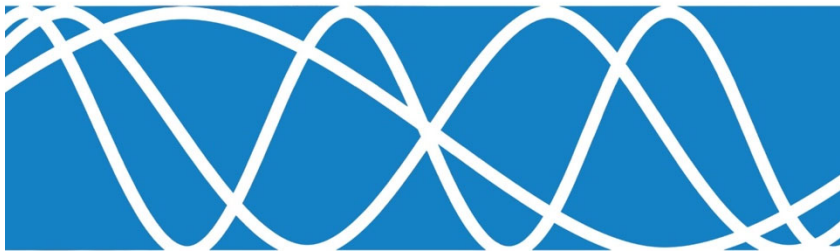


Noise Feasibility Study
**Proposed Residential
Development
2184 Perth Line 34
Shakespeare, ON**

March 3, 2025
HGC Project #: 02401100

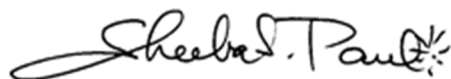


Prepared for:
Ron & Brenda Hyde
2184 Perth Line 34,
Shakespeare, ON N0B 2P0

Version Control
Noise Feasibility Study
2184 Perth Line 34, Shakespeare, Ontario

1.0	March 3, 2025	Noise Feasibility Study prepared to support the planning and approvals process	H. Wang, Y. Lo

Reviewed by:



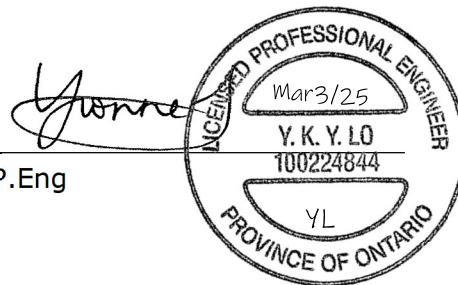
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Limitations

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1 INTRODUCTION & SUMMARY

HGC Noise Vibration Acoustics (HGC) was retained by Ron and Brenda Hyde to conduct a noise feasibility study for the proposed residential development located at 2184 Perth Line 34. The proposed residential development will include three residential lots, each with a single-detached dwelling unit, created through the severance process. The subject lands are located on the north side of William Shakespeare Street, east of Road 107, and south of Line 34 (Highway 8), in the Town of Shakespeare, Ontario. A noise study is required by the municipality as part of the OPA/ZBA application.

The primary noise sources at the proposed residential development were determined to be road traffic on Highway 8 and Perth Road 107, with some contribution from rail traffic on the Canadian National Railway (CN) rail line located approximately 360 m to the south of the site.

Road traffic information was obtained from Perth County personnel and the Ministry of Transportation (MTO), while rail traffic data was obtained from CN and Metrolinx personnel. The data was used to predict future traffic sound levels at the development and were compared to the guidelines of the Ministry of the Environment, Conservation and Parks (MECP).

The sound level predictions indicate that future road and rail traffic sound levels will not exceed MECP guidelines. There are no specific acoustic recommendations for the development. A noise warning clause is required to inform future occupants of the proximity to existing commercial/retail facilities. Any building construction meeting the minimum requirements of the Ontario Building Code will provide adequate sound insulation for the proposed dwelling units.



2 SITE DESCRIPTION & NOISE SOURCES

A key plan showing the location of the proposed residential development is attached as Figure 1. The proposed residential development will include three lots with a single-detached dwelling unit on each lot. The subject site is located on the north side of William Shakespeare Street, east of Perth Road 107, specifically at 2184 Perth Line 34 in the Town of Shakespeare, Ontario.

The acoustical environment surrounding the site is urban (Class 1) in nature. A severance sketch prepared by MTE dated August 13, 2024 is included as Figure 2.

