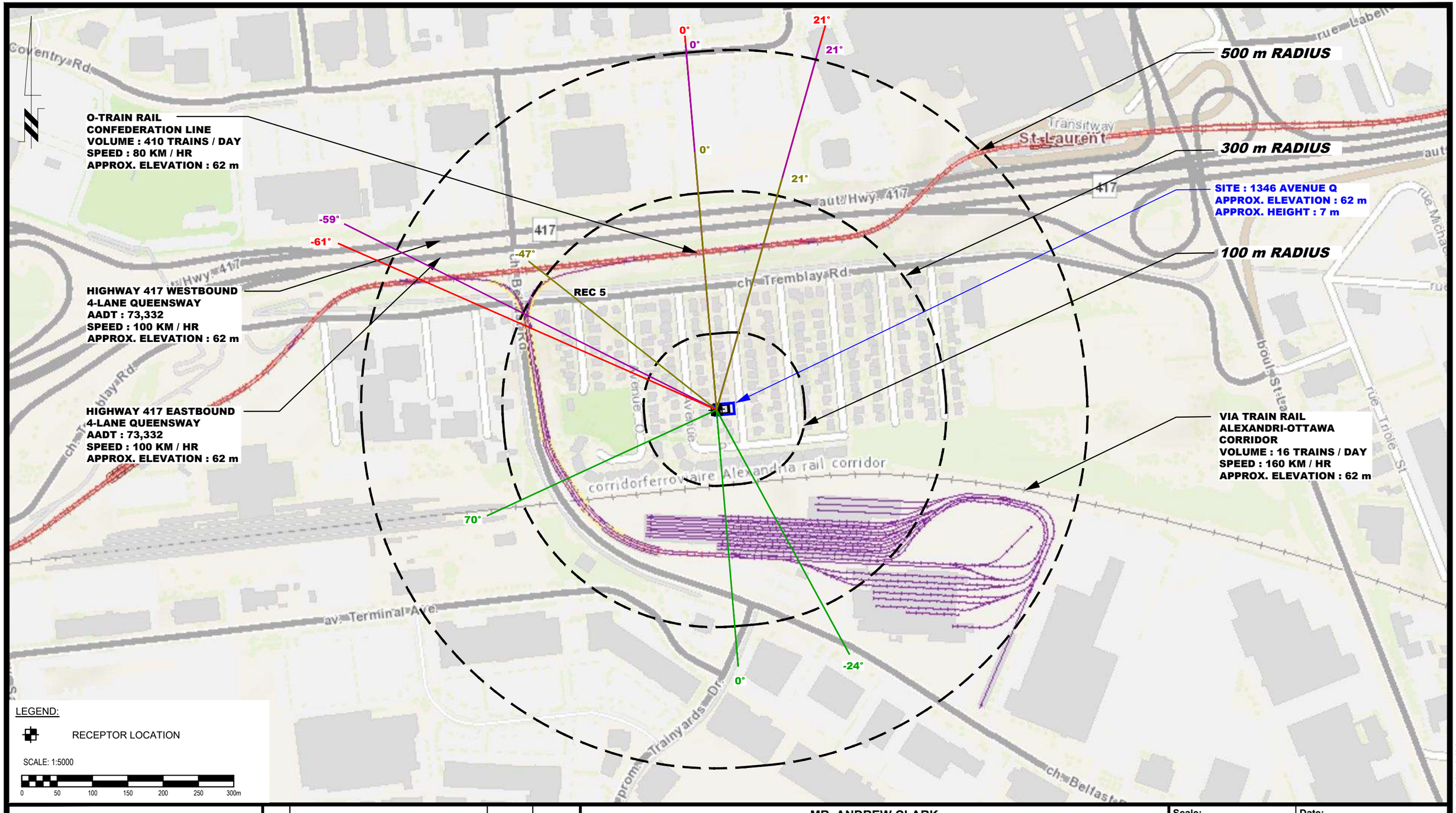

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
1	UPDATED CLIENT NAME	21/07/2023	YT

MR. ANDREW CLARK

NOISE ATTENUATION STUDY
PROPOSED SEMI-DETACHED DWELLINGS
1346 AVENUE Q

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 5

Scale: 1:3000	Date: 06/2023
Drawn by: YA	Report No.: PG6720-1
Checked by: YT	Dwg. No.: PG6720-3E
Approved by: SB	Revision No.: 1

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APPENDIX 2

STAMSON RESULTS

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 10:22:09
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

Rail data, segment # 1: O-Train Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. O-Train Rail	352.0/58.0	80.0	1.0	1.0	Elec	Yes

Data for Segment # 1: O-Train Rail (day/night)

Angle1 Angle2	: -49.00 deg 46.00 deg
Wood depth	: 0 (No woods.)
No of house rows	: 3 / 3
House density	: 60 %
Surface	: 1 (Absorptive ground surface)
Receiver source distance	: 205.00 / 205.00 m
Receiver height	: 1.50 / 1.50 m
Topography	: 1 (Flat/gentle slope; no barrier)
No Whistle	
Reference angle	: 0.00

Results segment # 1: O-Train Rail (day)

LOCOMOTIVE (0.00 + 35.87 + 0.00) = 35.87 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.58	63.20	-18.00	-3.08	0.00	-6.26	0.00	35.87

WHEEL (0.00 + 34.99 + 0.00) = 34.99 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.66	63.22	-18.85	-3.12	0.00	-6.26	0.00	34.99

Segment Leq : 38.46 dBA

Total Leq All Segments: 38.46 dBA

Results segment # 1: O-Train Rail (night)

LOCOMOTIVE (0.00 + 31.04 + 0.00) = 31.04 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.58	58.38	-18.00	-3.08	0.00	-6.26	0.00	31.04

WHEEL (0.00 + 30.17 + 0.00) = 30.17 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.66	58.39	-18.85	-3.12	0.00	-6.26	0.00	30.17

Segment Leq : 33.64 dBA

Total Leq All Segments: 33.64 dBA

Road data, segment # 1: Hwy 417 West (day/night)

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

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

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

Data for Segment # 1: Hwy 417 West (day/night)

Angle1 Angle2	: -60.00 deg	58.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 3 / 3	
House density	: 60	%
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 260.00 / 260.00	m
Receiver height	: 1.50 / 1.50	m
Topography	: 1	(Flat/gentle slope; no barrier)
Reference angle	: 0.00	

Road data, segment # 2: Hwy 417 East (day/night)

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

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

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

Data for Segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -64.00 deg   61.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 235.00 / 235.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠝
Results segment # 1: Hwy 417 West (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 52.27 + 0.00) = 52.27 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -60     58   0.66  81.40   0.00 -20.57  -2.38   0.00  -6.18   0.00  52.27
-------------------------------------------------------------------------------

Segment Leq : 52.27 dBA

🠝
Results segment # 2: Hwy 417 East (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.15 + 0.00) = 53.15 dBA
```

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-64	61	0.66	81.40	0.00	-19.84	-2.20	0.00	-6.21	0.00	53.15

Segment Leq : 53.15 dBA

Total Leq All Segments: 55.74 dBA

Results segment # 1: Hwy 417 West (night)

Source height = 1.49 m

ROAD (0.00 + 44.67 + 0.00) = 44.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	58	0.66	73.80	0.00	-20.57	-2.38	0.00	-6.18	0.00	44.67

Segment Leq : 44.67 dBA

Results segment # 2: Hwy 417 East (night)

Source height = 1.49 m

ROAD (0.00 + 45.56 + 0.00) = 45.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-64	61	0.66	73.80	0.00	-19.84	-2.20	0.00	-6.21	0.00	45.56

Segment Leq : 45.56 dBA

Total Leq All Segments: 48.15 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.82
(NIGHT): 48.30

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 10:25:36
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec12.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 1-2

Rail data, segment # 1: O-Train Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. O-Train Rail	352.0/58.0	80.0	1.0	1.0	Elec	Yes

Data for Segment # 1: O-Train Rail (day/night)

Angle1 Angle2	-49.00 deg	46.00 deg
Wood depth	0	(No woods.)
No of house rows	3 / 3	
House density	60 %	
Surface	1	(Absorptive ground surface)
Receiver source distance	205.00 / 205.00 m	
Receiver height	4.50 / 4.50 m	
Topography	1	(Flat/gentle slope; no barrier)

No Whistle
Reference angle : 0.00

Results segment # 1: O-Train Rail (day)

LOCOMOTIVE (0.00 + 36.93 + 0.00) = 36.93 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.50	63.20	-16.98	-3.04	0.00	-6.26	0.00	36.93

WHEEL (0.00 + 35.70 + 0.00) = 35.70 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.60	63.22	-18.17	-3.09	0.00	-6.26	0.00	35.70

Segment Leq : 39.37 dBA

Total Leq All Segments: 39.37 dBA

Results segment # 1: O-Train Rail (night)

LOCOMOTIVE (0.00 + 32.11 + 0.00) = 32.11 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.50	58.38	-16.98	-3.04	0.00	-6.26	0.00	32.11

WHEEL (0.00 + 30.88 + 0.00) = 30.88 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-49	46	0.60	58.39	-18.17	-3.09	0.00	-6.26	0.00	30.88

Segment Leq : 34.55 dBA

Total Leq All Segments: 34.55 dBA

Road data, segment # 1: Hwy 417 West (day/night)

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

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

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

Data for Segment # 1: Hwy 417 West (day/night)

Angle1 Angle2	: -60.00 deg	58.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 3 / 3	
House density	: 60	%
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 260.00 / 260.00	m
Receiver height	: 4.50 / 4.50	m
Topography	: 1	(Flat/gentle slope; no barrier)
Reference angle	: 0.00	

Road data, segment # 2: Hwy 417 East (day/night)

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

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

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

Data for Segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -64.00 deg   61.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 235.00 / 235.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

🠝
Results segment # 1: Hwy 417 West (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.45 + 0.00) = 53.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -60     58   0.57  81.40   0.00 -19.45  -2.31   0.00  -6.18   0.00  53.45
-------------------------------------------------------------------------------

Segment Leq : 53.45 dBA

🠝
Results segment # 2: Hwy 417 East (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 54.31 + 0.00) = 54.31 dBA
```

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-64	61	0.57	81.40	0.00	-18.76	-2.12	0.00	-6.21	0.00	54.31

Segment Leq : 54.31 dBA

Total Leq All Segments: 56.91 dBA

Results segment # 1: Hwy 417 West (night)

Source height = 1.49 m

ROAD (0.00 + 45.86 + 0.00) = 45.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	58	0.57	73.80	0.00	-19.45	-2.31	0.00	-6.18	0.00	45.86

Segment Leq : 45.86 dBA

Results segment # 2: Hwy 417 East (night)

Source height = 1.49 m

ROAD (0.00 + 46.71 + 0.00) = 46.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-64	61	0.57	73.80	0.00	-18.76	-2.12	0.00	-6.21	0.00	46.71

Segment Leq : 46.71 dBA

Total Leq All Segments: 49.32 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.99
(NIGHT): 49.46

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 10:41:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

Rail data, segment # 1: O-Train Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. O-Train Rail	352.0/58.0	80.0	1.0	1.0	Elec	Yes

Data for Segment # 1: O-Train Rail (day/night)

Angle1 Angle2	:	0.00 deg 44.00 deg
Wood depth	:	0 (No woods.)
No of house rows	:	3 / 3
House density	:	60 %
Surface	:	1 (Absorptive ground surface)
Receiver source distance	:	210.00 / 210.00 m
Receiver height	:	1.50 / 1.50 m
Topography	:	1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle	:	0.00

↟

Rail data, segment # 2: VIA Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. VIA Rail	16.0/0.0	150.0	2.0	8.0	Diesel	No

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2	:	-68.00 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	:	90.00 / 90.00 m
Receiver height	:	1.50 / 1.50 m
Topography	:	1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle	:	0.00

↟

Results segment # 1: O-Train Rail (day)

LOCOMOTIVE (0.00 + 32.41 + 0.00) = 32.41 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.58	63.20	-18.17	-6.38	0.00	-6.25	0.00	32.41

WHEEL (0.00 + 31.53 + 0.00) = 31.53 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.66	63.22	-19.03	-6.41	0.00	-6.25	0.00	31.53

