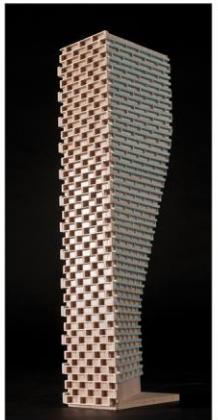


## ROADWAY TRAFFIC NOISE ASSESSMENT

1705 Carling Avenue  
Ottawa, Ontario

Report: GW20-043 - Traffic Noise



April 13, 2020

PREPARED FOR  
**Claridge Homes**  
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## EXECUTIVE SUMMARY

This report describes a detailed roadway traffic noise assessment performed for the proposed development located at 1705 Carling Avenue in Ottawa, Ontario. The development comprises two rectangular form buildings; a 9-storey retirement home and a 22-storey rentals building. The major sources of roadway traffic noise are Highway 417 and Carling Avenue. Carling Avenue is running along the south perimeter of the site while Highway 417 is situated farther running in the southeast direction to the development. The site is surrounded by low-rise residential and mid-rise commercial buildings. Figure 1 illustrates the site plan with the surrounding context.

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

The results of the current analysis indicate that noise levels will range between 70 and 75 dBA at Plane of Window (POW) receptors during the daytime period (07:00-23:00) and 62 and 67 dBA during the nighttime period (23:00-07:00). The highest noise levels occur along the south façade, which is nearest and most exposed to Carling Avenue and Highway 417. Building components with a higher Sound Transmission Class (STC) rating will be required where exterior noise levels exceed 65 dBA, as indicated in Figures 11 and 12. A detailed review of the window and wall assemblies should be performed by a qualified engineer with expertise in acoustics during the detailed design stage of the building when more information on the building assemblies is available.

The results of the calculations also indicate that the development will require central air conditioning, or a similar ventilation system, which will allow occupants to keep windows closed and maintain a comfortable living environment. Warning clauses will also be required in all Lease, Purchase and Sale Agreements, as summarized in Section 6.



The noise levels at the backyard and the retirement home terrace do not exceed the 55 dBA criterion; therefore, no mitigation measures are required.

With regard to stationary noise impacts, a stationary noise study will be performed for the site during the detailed design once mechanical plans for the proposed building become available. This study would assess impacts of stationary noise from rooftop mechanical units serving the proposed building on surrounding noise-sensitive areas. This study will include recommendations for any noise control measures that may be necessary to ensure noise levels fall below ENCG limits. Noise impacts can generally be minimized by judicious selection and placement of the equipment. Where necessary noise screens and silencers can be placed into the design.



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**Appendix A – STAMSON 5.04 Input and Output Data and Supporting Information**



## 1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by Claridge Homes to undertake a roadway traffic noise assessment for the proposed residential development located at 1705 Carling Avenue in Ottawa, Ontario. This report summarizes the methodology, results and recommendations related to the assessment of exterior noise levels generated by local roadway traffic.

This assessment is based on theoretical noise calculation methods conforming to the City of Ottawa<sup>1</sup> and the Ministry of the Environment, Conservation and Parks (MECP)<sup>2</sup> guidelines. Noise calculations were based on architectural drawings prepared by NEUF Architect(e)s, dated March 2020, with future traffic volumes corresponding to the City of Ottawa's Official Plan (OP) roadway classifications.

## 2. TERMS OF REFERENCE

The study site is located at 1705 Carling Avenue in Ottawa and is situated on a parcel of land bordered by Carling Avenue to the south and Tillbury Avenue to the north. The development features a 9-storey retirement home building and a 22-storey rentals building situated on the west and east side of the development site, respectively. The buildings are separated by an internal driveway. Two separate outdoor amenity gardens for both the retirement home and rentals lie at the rear yard of the development to the north of the buildings. Both buildings feature indoor amenity areas on the ground floor including a pool, while the 22-storey building has also a rent space and 2 one-bedroom rental units at the southeast corner of the building. The remainder of the 22-storey building comprises residential occupancy. The 9-storey retirement home sets back at the west side of Level 2, at the north side of Level 5, and at the south side of Level 7 to accommodate terraces. The 22-storey building sets back at the east and south sides of Level 7.

Balconies and terraces with a minimum depth of 4 metres are considered as outdoor living areas (OLA) as mentioned in the ENCG. Provided that, the terrace areas limited with railings with less than 4 metres depth aren't included in the study and only the 5<sup>th</sup>-floor north-facing terrace of the retirement home and the backyard amenity space of the development are considered as outdoor living areas.

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<sup>1</sup> City of Ottawa Environmental Noise Control Guidelines, January 2016

<sup>2</sup> Ontario Ministry of the Environment and Climate Change – Environmental Noise Guidelines, Publication NPC-300, Queens Printer for Ontario, Toronto, 2013

The major sources of roadway traffic noise are Highway 417 and Carling Avenue. Carling Avenue is running along the south perimeter of the site while Highway 417 is situated farther to the southeast. The site is surrounded by low-rise and mid-rise residential and commercial buildings. Figure 1 illustrates the site plan with the surrounding context.

### **3. OBJECTIVES**

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

### **4. METHODOLOGY**

#### **4.1 Background**

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

#### **4.2 Roadway Traffic Noise**

##### **4.2.1 Criteria for Roadway Traffic Noise**

For vehicular traffic, the equivalent sound energy level,  $L_{eq}$ , provides a measure of the time-varying noise levels, which is well correlated with the annoyance of sound. It is defined as the continuous sound level, which has the same energy as a time-varying noise level over a period of time. For roadways and LRT, the  $L_{eq}$  is commonly calculated on the basis of a 16-hour ( $L_{eq16}$ ) daytime (07:00-23:00) / 8-hour ( $L_{eq8}$ ) nighttime (23:00-07:00) split to assess its impact on residential buildings. The City of Ottawa's Environmental Noise

Control Guidelines (ENCG) specifies that the recommended indoor noise limit range (that is relevant to this study) is 45 and 40 dBA for living rooms and sleeping quarters respectively for roadway, as listed in Table 1. Based on Gradient Wind's experience, more comfortable indoor noise levels should be targeted, towards 42 and 37, respectively, to control peak noise and deficiencies in building envelope construction.

**TABLE 1: INDOOR SOUND LEVEL CRITERIA**

Type of Space	Time Period	Leq (dBA)
General offices, reception areas, retail stores, etc.	07:00 – 23:00	50
<b>Living/dining/den areas of residences</b> , hospitals, schools, nursing/ <b>retirement homes</b> , day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, etc.	07:00 – 23:00	45
Sleeping quarters of hotels/motels	23:00 – 07:00	45
<b>Sleeping quarters of residences</b> , hospitals, nursing/ <b>retirement homes</b> , etc.	23:00 – 07:00	40

Predicted noise levels at the plane of window (POW) dictate the action required to achieve the recommended sound levels. An open window is considered to provide a 10 dBA reduction in noise, while a standard closed window is capable of providing a minimum 20 dBA noise reduction<sup>3</sup>. A closed window due to a ventilation requirement will bring noise levels down to achieve an acceptable indoor environment<sup>4</sup>. Therefore, where noise levels exceed 55 dBA daytime and 50 dBA nighttime, the ventilation for the building should consider the need for having windows and doors closed, which triggers the need for forced air heating with provision for central air conditioning. Where noise levels exceed 65 dBA daytime and 60 dBA nighttime, air conditioning will be required and building components will require higher levels of sound attenuation<sup>5</sup>.

The sound level criterion for outdoor living areas is 55 dBA, which applies during the daytime (07:00 to 23:00). When noise levels exceed 55 dBA, mitigation must be provided to reduce noise levels where

<sup>3</sup> Burberry, P.B. (2014). Mitchell's Environment and Services. Routledge, Page 125

<sup>4</sup> MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.8

<sup>5</sup> MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.1.3

technically and administratively feasible to acceptable levels at or below the criterion. If these measures are not provided, prospective purchasers or tenants should be informed of potential noise problems by a warning clause.

