development engineering (London) Limited

CONSULTING CIVIL ENGINEERS

November 22, 2024 Project: DEL14-091

City of London
Development and Compliance Services
300 Dufferin Avenue
P.O. Box 5035
London, Ontario, N6A 4L9

Attention: Planner

Re: 801 Sarnia Road, London, ON
Noise & Vibration Report Addendum #2

Ms. Debbert:

Development Engineering (London) Limited (DevEng) has been retained by 2425290 Ontario Inc. c/o Royal Premier Homes to assess noise and vibration impacts from rail traffic on a Canadian Pacific (CP) rail line as well as road traffic from Sarnia Road on a proposed residential apartment building development to be constructed at MN#801 Sarnia Road in London, Ontario. A noise assessment for the proposed development (originally combined with the adjacent townhouse development now known as MN#811 Sarnia Road) was prepared by our office, dated June 29, 2017, which was subsequently reviewed and approved by the City of London. DevEng was recently provided with an updated Site Plan from the developer's Planner with indication an addendum is required to the approved report to accommodate the new SP. This addendum has been prepared to address this request.

Updated Site Plan
An updated Site Plan was compiled by Zedd Architecture dated September 9, 2024 and is attached to this addendum. Upon review of the updated Site Plan, there are two (2) revisions noted from the original 2017 Site Plan that will result in impacts to the modelled noise levels. Firstly, the proposed apartment building has shifted slightly, and the number of stories has increased from five (5) to ten (10). Secondly, the parking lot has been revised such that the originally proposed protected outdoor living area (OLA) space is now an extension of the parking lot.

The approved noise report noted no exceedances of the CP/CN vibration criteria beyond 25 m of the site's common property line with the railway. While the building has shifted slightly, it is still outside of this 25 m line and as a result the vibration recommendations identified in the approved report (none) remain valid.

The below sections address how each of these changes impact the projected noise levels and identifies what, if any, changes are required to the noise mitigation recommendations of the report.

Apartment Storey Change
Noise levels generally increase as the receiver is at an elevated position relative to the noise source. As a result, adding additional storeys to the proposed apartment building will result in higher noise levels on the upper stories compared to those identified in Table 3 of the approved noise report. All storeys have been re-modelled, with the STAMSON results attached to this brief. The modelled noise levels range between 69.53-73.42 dBA and 67.14-71.96 dBA during the day-time and night-time periods respectively. This results in no change to the indoor noise mitigation recommendations of the original report: Specialized building components (EW5), mandatory central air conditioning and noise warning clause type 'D' being registered on title is still required for all units within the building. These were already the worst-case indoor noise mitigation measures proposed in MECP Guideline NPC-300.

Common OLA Change
The proposed protected common OLA has been moved further away from the primary source (the CP operated rail line as the building provides shielding of the OLA from noise on Sarnia Road). The common OLA has been re-modelled based on the new location with the results indicating a noise barrier (minimum 20 kg/m^2) will still be required. However, due to the increased distance from the noise source, the barrier height can be reduced to 2.1m (from 2.7m in the approved report). A noise warning clause type 'B' is still required to be registered on title for all units within the building. Refer to the attached updated Figure 1 indicating the revised OLA area requiring protection.

Updated STAMSON Modeling Summary
Based on the updated STAMSON modeling, Table 4 from the approved June 29, 2017 report can be replaced with the following.

Table 4: STAMSON Noise Levels

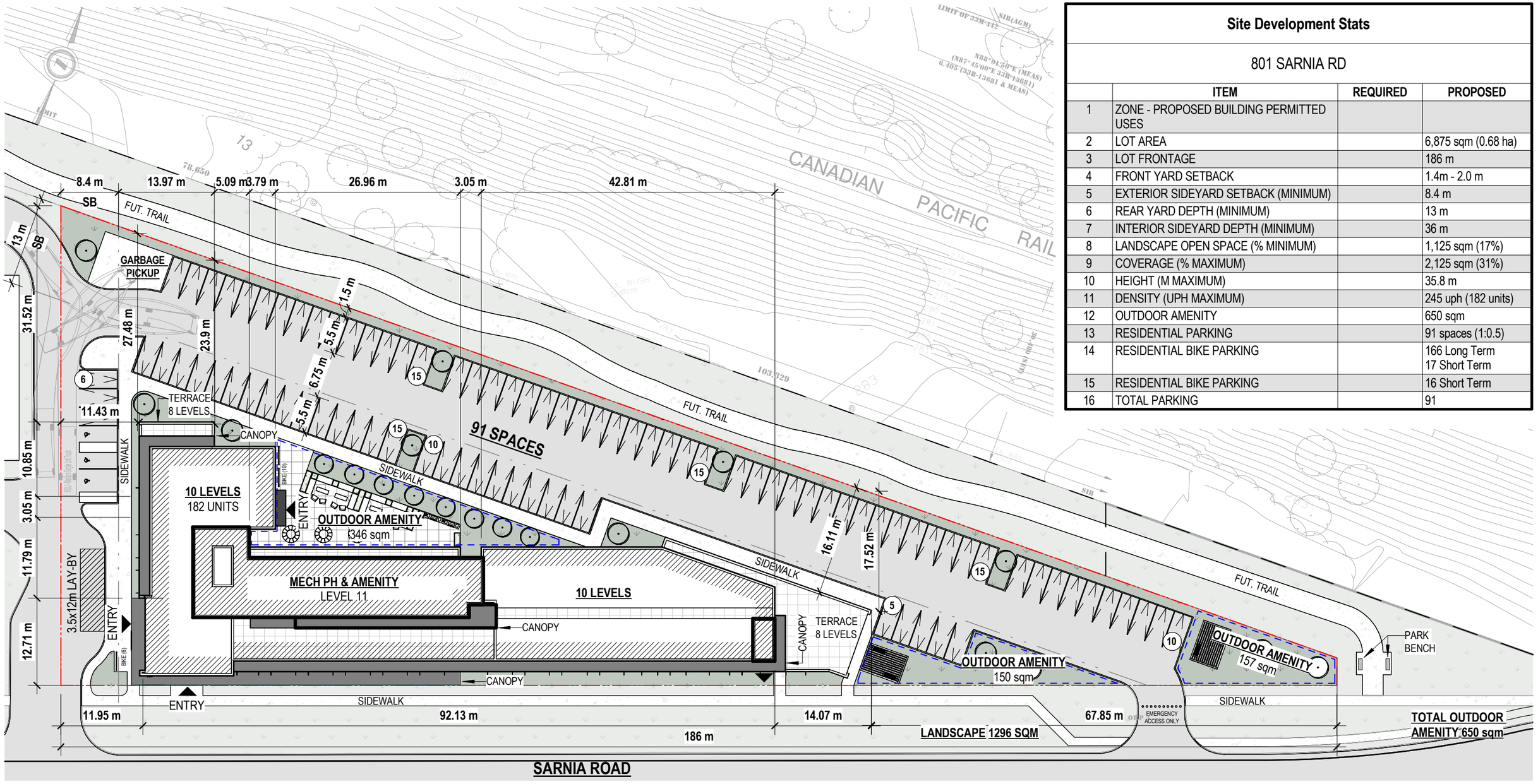
Point of Assessment	Unattenuated Stamson Daytime Outdoor Noise Level (dBA)	Attenuated Stamson Daytime Outdoor Noise Level (dBA)	Stamson Day-time Indoor Noise Level (dBA)*	Stamson Night-Time Indoor Noise Level (dBA)*	Warning Clauses/Mitigation Measures
OLA	65.80	59.63	N/A	N/A	NWC Type 'B'
1st storey	N/A	N/A	69.53	67.14	NWC Type 'D', AC, BC
2nd storey	N/A	N/A	70.30	68.17	NWC Type 'D', AC, BC
3rd storey	N/A	N/A	70.82	68.85	NWC Type 'D', AC, BC
4th storey	N/A	N/A	71.39	69.57	NWC Type 'D', AC, BC
5th storey	N/A	N/A	71.97	70.31	NWC Type 'D', AC, BC
6th storey	N/A	N/A	72.59	71.06	NWC Type 'D', AC, BC
7th storey	N/A	N/A	73.19	71.78	NWC Type 'D', AC, BC
8th storey	N/A	N/A	73.41	71.95	NWC Type 'D', AC, BC
9th storey	N/A	N/A	73.42	71.96	NWC Type 'D', AC, BC
10th storey	N/A	N/A	73.42	71.96	NWC Type 'D', AC, BC