Segment Leq : 35.00 dBA

↟

Results segment # 2: VIA Rail (day)

LOCOMOTIVE (0.00 + 52.87 + 0.00) = 52.87 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	0	0.58	70.99	-12.33	-4.89	0.00	-0.90	0.00	52.87

WHEEL (0.00 + 45.28 + 0.00) = 45.28 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	0	0.66	64.07	-12.92	-4.97	0.00	-0.90	0.00	45.28

Segment Leq : 53.57 dBA

Total Leq All Segments: 53.63 dBA

↟

Results segment # 1: O-Train Rail (night)

LOCOMOTIVE (0.00 + 27.59 + 0.00) = 27.59 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.58	58.38	-18.17	-6.38	0.00	-6.25	0.00	27.59

WHEEL (0.00 + 26.71 + 0.00) = 26.71 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.66	58.39	-19.03	-6.41	0.00	-6.25	0.00	26.71

Segment Leq : 30.18 dBA

🡅
Results segment # 2: VIA Rail (night)

LOCOMOTIVE (0.00 + -18.12 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	0	0.58	0.00	-12.33	-4.89	0.00	-0.90	0.00	-18.12

WHEEL (0.00 + -18.78 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	0	0.66	0.00	-12.92	-4.97	0.00	-0.90	0.00	-18.78

Segment Leq : 0.00 dBA

Total Leq All Segments: 30.18 dBA

🡅
Road data, segment # 1: Hwy 417 West (day/night)

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

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

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

Data for Segment # 1: Hwy 417 West (day/night)

Angle1   Angle2   :   0.00 deg   57.00 deg
Wood depth   :   0   (No woods.)
No of house rows   :   3 / 3
House density   :   60 %
Surface   :   1   (Absorptive ground surface)

```
Receiver source distance  : 265.00 / 265.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

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

Data for Segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   60.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 240.00 / 240.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Results segment # 1: Hwy 417 West (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.02 + 0.00) = 49.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     57   0.66  81.40   0.00 -20.70  -5.50   0.00  -6.18   0.00  49.02
-------------------------------------------------------------------------------

Segment Leq : 49.02 dBA
```

Results segment # 2: Hwy 417 East (day)

Source height = 1.50 m

ROAD (0.00 + 49.88 + 0.00) = 49.88 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	60	0.66	81.40	0.00	-19.99	-5.33	0.00	-6.20	0.00	49.88

Segment Leq : 49.88 dBA

Total Leq All Segments: 52.48 dBA

Results segment # 1: Hwy 417 West (night)

Source height = 1.49 m

ROAD (0.00 + 41.42 + 0.00) = 41.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	57	0.66	73.80	0.00	-20.70	-5.50	0.00	-6.18	0.00	41.42

Segment Leq : 41.42 dBA

Results segment # 2: Hwy 417 East (night)

Source height = 1.49 m

ROAD (0.00 + 42.28 + 0.00) = 42.28 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	60	0.66	73.80	0.00	-19.99	-5.33	0.00	-6.20	0.00	42.28

Segment Leq : 42.28 dBA

Total Leq All Segments: 44.88 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.10
(NIGHT): 45.03

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 10:52:11
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec22.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 2-2

Rail data, segment # 1: O-Train Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. O-Train Rail	352.0/58.0	80.0	1.0	1.0	Elec	Yes

Data for Segment # 1: O-Train Rail (day/night)

Angle1 Angle2	:	0.00 deg 44.00 deg
Wood depth	:	0 (No woods.)
No of house rows	:	3 / 3
House density	:	60 %
Surface	:	1 (Absorptive ground surface)
Receiver source distance	:	210.00 / 210.00 m
Receiver height	:	4.50 / 4.50 m
Topography	:	1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle	:	0.00

↟

Rail data, segment # 2: VIA Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. VIA Rail	16.0/0.0	150.0	2.0	8.0	Diesel	No

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2	:	-68.00 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	:	90.00 / 90.00 m
Receiver height	:	4.50 / 4.50 m
Topography	:	1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle	:	0.00

↟

Results segment # 1: O-Train Rail (day)

LOCOMOTIVE (0.00 + 33.48 + 0.00) = 33.48 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.50	63.20	-17.13	-6.34	0.00	-6.25	0.00	33.48

WHEEL (0.00 + 32.24 + 0.00) = 32.24 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.60	63.22	-18.34	-6.38	0.00	-6.25	0.00	32.24

Segment Leq : 35.91 dBA

↟

Results segment # 2: VIA Rail (day)

LOCOMOTIVE (0.00 + 53.66 + 0.00) = 53.66 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	0	0.50	70.99	-11.63	-4.79	0.00	-0.90	0.00	53.66

WHEEL (0.00 + 45.81 + 0.00) = 45.81 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-68	0	0.60	64.07	-12.45	-4.91	0.00	-0.90	0.00	45.81

Segment Leq : 54.32 dBA

Total Leq All Segments: 54.38 dBA

↟

Results segment # 1: O-Train Rail (night)

LOCOMOTIVE (0.00 + 28.66 + 0.00) = 28.66 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.50	58.38	-17.13	-6.34	0.00	-6.25	0.00	28.66

WHEEL (0.00 + 27.42 + 0.00) = 27.42 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	44	0.60	58.39	-18.34	-6.38	0.00	-6.25	0.00	27.42

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

Segment Leq : 31.09 dBA

↟
Results segment # 2: VIA Rail (night)
-----------------------------------

LOCOMOTIVE (0.00 + -17.33 + 0.00) = 0.00 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
---------------------------------------------------------------------
   -68      0   0.50   0.00 -11.63  -4.79   0.00  -0.90   0.00 -17.33
---------------------------------------------------------------------

WHEEL (0.00 + -18.26 + 0.00) = 0.00 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
---------------------------------------------------------------------
   -68      0   0.60   0.00 -12.45  -4.91   0.00  -0.90   0.00 -18.26
---------------------------------------------------------------------

Segment Leq : 0.00 dBA

Total Leq All Segments: 31.09 dBA

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

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

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

Data for Segment # 1: Hwy 417 West (day/night)
-----------------------------------------------
Angle1   Angle2           :   0.00 deg   57.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
```

```
Receiver source distance  : 265.00 / 265.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Road data, segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

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

Data for Segment # 2: Hwy 417 East (day/night)
----------------------------------------------
Angle1   Angle2           :   0.00 deg   60.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 240.00 / 240.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Results segment # 1: Hwy 417 West (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.20 + 0.00) = 50.20 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     57   0.57  81.40   0.00 -19.58  -5.43   0.00  -6.18   0.00  50.20
-------------------------------------------------------------------------------

Segment Leq : 50.20 dBA
```

Results segment # 2: Hwy 417 East (day)

Source height = 1.50 m

ROAD (0.00 + 51.03 + 0.00) = 51.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	60	0.57	81.40	0.00	-18.91	-5.26	0.00	-6.20	0.00	51.03

Segment Leq : 51.03 dBA

Total Leq All Segments: 53.65 dBA

Results segment # 1: Hwy 417 West (night)

Source height = 1.49 m

ROAD (0.00 + 42.61 + 0.00) = 42.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	57	0.57	73.80	0.00	-19.58	-5.43	0.00	-6.18	0.00	42.61

Segment Leq : 42.61 dBA

Results segment # 2: Hwy 417 East (night)

Source height = 1.49 m

ROAD (0.00 + 43.43 + 0.00) = 43.43 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	60	0.57	73.80	0.00	-18.91	-5.26	0.00	-6.20	0.00	43.43

Segment Leq : 43.43 dBA

Total Leq All Segments: 46.05 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.04
(NIGHT): 46.19

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 11:21:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

Rail data, segment # 1: VIA Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. VIA Rail	16.0/0.0	150.0	2.0	8.0	Diesel	No

Data for Segment # 1: VIA Rail (day/night)

Angle1 Angle2	-70.00 deg	71.00 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)

No Whistle
Reference angle : 0.00

Results segment # 1: VIA Rail (day)

LOCOMOTIVE (0.00 + 56.37 + 0.00) = 56.37 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.58	70.99	-11.94	-1.78	0.00	-0.90	0.00	56.37

WHEEL (0.00 + 48.80 + 0.00) = 48.80 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.66	64.07	-12.51	-1.86	0.00	-0.90	0.00	48.80

Segment Leq : 57.07 dBA

Total Leq All Segments: 57.07 dBA

Results segment # 1: VIA Rail (night)

LOCOMOTIVE (0.00 + -14.62 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.58	0.00	-11.94	-1.78	0.00	-0.90	0.00	-14.62

WHEEL (0.00 + -15.27 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.66	0.00	-12.51	-1.86	0.00	-0.90	0.00	-15.27

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.07
(NIGHT): 0.00

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 11:23:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec32.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 3-2

Rail data, segment # 1: VIA Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. VIA Rail	16.0/0.0	150.0	2.0	8.0	Diesel	No

Data for Segment # 1: VIA Rail (day/night)

Angle1 Angle2	-70.00 deg	71.00 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	4.50 / 4.50	m
Topography	1	(Flat/gentle slope; no barrier)

No Whistle
Reference angle : 0.00

Results segment # 1: VIA Rail (day)

LOCOMOTIVE (0.00 + 57.15 + 0.00) = 57.15 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.50	70.99	-11.26	-1.68	0.00	-0.90	0.00	57.15

WHEEL (0.00 + 49.32 + 0.00) = 49.32 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.60	64.07	-12.05	-1.80	0.00	-0.90	0.00	49.32

Segment Leq : 57.81 dBA

Total Leq All Segments: 57.81 dBA

Results segment # 1: VIA Rail (night)

LOCOMOTIVE (0.00 + -13.84 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.50	0.00	-11.26	-1.68	0.00	-0.90	0.00	-13.84

WHEEL (0.00 + -14.75 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	71	0.60	0.00	-12.05	-1.80	0.00	-0.90	0.00	-14.75

Segment Leq : 0.00 dBA

Total Leq All Segments: 0.00 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.81
(NIGHT): 0.00

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 11:01:48
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

Rail data, segment # 1: O-Train Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. O-Train Rail	352.0/58.0	80.0	1.0	1.0	Elec	Yes

Data for Segment # 1: O-Train Rail (day/night)

Angle1 Angle2	-47.00 deg	0.00 deg
Wood depth	0	(No woods.)
No of house rows	3 / 3	
House density	60 %	
Surface	1	(Absorptive ground surface)
Receiver source distance	210.00 / 210.00	m
Receiver height	1.50 / 1.50	m
Topography	1	(Flat/gentle slope; no barrier)
No Whistle		
Reference angle	0.00	

Rail data, segment # 2: VIA Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. VIA Rail	16.0/0.0	150.0	2.0	8.0	Diesel	No

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2	0.00 deg	70.00 deg
Wood depth	0	(No woods.)
No of house rows	1 / 1	
House density	20 %	
Surface	1	(Absorptive ground surface)
Receiver source distance	90.00 / 90.00	m
Receiver height	1.50 / 1.50	m
Topography	1	(Flat/gentle slope; no barrier)
No Whistle		
Reference angle	0.00	

Results segment # 1: O-Train Rail (day)

LOCOMOTIVE (0.00 + 32.66 + 0.00) = 32.66 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.58	63.20	-18.17	-6.13	0.00	-6.25	0.00	32.66

WHEEL (0.00 + 31.77 + 0.00) = 31.77 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.66	63.22	-19.03	-6.17	0.00	-6.25	0.00	31.77

Segment Leq : 35.25 dBA

↟

Results segment # 2: VIA Rail (day)

LOCOMOTIVE (0.00 + 52.95 + 0.00) = 52.95 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.58	70.99	-12.33	-4.81	0.00	-0.90	0.00	52.95

WHEEL (0.00 + 45.36 + 0.00) = 45.36 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.66	64.07	-12.92	-4.89	0.00	-0.90	0.00	45.36

Segment Leq : 53.65 dBA

Total Leq All Segments: 53.71 dBA

↟

Results segment # 1: O-Train Rail (night)

LOCOMOTIVE (0.00 + 27.84 + 0.00) = 27.84 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.58	58.38	-18.17	-6.13	0.00	-6.25	0.00	27.84

WHEEL (0.00 + 26.95 + 0.00) = 26.95 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.66	58.39	-19.03	-6.17	0.00	-6.25	0.00	26.95

Segment Leq : 30.43 dBA

↟
Results segment # 2: VIA Rail (night)

LOCOMOTIVE (0.00 + -18.04 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.58	0.00	-12.33	-4.81	0.00	-0.90	0.00	-18.04

WHEEL (0.00 + -18.71 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.66	0.00	-12.92	-4.89	0.00	-0.90	0.00	-18.71

Segment Leq : 0.00 dBA

Total Leq All Segments: 30.43 dBA

↟
Road data, segment # 1: Hwy 417 West (day/night)

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

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

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

Data for Segment # 1: Hwy 417 West (day/night)

Angle1 Angle2 : -59.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3 / 3
House density : 60 %
Surface : 1 (Absorptive ground surface)