#### 4.2.2 Theoretical Roadway Noise Predictions

Noise predictions were performed with the aid of the Ministry of the Environment, Conservation and Parks' (MECP) computerized noise assessment program, STAMSON 5.04, for road analysis. Appendix A includes the STAMSON 5.04 input and output data.

Roadway traffic noise calculations were performed by treating each roadway segment as separate line sources of noise. In addition to the traffic volumes summarized in Table 2, theoretical noise predictions were based on the following parameters:

- Truck traffic on all roadways was taken to comprise 5% heavy trucks and 7% medium trucks, as per ENCG requirements for noise level predictions.
- The day/night split for all roads was taken to be 92% / 8%, respectively.
- Ground surfaces were taken to be reflective due to the presence of hard (paved) ground.
- Topography was assumed to be a flat/gentle slope surrounding the study building. Highway 417 is elevated approximately 6 m above local grade.
- As Highway 417 is being expanded from 6 lanes to 8 lanes, the Average Annual Daily Traffic (AADT) volumes were calculated for an 8-lane highway based on the data in Table B1 of the ENCG.
- A total of eight (8) receptor locations were chosen around the study site; 6 of them at the facades of the buildings as Plane of Window (POW) receptors and 2 are at the outdoors (retirement home 5<sup>th</sup>-floor terrace and outdoor amenity space) as Outdoor Living Area (OLA) receptors.
- POW receptor heights were taken to be at the highest floors' windows, 27.5 m above grade at the centre of the window for the retirement home and 66.5 m at the centre of the window for the rentals building (height to the floor slab + ~1.5 metres). OLA receptor height was taken at 1.5 m above grade.
- The receptor distances to roadway traffic and exposure angles are illustrated in Figures 3, 4, 5, 6, 7, 8, 9, and 10.



### 4.2.3 Roadway Traffic Volumes

The ENCG dictates that noise calculations should consider future sound levels based on a roadway's classification at the mature state of development. Therefore, traffic volumes are based on the roadway classifications outlined in the City of Ottawa's Official Plan (OP) and Transportation Master Plan<sup>6</sup> which provide additional details on future roadway expansions. Average Annual Daily Traffic (AADT) volumes are then based on data in Table B1 of the ENCG for each roadway classification. Table 2 (below) summarizes the AADT values used for each roadway included in this assessment.

**TABLE 2: ROADWAY TRAFFIC DATA**

Segment	Roadway Traffic Data	Speed Limit (km/h)	Traffic Volumes
Highway 417	8 Lane Freeway	100	<b>146,664</b>
Carling Avenue	6-Lane Urban Arterial-Divided (6-UAD)	60	<b>50,000</b>

### 4.3 Indoor Noise Calculations

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

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<sup>6</sup> City of Ottawa Transportation Master Plan, November 2013

As per Section 4.2, when daytime noise levels from road sources at the plane of the window exceed 65 dBA, calculations must be performed to evaluate the sound transmission quality of the building components to ensure acceptable indoor noise levels are achieved. The calculation procedure<sup>7</sup> considers:

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

Based on published research<sup>8</sup>, exterior walls possess specific sound attenuation characteristics that are used as a basis for calculating the required STC ratings of windows in the same partition. Due to the limited information available at the time of the study, detailed floor layouts have not been finalized; therefore, detailed STC calculations could not be performed at this time. As a guideline, the anticipated STC requirements for windows have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels).

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<sup>7</sup> Building Practice Note: Controlling Sound Transmission into Buildings by J.D. Quirt, National Research Council of Canada, September 1985

<sup>8</sup> CMHC, Road & Rail Noise: Effects on Housing

## 5. ROADWAY TRAFFIC NOISE RESULTS AND DISCUSSION

### 5.1 Roadway Traffic Noise Levels

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

**TABLE 3: EXTERIOR NOISE LEVELS DUE TO ROAD TRAFFIC**

Receptor Number	Receptor Height Above Grade (m)	Receptor Location	STAMSON 5.04 Noise Level (dBA)	
			Day	Night
1	27.5	POW West Façade – 9-Storey Retirement Home	70	62
2	27.5	POW South Façade – 9-Storey Retirement Home	75	67
3	27.5	POW East Façade – 9-Storey Retirement Home	72	64
4	66.5	POW West Façade – 22-Storey Rentals Building	70	63
5	66.5	POW South Façade – 22-Storey Rentals Building	75	67
6	66.5	POW East Façade – 22-Storey Rentals Building	72	64
7	1.5	OLA North Backyard Amenity Space	52	N/A
8	15.5	OLA North 5 <sup>th</sup> -floor Retirement Home Terrace	49	N/A

The results of the current analysis indicate that noise levels will range between 70 and 75 dBA at Plane of Window (POW) receptors during the daytime period (07:00-23:00) and 62 and 67 dBA during the nighttime period (23:00-07:00).

The highest noise levels occur along the south façade, which is nearest and most exposed to Carling Avenue and Highway 417. The noise levels at the backyard and the retirement home terrace do not exceed the 55 dBA criterion; therefore, no mitigation measures are required.



## 5.2 Noise Control Measures

The noise levels predicted due to roadway traffic exceed the criteria listed in Section 4.2 for building components. As discussed in Section 4.3, the anticipated STC requirements for windows and walls have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels). As per the City of Ottawa requirements, detailed STC calculations will be required to be completed prior to building permit application. The STC requirements for the windows are summarized below for various units within the development (see Figures 11 and 12):

- **Bedroom Windows**
  - (i) Bedroom windows facing south will require a minimum STC of 35
  - (ii) Bedroom windows facing east and west will require a minimum STC of 32
  - (iii) All other bedroom windows are to satisfy Ontario Building Code (OBC 2012) requirements
- **Living Room Windows**
  - (i) Living room windows facing south, east, and west will require a minimum STC of 30
  - (ii) All other living room windows are to satisfy Ontario Building Code (OBC 2012) requirements
- **Exterior Walls**
  - (i) Exterior wall components on the south, east and west façades will require a minimum STC of 45, which will be achieved with brick cladding or an acoustical equivalent according to NRC test data<sup>9</sup>

The STC requirements apply to windows, doors, spandrel panels and curtainwall elements. Exterior wall components on these façades are recommended to have a minimum STC of 45, where punched window and wall system is used. A review of window supplier literature indicates that the specified STC ratings can be achieved by a variety of window systems that have a combination of glass thickness and inter-pane spacing. It is the responsibility of the manufacturer to ensure that the specified window achieves the required STC. This can only be assured by using window configurations that have been certified by laboratory testing. The requirements for STC ratings assume that the remaining components of the

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<sup>9</sup> J.S. Bradley and J.A. Birta. Laboratory Measurements of the Sound Insulation of Building Façade Elements, National Research Council October 2000.

building are constructed and installed according to the minimum standards of the Ontario Building Code. The specified STC requirements also apply to swinging and/or sliding patio doors.

The results of the calculations also indicate that the development will require central air conditioning, which will allow occupants to keep windows closed and maintain a comfortable working environment. In addition to ventilation requirements, warning clauses will also be required in all Lease, Purchase and Sale Agreements, as summarized in Section 6.

## **6. CONCLUSIONS AND RECOMMENDATIONS**

The results of the current analysis indicate that noise levels will range between 70 and 75 dBA at Plane of Window (POW) receptors during the daytime period (07:00-23:00) and 62 and 67 dBA during the nighttime period (23:00-07:00). The highest noise levels occur along the south façade, which is nearest and most exposed to Carling Avenue and Highway 417.