If you have any questions or concerns about the above, please contact the undersigned.

DEVELOPMENT ENGINEERING (LONDON) LIMITED

Derek J. Hoevenaars, P.Eng.
Senior Project Engineer

cc: Siv-Ik Consultants – Mr. Michael Davis
Royal Premier Homes – Mr. Farhad Noory
DEL14-091 - Noise Addendum 2



Site Development Stats

801 SARNIA RD

	ITEM	REQUIRED	PROPOSED
1	ZONE - PROPOSED BUILDING PERMITTED USES		
2	LOT AREA		6,875 sqm (0.68 ha)
3	LOT FRONTAGE		186 m
4	FRONT YARD SETBACK		1.4m - 2.0 m
5	EXTERIOR SIDEYARD SETBACK (MINIMUM)		8.4 m
6	REAR YARD DEPTH (MINIMUM)		13 m
7	INTERIOR SIDEYARD DEPTH (MINIMUM)		36 m
8	LANDSCAPE OPEN SPACE (% MINIMUM)		1,125 sqm (17%)
9	COVERAGE (% MAXIMUM)		2,125 sqm (31%)
10	HEIGHT (M MAXIMUM)		35.8 m
11	DENSITY (UPH MAXIMUM)		245 uph (182 units)
12	OUTDOOR AMENITY		650 sqm
13	RESIDENTIAL PARKING		91 spaces (1:0.5)
14	RESIDENTIAL BIKE PARKING		166 Long Term 17 Short Term
15	RESIDENTIAL BIKE PARKING		16 Short Term
16	TOTAL PARKING		91

Scale : 1 : 550

22-017 | Schematic Design | 801 Sarnia Road | Site Plan | 2024-09-10 | SD1.1

zedd ARCHITECTURE
Z-627 maitland street london ontario N5Y 2V7 519 518 9333
www.zeddarchitecture.com info@zeddarchitecture.com

2024-09-10 2:04:16 PM
File: C:\Users\mmendez\Documents\Revit Local Files\22-017 - 801 SARNIA RPH_ 08-2024 Option B_mmendez7H3AN.rvt

NOISE LEGEND & WARNING CLAUSES:

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

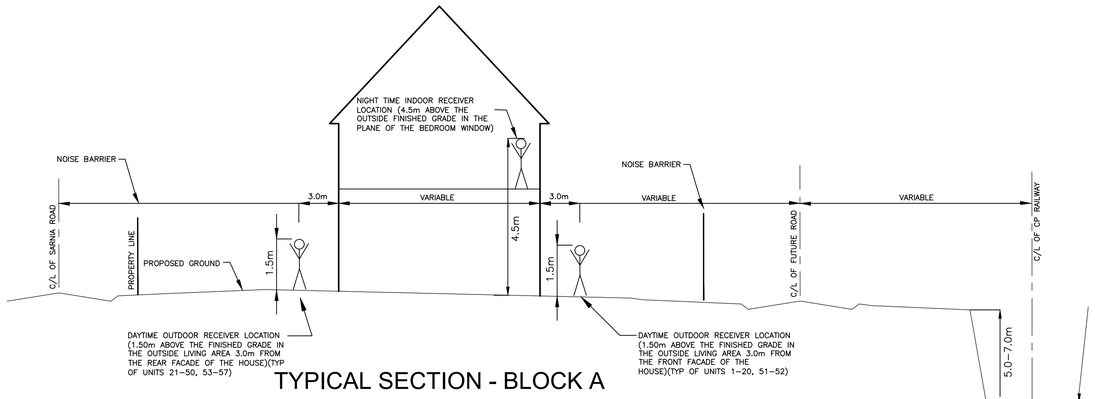
B – "Purchasers/Tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road and rail traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of Environment."

C – "This dwelling unit has been fitted with a forced air heating system and the ducting, etc. was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the noise level limits of the Municipality and the Ministry of the Environment. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with the sound criteria of MOE Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property)."

D – "This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of Environment." (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with the noise criteria of MOE Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property)."