```
Receiver source distance  : 265.00 / 265.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

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

Data for Segment # 2: Hwy 417 East (day/night)
----------------------------------------------
Angle1   Angle2           : -62.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 240.00 / 240.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Results segment # 1: Hwy 417 West (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.13 + 0.00) = 49.13 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -59      0   0.66  81.40   0.00 -20.70  -5.39   0.00  -6.18   0.00  49.13
-------------------------------------------------------------------------------

Segment Leq : 49.13 dBA
```

Results segment # 2: Hwy 417 East (day)

Source height = 1.50 m

ROAD (0.00 + 49.98 + 0.00) = 49.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-62	0	0.66	81.40	0.00	-19.99	-5.23	0.00	-6.20	0.00	49.98

Segment Leq : 49.98 dBA

Total Leq All Segments: 52.59 dBA

Results segment # 1: Hwy 417 West (night)

Source height = 1.49 m

ROAD (0.00 + 41.53 + 0.00) = 41.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-59	0	0.66	73.80	0.00	-20.70	-5.39	0.00	-6.18	0.00	41.53

Segment Leq : 41.53 dBA

Results segment # 2: Hwy 417 East (night)

Source height = 1.49 m

ROAD (0.00 + 42.38 + 0.00) = 42.38 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-62	0	0.66	73.80	0.00	-19.99	-5.23	0.00	-6.20	0.00	42.38

Segment Leq : 42.38 dBA

Total Leq All Segments: 44.99 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.20
(NIGHT): 45.14

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 11:11:34
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec42.te Time Period: Day/Night 16/8 hours
Description: Receptor Point 4-2

Rail data, segment # 1: O-Train Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. O-Train Rail	352.0/58.0	80.0	1.0	1.0	Elec	Yes

Data for Segment # 1: O-Train Rail (day/night)

Angle1 Angle2	-47.00 deg	0.00 deg
Wood depth	0	(No woods.)
No of house rows	3 / 3	
House density	60 %	
Surface	1	(Absorptive ground surface)
Receiver source distance	210.00 / 210.00	m
Receiver height	4.50 / 4.50	m
Topography	1	(Flat/gentle slope; no barrier)
No Whistle		
Reference angle	0.00	

Rail data, segment # 2: VIA Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. VIA Rail	16.0/0.0	150.0	2.0	8.0	Diesel	No

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2	0.00 deg	70.00 deg
Wood depth	0	(No woods.)
No of house rows	1 / 1	
House density	20 %	
Surface	1	(Absorptive ground surface)
Receiver source distance	90.00 / 90.00	m
Receiver height	4.50 / 4.50	m
Topography	1	(Flat/gentle slope; no barrier)
No Whistle		
Reference angle	0.00	

Results segment # 1: O-Train Rail (day)

LOCOMOTIVE (0.00 + 33.74 + 0.00) = 33.74 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.50	63.20	-17.13	-6.08	0.00	-6.25	0.00	33.74

WHEEL (0.00 + 32.49 + 0.00) = 32.49 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.60	63.22	-18.34	-6.14	0.00	-6.25	0.00	32.49

Segment Leq : 36.17 dBA

↟

Results segment # 2: VIA Rail (day)

LOCOMOTIVE (0.00 + 53.75 + 0.00) = 53.75 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.50	70.99	-11.63	-4.71	0.00	-0.90	0.00	53.75

WHEEL (0.00 + 45.89 + 0.00) = 45.89 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.60	64.07	-12.45	-4.83	0.00	-0.90	0.00	45.89

Segment Leq : 54.41 dBA

Total Leq All Segments: 54.47 dBA

↟

Results segment # 1: O-Train Rail (night)

LOCOMOTIVE (0.00 + 28.91 + 0.00) = 28.91 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.50	58.38	-17.13	-6.08	0.00	-6.25	0.00	28.91

WHEEL (0.00 + 27.67 + 0.00) = 27.67 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	0	0.60	58.39	-18.34	-6.14	0.00	-6.25	0.00	27.67

Segment Leq : 31.34 dBA

🡅

Results segment # 2: VIA Rail (night)

LOCOMOTIVE (0.00 + -17.24 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.50	0.00	-11.63	-4.71	0.00	-0.90	0.00	-17.24

WHEEL (0.00 + -18.18 + 0.00) = 0.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.60	0.00	-12.45	-4.83	0.00	-0.90	0.00	-18.18

Segment Leq : 0.00 dBA

Total Leq All Segments: 31.34 dBA

🡅

Road data, segment # 1: Hwy 417 West (day/night)

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

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

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

Data for Segment # 1: Hwy 417 West (day/night)

Angle1 Angle2 : -59.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3 / 3
House density : 60 %
Surface : 1 (Absorptive ground surface)

```
Receiver source distance  : 265.00 / 265.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Road data, segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

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

Data for Segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Angle1   Angle2           : -62.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 240.00 / 240.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Results segment # 1: Hwy 417 West (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.32 + 0.00) = 50.32 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -59      0   0.57  81.40   0.00 -19.58  -5.32   0.00  -6.18   0.00  50.32
-------------------------------------------------------------------------------

Segment Leq : 50.32 dBA
```

Results segment # 2: Hwy 417 East (day)

Source height = 1.50 m

ROAD (0.00 + 51.14 + 0.00) = 51.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-62	0	0.57	81.40	0.00	-18.91	-5.15	0.00	-6.20	0.00	51.14

Segment Leq : 51.14 dBA

Total Leq All Segments: 53.76 dBA

Results segment # 1: Hwy 417 West (night)

Source height = 1.49 m

ROAD (0.00 + 42.72 + 0.00) = 42.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-59	0	0.57	73.80	0.00	-19.58	-5.32	0.00	-6.18	0.00	42.72

Segment Leq : 42.72 dBA

Results segment # 2: Hwy 417 East (night)

Source height = 1.49 m

ROAD (0.00 + 43.54 + 0.00) = 43.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-62	0	0.57	73.80	0.00	-18.91	-5.15	0.00	-6.20	0.00	43.54

Segment Leq : 43.54 dBA

Total Leq All Segments: 46.16 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.14
(NIGHT): 46.30

STAMSON 5.0 NORMAL REPORT Date: 14-06-2023 11:18:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

Rail data, segment # 1: O-Train Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. O-Train Rail	352.0/58.0	80.0	1.0	1.0	Elec	Yes

Data for Segment # 1: O-Train Rail (day/night)

Angle1 Angle2	-24.00 deg	70.00 deg
Wood depth	0	(No woods.)
No of house rows	3 / 3	
House density	60 %	
Surface	1	(Absorptive ground surface)
Receiver source distance	210.00 / 210.00 m	
Receiver height	1.50 / 1.50 m	
Topography	1	(Flat/gentle slope; no barrier)
No Whistle		
Reference angle	0.00	

↟

Rail data, segment # 2: VIA Rail (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. VIA Rail	16.0/0.0	150.0	2.0	8.0	Diesel	No

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2	-47.00 deg	21.00 deg
Wood depth	0	(No woods.)
No of house rows	1 / 1	
House density	20 %	
Surface	1	(Absorptive ground surface)
Receiver source distance	90.00 / 90.00 m	
Receiver height	1.50 / 1.50 m	
Topography	1	(Flat/gentle slope; no barrier)
No Whistle		
Reference angle	0.00	

↟

Results segment # 1: O-Train Rail (day)

LOCOMOTIVE (0.00 + 35.43 + 0.00) = 35.43 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	70	0.58	63.20	-18.17	-3.36	0.00	-6.25	0.00	35.43

WHEEL (0.00 + 34.52 + 0.00) = 34.52 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	70	0.66	63.22	-19.03	-3.42	0.00	-6.25	0.00	34.52

Segment Leq : 38.01 dBA

↟

Results segment # 2: VIA Rail (day)

LOCOMOTIVE (0.00 + 53.31 + 0.00) = 53.31 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	21	0.58	70.99	-12.33	-4.45	0.00	-0.90	0.00	53.31

WHEEL (0.00 + 45.77 + 0.00) = 45.77 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-47	21	0.66	64.07	-12.92	-4.48	0.00	-0.90	0.00	45.77

Segment Leq : 54.01 dBA

Total Leq All Segments: 54.12 dBA

↟

Results segment # 1: O-Train Rail (night)

LOCOMOTIVE (0.00 + 30.61 + 0.00) = 30.61 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	70	0.58	58.38	-18.17	-3.36	0.00	-6.25	0.00	30.61

WHEEL (0.00 + 29.70 + 0.00) = 29.70 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-24	70	0.66	58.39	-19.03	-3.42	0.00	-6.25	0.00	29.70

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

Segment Leq : 33.19 dBA

↟
Results segment # 2: VIA Rail (night)
-------------------------------------

LOCOMOTIVE (0.00 + -17.68 + 0.00) = 0.00 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
---------------------------------------------------------------------
   -47     21   0.58   0.00 -12.33  -4.45   0.00  -0.90   0.00 -17.68
---------------------------------------------------------------------

WHEEL (0.00 + -18.29 + 0.00) = 0.00 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
---------------------------------------------------------------------
   -47     21   0.66   0.00 -12.92  -4.48   0.00  -0.90   0.00 -18.29
---------------------------------------------------------------------

Segment Leq : 0.00 dBA

Total Leq All Segments: 33.19 dBA

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

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

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

Data for Segment # 1: Hwy 417 West (day/night)
----------------------------------------------
Angle1   Angle2           : -59.00 deg   21.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
```

```
Receiver source distance  : 265.00 / 265.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Road data, segment # 2: Hwy 417 East (day/night)
-----------------------------------------------
Car traffic volume  : 59370/5163  veh/TimePeriod  *
Medium truck volume :  4723/411   veh/TimePeriod  *
Heavy truck volume  :  3373/293   veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

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

Data for Segment # 2: Hwy 417 East (day/night)
----------------------------------------------
Angle1   Angle2           : -61.00 deg   21.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 3
House density             :     60 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 240.00 / 240.00 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```



```
Results segment # 1: Hwy 417 West (day)
---------------------------------------

Source height = 1.50 m

ROAD (0.00 + 50.58 + 0.00) = 50.58 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -59     21   0.66  81.40   0.00 -20.70  -3.93   0.00  -6.18   0.00  50.58
-------------------------------------------------------------------------------