Building components with a higher Sound Transmission Class (STC) rating will be required where exterior noise levels exceed 65 dBA, as indicated in Figures 11 and 12. A detailed review of the window and wall assemblies should be performed by a qualified engineer with expertise in acoustics during the detailed design stage of the building when more information on the building assemblies is available.

The results of the calculations also indicate that the development will require central air conditioning, or a similar ventilation system, which will allow occupants to keep windows closed and maintain a comfortable living environment. Warning clauses will also be required in all Lease, Purchase and Sale Agreements:

*"Purchasers/tenants are advised that sound levels due to increasing road and transitway traffic will interfere with outdoor activities as the sound levels exceed the sound level limits of the City and the Ministry of the Environment."*

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To help address the need for sound attenuation this development includes:

- Multi-pane glazing with STC 35 for south bedroom windows
- Multi-pane glazing with STC 32 for east and west bedroom windows
- Multi-pane glazing with STC 30 for south, east, and west living rooms
- A minimum sound transmission class (STC) rating of 45 for the south, east and west exterior walls

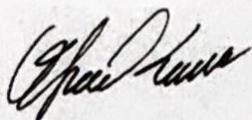
To ensure that provincial sound level limits are not exceeded it is important to maintain these sound attenuation features.

This dwelling unit has been supplied with a central air conditioning system and other measures 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 City and the Ministry of the Environment."

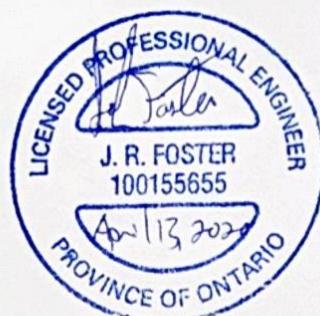
This concludes our traffic noise assessment and report. If you have any questions or wish to discuss our findings, please advise us. In the interim, we thank you for the opportunity to be of service.

Sincerely,

**Gradient Wind Engineering Inc.**

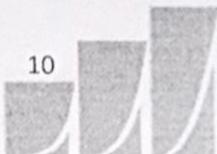


Efser Kara, MSc, LEED GA  
Acoustic Scientist



Joshua Foster, P.Eng.  
Principal

Gradient Wind File #20-043-Traffic Noise





















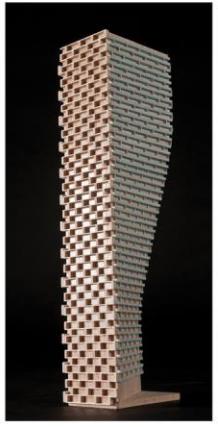
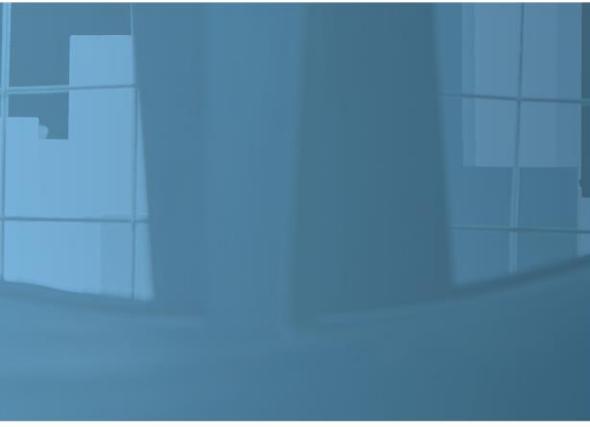








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## APPENDIX A

### STAMSON INPUT-OUTPUT DATA

**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:11:21**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r01.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: Trans Canad1 (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: Trans Canad1 (day/night)

-----  
Angle1 Angle2 : 31.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 394.00 / 394.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : 31.00 deg Angle2 : 90.00 deg  
Barrier height : 9.00 m  
Barrier receiver distance : 53.00 / 53.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00



Road data, segment # 2: Trans Canad2 (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: Trans Canad2 (day/night)

---

Angle1 Angle2 : 31.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 407.00 / 407.00 m  
 Receiver height : 27.50 / 27.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : 31.00 deg Angle2 : 90.00 deg  
 Barrier height : 9.00 m  
 Barrier receiver distance : 53.00 / 53.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00



Road data, segment # 3: Carling Ave1 (day/night)

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Carling Ave1 (day/night)

Angle1 Angle2 : 10.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 28.00 / 28.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Road data, segment # 4: Carling Ave2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Carling Ave2 (day/night)

---

Angle1 Angle2 : 10.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 44.00 / 44.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00



Results segment # 1: Trans Canad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	27.50 !	24.81 !	24.81

---

ROAD (0.00 + 62.36 + 0.00) = 62.36 dBA

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

---

31	90	0.00	81.40	0.00	-14.19	-4.84	0.00	0.00	-0.05	62.31*
31	90	0.00	81.40	0.00	-14.19	-4.84	0.00	0.00	0.00	62.36

---

\* Bright Zone !

Segment Leq : 62.36 dBA



Results segment # 2: Trans Canad2 (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	27.50 !	24.89 !	24.89

ROAD (0.00 + 62.22 + 0.00) = 62.22 dBA

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

31	90	0.00	81.40	0.00	-14.34	-4.84	0.00	0.00	-0.05	62.17*
31	90	0.00	81.40	0.00	-14.34	-4.84	0.00	0.00	0.00	62.22

\* Bright Zone !

Segment Leq : 62.22 dBA

Results segment # 3: Carling Ave1 (day)

Source height = 1.50 m

ROAD (0.00 + 65.98 + 0.00) = 65.98 dBA

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

10	90	0.00	72.21	0.00	-2.71	-3.52	0.00	0.00	0.00	65.98
----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 65.98 dBA

Results segment # 4: Carling Ave2 (day)

Source height = 1.50 m

ROAD (0.00 + 64.02 + 0.00) = 64.02 dBA

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

---

10	90	0.00	72.21	0.00	-4.67	-3.52	0.00	0.00	0.00	64.02
----	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 64.02 dBA

Total Leq All Segments: 69.95 dBA

Results segment # 1: Trans Canad1 (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of

Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)

---

1.49 !	27.50 !	24.81 !	24.81
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---

ROAD (0.00 + 54.76 + 0.00) = 54.76 dBA

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

---

31	90	0.00	73.80	0.00	-14.19	-4.84	0.00	0.00	-0.05	54.71*
31	90	0.00	73.80	0.00	-14.19	-4.84	0.00	0.00	0.00	54.76

---

\* Bright Zone !

Segment Leq : 54.76 dBA



Results segment # 2: Trans Canad2 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	27.50 !	24.89 !	24.89

---

ROAD (0.00 + 54.62 + 0.00) = 54.62 dBA

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

---

31	90	0.00	73.80	0.00	-14.34	-4.84	0.00	0.00	-0.05	54.57*
31	90	0.00	73.80	0.00	-14.34	-4.84	0.00	0.00	0.00	54.62

---

\* Bright Zone !

Segment Leq : 54.62 dBA

Results segment # 3: Carling Ave1 (night)

---

Source height = 1.50 m

ROAD (0.00 + 58.39 + 0.00) = 58.39 dBA

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

---

10	90	0.00	64.62	0.00	-2.71	-3.52	0.00	0.00	0.00	58.39
----	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 58.39 dBA



Results segment # 4: Carling Ave2 (night)

---

Source height = 1.50 m

ROAD (0.00 + 56.42 + 0.00) = 56.42 dBA

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

---

10	90	0.00	64.62	0.00	-4.67	-3.52	0.00	0.00	0.00	56.42
----	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 56.42 dBA

Total Leq All Segments: 62.35 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 69.95  
(NIGHT): 62.35



**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:16:51**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r02.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: Trans Canad1 (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: Trans Canad1 (day/night)

-----  
Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 384.00 / 384.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
Barrier height : 9.00 m  
Barrier receiver distance : 45.00 / 45.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00



Road data, segment # 2: Trans Canad2 (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: Trans Canad2 (day/night)

---

Angle1 Angle2 : -90.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 397.00 / 397.00 m  
 Receiver height : 27.50 / 27.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
 Barrier height : 9.00 m  
 Barrier receiver distance : 45.00 / 45.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 3: Carling Ave1 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Carling Ave1 (day/night)

---

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 19.00 / 19.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 4: Carling Ave2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Carling Ave2 (day/night)

---

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 35.00 / 35.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Trans Canad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	27.50 !	25.16 !	25.16

---

ROAD (0.00 + 67.31 + 0.00) = 67.31 dBA

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

---

-90	90	0.00	81.40	0.00	-14.08	0.00	0.00	0.00	-0.03	67.29*
-90	90	0.00	81.40	0.00	-14.08	0.00	0.00	0.00	0.00	67.31

---

\* Bright Zone !