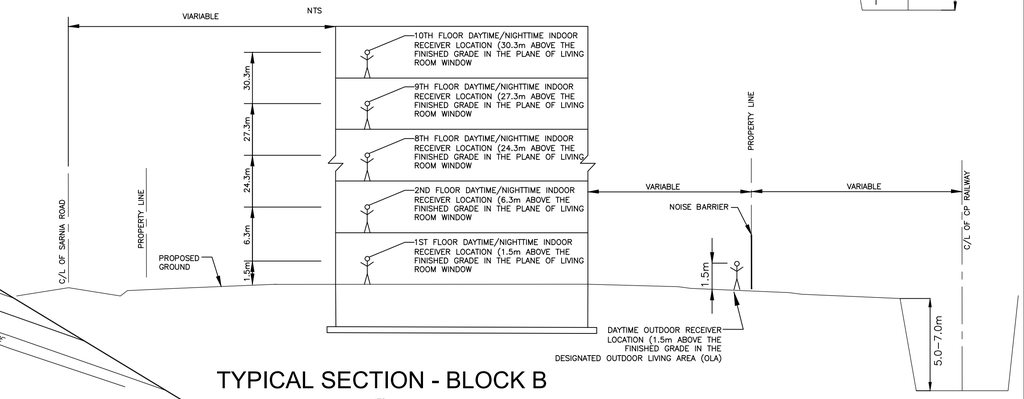
WARNING CLAUSE TYPE A
WARNING CLAUSE TYPE B
WARNING CLAUSE TYPE C
WARNING CLAUSE TYPE D
FOR DEFINITION OF WARNING CLAUSES REFER TO NOISE REPORT AND SEE TO THE LEFT

(AC) MANDATORY INSTALLATION OF CENTRAL AIR CONDITIONING
DENOTES STAMSON TEST LOCATION
(BC) MANDATORY INSTALLATION OF BUILDING COMPONENTS
DENOTES VIBRATION TEST LOCATION



TYPICAL SECTION - BLOCK A

NTS



TYPICAL SECTION - BLOCK B

NTS

NOTE:
SITE PLANS PROVIDED BY OWNER. DEVELOPMENT ENGINEERING ACCEPTS NO RESPONSIBILITY FOR INFORMATION SHOWN THAT IS NOT ACCURATE. THIS PLAN IS FOR NOISE PURPOSES ONLY AND THE CONTRACTOR SHOULD REFER TO THE SERVICING AND GRADING PLANS PREPARED BY THE SITE ENGINEER.

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN DJH	
DRAWN BY RAB/DJH	
CHECKED	
APPROVED	
DATE	
F.BK.	

No.	REVISIONS	DATE	CONSULTANT
1	AS SUBMITTED FOR APPROVAL	SEPT 4/15	DE(L)L
2	REVISED PER NEW SITE PLAN	JUN 29/17	DevEng
3	REVISED PER NEW SITE PLAN	NOV 22/24	DevEng

CONSULTANT OR DIVISION
Consulting Civil Engineers
41 Adelaide St. N., Unit 71
London, Ontario N6B 3P4
Phone (519) 672-8310
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e-mail: deveng@deveng.net
development engineering (London) Limited
CONSULTING CIVIL ENGINEERS

ENGINEER'S STAMP

SCALE
SCALE – 1 : 500
5 0 10m

TITLE
801 SARNIA ROAD, LONDON, ON.
NOISE & VIBRATION STUDY

PROJECT No. DEL14–091
SHEET No. FIG. 1
PLAN FILE No.

STAMSON 5.0 NORMAL REPORT Date: 20-11-2024 15:33:36
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: OLA.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. Freight	18.4/9.9	96.0	5.0	146.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No	Name	Unadj. Trains	Annual % Increase	Years of Growth
1.	Freight	13.0/7.0	2.50	14.00

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

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 70.20 / 70.20 m
Receiver height		: 1.50 / 1.50 m
Topography		: 1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle		: 0.00

Results segment # 1: CP Rail (day)

LOCOMOTIVE (0.00 + 64.79 + 0.00) = 64.79 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90		0.58	76.74	-10.62	-1.33	0.00	0.00	0.00	64.79

WHEEL (0.00 + 57.84 + 0.00) = 57.84 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90		0.66	70.42	-11.13	-1.46	0.00	0.00	0.00	57.84

Segment Leq : 65.59 dBA

Total Leq All Segments: 65.59 dBA

Results segment # 1: CP Rail (night)

LOCOMOTIVE (0.00 + 65.11 + 0.00) = 65.11 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90		0.58	77.06	-10.62	-1.33	0.00	0.00	0.00	65.11

WHEEL (0.00 + 58.16 + 0.00) = 58.16 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90		0.66	70.74	-11.13	-1.46	0.00	0.00	0.00	58.16

Segment Leq : 65.91 dBA

Total Leq All Segments: 65.91 dBA

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

Car traffic volume	: 31428/3492	veh/TimePeriod *
Medium truck volume	: 0/0	veh/TimePeriod *
Heavy truck volume	: 972/108	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):
Percentage of Annual Growth
Number of Years of Growth 36000
Medium Truck % of Total Volume : 0.00
Heavy Truck : 0.00
Day (16 hrs) % of Total Volume : 0.00
% of Total Volume : 3.00
: 90.00

Data for Segment # 1: Sarnia Rd. (day/night)

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 1 / 1
House density		: 95 %
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 42.40 / 42.40 m
Receiver height		: 1.50 / 1.50 m
Topography		: 1 (Flat/gentle slope; no barrier)
Reference angle		: 0.00

Results segment # 1: Sarnia Rd. (day)

Source height = 1.32 m

ROAD (0.00 + 52.50 + 0.00) = 52.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90		0.66	71.26	0.00	-7.49	-1.46	0.00	-9.81	0.00	52.50

Segment Leq : 52.50 dBA

Total Leq All Segments: 52.50 dBA

Results segment # 1: Sarnia Rd. (night)
(NIGHT): 65.95

Source height = 1.32 m

ROAD (0.00 + 45.97 + 0.00) = 45.97 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90		0.66	64.73	0.00	-7.49	-1.46	0.00	-9.81	0.00	45.97