Segment Leq : 50.58 dBA
```

Results segment # 2: Hwy 417 East (day)

Source height = 1.50 m

ROAD (0.00 + 51.35 + 0.00) = 51.35 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-61	21	0.66	81.40	0.00	-19.99	-3.86	0.00	-6.20	0.00	51.35

Segment Leq : 51.35 dBA

Total Leq All Segments: 53.99 dBA

Results segment # 1: Hwy 417 West (night)

Source height = 1.49 m

ROAD (0.00 + 42.98 + 0.00) = 42.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-59	21	0.66	73.80	0.00	-20.70	-3.93	0.00	-6.18	0.00	42.98

Segment Leq : 42.98 dBA

Results segment # 2: Hwy 417 East (night)

Source height = 1.49 m

ROAD (0.00 + 43.75 + 0.00) = 43.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-61	21	0.66	73.80	0.00	-19.99	-3.86	0.00	-6.20	0.00	43.75

Segment Leq : 43.75 dBA

Total Leq All Segments: 46.39 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.07
(NIGHT): 46.60

APPENDIX 3

O-TRAIN CONFEDERATION LINE TRAIN SCHEDULE

VIA TRAIN ALEXANDRIA - OTTAWA TRAIN SCHEDULE

CORRESPONDENCE

Schedules & Maps

The next service change is on Sunday, April 23.

Schedule times are based on typical driving conditions and may vary. Please arrive at your stop a few minutes early to allow for any fluctuations in schedule.

Mon, Jun 12

1 Blair

[S] Ends at Parliament

[a] O-Train Line 1 will experience partial closures from June 5-19 for planned maintenance. Read more

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
04:56[S]	04:59[S]	05:01[S]	05:03[S]	05:05[S]					
05:04[S]	05:07[S]	05:09[S]	05:11[S]	05:13[S]					
							05:06	05:08	05:10
05:12[S]	05:15[S]	05:17[S]	05:19[S]	05:21[S]					
					05:14	05:17	05:20	05:22	05:24
05:22[S]	05:25[S]	05:27[S]	05:29[S]	05:31[S]					
					05:22	05:25	05:28	05:30	05:32
					05:30	05:33	05:36	05:38	05:40
05:32[S]	05:35[S]	05:37[S]	05:39[S]	05:41[S]					
					05:40	05:43	05:46	05:48	05:50
05:41[S]	05:44[S]	05:46[S]	05:48[S]	05:50[S]					
05:50[S]	05:53[S]	05:55[S]	05:57[S]	05:59[S]					
					05:50	05:53	05:56	05:58	06:00
					05:59	06:02	06:05	06:07	06:09
06:00[S]	06:03[S]	06:05[S]	06:07[S]	06:09[S]					
06:09[S]	06:12[S]	06:14[S]	06:16[S]	06:18[S]					
							06:09	06:11	06:13
					06:08	06:11	06:14	06:16	06:18
06:15[S]	06:18[S]	06:20[S]	06:22[S]	06:24[S]					
							06:20	06:22	06:24
					06:18	06:21	06:24	06:26	06:28
06:22[S]	06:25[S]	06:27[S]	06:29[S]	06:31[S]					
06:28[S]	06:31[S]	06:33[S]	06:35[S]	06:37[S]					
							06:29	06:31	06:33
					06:27	06:30	06:33	06:35	06:37
06:31[S]	06:34[S]	06:36[S]	06:38[S]	06:40[S]					
					06:33	06:36	06:40	06:42	06:44

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
06:36[S]	06:39[S]	06:41[S]	06:43[S]	06:45[S]					
					06:40	06:43	06:47	06:49	06:51
06:41[S]	06:44[S]	06:46[S]	06:48[S]	06:50[S]					
06:46[S]	06:49[S]	06:51[S]	06:53[S]	06:55[S]					
					06:46	06:49	06:53	06:55	06:57
					06:49	06:52	06:56	06:58	07:00
06:51[S]	06:54[S]	06:56[S]	06:58[S]	07:00[S]					
					06:54	06:57	07:01	07:03	07:05
06:56[S]	06:59[S]	07:01[S]	07:03[S]	07:05[S]					
					06:59	07:02	07:06	07:08	07:10
07:01[S]	07:04[S]	07:06[S]	07:08[S]	07:10[S]					
					07:04	07:07	07:11	07:13	07:15
07:06[S]	07:09[S]	07:11[S]	07:13[S]	07:15[S]					
					07:09	07:12	07:16	07:18	07:20
07:11[S]	07:14[S]	07:16[S]	07:18[S]	07:20[S]					
					07:14	07:17	07:21	07:23	07:25
07:16[S]	07:19[S]	07:21[S]	07:23[S]	07:25[S]					
					07:19	07:22	07:26	07:28	07:30
07:21[S]	07:24[S]	07:26[S]	07:28[S]	07:30[S]					
					07:24	07:27	07:31	07:33	07:35
07:26[S]	07:29[S]	07:31[S]	07:33[S]	07:35[S]					
					07:29	07:32	07:36	07:38	07:40
07:31[S]	07:34[S]	07:36[S]	07:38[S]	07:40[S]					
					07:34	07:37	07:41	07:43	07:45
07:36[S]	07:39[S]	07:41[S]	07:43[S]	07:45[S]					
					07:39	07:42	07:46	07:48	07:50
07:41[S]	07:44[S]	07:46[S]	07:48[S]	07:50[S]					
					07:44	07:47	07:51	07:53	07:55
07:46[S]	07:49[S]	07:51[S]	07:53[S]	07:55[S]					
					07:49	07:52	07:56	07:58	08:00
07:51[S]	07:54[S]	07:56[S]	07:58[S]	08:00[S]					
					07:54	07:57	08:01	08:03	08:05
07:56[S]	07:59[S]	08:01[S]	08:03[S]	08:05[S]					
					07:59	08:02	08:06	08:08	08:10
08:01[S]	08:04[S]	08:06[S]	08:08[S]	08:10[S]					
					08:04	08:07	08:11	08:13	08:15
08:06[S]	08:09[S]	08:11[S]	08:13[S]	08:15[S]					
					08:09	08:12	08:16	08:18	08:20
08:11[S]	08:14[S]	08:16[S]	08:18[S]	08:20[S]					
					08:14	08:17	08:21	08:23	08:25
08:16[S]	08:19[S]	08:21[S]	08:23[S]	08:25[S]					
					08:19	08:22	08:26	08:28	08:30
08:21[S]	08:24[S]	08:26[S]	08:28[S]	08:30[S]					
					08:24	08:27	08:31	08:33	08:35
08:26[S]	08:29[S]	08:31[S]	08:33[S]	08:35[S]					
					08:29	08:32	08:36	08:38	08:40
08:31[S]	08:34[S]	08:36[S]	08:38[S]	08:40[S]					
					08:34	08:37	08:41	08:43	08:45
08:36[S]	08:39[S]	08:41[S]	08:43[S]	08:45[S]					

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
					08:39	08:42	08:46	08:48	08:50
08:41[S]	08:44[S]	08:46[S]	08:48[S]	08:50[S]					
					08:44	08:47	08:51	08:53	08:55
08:46[S]	08:49[S]	08:51[S]	08:53[S]	08:55[S]					
					08:49	08:52	08:56	08:58	09:00
08:51[S]	08:54[S]	08:56[S]	08:58[S]	09:00[S]					
					08:54	08:57	09:01	09:03	09:05
08:56[S]	08:59[S]	09:01[S]	09:03[S]	09:05[S]					
					08:59	09:02	09:06	09:08	09:10
09:01[S]	09:04[S]	09:06[S]	09:08[S]	09:10[S]					
					09:04	09:07	09:11	09:13	09:15
09:06[S]	09:09[S]	09:11[S]	09:13[S]	09:15[S]					
					09:09	09:12	09:16	09:18	09:20
09:11[S]	09:14[S]	09:16[S]	09:18[S]	09:20[S]					
					09:14	09:17	09:21	09:23	09:25
09:16[S]	09:19[S]	09:21[S]	09:23[S]	09:25[S]					
					09:19	09:22	09:26	09:28	09:30
09:22[S]	09:25[S]	09:27[S]	09:29[S]	09:31[S]					
					09:24	09:27	09:31	09:33	09:35
09:28[S]	09:31[S]	09:33[S]	09:35[S]	09:37[S]					
					09:29	09:32	09:36	09:38	09:40
					09:34	09:37	09:40	09:42	09:44
09:35[S]	09:38[S]	09:40[S]	09:42[S]	09:44[S]					
					09:40	09:43	09:46	09:48	09:50
09:42[S]	09:45[S]	09:47[S]	09:49[S]	09:51[S]					
					09:46	09:49	09:52	09:54	09:56
09:47[S]	09:50[S]	09:52[S]	09:54[S]	09:56[S]					
09:53[S]	09:56[S]	09:58[S]	10:00[S]	10:02[S]					
					09:53	09:56	09:59	10:01	10:03
09:59[S]	10:02[S]	10:04[S]	10:06[S]	10:08[S]					
					10:00	10:03	10:06	10:08	10:10
10:04[S]	10:07[S]	10:09[S]	10:11[S]	10:13[S]					
					10:05	10:08	10:11	10:13	10:15
10:10[S]	10:13[S]	10:15[S]	10:17[S]	10:19[S]					
					10:11	10:14	10:17	10:19	10:21
10:16[S]	10:19[S]	10:21[S]	10:23[S]	10:25[S]					
					10:17	10:20	10:23	10:25	10:27
10:21[S]	10:24[S]	10:26[S]	10:28[S]	10:30[S]					
					10:22	10:25	10:28	10:30	10:32
10:27[S]	10:30[S]	10:32[S]	10:34[S]	10:36[S]					
					10:28	10:31	10:34	10:36	10:38
10:33[S]	10:36[S]	10:38[S]	10:40[S]	10:42[S]					
					10:34	10:37	10:40	10:42	10:44
10:38[S]	10:41[S]	10:43[S]	10:45[S]	10:47[S]					
					10:39	10:42	10:45	10:47	10:49
10:44[S]	10:47[S]	10:49[S]	10:51[S]	10:53[S]					
					10:45	10:48	10:51	10:53	10:55
10:50[S]	10:53[S]	10:55[S]	10:57[S]	10:59[S]					
					10:51	10:54	10:57	10:59	11:01

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
10:55[S]	10:58[S]	11:00[S]	11:02[S]	11:04[S]					
					10:56	10:59	11:02	11:04	11:06
11:01[S]	11:04[S]	11:06[S]	11:08[S]	11:10[S]					
					11:02	11:05	11:08	11:10	11:12
11:07[S]	11:10[S]	11:12[S]	11:14[S]	11:16[S]					
					11:08	11:11	11:14	11:16	11:18
11:12[S]	11:15[S]	11:17[S]	11:19[S]	11:21[S]					
					11:13	11:16	11:19	11:21	11:23
11:18[S]	11:21[S]	11:23[S]	11:25[S]	11:27[S]					
					11:19	11:22	11:25	11:27	11:29
11:24[S]	11:27[S]	11:29[S]	11:31[S]	11:33[S]					
					11:25	11:28	11:31	11:33	11:35
11:29[S]	11:32[S]	11:34[S]	11:36[S]	11:38[S]					
					11:30	11:33	11:36	11:38	11:40
11:35[S]	11:38[S]	11:40[S]	11:42[S]	11:44[S]					
					11:36	11:39	11:42	11:44	11:46
11:41[S]	11:44[S]	11:46[S]	11:48[S]	11:50[S]					
					11:42	11:45	11:48	11:50	11:52
11:46[S]	11:49[S]	11:51[S]	11:53[S]	11:55[S]					
					11:47	11:50	11:53	11:55	11:57
11:52[S]	11:55[S]	11:57[S]	11:59[S]	12:01[S]					
					11:53	11:56	11:59	12:01	12:03
11:58[S]	12:01[S]	12:03[S]	12:05[S]	12:07[S]					
					11:59	12:02	12:05	12:07	12:09
12:03[S]	12:06[S]	12:08[S]	12:10[S]	12:12[S]					
					12:04	12:07	12:10	12:12	12:14
12:09[S]	12:12[S]	12:14[S]	12:16[S]	12:18[S]					
					12:10	12:13	12:16	12:18	12:20