Segment Leq : 67.31 dBA



Results segment # 2: Trans Canad2 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50	27.50	25.23	25.23

---

ROAD (0.00 + 67.17 + 0.00) = 67.17 dBA

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

---

-90	90	0.00	81.40	0.00	-14.23	0.00	0.00	0.00	-0.03	67.14*
-90	90	0.00	81.40	0.00	-14.23	0.00	0.00	0.00	0.00	67.17

---

\* Bright Zone !

Segment Leq : 67.17 dBA

Results segment # 3: Carling Ave1 (day)

---

Source height = 1.50 m

ROAD (0.00 + 71.19 + 0.00) = 71.19 dBA

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

---

-90	90	0.00	72.21	0.00	-1.03	0.00	0.00	0.00	0.00	71.19
-----	----	------	-------	------	-------	------	------	------	------	-------

---

Segment Leq : 71.19 dBA

Results segment # 4: Carling Ave2 (day)

Source height = 1.50 m

ROAD (0.00 + 68.53 + 0.00) = 68.53 dBA

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

---

-90	90	0.00	72.21	0.00	-3.68	0.00	0.00	0.00	68.53
-----	----	------	-------	------	-------	------	------	------	-------

---

Segment Leq : 68.53 dBA

Total Leq All Segments: 74.90 dBA

Results segment # 1: Trans Canad1 (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of  
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)

---

1.49 !	27.50 !	25.16 !	25.16
--------	---------	---------	-------

---

ROAD (0.00 + 59.72 + 0.00) = 59.72 dBA

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

---

-90	90	0.00	73.80	0.00	-14.08	0.00	0.00	0.00	-0.03	59.69*
-90	90	0.00	73.80	0.00	-14.08	0.00	0.00	0.00	0.00	59.72

---

\* Bright Zone !

Segment Leq : 59.72 dBA

Results segment # 2: Trans Canad2 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	27.50 !	25.23 !	25.23

---

ROAD (0.00 + 59.57 + 0.00) = 59.57 dBA

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

---

-90	90	0.00	73.80	0.00	-14.23	0.00	0.00	0.00	-0.03	59.55*
-90	90	0.00	73.80	0.00	-14.23	0.00	0.00	0.00	0.00	59.57

---

\* Bright Zone !

Segment Leq : 59.57 dBA

Results segment # 3: Carling Ave1 (night)

---

Source height = 1.50 m

ROAD (0.00 + 63.59 + 0.00) = 63.59 dBA

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

---

-90	90	0.00	64.62	0.00	-1.03	0.00	0.00	0.00	0.00	63.59
-----	----	------	-------	------	-------	------	------	------	------	-------

---

Segment Leq : 63.59 dBA

Results segment # 4: Carling Ave2 (night)

---

Source height = 1.50 m

ROAD (0.00 + 60.94 + 0.00) = 60.94 dBA

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

---

-90	90	0.00	64.62	0.00	-3.68	0.00	0.00	0.00	60.94
-----	----	------	-------	------	-------	------	------	------	-------

---

Segment Leq : 60.94 dBA

Total Leq All Segments: 67.30 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 74.90  
(NIGHT): 67.30

**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:18:49**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r03.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: Trans Canad1 (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: Trans Canad1 (day/night)

-----  
Angle1 Angle2 : -90.00 deg 31.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 385.00 / 385.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -90.00 deg Angle2 : 31.00 deg  
Barrier height : 9.00 m  
Barrier receiver distance : 52.00 / 52.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00

Road data, segment # 2: Trans Canad2 (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: Trans Canad2 (day/night)

---

Angle1 Angle2 : -90.00 deg 31.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 399.00 / 399.00 m  
 Receiver height : 27.50 / 27.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -90.00 deg Angle2 : 31.00 deg  
 Barrier height : 9.00 m  
 Barrier receiver distance : 52.00 / 52.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00



Road data, segment # 3: Carling Ave1 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Carling Ave1 (day/night)

---

Angle1 Angle2 : -90.00 deg 10.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 26.00 / 26.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 4: Carling Ave2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Carling Ave2 (day/night)

---

Angle1 Angle2 : -90.00 deg 10.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 42.00 / 42.00 m  
Receiver height : 27.50 / 27.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Trans Canad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	27.50 !	24.80 !	24.80

---

ROAD (0.00 + 65.58 + 0.00) = 65.58 dBA

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

---

-90	31	0.00	81.40	0.00	-14.09	-1.72	0.00	0.00	-0.02	65.56*
-90	31	0.00	81.40	0.00	-14.09	-1.72	0.00	0.00	0.00	65.58

---

\* Bright Zone !

Segment Leq : 65.58 dBA

Results segment # 2: Trans Canad2 (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	27.50 !	24.89 !	24.89

ROAD (0.00 + 65.42 + 0.00) = 65.42 dBA

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

-90	31	0.00	81.40	0.00	-14.25	-1.72	0.00	0.00	-0.02	65.40*
-90	31	0.00	81.40	0.00	-14.25	-1.72	0.00	0.00	0.00	65.42

\* Bright Zone !

Segment Leq : 65.42 dBA

Results segment # 3: Carling Ave1 (day)

Source height = 1.50 m

ROAD (0.00 + 67.27 + 0.00) = 67.27 dBA

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

-90	10	0.00	72.21	0.00	-2.39	-2.55	0.00	0.00	0.00	67.27
-----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 67.27 dBA

Results segment # 4: Carling Ave2 (day)

Source height = 1.50 m

ROAD (0.00 + 65.19 + 0.00) = 65.19 dBA

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

---

-90	10	0.00	72.21	0.00	-4.47	-2.55	0.00	0.00	0.00	65.19
-----	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 65.19 dBA

Total Leq All Segments: 71.97 dBA

Results segment # 1: Trans Canad1 (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of  
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)

---

1.49 !	27.50 !	24.80 !	24.80
--------	---------	---------	-------

---

ROAD (0.00 + 57.98 + 0.00) = 57.98 dBA

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

---

-90	31	0.00	73.80	0.00	-14.09	-1.72	0.00	0.00	-0.02	57.96*
-90	31	0.00	73.80	0.00	-14.09	-1.72	0.00	0.00	0.00	57.98

---

\* Bright Zone !

Segment Leq : 57.98 dBA

Results segment # 2: Trans Canad2 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	27.50 !	24.89 !	24.89

---

ROAD (0.00 + 57.83 + 0.00) = 57.83 dBA

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

---

-90	31	0.00	73.80	0.00	-14.25	-1.72	0.00	0.00	-0.02	57.80*
-90	31	0.00	73.80	0.00	-14.25	-1.72	0.00	0.00	0.00	57.83

---

\* Bright Zone !