Segment Leq : 45.97 dBA

Total Leq All Segments: 45.97 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 65.80

```
STAMSON 5.0        NORMAL REPORT        Date: 20-11-2024 15:33:52
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: OLAA.te              Time Period: Day/Night 16/8 hours
Description:


Rail data, segment # 1: CP Rail (day/night)
-------------------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
* 1. Freight     !  18.4/9.9   !  96.0 !  5.0 !146.0 !Diesel! Yes

* The identified number of trains have been adjusted for
future growth using the following parameters:

Train type:          ! Unadj. ! Annual % ! Years of !
 No  Name            ! Trains ! Increase !  Growth  !
-----------------+--------+----------+----------+
 1. Freight      !  13.0/7.0   !    2.50  !   14.00  !

Data for Segment # 1: CP Rail (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  70.20 / 70.20  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
No Whistle
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   2.10 m
Barrier receiver distance :   5.00 / 10.00  m
Source elevation          : 275.50 m
Receiver elevation        : 284.50 m
Barrier elevation         : 284.50 m
Reference angle           :   0.00

Results segment # 1: CP Rail (day)
----------------------------------

Barrier height for grazing incidence
0.00 !
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
                  1.50 !        1.04 !       285.54
                  1.50 !        0.79 !       285.29

LOCOMOTIVE (0.00 + 58.08 + 0.00) = 58.08 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
           90   0.46  76.74  -9.78  -1.10   0.00   0.00  -7.78  58.08
-----------------------------------------------------------------------

WHEEL (0.00 + 49.97 + 0.00) = 49.97 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
           90   0.56  70.42 -10.48  -1.29   0.00   0.00  -8.68  49.97
-----------------------------------------------------------------------

Segment Leq : 58.70 dBA

Total Leq All Segments: 58.70 dBA

Barrier table for segment # 1: CP Rail (day)
--------------------------------------------

Barrier ! Elev of !  Loco   !  Wheel  ! Whistle ! Whistle ! Tot Leq !
Height  ! Barr Top!  dBA    !  dBA    ! left dBA!right dBA!   dBA   !
```



```
-3.60 !
 4.10 !    288.10 !   54.28 !   46.45 !      -- !      -- !   54.94 !
 4.60 !    288.60 !   53.43 !   45.66 !      -- !      -- !   54.10 !
 5.10 !    289.10 !   52.73 !   45.00 !      -- !      -- !   53.41 !
 5.60 !    289.60 !   52.14 !   44.59 !      -- !      -- !   52.84 !
 6.10 !    290.10 !   51.86 !   44.30 !      -- !      -- !   52.56 !
 6.60 !    290.60 !   51.64 !   44.11 !      -- !      -- !   52.35 !
 7.10 !    291.10 !   51.51 !   44.02 !      -- !      -- !   52.22 !
 7.60 !    291.60 !   51.45 !   43.98 !      -- !      -- !   52.17 !
 8.10 !    292.10 !   51.45 !   44.00 !      -- !      -- !   52.17 !
           292.60 !   51.50 !   44.06 !      -- !      -- !   52.22 !

Results segment # 1: CP Rail (night)
------------------------------------

Barrier height for grazing incidence
4.00 !
0.00 !
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
                  1.50 !        0.57 !       285.07
                  1.50 !        0.08 !       284.58

LOCOMOTIVE (0.00 + 58.18 + 0.00) = 58.18 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
           90   0.46  77.06  -9.78  -1.10   0.00   0.00  -8.00  58.18
-----------------------------------------------------------------------

WHEEL (0.00 + 49.68 + 0.00) = 49.68 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
           90   0.56  70.74 -10.48  -1.29   0.00   0.00  -9.29  49.68
-----------------------------------------------------------------------

Segment Leq : 58.75 dBA

Total Leq All Segments: 58.75 dBA

Road data, segment # 1: Sarnia Rd. (day/night)
----------------------------------------------
Car traffic volume  : 31428/3492  veh/TimePeriod  *
Medium truck volume :     0/0     veh/TimePeriod  *
Heavy truck volume  :   972/108   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):
 Percentage of Annual Growth
 Number of Years of Growth                36000
 Medium Truck % of Total Volume        :   0.00
 Heavy Truck                           :   0.00
 Day (16 hrs) % of Total Volume        :   0.00
              % of Total Volume        :   3.00
                                       :  90.00

Data for Segment # 1: Sarnia Rd. (day/night)
--------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     95 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  42.40 / 42.40  m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Sarnia Rd. (day)
-------------------------------------
```

Source height = 1.32 m

ROAD (0.00 + 52.50 + 0.00) = 52.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90										
	90	0.66	71.26	0.00	-7.49	-1.46	0.00	-9.81	0.00	52.50

Segment Leq : 52.50 dBA

Total Leq All Segments: 52.50 dBA

Results segment # 1: Sarnia Rd. (night)

(NIGHT): 58.97

Source height = 1.32 m

ROAD (0.00 + 45.97 + 0.00) = 45.97 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90										
	90	0.66	64.73	0.00	-7.49	-1.46	0.00	-9.81	0.00	45.97

Segment Leq : 45.97 dBA

Total Leq All Segments: 45.97 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.63

STAMSON 5.0 NORMAL REPORT Date: 20-11-2024 15:27:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 1st.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. Freight	18.4/9.9	96.0	5.0	146.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No	Name	Unadj. Trains	Annual % Increase	Years of Growth
1.	Freight	13.0/7.0	2.50	14.00

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

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 68.80 / 68.80 m
Receiver height		: 1.50 / 1.50 m
Topography		: 1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle		: 0.00

Results segment # 1: CP Rail (day)

LOCOMOTIVE (0.00 + 64.93 + 0.00) = 64.93 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.58	76.74	-10.48	-1.33	0.00	0.00	0.00	0.00	64.93

WHEEL (0.00 + 57.98 + 0.00) = 57.98 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.66	70.42	-10.98	-1.46	0.00	0.00	0.00	0.00	57.98

Segment Leq : 65.73 dBA

Total Leq All Segments: 65.73 dBA

Results segment # 1: CP Rail (night)

LOCOMOTIVE (0.00 + 65.24 + 0.00) = 65.24 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.58	77.06	-10.48	-1.33	0.00	0.00	0.00	0.00	65.24

WHEEL (0.00 + 58.30 + 0.00) = 58.30 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.66	70.74	-10.98	-1.46	0.00	0.00	0.00	0.00	58.30

Segment Leq : 66.04 dBA

Total Leq All Segments: 66.04 dBA

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

Car traffic volume	: 31428/3492	veh/TimePeriod *
Medium truck volume	: 0/0	veh/TimePeriod *
Heavy truck volume	: 972/108	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):
Percentage of Annual Growth
Number of Years of Growth 36000
Medium Truck % of Total Volume : 0.00
Heavy Truck : 0.00
Day (16 hrs) % of Total Volume : 0.00
% of Total Volume : 3.00
: 90.00

Data for Segment # 1: Sarnia Rd. (day/night)

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 21.60 / 21.60 m
Receiver height		: 1.50 / 1.50 m
Topography		: 1 (Flat/gentle slope; no barrier)
Reference angle		: 0.00

Results segment # 1: Sarnia Rd. (day)

Source height = 1.32 m

ROAD (0.00 + 67.18 + 0.00) = 67.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.66	71.26	0.00	-2.63	-1.46	0.00	0.00	0.00	0.00	67.18

Segment Leq : 67.18 dBA

Total Leq All Segments: 67.18 dBA

Results segment # 1: Sarnia Rd. (night)

(NIGHT): 67.14

Source height = 1.32 m

ROAD (0.00 + 60.64 + 0.00) = 60.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.66	64.73	0.00	-2.63	-1.46	0.00	0.00	0.00	0.00	60.64