12:15[S]	12:18[S]	12:20[S]	12:22[S]	12:24[S]					
					12:16	12:19	12:22	12:24	12:26
12:20[S]	12:23[S]	12:25[S]	12:27[S]	12:29[S]					
					12:21	12:24	12:27	12:29	12:31
12:26[S]	12:29[S]	12:31[S]	12:33[S]	12:35[S]					
					12:27	12:30	12:33	12:35	12:37
12:32[S]	12:35[S]	12:37[S]	12:39[S]	12:41[S]					
					12:33	12:36	12:39	12:41	12:43
12:37[S]	12:40[S]	12:42[S]	12:44[S]	12:46[S]					
					12:38	12:41	12:44	12:46	12:48
12:43[S]	12:46[S]	12:48[S]	12:50[S]	12:52[S]					
					12:44	12:47	12:50	12:52	12:54
12:49[S]	12:52[S]	12:54[S]	12:56[S]	12:58[S]					
					12:50	12:53	12:56	12:58	13:00
12:54[S]	12:57[S]	12:59[S]	13:01[S]	13:03[S]					
					12:55	12:58	13:01	13:03	13:05
13:00[S]	13:03[S]	13:05[S]	13:07[S]	13:09[S]					
					13:01	13:04	13:07	13:09	13:11
13:06[S]	13:09[S]	13:11[S]	13:13[S]	13:15[S]					
					13:07	13:10	13:13	13:15	13:17
13:11[S]	13:14[S]	13:16[S]	13:18[S]	13:20[S]					

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
					13:12	13:15	13:18	13:20	13:22
13:17[S]	13:20[S]	13:22[S]	13:24[S]	13:26[S]					
					13:18	13:21	13:24	13:26	13:28
13:23[S]	13:26[S]	13:28[S]	13:30[S]	13:32[S]					
					13:24	13:27	13:30	13:32	13:34
13:28[S]	13:31[S]	13:33[S]	13:35[S]	13:37[S]					
					13:29	13:32	13:35	13:37	13:39
13:34[S]	13:37[S]	13:39[S]	13:41[S]	13:43[S]					
					13:35	13:38	13:41	13:43	13:45
13:40[S]	13:43[S]	13:45[S]	13:47[S]	13:49[S]					
					13:41	13:44	13:47	13:49	13:51
13:45[S]	13:48[S]	13:50[S]	13:52[S]	13:54[S]					
					13:46	13:49	13:52	13:54	13:56
13:51[S]	13:54[S]	13:56[S]	13:58[S]	14:00[S]					
					13:52	13:55	13:58	14:00	14:02
13:56[S]	13:59[S]	14:01[S]	14:03[S]	14:05[S]					
					13:58	14:01	14:04	14:06	14:08
14:02[S]	14:05[S]	14:07[S]	14:09[S]	14:11[S]					
					14:03	14:06	14:09	14:11	14:13
14:08[S]	14:11[S]	14:13[S]	14:15[S]	14:17[S]					
					14:09	14:12	14:15	14:17	14:19
					14:14	14:17	14:20	14:22	14:24
14:15[S]	14:18[S]	14:20[S]	14:22[S]	14:24[S]					
14:19[S]	14:22[S]	14:24[S]	14:26[S]	14:28[S]					
					14:20	14:23	14:26	14:28	14:30
14:25[S]	14:28[S]	14:30[S]	14:32[S]	14:34[S]					
					14:26	14:29	14:32	14:34	14:36
14:31[S]	14:34[S]	14:36[S]	14:38[S]	14:40[S]					
							14:35	14:37	14:39
					14:33	14:36	14:39	14:41	14:43
14:36[S]	14:39[S]	14:41[S]	14:43[S]	14:45[S]					
					14:37	14:40	14:43	14:45	14:47
14:42[S]	14:45[S]	14:47[S]	14:49[S]	14:51[S]					
					14:43	14:46	14:49	14:51	14:53
14:48[S]	14:51[S]	14:53[S]	14:55[S]	14:57[S]					
					14:49	14:52	14:55	14:57	14:59
14:53[S]	14:56[S]	14:58[S]	15:00[S]	15:02[S]					
					14:54	14:57	15:00	15:02	15:04
14:58[S]	15:01[S]	15:03[S]	15:05[S]	15:07[S]					
					15:00	15:03	15:07	15:09	15:11
15:02[S]	15:05[S]	15:07[S]	15:09[S]	15:11[S]					
15:06[S]	15:09[S]	15:11[S]	15:13[S]	15:15[S]					
					15:06	15:09	15:13	15:15	15:17
15:11[S]	15:14[S]	15:16[S]	15:18[S]	15:20[S]					
					15:11	15:14	15:18	15:20	15:22
15:16[S]	15:19[S]	15:21[S]	15:23[S]	15:25[S]					
					15:16	15:19	15:23	15:25	15:27
					15:20	15:23	15:27	15:29	15:31
15:21[S]	15:24[S]	15:26[S]	15:28[S]	15:30[S]					

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
					15:24	15:27	15:31	15:33	15:35
15:26[S]	15:29[S]	15:31[S]	15:33[S]	15:35[S]					
					15:29	15:32	15:36	15:38	15:40
15:31[S]	15:34[S]	15:36[S]	15:38[S]	15:40[S]					
					15:34	15:37	15:41	15:43	15:45
15:36[S]	15:39[S]	15:41[S]	15:43[S]	15:45[S]					
					15:39	15:42	15:46	15:48	15:50
15:41[S]	15:44[S]	15:46[S]	15:48[S]	15:50[S]					
					15:44	15:47	15:51	15:53	15:55
15:46[S]	15:49[S]	15:51[S]	15:53[S]	15:55[S]					
					15:49	15:52	15:56	15:58	16:00
15:51[S]	15:54[S]	15:56[S]	15:58[S]	16:00[S]					
					15:54	15:57	16:01	16:03	16:05
15:56[S]	15:59[S]	16:01[S]	16:03[S]	16:05[S]					
					15:59	16:02	16:06	16:08	16:10
16:01[S]	16:04[S]	16:06[S]	16:08[S]	16:10[S]					
					16:04	16:07	16:11	16:13	16:15
16:06[S]	16:09[S]	16:11[S]	16:13[S]	16:15[S]					
					16:09	16:12	16:16	16:18	16:20
16:11[S]	16:14[S]	16:16[S]	16:18[S]	16:20[S]					
					16:14	16:17	16:21	16:23	16:25
16:16[S]	16:19[S]	16:21[S]	16:23[S]	16:25[S]					
					16:19	16:22	16:26	16:28	16:30
16:21[S]	16:24[S]	16:26[S]	16:28[S]	16:30[S]					
					16:24	16:27	16:31	16:33	16:35
16:26[S]	16:29[S]	16:31[S]	16:33[S]	16:35[S]					
					16:29	16:32	16:36	16:38	16:40
16:31[S]	16:34[S]	16:36[S]	16:38[S]	16:40[S]					
					16:34	16:37	16:41	16:43	16:45
16:36[S]	16:39[S]	16:41[S]	16:43[S]	16:45[S]					
					16:39	16:42	16:46	16:48	16:50
16:41[S]	16:44[S]	16:46[S]	16:48[S]	16:50[S]					
					16:44	16:47	16:51	16:53	16:55
16:46[S]	16:49[S]	16:51[S]	16:53[S]	16:55[S]					
					16:49	16:52	16:56	16:58	17:00
16:51[S]	16:54[S]	16:56[S]	16:58[S]	17:00[S]					
					16:54	16:57	17:01	17:03	17:05
16:56[S]	16:59[S]	17:01[S]	17:03[S]	17:05[S]					
					16:59	17:02	17:06	17:08	17:10
17:01[S]	17:04[S]	17:06[S]	17:08[S]	17:10[S]					
					17:04	17:07	17:11	17:13	17:15
17:06[S]	17:09[S]	17:11[S]	17:13[S]	17:15[S]					
					17:09	17:12	17:16	17:18	17:20
17:11[S]	17:14[S]	17:16[S]	17:18[S]	17:20[S]					
					17:14	17:17	17:21	17:23	17:25
17:16[S]	17:19[S]	17:21[S]	17:23[S]	17:25[S]					
					17:19	17:22	17:26	17:28	17:30
17:21[S]	17:24[S]	17:26[S]	17:28[S]	17:30[S]					
					17:24	17:27	17:31	17:33	17:35

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
17:26[S]	17:29[S]	17:31[S]	17:33[S]	17:35[S]					
					17:29	17:32	17:36	17:38	17:40
17:31[S]	17:34[S]	17:36[S]	17:38[S]	17:40[S]					
					17:34	17:37	17:41	17:43	17:45
17:36[S]	17:39[S]	17:41[S]	17:43[S]	17:45[S]					
					17:39	17:42	17:46	17:48	17:50
17:41[S]	17:44[S]	17:46[S]	17:48[S]	17:50[S]					
					17:44	17:47	17:51	17:53	17:55
17:46[S]	17:49[S]	17:51[S]	17:53[S]	17:55[S]					
					17:49	17:52	17:56	17:58	18:00
17:51[S]	17:54[S]	17:56[S]	17:58[S]	18:00[S]					
					17:54	17:57	18:01	18:03	18:05
17:56[S]	17:59[S]	18:01[S]	18:03[S]	18:05[S]					
					17:59	18:02	18:06	18:08	18:10
18:01[S]	18:04[S]	18:06[S]	18:08[S]	18:10[S]					
					18:04	18:07	18:11	18:13	18:15
18:06[S]	18:09[S]	18:11[S]	18:13[S]	18:15[S]					
					18:09	18:12	18:16	18:18	18:20
18:11[S]	18:14[S]	18:16[S]	18:18[S]	18:20[S]					
					18:14	18:17	18:21	18:23	18:25
18:16[S]	18:19[S]	18:21[S]	18:23[S]	18:25[S]					
					18:19	18:22	18:26	18:28	18:30
18:22[S]	18:25[S]	18:27[S]	18:29[S]	18:31[S]					
					18:24	18:27	18:31	18:33	18:35
18:28[S]	18:31[S]	18:33[S]	18:35[S]	18:37[S]					
					18:29	18:32	18:36	18:38	18:40
18:34[S]	18:37[S]	18:39[S]	18:41[S]	18:43[S]					
					18:34	18:37	18:40	18:42	18:44
18:40[S]	18:43[S]	18:45[S]	18:47[S]	18:49[S]					
					18:40	18:43	18:46	18:48	18:50
					18:46	18:49	18:52	18:54	18:56
18:47[S]	18:50[S]	18:52[S]	18:54[S]	18:56[S]					
					18:52	18:55	18:58	19:00	19:02
18:53[S]	18:56[S]	18:58[S]	19:00[S]	19:02[S]					
					18:58	19:01	19:04	19:06	19:08
18:59[S]	19:02[S]	19:04[S]	19:06[S]	19:08[S]					
19:04[S]	19:07[S]	19:09[S]	19:11[S]	19:13[S]					
					19:05	19:08	19:11	19:13	19:15
19:10[S]	19:13[S]	19:15[S]	19:17[S]	19:19[S]					
					19:11	19:14	19:17	19:19	19:21
19:16[S]	19:19[S]	19:21[S]	19:23[S]	19:25[S]					
					19:17	19:20	19:23	19:25	19:27
19:21[S]	19:24[S]	19:26[S]	19:28[S]	19:30[S]					
					19:22	19:25	19:28	19:30	19:32
19:27[S]	19:30[S]	19:32[S]	19:34[S]	19:36[S]					
					19:28	19:31	19:34	19:36	19:38
19:33[S]	19:36[S]	19:38[S]	19:40[S]	19:42[S]					
					19:34	19:37	19:40	19:42	19:44
19:38[S]	19:41[S]	19:43[S]	19:45[S]	19:47[S]					

TUNNEY'S PASTURE O-TRAIN EAST / EST	BAYVIEW O-TRAIN EAST / EST	PIMISI O-TRAIN EAST / EST	LYON O-TRAIN EAST / EST	PARLIAMENT / PARLEMENT O-TRAIN EAST / EST	HURDMAN O-TRAIN EAST / EST	TREMBLAY O-TRAIN EAST / EST	ST-LAURENT O-TRAIN EAST / EST	CYRVILLE O-TRAIN EAST / EST	BLAIR O-TRAIN
					19:39	19:42	19:45	19:47	19:49
19:44[S]	19:47[S]	19:49[S]	19:51[S]	19:53[S]					
					19:45	19:48	19:51	19:53	19:55
19:50[S]	19:53[S]	19:55[S]	19:57[S]	19:59[S]					
					19:51	19:54	19:57	19:59	20:01
19:55[S]	19:58[S]	20:00[S]	20:02[S]	20:04[S]					
					19:56	19:59	20:02	20:04	20:06
					20:02	20:05	20:08	20:10	20:12
					20:08	20:11	20:14	20:16	20:18
					20:13	20:16	20:19	20:21	20:23
					20:19	20:22	20:25	20:27	20:29