Segment Leq : 57.83 dBA

Results segment # 3: Carling Ave1 (night)

---

Source height = 1.50 m

ROAD (0.00 + 59.68 + 0.00) = 59.68 dBA

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

---

-90	10	0.00	64.62	0.00	-2.39	-2.55	0.00	0.00	0.00	59.68
-----	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 59.68 dBA

Results segment # 4: Carling Ave2 (night)

---

Source height = 1.50 m

ROAD (0.00 + 57.59 + 0.00) = 57.59 dBA

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

---

-90	10	0.00	64.62	0.00	-4.47	-2.55	0.00	0.00	0.00	57.59
-----	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 57.59 dBA

Total Leq All Segments: 64.37 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.97  
(NIGHT): 64.37

**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:21:59**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r04.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: CarlingAve1 (day/night)

-----  
Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
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: CarlingAve1 (day/night)

-----  
Angle1 Angle2 : 9.00 deg 67.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 26.00 / 26.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: CarlingAve2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
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: CarlingAve2 (day/night)

---

Angle1 Angle2 : 9.00 deg 67.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 42.00 / 42.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 3: CarlingAve11 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 veh/TimePeriod \*  
 Posted speed limit : 60 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: CarlingAve11 (day/night)

---

Angle1 Angle2 : 67.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 26.00 / 26.00 m  
 Receiver height : 66.50 / 66.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : 67.00 deg Angle2 : 90.00 deg  
 Barrier height : 30.90 m  
 Barrier receiver distance : 18.00 / 18.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00



Road data, segment # 4: CarlingAve21 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 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): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: CarlingAve21 (day/night)

---

Angle1 Angle2 : 67.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 42.00 / 42.00 m  
 Receiver height : 66.50 / 66.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : 67.00 deg Angle2 : 90.00 deg  
 Barrier height : 30.90 m  
 Barrier receiver distance : 18.00 / 18.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 5: Trans Canad1 (day/night)

---

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

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

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

Data for Segment # 5: Trans Canad1 (day/night)

---

Angle1 Angle2 : 30.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 378.00 / 378.00 m  
 Receiver height : 66.50 / 66.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : 30.00 deg Angle2 : 90.00 deg  
 Barrier height : 9.00 m  
 Barrier receiver distance : 50.00 / 50.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 6: Trans Canad2 (day/night)

---

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

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

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

Data for Segment # 6: Trans Canad2 (day/night)

---

Angle1 Angle2 : 30.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 392.00 / 392.00 m  
 Receiver height : 66.50 / 66.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : 30.00 deg Angle2 : 90.00 deg  
 Barrier height : 9.00 m  
 Barrier receiver distance : 50.00 / 50.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Results segment # 1: CarlingAve1 (day)

---

Source height = 1.50 m

ROAD (0.00 + 64.91 + 0.00) = 64.91 dBA

Angle1 Angle2 Alpha RefL(eq) P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubL(eq)

---

9	67	0.00	72.21	0.00	-2.39	-4.92	0.00	0.00	0.00	64.91
---	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment L(eq) : 64.91 dBA

Results segment # 2: CarlingAve2 (day)

---

Source height = 1.50 m

ROAD (0.00 + 62.82 + 0.00) = 62.82 dBA

Angle1 Angle2 Alpha RefL(eq) P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubL(eq)

---

9	67	0.00	72.21	0.00	-4.47	-4.92	0.00	0.00	0.00	62.82
---	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment L(eq) : 62.82 dBA



Results segment # 3: CarlingAve11 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	66.50 !	21.50 !	21.50

---

ROAD (0.00 + 53.37 + 0.00) = 53.37 dBA

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

---

67	90	0.00	72.21	0.00	-2.39	-8.94	0.00	0.00	-7.52	53.37
----	----	------	-------	------	-------	-------	------	------	-------	-------

---

Segment Leq : 53.37 dBA

Results segment # 4: CarlingAve21 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	66.50 !	38.64 !	38.64

---

ROAD (0.00 + 63.32 + 0.00) = 63.32 dBA

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

---

67	90	0.00	76.72	0.00	-4.47	-8.94	0.00	0.00	-0.76	62.55*
67	90	0.00	76.72	0.00	-4.47	-8.94	0.00	0.00	0.00	63.32

---

\* Bright Zone !

Segment Leq : 63.32 dBA

Results segment # 5: Trans Canad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.50 !	66.50 !	58.70 !	58.70

---

ROAD (0.00 + 62.61 + 0.00) = 62.61 dBA

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

---

30	90	0.00	81.40	0.00	-14.01	-4.77	0.00	0.00	-0.01	62.61*
30	90	0.00	81.40	0.00	-14.01	-4.77	0.00	0.00	0.00	62.61

---

\* Bright Zone !

Segment Leq : 62.61 dBA

Results segment # 6: Trans Canad2 (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	66.50 !	58.97 !	58.97

ROAD (0.00 + 62.45 + 0.00) = 62.45 dBA

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

30	90	0.00	81.40	0.00	-14.17	-4.77	0.00	0.00	-0.01	62.45*
30	90	0.00	81.40	0.00	-14.17	-4.77	0.00	0.00	0.00	62.45

\* Bright Zone !

Segment Leq : 62.45 dBA

Total Leq All Segments: 70.40 dBA

Results segment # 1: CarlingAve1 (night)

Source height = 1.50 m

ROAD (0.00 + 57.31 + 0.00) = 57.31 dBA

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

9	67	0.00	64.62	0.00	-2.39	-4.92	0.00	0.00	0.00	57.31
---	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 57.31 dBA

Results segment # 2: CarlingAve2 (night)

---

Source height = 1.50 m

ROAD (0.00 + 55.23 + 0.00) = 55.23 dBA

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

---

9	67	0.00	64.62	0.00	-4.47	-4.92	0.00	0.00	0.00	55.23
---	----	------	-------	------	-------	-------	------	------	------	-------

---

Segment Leq : 55.23 dBA

Results segment # 3: CarlingAve11 (night)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source ! Receiver ! Barrier ! Elevation of  
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)

---

1.50 !	66.50 !	21.50 !	21.50
--------	---------	---------	-------

ROAD (0.00 + 45.77 + 0.00) = 45.77 dBA

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

---

67	90	0.00	64.62	0.00	-2.39	-8.94	0.00	0.00	-7.52	45.77
----	----	------	-------	------	-------	-------	------	------	-------	-------

---

Segment Leq : 45.77 dBA

Results segment # 4: CarlingAve21 (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	66.50 !	38.64 !	38.64

ROAD (0.00 + 55.72 + 0.00) = 55.72 dBA

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

67	90	0.00	69.13	0.00	-4.47	-8.94	0.00	0.00	-0.76	54.96*
67	90	0.00	69.13	0.00	-4.47	-8.94	0.00	0.00	0.00	55.72

\* Bright Zone !

Segment Leq : 55.72 dBA

Results segment # 5: Trans Canad1 (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	66.50 !	58.70 !	58.70

ROAD (0.00 + 55.01 + 0.00) = 55.01 dBA

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

30	90	0.00	73.80	0.00	-14.01	-4.77	0.00	0.00	-0.01	55.01*
30	90	0.00	73.80	0.00	-14.01	-4.77	0.00	0.00	0.00	55.01

\* Bright Zone !

Segment Leq : 55.01 dBA

Results segment # 6: Trans Canad2 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	66.50 !	58.97 !	58.97

---

ROAD (0.00 + 54.86 + 0.00) = 54.86 dBA

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

---

30	90	0.00	73.80	0.00	-14.17	-4.77	0.00	0.00	-0.01	54.85*
30	90	0.00	73.80	0.00	-14.17	-4.77	0.00	0.00	0.00	54.86

---

\* Bright Zone !