Segment Leq : 60.64 dBA

Total Leq All Segments: 60.64 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 69.53

```
STAMSON 5.0        NORMAL REPORT        Date: 20-11-2024 15:30:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 2nd.te               Time Period: Day/Night 16/8 hours
Description:


Rail data, segment # 1: CP Rail (day/night)
-------------------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
* 1. Freight     !  18.4/9.9   !  96.0 !  5.0 !146.0 !Diesel! Yes

* The identified number of trains have been adjusted for
future growth using the following parameters:

Train type:          ! Unadj. ! Annual % ! Years of !
 No  Name            ! Trains ! Increase !  Growth  !
-----------------+---------+----------+----------+
 1. Freight      !  13.0/7.0   !    2.50  !   14.00  !

Data for Segment # 1: CP Rail (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  68.80 / 68.80  m
Receiver height           :   6.30 / 6.30   m
Topography                :      1       (Flat/gentle slope; no barrier)
No Whistle
Reference angle           :   0.00

Results segment # 1: CP Rail (day)
----------------------------------

LOCOMOTIVE (0.00 + 66.15 + 0.00) = 66.15 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.44  76.74  -9.53  -1.06   0.00   0.00   0.00  66.15
-------------------------------------------------------------------------

WHEEL (0.00 + 58.93 + 0.00) = 58.93 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.55  70.42 -10.23  -1.26   0.00   0.00   0.00  58.93
-------------------------------------------------------------------------

Segment Leq : 66.90 dBA

Total Leq All Segments: 66.90 dBA

Results segment # 1: CP Rail (night)
------------------------------------

LOCOMOTIVE (0.00 + 66.46 + 0.00) = 66.46 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.44  77.06  -9.53  -1.06   0.00   0.00   0.00  66.46
-------------------------------------------------------------------------

WHEEL (0.00 + 59.25 + 0.00) = 59.25 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.55  70.74 -10.23  -1.26   0.00   0.00   0.00  59.25
-------------------------------------------------------------------------

Segment Leq : 67.22 dBA

Total Leq All Segments: 67.22 dBA
```



```
Road data, segment # 1: Sarnia Rd. (day/night)
----------------------------------------------
Car traffic volume  : 31428/3492  veh/TimePeriod  *
Medium truck volume :     0/0     veh/TimePeriod  *
Heavy truck volume  :   972/108   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):
 Percentage of Annual Growth
 Number of Years of Growth                    36000
 Medium Truck % of Total Volume         :   0.00
 Heavy Truck                            :   0.00
 Day (16 hrs) % of Total Volume         :   0.00
              % of Total Volume         :   3.00
                                        :  90.00

Data for Segment # 1: Sarnia Rd. (day/night)
--------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  21.60 / 21.60  m
Receiver height           :   6.30 / 6.30   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Sarnia Rd. (day)
-------------------------------------

Source height = 1.32 m

ROAD (0.00 + 67.64 + 0.00) = 67.64 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.52  71.26   0.00  -2.41  -1.21   0.00   0.00   0.00  67.64
-------------------------------------------------------------------------

Segment Leq : 67.64 dBA

Total Leq All Segments: 67.64 dBA

Results segment # 1: Sarnia Rd. (night)
---------------------------------------
 (NIGHT): 68.17
Source height = 1.32 m

ROAD (0.00 + 61.10 + 0.00) = 61.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.52  64.73   0.00  -2.41  -1.21   0.00   0.00   0.00  61.10
-------------------------------------------------------------------------

Segment Leq : 61.10 dBA

Total Leq All Segments: 61.10 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 70.30
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-11-2024 15:30:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 3rd.te               Time Period: Day/Night 16/8 hours
Description:


Rail data, segment # 1: CP Rail (day/night)
-------------------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
* 1. Freight     !  18.4/9.9   !  96.0 !  5.0 !146.0 !Diesel! Yes

* The identified number of trains have been adjusted for
future growth using the following parameters:

Train type:          ! Unadj. ! Annual % ! Years of !
 No  Name            ! Trains ! Increase !  Growth  !
-----------------+---------+----------+----------+
 1. Freight      !  13.0/7.0   !    2.50  !   14.00  !

Data for Segment # 1: CP Rail (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  68.80 / 68.80  m
Receiver height           :   9.30 / 9.30   m
Topography                :      1       (Flat/gentle slope; no barrier)
No Whistle
Reference angle           :   0.00

Results segment # 1: CP Rail (day)
----------------------------------

LOCOMOTIVE (0.00 + 66.92 + 0.00) = 66.92 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.35  76.74  -8.94  -0.88   0.00   0.00   0.00  66.92
-------------------------------------------------------------------

WHEEL (0.00 + 59.70 + 0.00) = 59.70 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.46  70.42  -9.63  -1.09   0.00   0.00   0.00  59.70
-------------------------------------------------------------------

Segment Leq : 67.67 dBA

Total Leq All Segments: 67.67 dBA

Results segment # 1: CP Rail (night)
------------------------------------

LOCOMOTIVE (0.00 + 67.24 + 0.00) = 67.24 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.35  77.06  -8.94  -0.88   0.00   0.00   0.00  67.24
-------------------------------------------------------------------

WHEEL (0.00 + 60.02 + 0.00) = 60.02 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.46  70.74  -9.63  -1.09   0.00   0.00   0.00  60.02
-------------------------------------------------------------------

Segment Leq : 67.99 dBA

Total Leq All Segments: 67.99 dBA
```



```
Road data, segment # 1: Sarnia Rd. (day/night)
----------------------------------------------
Car traffic volume  : 31428/3492  veh/TimePeriod  *
Medium truck volume :     0/0     veh/TimePeriod  *
Heavy truck volume  :   972/108   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):
 Percentage of Annual Growth
 Number of Years of Growth                    36000
 Medium Truck % of Total Volume         :   0.00
 Heavy Truck                            :   0.00
 Day (16 hrs) % of Total Volume         :   0.00
              % of Total Volume         :   3.00
                                        :  90.00

Data for Segment # 1: Sarnia Rd. (day/night)
--------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  21.60 / 21.60  m
Receiver height           :   9.30 / 9.30   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Sarnia Rd. (day)
-------------------------------------

Source height = 1.32 m

ROAD (0.00 + 67.95 + 0.00) = 67.95 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.43  71.26   0.00  -2.27  -1.04   0.00   0.00   0.00  67.95
-------------------------------------------------------------------------

Segment Leq : 67.95 dBA

Total Leq All Segments: 67.95 dBA

Results segment # 1: Sarnia Rd. (night)
---------------------------------------
 (NIGHT): 68.85
Source height = 1.32 m

ROAD (0.00 + 61.42 + 0.00) = 61.42 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.43  64.73   0.00  -2.27  -1.04   0.00   0.00   0.00  61.42
-------------------------------------------------------------------------

Segment Leq : 61.42 dBA

Total Leq All Segments: 61.42 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 70.82