					20:25	20:28	20:31	20:33	20:35
					20:30	20:33	20:36	20:38	20:40
					20:36	20:39	20:42	20:44	20:46
					20:42	20:45	20:48	20:50	20:52
					20:47	20:50	20:53	20:55	20:57
					20:53	20:56	20:59	21:01	21:03
					20:59	21:02	21:05	21:07	21:09
					21:04	21:07	21:10	21:12	21:14
					21:10	21:13	21:16	21:18	21:20
					21:16	21:19	21:22	21:24	21:26
					21:21	21:24	21:27	21:29	21:31
					21:27	21:30	21:33	21:35	21:37
					21:33	21:36	21:39	21:41	21:43
					21:38	21:41	21:44	21:46	21:48
					21:44	21:47	21:50	21:52	21:54
					21:50	21:53	21:56	21:58	22:00
					21:55	21:58	22:01	22:03	22:05
					22:01	22:04	22:07	22:09	22:11
					22:07	22:10	22:13	22:15	22:17
					22:12	22:15	22:18	22:20	22:22
					22:19	22:22	22:25	22:27	22:29
					22:29	22:32	22:35	22:37	22:39
					22:38	22:41	22:44	22:46	22:48
					22:47	22:50	22:53	22:55	22:57
					22:57	23:00	23:03	23:05	23:07
					23:06	23:09	23:12	23:14	23:16
					23:15	23:18	23:21	23:23	23:25
					23:25	23:28	23:31	23:33	23:35
					23:34	23:37	23:40	23:42	23:44
					23:43	23:46	23:49	23:51	23:53
					23:55	23:58	00:01	00:03	00:05
					00:08	00:11	00:14	00:16	00:18
					00:22	00:25	00:28	00:30	00:32
					00:40	00:43	00:46	00:48	00:50
					01:03	01:06	01:09	01:11	01:13
					01:18	01:21	01:24	01:26	01:28

Schedules & Maps

The next service change is on Sunday, April 23.

Schedule times are based on typical driving conditions and may vary. Please arrive at your stop a few minutes early to allow for any fluctuations in schedule.

Mon, Jun 12

1 Tunney's Pasture

[S] Ends at Hurdman

[a] O-Train Line 1 will experience partial closures from June 5-19 for planned maintenance. Read more

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
			05:00[S]	05:03[S]					
05:00[S]	05:02[S]	05:04[S]	05:07[S]	05:10[S]					
					05:02	05:04	05:06	05:08	05:10
05:09[S]	05:11[S]	05:13[S]	05:16[S]	05:19[S]					
					05:13	05:15	05:17	05:19	05:21
05:18[S]	05:20[S]	05:22[S]	05:25[S]	05:28[S]					
					05:20	05:22	05:24	05:26	05:28
05:28[S]	05:30[S]	05:32[S]	05:35[S]	05:38[S]					
					05:29	05:31	05:33	05:35	05:37
05:37[S]	05:39[S]	05:41[S]	05:44[S]	05:47[S]					
					05:38	05:40	05:42	05:44	05:46
05:44[S]	05:46[S]	05:48[S]	05:51[S]	05:54[S]					
					05:48	05:50	05:52	05:54	05:56
					05:57	05:59	06:01	06:03	06:05
			05:59[S]	06:02[S]					
05:56[S]	05:58[S]	06:00[S]	06:03[S]	06:06[S]					
					06:04	06:06	06:08	06:10	06:12
			06:08[S]	06:11[S]					
06:05[S]	06:07[S]	06:09[S]	06:12[S]	06:15[S]					
					06:12	06:14	06:16	06:18	06:20
					06:16	06:18	06:20	06:22	06:24
			06:18[S]	06:21[S]					
06:15[S]	06:17[S]	06:19[S]	06:22[S]	06:25[S]					
06:19[S]	06:21[S]	06:23[S]	06:26[S]	06:29[S]					
					06:21	06:23	06:25	06:27	06:29
					06:25	06:27	06:29	06:31	06:33
06:25[S]	06:27[S]	06:29[S]	06:32[S]	06:35[S]					

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
06:29[S]	06:31[S]	06:33[S]	06:36[S]	06:39[S]					
					06:31	06:33	06:35	06:37	06:39
					06:35	06:37	06:39	06:41	06:43
06:35[S]	06:37[S]	06:39[S]	06:42[S]	06:45[S]					
					06:39	06:41	06:43	06:45	06:47
06:39[S]	06:41[S]	06:43[S]	06:46[S]	06:49[S]					
					06:45	06:47	06:49	06:51	06:53
06:45[S]	06:47[S]	06:49[S]	06:52[S]	06:55[S]					
					06:49	06:51	06:53	06:55	06:57
06:49[S]	06:51[S]	06:53[S]	06:56[S]	06:59[S]					
					06:55	06:57	06:59	07:01	07:03
06:55[S]	06:57[S]	06:59[S]	07:02[S]	07:05[S]					
					06:59	07:01	07:03	07:05	07:07
07:00[S]	07:02[S]	07:04[S]	07:07[S]	07:10[S]					
					07:05	07:07	07:09	07:11	07:13
07:05[S]	07:07[S]	07:09[S]	07:12[S]	07:15[S]					
					07:09	07:11	07:13	07:15	07:17
07:10[S]	07:12[S]	07:14[S]	07:17[S]	07:20[S]					
					07:15	07:17	07:19	07:21	07:23
07:15[S]	07:17[S]	07:19[S]	07:22[S]	07:25[S]					
					07:20	07:22	07:24	07:26	07:28
07:20[S]	07:22[S]	07:24[S]	07:27[S]	07:30[S]					
					07:25	07:27	07:29	07:31	07:33
07:25[S]	07:27[S]	07:29[S]	07:32[S]	07:35[S]					
					07:30	07:32	07:34	07:36	07:38
07:30[S]	07:32[S]	07:34[S]	07:37[S]	07:40[S]					
					07:35	07:37	07:39	07:41	07:43
07:35[S]	07:37[S]	07:39[S]	07:42[S]	07:45[S]					
					07:40	07:42	07:44	07:46	07:48
07:40[S]	07:42[S]	07:44[S]	07:47[S]	07:50[S]					
					07:45	07:47	07:49	07:51	07:53
07:45[S]	07:47[S]	07:49[S]	07:52[S]	07:55[S]					
					07:50	07:52	07:54	07:56	07:58
07:50[S]	07:52[S]	07:54[S]	07:57[S]	08:00[S]					
					07:55	07:57	07:59	08:01	08:03
07:55[S]	07:57[S]	07:59[S]	08:02[S]	08:05[S]					
					08:00	08:02	08:04	08:06	08:08
08:00[S]	08:02[S]	08:04[S]	08:07[S]	08:10[S]					
					08:05	08:07	08:09	08:11	08:13
08:05[S]	08:07[S]	08:09[S]	08:12[S]	08:15[S]					
					08:10	08:12	08:14	08:16	08:18
08:10[S]	08:12[S]	08:14[S]	08:17[S]	08:20[S]					
					08:15	08:17	08:19	08:21	08:23
08:15[S]	08:17[S]	08:19[S]	08:22[S]	08:25[S]					
					08:20	08:22	08:24	08:26	08:28
08:20[S]	08:22[S]	08:24[S]	08:27[S]	08:30[S]					
					08:25	08:27	08:29	08:31	08:33
08:25[S]	08:27[S]	08:29[S]	08:32[S]	08:35[S]					

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
					08:30	08:32	08:34	08:36	08:38
08:30[S]	08:32[S]	08:34[S]	08:37[S]	08:40[S]					
					08:35	08:37	08:39	08:41	08:43
08:35[S]	08:37[S]	08:39[S]	08:42[S]	08:45[S]					
					08:40	08:42	08:44	08:46	08:48
08:40[S]	08:42[S]	08:44[S]	08:47[S]	08:50[S]					
					08:45	08:47	08:49	08:51	08:53
08:45[S]	08:47[S]	08:49[S]	08:52[S]	08:55[S]					
					08:50	08:52	08:54	08:56	08:58
08:50[S]	08:52[S]	08:54[S]	08:57[S]	09:00[S]					
					08:55	08:57	08:59	09:01	09:03
08:56[S]	08:58[S]	09:00[S]	09:03[S]	09:06[S]					
					09:00	09:02	09:04	09:06	09:08
09:03[S]	09:05[S]	09:07[S]	09:10[S]	09:13[S]					
					09:05	09:07	09:09	09:11	09:13
					09:10	09:12	09:14	09:16	09:18
09:10[S]	09:12[S]	09:14[S]	09:17[S]	09:20[S]					
					09:16	09:18	09:20	09:22	09:24
09:16[S]	09:18[S]	09:20[S]	09:23[S]	09:26[S]					
					09:22	09:24	09:26	09:28	09:30
09:22[S]	09:24[S]	09:26[S]	09:29[S]	09:32[S]					
					09:29	09:31	09:33	09:35	09:37
09:29[S]	09:31[S]	09:33[S]	09:36[S]	09:39[S]					
09:34[S]	09:36[S]	09:38[S]	09:41[S]	09:44[S]					
					09:35	09:37	09:39	09:41	09:43
09:39[S]	09:41[S]	09:43[S]	09:46[S]	09:49[S]					
					09:41	09:43	09:45	09:47	09:49
09:45[S]	09:47[S]	09:49[S]	09:52[S]	09:55[S]					
					09:48	09:50	09:52	09:54	09:56
09:51[S]	09:53[S]	09:55[S]	09:58[S]	10:01[S]					
					09:53	09:55	09:57	09:59	10:01
09:56[S]	09:58[S]	10:00[S]	10:03[S]	10:06[S]					
					09:58	10:00	10:02	10:04	10:06
10:02[S]	10:04[S]	10:06[S]	10:09[S]	10:12[S]					
					10:04	10:06	10:08	10:10	10:12
10:08[S]	10:10[S]	10:12[S]	10:15[S]	10:18[S]					
					10:10	10:12	10:14	10:16	10:18
10:13[S]	10:15[S]	10:17[S]	10:20[S]	10:23[S]					
					10:15	10:17	10:19	10:21	10:23
10:19[S]	10:21[S]	10:23[S]	10:26[S]	10:29[S]					
					10:21	10:23	10:25	10:27	10:29
10:25[S]	10:27[S]	10:29[S]	10:32[S]	10:35[S]					
					10:27	10:29	10:31	10:33	10:35
10:30[S]	10:32[S]	10:34[S]	10:37[S]	10:40[S]					
					10:32	10:34	10:36	10:38	10:40
10:36[S]	10:38[S]	10:40[S]	10:43[S]	10:46[S]					
					10:38	10:40	10:42	10:44	10:46
10:42[S]	10:44[S]	10:46[S]	10:49[S]	10:52[S]					

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
					10:44	10:46	10:48	10:50	10:52
10:47[S]	10:49[S]	10:51[S]	10:54[S]	10:57[S]					
					10:49	10:51	10:53	10:55	10:57
10:53[S]	10:55[S]	10:57[S]	11:00[S]	11:03[S]					
					10:55	10:57	10:59	11:01	11:03
10:59[S]	11:01[S]	11:03[S]	11:06[S]	11:09[S]					
					11:01	11:03	11:05	11:07	11:09
11:04[S]	11:06[S]	11:08[S]	11:11[S]	11:14[S]					
					11:06	11:08	11:10	11:12	11:14
11:10[S]	11:12[S]	11:14[S]	11:17[S]	11:20[S]					
					11:12	11:14	11:16	11:18	11:20
11:16[S]	11:18[S]	11:20[S]	11:23[S]	11:26[S]					
					11:18	11:20	11:22	11:24	11:26
11:21[S]	11:23[S]	11:25[S]	11:28[S]	11:31[S]					
					11:23	11:25	11:27	11:29	11:31
11:27[S]	11:29[S]	11:31[S]	11:34[S]	11:37[S]					
					11:29	11:31	11:33	11:35	11:37
11:33[S]	11:35[S]	11:37[S]	11:40[S]	11:43[S]					
					11:35	11:37	11:39	11:41	11:43
11:38[S]	11:40[S]	11:42[S]	11:45[S]	11:48[S]					
					11:40	11:42	11:44	11:46	11:48
11:44[S]	11:46[S]	11:48[S]	11:51[S]	11:54[S]					
					11:46	11:48	11:50	11:52	11:54
11:50[S]	11:52[S]	11:54[S]	11:57[S]	12:00[S]					