Segment Leq : 54.86 dBA

Total Leq All Segments: 62.80 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 70.40  
(NIGHT): 62.80



**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:24:35**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r05.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: Trans Canad1 (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: Trans Canad1 (day/night)

-----  
Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 369.00 / 369.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
Barrier height : 9.00 m  
Barrier receiver distance : 45.00 / 45.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00

Road data, segment # 2: Trans Canad2 (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: Trans Canad2 (day/night)

---

Angle1 Angle2 : -90.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 383.00 / 383.00 m  
 Receiver height : 66.50 / 66.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
 Barrier height : 9.00 m  
 Barrier receiver distance : 45.00 / 45.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 3: Carling Ave1 (day/night)

-----  
Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Carling Ave1 (day/night)

-----  
Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 19.00 / 19.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 4: Carling Ave2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Carling Ave2 (day/night)

---

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 35.00 / 35.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Trans Canad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	66.50 !	59.30 !	59.30

---

ROAD (0.00 + 67.49 + 0.00) = 67.49 dBA

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

---

-90	90	0.00	81.40	0.00	-13.91	0.00	0.00	0.00	-0.00	67.48*
-90	90	0.00	81.40	0.00	-13.91	0.00	0.00	0.00	0.00	67.49

---

\* Bright Zone !

Segment Leq : 67.49 dBA



Results segment # 2: Trans Canad2 (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	66.50 !	59.57 !	59.57

ROAD (0.00 + 67.33 + 0.00) = 67.33 dBA

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

-90	90	0.00	81.40	0.00	-14.07	0.00	0.00	0.00	-0.00	67.32*
-90	90	0.00	81.40	0.00	-14.07	0.00	0.00	0.00	0.00	67.33

\* Bright Zone !

Segment Leq : 67.33 dBA

Results segment # 3: Carling Ave1 (day)

Source height = 1.50 m

ROAD (0.00 + 71.19 + 0.00) = 71.19 dBA

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

-90	90	0.00	72.21	0.00	-1.03	0.00	0.00	0.00	0.00	71.19
-----	----	------	-------	------	-------	------	------	------	------	-------

Segment Leq : 71.19 dBA

Results segment # 4: Carling Ave2 (day)

Source height = 1.50 m

ROAD (0.00 + 68.53 + 0.00) = 68.53 dBA

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

---

-90	90	0.00	72.21	0.00	-3.68	0.00	0.00	0.00	68.53
-----	----	------	-------	------	-------	------	------	------	-------

---

Segment Leq : 68.53 dBA

Total Leq All Segments: 74.96 dBA

Results segment # 1: Trans Canad1 (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of  
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)

---

+-----+	+-----+	+-----+	
1.49 !	66.50 !	59.30 !	59.30

---

ROAD (0.00 + 59.89 + 0.00) = 59.89 dBA

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

---

-90	90	0.00	73.80	0.00	-13.91	0.00	0.00	0.00	-0.00	59.89*
-90	90	0.00	73.80	0.00	-13.91	0.00	0.00	0.00	0.00	59.89

---

\* Bright Zone !

Segment Leq : 59.89 dBA

Results segment # 2: Trans Canad2 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	66.50 !	59.57 !	59.57

---

ROAD (0.00 + 59.73 + 0.00) = 59.73 dBA

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

---

-90	90	0.00	73.80	0.00	-14.07	0.00	0.00	0.00	-0.00	59.72*
-90	90	0.00	73.80	0.00	-14.07	0.00	0.00	0.00	0.00	59.73

---

\* Bright Zone !

Segment Leq : 59.73 dBA

Results segment # 3: Carling Ave1 (night)

---

Source height = 1.50 m

ROAD (0.00 + 63.59 + 0.00) = 63.59 dBA

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

---

-90	90	0.00	64.62	0.00	-1.03	0.00	0.00	0.00	0.00	63.59
-----	----	------	-------	------	-------	------	------	------	------	-------

---

Segment Leq : 63.59 dBA

Results segment # 4: Carling Ave2 (night)

---

Source height = 1.50 m

ROAD (0.00 + 60.94 + 0.00) = 60.94 dBA

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

---

-90	90	0.00	64.62	0.00	-3.68	0.00	0.00	0.00	60.94
-----	----	------	-------	------	-------	------	------	------	-------

---

Segment Leq : 60.94 dBA

Total Leq All Segments: 67.36 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 74.96  
(NIGHT): 67.36

**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:33:17**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r06.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: Trans Canad1 (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: Trans Canad1 (day/night)

-----  
Angle1 Angle2 : -90.00 deg 31.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 372.00 / 372.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -90.00 deg Angle2 : 31.00 deg  
Barrier height : 9.00 m  
Barrier receiver distance : 53.00 / 53.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00



Road data, segment # 2: Trans Canad2 (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: Trans Canad2 (day/night)

---

Angle1 Angle2 : -90.00 deg 31.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 385.00 / 385.00 m  
 Receiver height : 66.50 / 66.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -90.00 deg Angle2 : 31.00 deg  
 Barrier height : 9.00 m  
 Barrier receiver distance : 53.00 / 53.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 3: Carling Ave1 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Carling Ave1 (day/night)

---

Angle1 Angle2 : -90.00 deg 10.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 27.00 / 27.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 4: Carling Ave2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
Medium truck volume : 1610/140 veh/TimePeriod \*  
Heavy truck volume : 1150/100 veh/TimePeriod \*  
Posted speed limit : 60 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
Percentage of Annual Growth : 0.00  
Number of Years of Growth : 0.00  
Medium Truck % of Total Volume : 7.00  
Heavy Truck % of Total Volume : 5.00  
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Carling Ave2 (day/night)

---

Angle1 Angle2 : -90.00 deg 10.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 43.00 / 43.00 m  
Receiver height : 66.50 / 66.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Results segment # 1: Trans Canad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	66.50 !	58.09 !	58.09

---

ROAD (0.00 + 65.73 + 0.00) = 65.73 dBA

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

---

-90	31	0.00	81.40	0.00	-13.94	-1.72	0.00	0.00	-0.00	65.72*
-90	31	0.00	81.40	0.00	-13.94	-1.72	0.00	0.00	0.00	65.73

---

\* Bright Zone !

Segment Leq : 65.73 dBA



Results segment # 2: Trans Canad2 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	66.50 !	58.38 !	58.38

---

ROAD (0.00 + 65.58 + 0.00) = 65.58 dBA

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

---

-90	31	0.00	81.40	0.00	-14.09	-1.72	0.00	0.00	-0.00	65.58*
-90	31	0.00	81.40	0.00	-14.09	-1.72	0.00	0.00	0.00	65.58

---

\* Bright Zone !

Segment Leq : 65.58 dBA



Results segment # 3: Carling Ave1 (day)

---

Source height = 1.50 m

ROAD (0.00 + 67.11 + 0.00) = 67.11 dBA

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

---

-90	10	0.00	72.21	0.00	-2.55	-2.55	0.00	0.00	67.11
-----	----	------	-------	------	-------	-------	------	------	-------

---

Segment Leq : 67.11 dBA

Results segment # 4: Carling Ave2 (day)

---

Source height = 1.50 m

ROAD (0.00 + 65.09 + 0.00) = 65.09 dBA

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

---

-90	10	0.00	72.21	0.00	-4.57	-2.55	0.00	0.00	65.09
-----	----	------	-------	------	-------	-------	------	------	-------

---

Segment Leq : 65.09 dBA

Total Leq All Segments: 71.97 dBA



Results segment # 1: Trans Canad1 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	66.50 !	58.09 !	58.09

---

ROAD (0.00 + 58.13 + 0.00) = 58.13 dBA

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

---

-90	31	0.00	73.80	0.00	-13.94	-1.72	0.00	0.00	-0.00	58.13*
-90	31	0.00	73.80	0.00	-13.94	-1.72	0.00	0.00	0.00	58.13

---

\* Bright Zone !

Segment Leq : 58.13 dBA

Results segment # 2: Trans Canad2 (night)

Source height = 1.49 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.49 !	66.50 !	58.38 !	58.38

ROAD (0.00 + 57.98 + 0.00) = 57.98 dBA

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

-90	31	0.00	73.80	0.00	-14.09	-1.72	0.00	0.00	-0.00	57.98*
-90	31	0.00	73.80	0.00	-14.09	-1.72	0.00	0.00	0.00	57.98

\* Bright Zone !