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-11-2024 15:31:19
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 4th.te               Time Period: Day/Night 16/8 hours
Description:


Rail data, segment # 1: CP Rail (day/night)
-------------------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
* 1. Freight     !  18.4/9.9   !  96.0 !  5.0 !146.0 !Diesel! Yes

* The identified number of trains have been adjusted for
future growth using the following parameters:

Train type:          ! Unadj. ! Annual % ! Years of !
 No  Name            ! Trains ! Increase !  Growth  !
-----------------+---------+----------+----------+
 1. Freight      !  13.0/7.0   !    2.50  !   14.00  !

Data for Segment # 1: CP Rail (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  68.80 / 68.80  m
Receiver height           :  12.30 / 12.30  m
Topography                :      1       (Flat/gentle slope; no barrier)
No Whistle
Reference angle           :   0.00

Results segment # 1: CP Rail (day)
----------------------------------

LOCOMOTIVE (0.00 + 67.72 + 0.00) = 67.72 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.26  76.74  -8.34  -0.68   0.00   0.00   0.00  67.72
-------------------------------------------------------------------

WHEEL (0.00 + 60.47 + 0.00) = 60.47 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.37  70.42  -9.04  -0.91   0.00   0.00   0.00  60.47
-------------------------------------------------------------------

Segment Leq : 68.47 dBA

Total Leq All Segments: 68.47 dBA

Results segment # 1: CP Rail (night)
------------------------------------

LOCOMOTIVE (0.00 + 68.04 + 0.00) = 68.04 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.26  77.06  -8.34  -0.68   0.00   0.00   0.00  68.04
-------------------------------------------------------------------

WHEEL (0.00 + 60.79 + 0.00) = 60.79 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
          90   0.37  70.74  -9.04  -0.91   0.00   0.00   0.00  60.79
-------------------------------------------------------------------

Segment Leq : 68.79 dBA

Total Leq All Segments: 68.79 dBA
```



```
Road data, segment # 1: Sarnia Rd. (day/night)
----------------------------------------------
Car traffic volume  : 31428/3492  veh/TimePeriod  *
Medium truck volume :     0/0     veh/TimePeriod  *
Heavy truck volume  :   972/108   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):
 Percentage of Annual Growth
 Number of Years of Growth                    36000
 Medium Truck % of Total Volume         :   0.00
 Heavy Truck                            :   0.00
 Day (16 hrs) % of Total Volume         :   0.00
              % of Total Volume         :   3.00
                                        :  90.00

Data for Segment # 1: Sarnia Rd. (day/night)
--------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  21.60 / 21.60  m
Receiver height           :  12.30 / 12.30  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Sarnia Rd. (day)
-------------------------------------

Source height = 1.32 m

ROAD (0.00 + 68.28 + 0.00) = 68.28 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.34  71.26   0.00  -2.12  -0.86   0.00   0.00   0.00  68.28
-------------------------------------------------------------------------

Segment Leq : 68.28 dBA

Total Leq All Segments: 68.28 dBA

Results segment # 1: Sarnia Rd. (night)
---------------------------------------
 (NIGHT): 69.57
Source height = 1.32 m

ROAD (0.00 + 61.75 + 0.00) = 61.75 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
          90   0.34  64.73   0.00  -2.12  -0.86   0.00   0.00   0.00  61.75
-------------------------------------------------------------------------

Segment Leq : 61.75 dBA

Total Leq All Segments: 61.75 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.39
```

```
STAMSON 5.0        NORMAL REPORT        Date: 20-11-2024 15:31:46
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 5th.te               Time Period: Day/Night 16/8 hours
Description:


Rail data, segment # 1: CP Rail (day/night)
-------------------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
* 1. Freight     !  18.4/9.9   !  96.0 !  5.0 !146.0 !Diesel! Yes

* The identified number of trains have been adjusted for
future growth using the following parameters:

Train type:          ! Unadj. ! Annual % ! Years of !
 No  Name            ! Trains ! Increase !  Growth  !
-----------------+---------+----------+----------+
 1. Freight      !  13.0/7.0   !    2.50  !   14.00  !

Data for Segment # 1: CP Rail (day/night)
-------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  68.80 / 68.80  m
Receiver height           :  15.30 / 15.30  m
Topography                :      1       (Flat/gentle slope; no barrier)
No Whistle
Reference angle           :   0.00

Results segment # 1: CP Rail (day)
----------------------------------

LOCOMOTIVE (0.00 + 68.53 + 0.00) = 68.53 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
     90   0.17  76.74  -7.75  -0.47   0.00   0.00   0.00  68.53
-------------------------------------------------------------------

WHEEL (0.00 + 61.26 + 0.00) = 61.26 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
     90   0.28  70.42  -8.44  -0.71   0.00   0.00   0.00  61.26
-------------------------------------------------------------------

Segment Leq : 69.28 dBA

Total Leq All Segments: 69.28 dBA

Results segment # 1: CP Rail (night)
------------------------------------

LOCOMOTIVE (0.00 + 68.85 + 0.00) = 68.85 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
     90   0.17  77.06  -7.75  -0.47   0.00   0.00   0.00  68.85
-------------------------------------------------------------------

WHEEL (0.00 + 61.58 + 0.00) = 61.58 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
     90   0.28  70.74  -8.44  -0.71   0.00   0.00   0.00  61.58
-------------------------------------------------------------------

Segment Leq : 69.60 dBA

Total Leq All Segments: 69.60 dBA
```



```
Road data, segment # 1: Sarnia Rd. (day/night)
----------------------------------------------
Car traffic volume  : 31428/3492  veh/TimePeriod  *
Medium truck volume :     0/0     veh/TimePeriod  *
Heavy truck volume  :   972/108   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):
 Percentage of Annual Growth
 Number of Years of Growth                    36000
 Medium Truck % of Total Volume          :   0.00
 Heavy Truck                             :   0.00
 Day (16 hrs) % of Total Volume          :   0.00
              % of Total Volume          :   3.00
                                         :  90.00

Data for Segment # 1: Sarnia Rd. (day/night)
--------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  21.60 / 21.60  m
Receiver height           :  15.30 / 15.30  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Sarnia Rd. (day)
-------------------------------------

Source height = 1.32 m

ROAD (0.00 + 68.62 + 0.00) = 68.62 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
     90   0.25  71.26   0.00  -1.98  -0.66   0.00   0.00   0.00  68.62
-------------------------------------------------------------------------

Segment Leq : 68.62 dBA

Total Leq All Segments: 68.62 dBA

Results segment # 1: Sarnia Rd. (night)
---------------------------------------
 (NIGHT): 70.31
Source height = 1.32 m

ROAD (0.00 + 62.09 + 0.00) = 62.09 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
     90   0.25  64.73   0.00  -1.98  -0.66   0.00   0.00   0.00  62.09
-------------------------------------------------------------------------

Segment Leq : 62.09 dBA

Total Leq All Segments: 62.09 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 71.97
```