					11:52	11:54	11:56	11:58	12:00
11:55[S]	11:57[S]	11:59[S]	12:02[S]	12:05[S]					
					11:57	11:59	12:01	12:03	12:05
12:01[S]	12:03[S]	12:05[S]	12:08[S]	12:11[S]					
					12:03	12:05	12:07	12:09	12:11
12:07[S]	12:09[S]	12:11[S]	12:14[S]	12:17[S]					
					12:09	12:11	12:13	12:15	12:17
12:12[S]	12:14[S]	12:16[S]	12:19[S]	12:22[S]					
					12:14	12:16	12:18	12:20	12:22
12:18[S]	12:20[S]	12:22[S]	12:25[S]	12:28[S]					
					12:20	12:22	12:24	12:26	12:28
12:24[S]	12:26[S]	12:28[S]	12:31[S]	12:34[S]					
					12:26	12:28	12:30	12:32	12:34
12:29[S]	12:31[S]	12:33[S]	12:36[S]	12:39[S]					
					12:31	12:33	12:35	12:37	12:39
12:35[S]	12:37[S]	12:39[S]	12:42[S]	12:45[S]					
					12:37	12:39	12:41	12:43	12:45
12:41[S]	12:43[S]	12:45[S]	12:48[S]	12:51[S]					
					12:43	12:45	12:47	12:49	12:51
12:46[S]	12:48[S]	12:50[S]	12:53[S]	12:56[S]					
					12:48	12:50	12:52	12:54	12:56
12:52[S]	12:54[S]	12:56[S]	12:59[S]	13:02[S]					
					12:54	12:56	12:58	13:00	13:02
12:58[S]	13:00[S]	13:02[S]	13:05[S]	13:08[S]					

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
					13:00	13:02	13:04	13:06	13:08
13:03[S]	13:05[S]	13:07[S]	13:10[S]	13:13[S]					
					13:05	13:07	13:09	13:11	13:13
13:09[S]	13:11[S]	13:13[S]	13:16[S]	13:19[S]					
					13:11	13:13	13:15	13:17	13:19
13:15[S]	13:17[S]	13:19[S]	13:22[S]	13:25[S]					
					13:17	13:19	13:21	13:23	13:25
13:20[S]	13:22[S]	13:24[S]	13:27[S]	13:30[S]					
					13:22	13:24	13:26	13:28	13:30
13:26[S]	13:28[S]	13:30[S]	13:33[S]	13:36[S]					
					13:28	13:30	13:32	13:34	13:36
13:32[S]	13:34[S]	13:36[S]	13:39[S]	13:42[S]					
					13:34	13:36	13:38	13:40	13:42
13:37[S]	13:39[S]	13:41[S]	13:44[S]	13:47[S]					
					13:39	13:41	13:43	13:45	13:47
13:43[S]	13:45[S]	13:47[S]	13:50[S]	13:53[S]					
					13:45	13:47	13:49	13:51	13:53
13:49[S]	13:51[S]	13:53[S]	13:56[S]	13:59[S]					
					13:51	13:53	13:55	13:57	13:59
13:54[S]	13:56[S]	13:58[S]	14:01[S]	14:04[S]					
					13:56	13:58	14:00	14:02	14:04
14:00[S]	14:02[S]	14:04[S]	14:07[S]	14:10[S]					
					14:02	14:04	14:06	14:08	14:10
14:06[S]	14:08[S]	14:10[S]	14:13[S]	14:16[S]					
					14:08	14:10	14:12	14:14	14:16
14:11[S]	14:13[S]	14:15[S]	14:18[S]	14:21[S]					
					14:13	14:15	14:17	14:19	14:21
14:17[S]	14:19[S]	14:21[S]	14:24[S]	14:27[S]					
					14:19	14:21	14:23	14:25	14:27
14:23[S]	14:25[S]	14:27[S]	14:30[S]	14:33[S]					
					14:25	14:27	14:29	14:31	14:33
14:28[S]	14:30[S]	14:32[S]	14:35[S]	14:38[S]					
					14:30	14:32	14:34	14:36	14:38
					14:36	14:38	14:40	14:42	14:44
			14:39[S]	14:42[S]					
14:35[S]	14:37[S]	14:39[S]	14:42[S]	14:45[S]					
14:40[S]	14:42[S]	14:44[S]	14:47[S]	14:50[S]					
					14:42	14:44	14:46	14:48	14:50
14:44[S]	14:46[S]	14:48[S]	14:51[S]	14:54[S]					
					14:47	14:49	14:51	14:53	14:55
14:50[S]	14:52[S]	14:54[S]	14:57[S]	15:00[S]					
					14:52	14:54	14:56	14:58	15:00
14:54[S]	14:56[S]	14:58[S]	15:01[S]	15:04[S]					
					14:55	14:57	14:59	15:01	15:03
					15:00	15:02	15:04	15:06	15:08
15:00[S]	15:02[S]	15:04[S]	15:07[S]	15:10[S]					
					15:04	15:06	15:08	15:10	15:12
15:04[S]	15:06[S]	15:08[S]	15:11[S]	15:14[S]					

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
					15:10	15:12	15:14	15:16	15:18
15:10[S]	15:12[S]	15:14[S]	15:17[S]	15:20[S]					
					15:14	15:16	15:18	15:20	15:22
15:15[S]	15:17[S]	15:19[S]	15:22[S]	15:25[S]					
					15:20	15:22	15:24	15:26	15:28
15:20[S]	15:22[S]	15:24[S]	15:27[S]	15:30[S]					
					15:24	15:26	15:28	15:30	15:32
15:25[S]	15:27[S]	15:29[S]	15:32[S]	15:35[S]					
					15:30	15:32	15:34	15:36	15:38
15:30[S]	15:32[S]	15:34[S]	15:37[S]	15:40[S]					
					15:35	15:37	15:39	15:41	15:43
15:35[S]	15:37[S]	15:39[S]	15:42[S]	15:45[S]					
					15:40	15:42	15:44	15:46	15:48
15:40[S]	15:42[S]	15:44[S]	15:47[S]	15:50[S]					
					15:45	15:47	15:49	15:51	15:53
15:45[S]	15:47[S]	15:49[S]	15:52[S]	15:55[S]					
					15:50	15:52	15:54	15:56	15:58
15:50[S]	15:52[S]	15:54[S]	15:57[S]	16:00[S]					
					15:55	15:57	15:59	16:01	16:03
15:55[S]	15:57[S]	15:59[S]	16:02[S]	16:05[S]					
					16:00	16:02	16:04	16:06	16:08
16:00[S]	16:02[S]	16:04[S]	16:07[S]	16:10[S]					
					16:05	16:07	16:09	16:11	16:13
16:05[S]	16:07[S]	16:09[S]	16:12[S]	16:15[S]					
					16:10	16:12	16:14	16:16	16:18
16:10[S]	16:12[S]	16:14[S]	16:17[S]	16:20[S]					
					16:15	16:17	16:19	16:21	16:23
16:15[S]	16:17[S]	16:19[S]	16:22[S]	16:25[S]					
					16:20	16:22	16:24	16:26	16:28
16:20[S]	16:22[S]	16:24[S]	16:27[S]	16:30[S]					
					16:25	16:27	16:29	16:31	16:33
16:25[S]	16:27[S]	16:29[S]	16:32[S]	16:35[S]					
					16:30	16:32	16:34	16:36	16:38
16:30[S]	16:32[S]	16:34[S]	16:37[S]	16:40[S]					
					16:35	16:37	16:39	16:41	16:43
16:35[S]	16:37[S]	16:39[S]	16:42[S]	16:45[S]					
					16:40	16:42	16:44	16:46	16:48
16:40[S]	16:42[S]	16:44[S]	16:47[S]	16:50[S]					
					16:45	16:47	16:49	16:51	16:53
16:45[S]	16:47[S]	16:49[S]	16:52[S]	16:55[S]					
					16:50	16:52	16:54	16:56	16:58
16:50[S]	16:52[S]	16:54[S]	16:57[S]	17:00[S]					
					16:55	16:57	16:59	17:01	17:03
16:55[S]	16:57[S]	16:59[S]	17:02[S]	17:05[S]					
					17:00	17:02	17:04	17:06	17:08
17:00[S]	17:02[S]	17:04[S]	17:07[S]	17:10[S]					
					17:05	17:07	17:09	17:11	17:13
17:05[S]	17:07[S]	17:09[S]	17:12[S]	17:15[S]					

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
					17:10	17:12	17:14	17:16	17:18
17:10[S]	17:12[S]	17:14[S]	17:17[S]	17:20[S]					
					17:15	17:17	17:19	17:21	17:23
17:15[S]	17:17[S]	17:19[S]	17:22[S]	17:25[S]					
					17:20	17:22	17:24	17:26	17:28
17:20[S]	17:22[S]	17:24[S]	17:27[S]	17:30[S]					
					17:25	17:27	17:29	17:31	17:33
17:25[S]	17:27[S]	17:29[S]	17:32[S]	17:35[S]					
					17:30	17:32	17:34	17:36	17:38
17:30[S]	17:32[S]	17:34[S]	17:37[S]	17:40[S]					
					17:35	17:37	17:39	17:41	17:43
17:35[S]	17:37[S]	17:39[S]	17:42[S]	17:45[S]					
					17:40	17:42	17:44	17:46	17:48
17:40[S]	17:42[S]	17:44[S]	17:47[S]	17:50[S]					
					17:45	17:47	17:49	17:51	17:53
17:45[S]	17:47[S]	17:49[S]	17:52[S]	17:55[S]					
					17:50	17:52	17:54	17:56	17:58
17:50[S]	17:52[S]	17:54[S]	17:57[S]	18:00[S]					
					17:55	17:57	17:59	18:01	18:03
17:56[S]	17:58[S]	18:00[S]	18:03[S]	18:06[S]					
					18:00	18:02	18:04	18:06	18:08
18:03[S]	18:05[S]	18:07[S]	18:10[S]	18:13[S]					
					18:05	18:07	18:09	18:11	18:13
18:09[S]	18:11[S]	18:13[S]	18:16[S]	18:19[S]					
					18:10	18:12	18:14	18:16	18:18
					18:16	18:18	18:20	18:22	18:24
18:16[S]	18:18[S]	18:20[S]	18:23[S]	18:26[S]					
18:22[S]	18:24[S]	18:26[S]	18:29[S]	18:32[S]					
					18:23	18:25	18:27	18:29	18:31
18:28[S]	18:30[S]	18:32[S]	18:35[S]	18:38[S]					
					18:29	18:31	18:33	18:35	18:37
18:34[S]	18:36[S]	18:38[S]	18:41[S]	18:44[S]					
					18:36	18:38	18:40	18:42	18:44
18:39[S]	18:41[S]	18:43[S]	18:46[S]	18:49[S]					
					18:42	18:44	18:46	18:48	18:50
18:45[S]	18:47[S]	18:49[S]	18:52[S]	18:55[S]					
					18:48	18:50	18:52	18:54	18:56
18:51[S]	18:53[S]	18:55[S]	18:58[S]	19:01[S]					
					18:54	18:56	18:58	19:00	19:02
18:56[S]	18:58[S]	19:00[S]	19:03[S]	19:06[S]					
					18:59	19:01	19:03	19:05	19:07
19:02[S]	19:04[S]	19:06[S]	19:09[S]	19:12[S]					
					19:05	19:07	19:09	19:11	19:13
19:08[S]	19:10[S]	19:12[S]	19:15[S]	19:18[S]					
					19:11	19:13	19:15	19:17	19:19
19:13[S]	19:15[S]	19:17[S]	19:20[S]	19:23[S]					
					19:16	19:18	19:20	19:22	19:24
19:19[S]	19:21[S]	19:23[S]	19:26[S]	19:29[S]					

BLAIR O-TRAIN WEST / OUEST	CYRVILLE O-TRAIN WEST / OUEST	ST-LAURENT O-TRAIN WEST / OUEST	TREMBLAY O-TRAIN WEST / OUEST	HURDMAN O-TRAIN WEST / OUEST	PARLIAMENT / PARLEMENT O-TRAIN WEST / OUEST	LYON O-TRAIN WEST / OUEST	PIMISI O-TRAIN WEST / OUEST	BAYVIEW O-TRAIN WEST / OUEST	TUNNEY'S PASTURE O-TRAIN
					19:22	19:24	19:26	19:28	19:30
19:25[S]	19:27[S]	19:29[S]	19:32[S]	19:35[S]					
					19:28	19:30	19:32	19:34	19:36
19:30[S]	19:32[S]	19:34[S]	19:37[S]	19:40[S]					
					19:33	19:35	19:37	19:39	19:41
19:36[S]	19:38[S]	19:40[S]	19:43[S]	19:46[S]					
					19:39	19:41	19:43	19:45	19:47
19:42[S]	19:44[S]	19:46[S]	19:49[S]	19:52[S]					
					19:45	19:47	19:49	19:51	19:53
19:47[S]	19:49[S]	19:51[S]	19:54[S]	19:57[S]					
					19:50	19:52	19:54	19:56	19:58