Segment Leq : 57.98 dBA

Results segment # 3: Carling Ave1 (night)

Source height = 1.50 m

ROAD (0.00 + 59.51 + 0.00) = 59.51 dBA

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

-90	10	0.00	64.62	0.00	-2.55	-2.55	0.00	0.00	0.00	59.51
-----	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 59.51 dBA

Results segment # 4: Carling Ave2 (night)

---

Source height = 1.50 m

ROAD (0.00 + 57.49 + 0.00) = 57.49 dBA

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

---

-90	10	0.00	64.62	0.00	-4.57	-2.55	0.00	0.00	57.49
-----	----	------	-------	------	-------	-------	------	------	-------

---

Segment Leq : 57.49 dBA

Total Leq All Segments: 64.37 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.97  
(NIGHT): 64.37



**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:44:23**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r07.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: TransCanad1 (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: TransCanad1 (day/night)

-----  
Angle1 Angle2 : -39.00 deg -8.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 466.00 / 466.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -39.00 deg Angle2 : -8.00 deg  
Barrier height : 8.00 m  
Barrier receiver distance : 58.00 / 58.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00



Road data, segment # 2: TransCanad2 (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: TransCanad2 (day/night)

---

Angle1 Angle2 : -39.00 deg -8.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 479.00 / 479.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -39.00 deg Angle2 : -8.00 deg  
 Barrier height : 8.00 m  
 Barrier receiver distance : 58.00 / 58.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 3: TransCanad11 (day/night)

---

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

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

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

Data for Segment # 3: TransCanad11 (day/night)

---

Angle1 Angle2 : -8.00 deg 62.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 466.00 / 466.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -8.00 deg Angle2 : 62.00 deg  
 Barrier height : 30.90 m  
 Barrier receiver distance : 50.00 / 50.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00



Road data, segment # 4: TranCanad21 (day/night)

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

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

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

Data for Segment # 4: TranCanad21 (day/night)

-----  
Angle1 Angle2 : -8.00 deg 62.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 479.00 / 479.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -8.00 deg Angle2 : 62.00 deg  
Barrier height : 30.90 m  
Barrier receiver distance : 50.00 / 50.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00



Road data, segment # 5: CarlingAve1 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 veh/TimePeriod \*  
 Posted speed limit : 60 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 5: CarlingAve1 (day/night)

---

Angle1 Angle2 : -60.00 deg -29.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 117.00 / 117.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -60.00 deg Angle2 : -29.00 deg  
 Barrier height : 8.00 m  
 Barrier receiver distance : 58.00 / 58.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00



Road data, segment # 6: CarlingAve2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 veh/TimePeriod \*  
 Posted speed limit : 60 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 6: CarlingAve2 (day/night)

---

Angle1 Angle2 : -60.00 deg -29.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 133.00 / 133.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -60.00 deg Angle2 : -29.00 deg  
 Barrier height : 8.00 m  
 Barrier receiver distance : 58.00 / 58.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00



Road data, segment # 7: CarlingAve11 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 veh/TimePeriod \*  
 Posted speed limit : 60 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 7: CarlingAve11 (day/night)

---

Angle1 Angle2 : -29.00 deg 41.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 117.00 / 117.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -29.00 deg Angle2 : 41.00 deg  
 Barrier height : 30.90 m  
 Barrier receiver distance : 54.00 / 54.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 8: CarlingAve12 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 veh/TimePeriod \*  
 Posted speed limit : 60 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 8: CarlingAve12 (day/night)

---

Angle1 Angle2 : -29.00 deg 41.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 133.00 / 133.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -29.00 deg Angle2 : 41.00 deg  
 Barrier height : 30.90 m  
 Barrier receiver distance : 54.00 / 54.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Results segment # 1: TransCanad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	2.25 !	2.25

---

ROAD (0.00 + 46.37 + 0.00) = 46.37 dBA

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

---

-39	-8	0.00	81.40	0.00	-14.92	-7.64	0.00	0.00	-12.47	46.37
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 46.37 dBA

Results segment # 2: TransCanad2 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	2.23 !	2.23

---

ROAD (0.00 + 46.24 + 0.00) = 46.24 dBA

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

---

-39	-8	0.00	81.40	0.00	-15.04	-7.64	0.00	0.00	-12.48	46.24
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 46.24 dBA

Results segment # 3: TransCanad11 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	2.14 !	2.14

---

ROAD (0.00 + 42.37 + 0.00) = 42.37 dBA

Angle1 Angle2 Alpha RefL(eq) P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubL(eq)

---

-8	62	0.00	81.40	0.00	-14.92	-4.10	0.00	0.00	-20.00	42.37
----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 42.37 dBA

Results segment # 4: TranCanad21 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	2.13 !	2.13

---

ROAD (0.00 + 42.25 + 0.00) = 42.25 dBA

Angle1 Angle2 Alpha RefL(eq) P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubL(eq)

---

-8	62	0.00	81.40	0.00	-15.04	-4.10	0.00	0.00	-20.00	42.25
----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 42.25 dBA

Results segment # 5: CarlingAve1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	1.50 !	1.50

---

ROAD (0.00 + 41.03 + 0.00) = 41.03 dBA

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

---

-60	-29	0.00	72.21	0.00	-8.92	-7.64	0.00	0.00	-14.62	41.03
-----	-----	------	-------	------	-------	-------	------	------	--------	-------

---

Segment Leq : 41.03 dBA

Results segment # 6: CarlingAve2 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	1.50 !	1.50

---

ROAD (0.00 + 40.94 + 0.00) = 40.94 dBA

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

---

-60	-29	0.00	72.21	0.00	-9.48	-7.64	0.00	0.00	-14.16	40.94
-----	-----	------	-------	------	-------	-------	------	------	--------	-------

---

Segment Leq : 40.94 dBA



Results segment # 7: CarlingAve11 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	1.50 !	1.50

---

ROAD (0.00 + 39.19 + 0.00) = 39.19 dBA

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

---

-29	41	0.00	72.21	0.00	-8.92	-4.10	0.00	0.00	-20.00	39.19
-----	----	------	-------	------	-------	-------	------	------	--------	-------

---

Segment Leq : 39.19 dBA

Results segment # 8: CarlingAve12 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	1.50 !	1.50

---

ROAD (0.00 + 38.64 + 0.00) = 38.64 dBA

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

---

-29	41	0.00	72.21	0.00	-9.48	-4.10	0.00	0.00	-20.00	38.64
-----	----	------	-------	------	-------	-------	------	------	--------	-------

---

Segment Leq : 38.64 dBA

Total Leq All Segments: 52.05 dBA

Results segment # 1: TransCanad1 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.49 !	1.50 !	2.25 !	2.25

---

ROAD (0.00 + 38.77 + 0.00) = 38.77 dBA

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

---

-39	-8	0.00	73.80	0.00	-14.92	-7.64	0.00	0.00	-12.47	38.77
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 38.77 dBA

Results segment # 2: TransCanad2 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.49 !	1.50 !	2.23 !	2.23

---

ROAD (0.00 + 38.64 + 0.00) = 38.64 dBA

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

---

-39	-8	0.00	73.80	0.00	-15.04	-7.64	0.00	0.00	-12.48	38.64
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 38.64 dBA

Results segment # 3: TransCanad11 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.49 !	1.50 !	2.14 !	2.14

---

ROAD (0.00 + 34.77 + 0.00) = 34.77 dBA

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

---

-8	62	0.00	73.80	0.00	-14.92	-4.10	0.00	0.00	-20.00	34.77
----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 34.77 dBA

Results segment # 4: TranCanad21 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.49 !	1.50 !	2.13 !	2.13