STAMSON 5.0 NORMAL REPORT Date: 20-11-2024 15:31:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 6th.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. Freight	18.4/9.9	96.0	5.0	146.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No	Name	Unadj. Trains	Annual % Increase	Years of Growth
1.	Freight	13.0/7.0	2.50	14.00

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

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 68.80 / 68.80 m
Receiver height		: 18.30 / 18.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle		: 0.00

Results segment # 1: CP Rail (day)

LOCOMOTIVE (0.00 + 69.36 + 0.00) = 69.36 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.08	76.74	-7.15	-0.23	0.00	0.00	0.00	0.00	69.36

WHEEL (0.00 + 62.07 + 0.00) = 62.07 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.19	70.42	-7.85	-0.50	0.00	0.00	0.00	0.00	62.07

Segment Leq : 70.10 dBA

Total Leq All Segments: 70.10 dBA

Results segment # 1: CP Rail (night)

LOCOMOTIVE (0.00 + 69.68 + 0.00) = 69.68 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.08	77.06	-7.15	-0.23	0.00	0.00	0.00	0.00	69.68

WHEEL (0.00 + 62.39 + 0.00) = 62.39 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.19	70.74	-7.85	-0.50	0.00	0.00	0.00	0.00	62.39

Segment Leq : 70.42 dBA

Total Leq All Segments: 70.42 dBA

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

Car traffic volume	: 31428/3492	veh/TimePeriod *
Medium truck volume	: 0/0	veh/TimePeriod *
Heavy truck volume	: 972/108	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):
Percentage of Annual Growth 36000
Number of Years of Growth :
Medium Truck % of Total Volume :
Heavy Truck :
Day (16 hrs) % of Total Volume :
% of Total Volume :

Percentage of Annual Growth		36000
Number of Years of Growth		: 0.00
Medium Truck % of Total Volume		: 0.00
Heavy Truck		: 0.00
Day (16 hrs) % of Total Volume		: 3.00
% of Total Volume		: 90.00

Data for Segment # 1: Sarnia Rd. (day/night)

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 21.60 / 21.60 m
Receiver height		: 18.30 / 18.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
Reference angle		: 0.00

Results segment # 1: Sarnia Rd. (day)

Source height = 1.32 m

ROAD (0.00 + 68.98 + 0.00) = 68.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.16	71.26	0.00	-1.84	-0.44	0.00	0.00	0.00	0.00	68.98

Segment Leq : 68.98 dBA

Total Leq All Segments: 68.98 dBA

Results segment # 1: Sarnia Rd. (night)

(NIGHT): 71.06

Source height = 1.32 m

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
90	0.16	64.73	0.00	-1.84	-0.44	0.00	0.00	0.00	0.00	62.45

Segment Leq : 62.45 dBA

Total Leq All Segments: 62.45 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 72.59

STAMSON 5.0 NORMAL REPORT Date: 20-11-2024 15:32:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 7th.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc / Train	# Cars / Train	Eng type	Cont weld
* 1. Freight	18.4/9.9	96.0	5.0	146.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No	Name	Unadj. Trains	Annual % Increase	Years of Growth
1.	Freight	13.0/7.0	2.50	14.00

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

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 68.80 / 68.80 m
Receiver height		: 21.30 / 21.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle		: 0.00

Results segment # 1: CP Rail (day)

LOCOMOTIVE (0.00 + 70.12 + 0.00) = 70.12 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	76.74	-6.61	0.00	0.00	0.00	0.00	0.00	70.12

WHEEL (0.00 + 62.90 + 0.00) = 62.90 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.10	70.42	-7.25	-0.27	0.00	0.00	0.00	0.00	62.90

Segment Leq : 70.87 dBA

Total Leq All Segments: 70.87 dBA

Results segment # 1: CP Rail (night)

LOCOMOTIVE (0.00 + 70.44 + 0.00) = 70.44 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	77.06	-6.61	0.00	0.00	0.00	0.00	0.00	70.44

WHEEL (0.00 + 63.22 + 0.00) = 63.22 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.10	70.74	-7.25	-0.27	0.00	0.00	0.00	0.00	63.22

Segment Leq : 71.19 dBA

Total Leq All Segments: 71.19 dBA

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

Car traffic volume	: 31428/3492	veh/TimePeriod *
Medium truck volume	: 0/0	veh/TimePeriod *
Heavy truck volume	: 972/108	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):
Percentage of Annual Growth
Number of Years of Growth 36000
Medium Truck % of Total Volume : 0.00
Heavy Truck : 0.00
Day (16 hrs) % of Total Volume : 0.00
% of Total Volume : 3.00
: 90.00

Data for Segment # 1: Sarnia Rd. (day/night)

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 21.60 / 21.60 m
Receiver height		: 21.30 / 21.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
Reference angle		: 0.00

Results segment # 1: Sarnia Rd. (day)

Source height = 1.32 m

ROAD (0.00 + 69.36 + 0.00) = 69.36 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.07	71.26	0.00	-1.70	-0.20	0.00	0.00	0.00	0.00	69.36

Segment Leq : 69.36 dBA

Total Leq All Segments: 69.36 dBA

Results segment # 1: Sarnia Rd. (night)

(NIGHT): 71.78

Source height = 1.32 m

ROAD (0.00 + 62.83 + 0.00) = 62.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.07	64.73	0.00	-1.70	-0.20	0.00	0.00	0.00	0.00	62.83

Segment Leq : 62.83 dBA

Total Leq All Segments: 62.83 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 73.19

STAMSON 5.0 NORMAL REPORT Date: 20-11-2024 15:32:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 8th.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. Freight	18.4/9.9	96.0	5.0	146.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No	Name	Unadj. Trains	Annual % Increase	Years of Growth
1.	Freight	13.0/7.0	2.50	14.00

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

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 68.80 / 68.80 m
Receiver height		: 24.30 / 24.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle		: 0.00

Results segment # 1: CP Rail (day)

LOCOMOTIVE (0.00 + 70.12 + 0.00) = 70.12 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	76.74	-6.61	0.00	0.00	0.00	0.00	0.00	70.12

WHEEL (0.00 + 63.75 + 0.00) = 63.75 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.01	70.42	-6.65	-0.02	0.00	0.00	0.00	0.00	63.75

Segment Leq : 71.02 dBA

Total Leq All Segments: 71.02 dBA

Results segment # 1: CP Rail (night)

LOCOMOTIVE (0.00 + 70.44 + 0.00) = 70.44 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	77.06	-6.61	0.00	0.00	0.00	0.00	0.00	70.44

WHEEL (0.00 + 64.07 + 0.00) = 64.07 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.01	70.74	-6.65	-0.02	0.00	0.00	0.00	0.00	64.07