19:53[S]	19:55[S]	19:57[S]	20:00[S]	20:03[S]					
					19:56	19:58	20:00	20:02	20:04
19:59[S]	20:01[S]	20:03[S]	20:06[S]	20:09[S]					
20:04[S]	20:06[S]	20:08[S]	20:11[S]	20:14[S]					
20:10[S]	20:12[S]	20:14[S]	20:17[S]	20:20[S]					
20:16[S]	20:18[S]	20:20[S]	20:23[S]	20:26[S]					
20:21[S]	20:23[S]	20:25[S]	20:28[S]	20:31[S]					
20:27[S]	20:29[S]	20:31[S]	20:34[S]	20:37[S]					
20:33[S]	20:35[S]	20:37[S]	20:40[S]	20:43[S]					
20:38[S]	20:40[S]	20:42[S]	20:45[S]	20:48[S]					
20:44[S]	20:46[S]	20:48[S]	20:51[S]	20:54[S]					
20:50[S]	20:52[S]	20:54[S]	20:57[S]	21:00[S]					
20:55[S]	20:57[S]	20:59[S]	21:02[S]	21:05[S]					
21:01[S]	21:03[S]	21:05[S]	21:08[S]	21:11[S]					
21:07[S]	21:09[S]	21:11[S]	21:14[S]	21:17[S]					
21:12[S]	21:14[S]	21:16[S]	21:19[S]	21:22[S]					
21:18[S]	21:20[S]	21:22[S]	21:25[S]	21:28[S]					
21:24[S]	21:26[S]	21:28[S]	21:31[S]	21:34[S]					
21:30[S]	21:32[S]	21:34[S]	21:37[S]	21:40[S]					
21:39[S]	21:41[S]	21:43[S]	21:46[S]	21:49[S]					
21:48[S]	21:50[S]	21:52[S]	21:55[S]	21:58[S]					
21:58[S]	22:00[S]	22:02[S]	22:05[S]	22:08[S]					
22:06[S]	22:08[S]	22:10[S]	22:13[S]	22:16[S]					
22:16[S]	22:18[S]	22:20[S]	22:23[S]	22:26[S]					
22:24[S]	22:26[S]	22:28[S]	22:31[S]	22:34[S]					
22:35[S]	22:37[S]	22:39[S]	22:42[S]	22:45[S]					
22:44[S]	22:46[S]	22:48[S]	22:51[S]	22:54[S]					
22:54[S]	22:56[S]	22:58[S]	23:01[S]	23:04[S]					
23:05[S]	23:07[S]	23:09[S]	23:12[S]	23:15[S]					
23:18[S]	23:20[S]	23:22[S]	23:25[S]	23:28[S]					
23:32[S]	23:34[S]	23:36[S]	23:39[S]	23:42[S]					
23:49[S]	23:51[S]	23:53[S]	23:56[S]	23:59[S]					
00:09[S]	00:11[S]	00:13[S]	00:16[S]	00:19[S]					
00:25[S]	00:27[S]	00:29[S]	00:32[S]	00:35[S]					
00:40[S]	00:42[S]	00:44[S]	00:47[S]	00:50[S]					
01:00[S]	01:02[S]	01:04[S]	01:07[S]	01:10[S]					

Train Schedule:

Ottawa - Montréal - Sainte Foy - Québec

- Locations in bold indicate a possible connection.
- No local service between Montréal and Saint-Lambert
- No local service between Québec City, Sainte-Foy and Charny
- For a stop at this station, reservations are required at least 40 minutes before the train departs from its station of origin. Train 22 stops in Saint-Hyacinthe on Saturdays and Sundays only.
- No local service between Montreal and Dorval
- No local service between Dorval and Montreal

# Train	22	22	20	622	622	24	26	28	38	38
Business class	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baggage check-in	Yes	Yes	No	No	No	No	No	No	No	No
Dates	From 2022-06-19 to 2023-06-18	From 2023-06-19 to 2033-05-01	All year round	From 2022-06-19 to 2023-06-18	From 2023-06-19 to 2033-05-01	All year round	All year round	All year round	From 2022-06-19 to 2023-06-18	From 2023-06-19 to 2033-05-01

# Train		22	22	20	622	622	24	26	28	38	38
		Time	Time				Time	Time	Time	Time	Time
Casselman, ON Reservations are required at least 40 minutes before the train departure from its original station for a stop at Casselman.	Departure	06:56	06:35	-	-	-	-	-	16:37	19:22	18:27
Alexandria, ON	Departure	07:18	06:58	-	-	-	11:07	15:08	16:59	19:46	18:51
Coteau, QC Fridays only	Departure	07:46	07:23	-	-	-	11:33	15:29	17:19	-	19:12
Dorval, QC Shuttle service runs between the station and the airport. Stops to disembark. Conditional stop	Departure	**08:11**	**07:51**	-	-	-	**11:55**	**15:55**	**17:44**	**20:37**	**19:27**
Days		-	-	Day 1 MTWTF~~SS~~	Day 1 ~~MTWTF~~SS	Day 1 ~~MTWTF~~SS	-	-	-	-	-
Montréal, QC	Arrival	**08:31**	**08:11**	**-** **06:25**	**-** **08:06**	**-** **08:46**	**12:15**	**16:15**	**18:04**	**20:57**	**19:57**

Saturdays and Sundays only #Train		22	22	20	622	622	24	26	28	38	38
Drummondville, QC	Departure	10:12	09:54	07:38	10:12	09:52	14:03	18:15	19:45	-	-
Charny, QC	Departure	-	-	-	-	-	15:46	19:54	21:24	-	-
Sainte-Foy, QC Shuttle operates between Ste-Foy and Québec city (Gare du Palais) in both directions. Reservations are required. Conditional stop	Arrival Departure	11:55 11:58	11:25 11:28	- 09:19	11:54 11:57	11:24 11:27	- 15:54	- 20:03	- **21:32**	-	-
Québec, QC	Arrival	**12:22 Eastern Time**	**11:52 Eastern Time**	**09:43 Eastern Time**	**12:22 Eastern Time**	**11:52 Eastern Time**	**16:18 Eastern Time**	**20:26 Eastern Time**	**21:56 Eastern Time**	-	-

Train Schedule:

Québec - Sainte Foy - Montréal - Ottawa

- Locations in bold indicate a possible connection.
- No local service between Québec City, Sainte-Foy and Charny
- No local service between Ottawa and Fallowfield

# Train	51	31	33	35	35	633	37	37	39	39	29
Business class	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baggage check-in	No	No	No	No	No	No	No	No	No	No	Yes
Dates	From 2022-06-19 to 2023-06-18	From 2023-06-19 to 2032-04-25	All year round	From 2022-06-19 to 2023-06-18	From 2023-06-19 to 2033-05-01	All year round	From 2022-06-19 to 2023-06-18	From 2023-06-19 to 2033-05-01	All year round	From 2023-06-19 to 2033-05-01	All year round
Days	-	-	Day 1 MTWTF~~SS~~	Day 1 MTWTFSS	Day 1 MTWTFSS	-	Day 1 MTWTFSS	Day 1 MTWTFSS	Day 1 MTWTFSS	Day 1 MTWTFSS	Day 1 MTWTFSS

# Train		51	31	33	35	35	633	37	37	39	39	29
Shuttle operates between Ste-Foy and Québec city (Gare du Palais) in both directions. Reservations are required.												
Charny, QC	Departure	-	-	06:00	08:44	08:44	-	-	-	-	-	-
Drummondville, QC	Arrival Departure	-	-	- 07:28	10:12 10:15	10:12 10:15	-	- 14:45	- 14:45	- 16:54	- 16:54	- 19:43
Saint-Hyacinthe, QC	Departure	-	-	08:00	10:48	10:48	-	15:16	15:16	-	-	20:21
Saint-Lambert, QC Conditional stop No local service between Saint-Lambert and Montreal.	Departure	-	-	08:26	11:15	11:15	-	15:43	15:44	18:00	18:00	20:49
Days		Day 1 MTWTF~~SS~~	Day 1 MTWTF~~SS~~	-	-	-	Day 1 ~~MTWTF~~SS	-	-	-	-	-
Montréal, QC	Arrival Departure	**- 06:20 Eastern Time**	**- 06:20 Eastern Time**	**08:37 09:00**	**11:26 11:54**	**11:26 11:54**	**- 09:00 Eastern Time**	**15:54 16:30**	**15:54 16:30**	**18:11 18:50**	**18:11 18:50**	**21:00 - Eastern Time**

# Train		51	31	33	35	35	633	37	37	39	39	29
Coteau, QC	Departure	-	07:07	-	12:53	12:53	-	17:29	17:29	19:51	19:51	-
Alexandria, ON	Departure	07:28	07:33	10:22	13:17	13:18	10:11	17:51	17:51	20:18	20:13	-
Casselman, ON Conditional stop For a stop at this station, reservations are required at least 40 minutes before the train departs from its station of origin.	Departure	07:55	07:55	10:44	13:40	13:41	10:33	-	-	-	-	-
Ottawa, ON	Arrival Departure	**08:20** **08:35**	**08:20** **-** **Eastern Time**	**11:14** **-** **Eastern Time**	**14:05** **-** **Eastern Time**	**14:07** **-** **Eastern Time**	**11:04** **-** **Eastern Time**	**18:35** **-** **Eastern Time**	**18:40** **-** **Eastern Time**	**21:02** **-** **Eastern Time**	**20:57** **-** **Eastern Time**	-
Fallowfield, ON	Arrival Departure	08:52 08:55 Eastern Time	-	-	-	-	-	-	-	-	-	-

Yolanda Tang

From: Paul Charbachi <Paul_Charbachi@viarail.ca>
Sent: Friday, June 9, 2023 11:24 AM
To: Yolanda Tang
Cc: Stephanie Boisvenue
Subject: RE: Request For Rail Information

Hello,
My answers are below, and please keep in mind it`s based on current operations and could change any time.
Pc

From: Yolanda Tang <YTang@patersongroup.ca>
Sent: Friday, June 9, 2023 11:11 AM
To: Paul Charbachi <Paul_Charbachi@viarail.ca>
Cc: Stephanie Boisvenue <SBoisvenue@patersongroup.ca>
Subject: Request For Rail Information

Good morning Paul,

Paterson is currently working on the noise study for the proposed development at 1346 Avenue Q, Ottawa, Ontario, in close proximity to the VIA's mainline track at Ottawa.
It is located at the rail line that connects the Alexandria and Ottawa Train Stations. I was wondering if you could fill in some information for me.

Rail Line: Alexandria - Ottawa Rail Corridor (Ottawa, Ontario)
Number of trains a day: 16 trains
Number of Engines: 2 engines
Type of Engine: P42 , Charger Siemens
Number of Cars: 6 to 8 cars , welded rail
Approximate Speed:100 MPH

Thanks for your time.

Best Regards
Yolanda

PATERSON GROUP
SOLUTION ORIENTED ENGINEERING

YOLANDA TANG, M.A.Sc.
JUNIOR PROJECT MANAGER

DIRECT: (613) 800-0148

9 AURIGA DRIVE
OTTAWA ON K2E 7T9

patersongroup.ca