---

ROAD (0.00 + 34.65 + 0.00) = 34.65 dBA

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

---

-8	62	0.00	73.80	0.00	-15.04	-4.10	0.00	0.00	-20.00	34.65
----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 34.65 dBA

Results segment # 5: CarlingAve1 (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	1.50 !	1.50

ROAD (0.00 + 33.44 + 0.00) = 33.44 dBA

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

-60	-29	0.00	64.62	0.00	-8.92	-7.64	0.00	0.00	-14.62	33.44
-----	-----	------	-------	------	-------	-------	------	------	--------	-------

Segment Leq : 33.44 dBA

Results segment # 6: CarlingAve2 (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	1.50 !	1.50 !	1.50

ROAD (0.00 + 33.35 + 0.00) = 33.35 dBA

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

-60	-29	0.00	64.62	0.00	-9.48	-7.64	0.00	0.00	-14.16	33.35
-----	-----	------	-------	------	-------	-------	------	------	--------	-------

Segment Leq : 33.35 dBA

Results segment # 7: CarlingAve11 (night)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

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

---

ROAD (0.00 + 31.60 + 0.00) = 31.60 dBA

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

---

-29	41	0.00	64.62	0.00	-8.92	-4.10	0.00	0.00	-20.00	31.60
-----	----	------	-------	------	-------	-------	------	------	--------	-------

---

Segment Leq : 31.60 dBA



Results segment # 8: CarlingAve12 (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of  
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)  
-----+-----+-----+-----  
1.50 ! 1.50 ! 1.50 ! 1.50

ROAD (0.00 + 31.04 + 0.00) = 31.04 dBA

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

-29 41 0.00 64.62 0.00 -9.48 -4.10 0.00 0.00 -20.00 31.04

Segment Leq : 31.04 dBA

Total Leq All Segments: 44.45 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 52.05  
(NIGHT): 44.45

**STAMSON 5.0 NORMAL REPORT Date: 07-04-2020 16:46:07**  
**MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT**

**Filename: r08.te Time Period: Day/Night 16/8 hours**

**Description:**

Road data, segment # 1: Trans Canad1 (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: Trans Canad1 (day/night)

-----  
Angle1 Angle2 : -27.00 deg 66.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 437.00 / 437.00 m  
Receiver height : 15.50 / 15.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -27.00 deg Angle2 : 66.00 deg  
Barrier height : 30.50 m  
Barrier receiver distance : 14.00 / 14.00 m  
Source elevation : 6.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 0.00 m  
Reference angle : 0.00

Road data, segment # 2: Trans Canad2 (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: Trans Canad2 (day/night)

---

Angle1 Angle2 : -27.00 deg 66.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 450.00 / 450.00 m  
 Receiver height : 15.50 / 15.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -27.00 deg Angle2 : 66.00 deg  
 Barrier height : 30.50 m  
 Barrier receiver distance : 14.00 / 14.00 m  
 Source elevation : 6.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 3: Carling Ave1 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 veh/TimePeriod \*  
 Posted speed limit : 60 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Carling Ave1 (day/night)

---

Angle1 Angle2 : -48.00 deg 45.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 83.00 / 83.00 m  
 Receiver height : 15.50 / 15.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -48.00 deg Angle2 : 45.00 deg  
 Barrier height : 30.50 m  
 Barrier receiver distance : 14.00 / 14.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00

Road data, segment # 4: Carling Ave2 (day/night)

---

Car traffic volume : 20240/1760 veh/TimePeriod \*  
 Medium truck volume : 1610/140 veh/TimePeriod \*  
 Heavy truck volume : 1150/100 veh/TimePeriod \*  
 Posted speed limit : 60 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 25000  
 Percentage of Annual Growth : 0.00  
 Number of Years of Growth : 0.00  
 Medium Truck % of Total Volume : 7.00  
 Heavy Truck % of Total Volume : 5.00  
 Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Carling Ave2 (day/night)

---

Angle1 Angle2 : -48.00 deg 45.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 99.00 / 99.00 m  
 Receiver height : 15.50 / 15.50 m  
 Topography : 2 (Flat/gentle slope; with barrier)  
 Barrier angle1 : -48.00 deg Angle2 : 45.00 deg  
 Barrier height : 30.50 m  
 Barrier receiver distance : 14.00 / 14.00 m  
 Source elevation : 0.00 m  
 Receiver elevation : 0.00 m  
 Barrier elevation : 0.00 m  
 Reference angle : 0.00



Results segment # 1: Trans Canad1 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	15.50 !	15.24 !	15.24

---

ROAD (0.00 + 43.88 + 0.00) = 43.88 dBA

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

---

-27	66	0.00	81.40	0.00	-14.64	-2.87	0.00	0.00	-20.00	43.88
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 43.88 dBA

Results segment # 2: Trans Canad2 (day)

---

Source height = 1.50 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	15.50 !	15.25 !	15.25

---

ROAD (0.00 + 43.76 + 0.00) = 43.76 dBA

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

---

-27	66	0.00	81.40	0.00	-14.77	-2.87	0.00	0.00	-20.00	43.76
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 43.76 dBA

Results segment # 3: Carling Ave1 (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	15.50 !	13.14 !	13.14

ROAD (0.00 + 41.92 + 0.00) = 41.92 dBA

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

-48	45	0.00	72.21	0.00	-7.43	-2.87	0.00	0.00	-20.00	41.92
-----	----	------	-------	------	-------	-------	------	------	--------	-------

Segment Leq : 41.92 dBA

Results segment # 4: Carling Ave2 (day)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.50 !	15.50 !	13.52 !	13.52

ROAD (0.00 + 41.15 + 0.00) = 41.15 dBA

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

-48	45	0.00	72.21	0.00	-8.20	-2.87	0.00	0.00	-20.00	41.15
-----	----	------	-------	------	-------	-------	------	------	--------	-------

Segment Leq : 41.15 dBA

Total Leq All Segments: 48.85 dBA



Results segment # 1: Trans Canad1 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.49 !	15.50 !	15.24 !	15.24

---

ROAD (0.00 + 36.29 + 0.00) = 36.29 dBA

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

---

-27	66	0.00	73.80	0.00	-14.64	-2.87	0.00	0.00	-20.00	36.29
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 36.29 dBA

Results segment # 2: Trans Canad2 (night)

---

Source height = 1.49 m

Barrier height for grazing incidence

---

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
-----+-----+-----+			
1.49 !	15.50 !	15.25 !	15.25

---

ROAD (0.00 + 36.16 + 0.00) = 36.16 dBA

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

---

-27	66	0.00	73.80	0.00	-14.77	-2.87	0.00	0.00	-20.00	36.16
-----	----	------	-------	------	--------	-------	------	------	--------	-------

---

Segment Leq : 36.16 dBA

Results segment # 3: Carling Ave1 (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	15.50 !	13.14 !	13.14

ROAD (0.00 + 34.32 + 0.00) = 34.32 dBA

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

-48	45	0.00	64.62	0.00	-7.43	-2.87	0.00	0.00	-20.00	34.32
-----	----	------	-------	------	-------	-------	------	------	--------	-------

Segment Leq : 34.32 dBA

Results segment # 4: Carling Ave2 (night)

Source height = 1.50 m

Barrier height for grazing incidence

Source	! Receiver	! Barrier	! Elevation of
Height (m)	! Height (m)	! Height (m)	! Barrier Top (m)
1.50 !	15.50 !	13.52 !	13.52

ROAD (0.00 + 33.55 + 0.00) = 33.55 dBA

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

-48	45	0.00	64.62	0.00	-8.20	-2.87	0.00	0.00	-20.00	33.55
-----	----	------	-------	------	-------	-------	------	------	--------	-------

Segment Leq : 33.55 dBA

Total Leq All Segments: 41.26 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 48.85  
(NIGHT): 41.26