Segment Leq : 71.34 dBA

Total Leq All Segments: 71.34 dBA

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

Car traffic volume	: 31428/3492	veh/TimePeriod *
Medium truck volume	: 0/0	veh/TimePeriod *
Heavy truck volume	: 972/108	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):
Percentage of Annual Growth
Number of Years of Growth 36000
Medium Truck % of Total Volume : 0.00
Heavy Truck : 0.00
Day (16 hrs) % of Total Volume : 0.00
% of Total Volume : 3.00
: 90.00

Data for Segment # 1: Sarnia Rd. (day/night)

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 21.60 / 21.60 m
Receiver height		: 24.30 / 24.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
Reference angle		: 0.00

Results segment # 1: Sarnia Rd. (day)

Source height = 1.32 m

ROAD (0.00 + 69.68 + 0.00) = 69.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	71.26	0.00	-1.58	0.00	0.00	0.00	0.00	0.00	69.68

Segment Leq : 69.68 dBA

Total Leq All Segments: 69.68 dBA

Results segment # 1: Sarnia Rd. (night)

(NIGHT): 71.95

Source height = 1.32 m

ROAD (0.00 + 63.15 + 0.00) = 63.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	64.73	0.00	-1.58	0.00	0.00	0.00	0.00	0.00	63.15

Segment Leq : 63.15 dBA

Total Leq All Segments: 63.15 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 73.41

STAMSON 5.0 NORMAL REPORT Date: 20-11-2024 15:33:09
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 9th.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
* 1. Freight	18.4/9.9	96.0	5.0	146.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No	Name	Unadj. Trains	Annual % Increase	Years of Growth
1.	Freight	13.0/7.0	2.50	14.00

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

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 68.80 / 68.80 m
Receiver height		: 27.30 / 27.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle		: 0.00

Results segment # 1: CP Rail (day)

LOCOMOTIVE (0.00 + 70.12 + 0.00) = 70.12 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	76.74	-6.61	0.00	0.00	0.00	0.00	0.00	70.12

WHEEL (0.00 + 63.81 + 0.00) = 63.81 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	70.42	-6.61	0.00	0.00	0.00	0.00	0.00	63.81

Segment Leq : 71.03 dBA

Total Leq All Segments: 71.03 dBA

Results segment # 1: CP Rail (night)

LOCOMOTIVE (0.00 + 70.44 + 0.00) = 70.44 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	77.06	-6.61	0.00	0.00	0.00	0.00	0.00	70.44

WHEEL (0.00 + 64.12 + 0.00) = 64.12 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	70.74	-6.61	0.00	0.00	0.00	0.00	0.00	64.12

Segment Leq : 71.35 dBA

Total Leq All Segments: 71.35 dBA

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

Car traffic volume	: 31428/3492	veh/TimePeriod *
Medium truck volume	: 0/0	veh/TimePeriod *
Heavy truck volume	: 972/108	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): 36000
Percentage of Annual Growth
Number of Years of Growth
Medium Truck % of Total Volume : 0.00
Heavy Truck : 0.00
Day (16 hrs) % of Total Volume : 0.00
% of Total Volume : 3.00
: 90.00

Data for Segment # 1: Sarnia Rd. (day/night)

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 21.60 / 21.60 m
Receiver height		: 27.30 / 27.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
Reference angle		: 0.00

Results segment # 1: Sarnia Rd. (day)

Source height = 1.32 m

ROAD (0.00 + 69.68 + 0.00) = 69.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	71.26	0.00	-1.58	0.00	0.00	0.00	0.00	0.00	69.68

Segment Leq : 69.68 dBA

Total Leq All Segments: 69.68 dBA

Results segment # 1: Sarnia Rd. (night)

(NIGHT): 71.96

Source height = 1.32 m

ROAD (0.00 + 63.15 + 0.00) = 63.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	64.73	0.00	-1.58	0.00	0.00	0.00	0.00	0.00	63.15

Segment Leq : 63.15 dBA

Total Leq All Segments: 63.15 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 73.42

STAMSON 5.0 NORMAL REPORT Date: 20-11-2024 15:33:19
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 10th.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains	Speed (km/h)	# loc / Train	# Cars / Train	Eng type	Cont weld
* 1. Freight	18.4/9.9	96.0	5.0	146.0	Diesel	Yes

* The identified number of trains have been adjusted for future growth using the following parameters:

Train type: No	Name	Unadj. Trains	Annual % Increase	Years of Growth
1.	Freight	13.0/7.0	2.50	14.00

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

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 68.80 / 68.80 m
Receiver height		: 30.30 / 30.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
No Whistle		
Reference angle		: 0.00

Results segment # 1: CP Rail (day)

LOCOMOTIVE (0.00 + 70.12 + 0.00) = 70.12 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	76.74	-6.61	0.00	0.00	0.00	0.00	0.00	70.12

WHEEL (0.00 + 63.81 + 0.00) = 63.81 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	70.42	-6.61	0.00	0.00	0.00	0.00	0.00	63.81

Segment Leq : 71.03 dBA

Total Leq All Segments: 71.03 dBA

Results segment # 1: CP Rail (night)

LOCOMOTIVE (0.00 + 70.44 + 0.00) = 70.44 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	77.06	-6.61	0.00	0.00	0.00	0.00	0.00	70.44

WHEEL (0.00 + 64.12 + 0.00) = 64.12 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	70.74	-6.61	0.00	0.00	0.00	0.00	0.00	64.12

Segment Leq : 71.35 dBA

Total Leq All Segments: 71.35 dBA

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

Car traffic volume	: 31428/3492	veh/TimePeriod *
Medium truck volume	: 0/0	veh/TimePeriod *
Heavy truck volume	: 972/108	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): 36000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 0.00
Heavy Truck : 3.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Sarnia Rd. (day/night)

Angle1	Angle2	: -90.00 deg 90.00 deg
Wood depth		: 0 (No woods.)
No of house rows		: 0 / 0
Surface		: 1 (Absorptive ground surface)
Receiver source distance		: 21.60 / 21.60 m
Receiver height		: 30.30 / 30.30 m
Topography		: 1 (Flat/gentle slope; no barrier)
Reference angle		: 0.00

Results segment # 1: Sarnia Rd. (day)

Source height = 1.32 m

ROAD (0.00 + 69.68 + 0.00) = 69.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	71.26	0.00	-1.58	0.00	0.00	0.00	0.00	0.00	69.68

Segment Leq : 69.68 dBA

Total Leq All Segments: 69.68 dBA

Results segment # 1: Sarnia Rd. (night)

(NIGHT): 71.96

Source height = 1.32 m

ROAD (0.00 + 63.15 + 0.00) = 63.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
90	0.00	64.73	0.00	-1.58	0.00	0.00	0.00	0.00	0.00	63.15

Segment Leq : 63.15 dBA

Total Leq All Segments: 63.15 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 73.42