HGC Engineering personnel visited the site in January 2025 to make observations of the surrounding acoustical environment. The surrounding lands consist mainly of residential uses. According to correspondence with the client, the existing building to the north of the subject site serves as an electric supply store and is owned by the client. There are no known noise sources associated with this facility. There is a fire station to the northeast and retail uses to the west. The Shakespeare Mills is located to the south. Road traffic on Highway 8 and Perth Road 107 were noted as the dominant sources of traffic noise, with some contribution from rail traffic on the CN rail line to the south. It is recommended that a noise warning clause to identify that the nearby retail and commercial uses may at times be audible be included in the property and tenancy agreements as recommended in Section 6.

3 SOUND LEVEL CRITERIA

3.1 Criteria Governing Traffic Noise

Guidelines for acceptable levels of road and rail traffic noise impacting residential developments are outlined in the MECP publication NPC-300 "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", Part C release date October 21, 2013. The Federation of Canadian Municipalities (FCM) and Railway Association of Canada (RAC)

“Guidelines for New Development in Proximity to Railway Operations”, dated May 2013 (RAC/FCM guidelines were also reviewed dated November 2006). The values in Table 1 are energy equivalent (average) sound levels [L_{EQ}] in units of A-weighted decibels [dBA].

Table 1: MECP Road and Rail Traffic Noise Criteria (dBA)

Space	Daytime LEQ (16 hour) Road/Rail	Nighttime LEQ(8 hour) Road/Rail
Outdoor Living Area	55 dBA	--
Inside Living/Dining Rooms	45 dBA/40 dBA	45 dBA/40 dBA
Inside Bedrooms	45 dBA/40 dBA	40 dBA/35 dBA

Daytime references the period between 07:00 and 23:00, while nighttime is defined as the time between 23:00 and 07:00. The term “Outdoor Living Area” (OLA) is used in reference to an outdoor patio, backyard, terrace, or other area where passive recreation is expected to occur. Balconies that measure less than 4 m in depth are not classified as outdoor living areas under MECP guidelines.

The MECP guidelines allow the daytime sound levels in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the property. Where OLA sound levels exceed 60 dBA, physical mitigation is recommended to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically, and administratively feasible.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom or living/dining room windows exceed 60 dBA or daytime sound levels outside living/dining room/bedroom windows exceed 65 dBA. If the sound level in the plane of a bedroom or living/dining room window is greater than 55 dBA and less than or equal to 65 dBA, the dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant’s discretion.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of window nighttime sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise, or when the nighttime sound level is greater than 55 dBA or greater than 60 dBA during the daytime due to rail traffic noise.

Indoor guidelines are 5 dBA more stringent for rail noise than for road noise, to account for the low frequency (rumbling) character of locomotive sound, and its greater potential to transmit through exterior wall/window assemblies.

Warning clauses to notify future residents of possible noise excesses are also required when nighttime sound levels exceed 50 dBA at the plane of the bedroom or living/dining room windows, or daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom or living/dining room window due to road and rail traffic.

Since the development is located more than 75 m from the closest rail line, ground-borne vibration measurements are not required.

4 TRAFFIC NOISE PREDICTIONS

4.1 Road Traffic

Road traffic data for Perth Road 107 was obtained from Perth County personnel in the form of hourly traffic volumes. A speed limit of 50 km/h and commercial vehicle percentages of 2.7% for medium trucks and 13.7% for heavy trucks was applied in the analysis.

Road traffic data for Highway 8 was obtained from the Ministry of Transportation in the form of an Annual Average Daily Traffic (AADT) volume. A commercial vehicle percentage of 5.0% was further split into 2.0% medium trucks and 3.0% heavy trucks.

The prediction considers traffic that will exist in year 2035, assuming a conservative annual traffic growth of 2.5%, as required by the MECP. A

day/night split of 90%/10% was used in the analysis for both roads. Table 2 summarizes the parameters and traffic volumes used in the road traffic noise assessment. Road traffic data is included in Appendix A.

Table 2: Road Traffic Data Projected to Year 2035

Roadway	AADT	Day / Night Split [%]	Trucks Percentage (%)		Speed Limit [km/h]
			Medium	Heavy	
Perth Road 107	7 350	90 / 10	2.7	13.7	50
Line 34/ Highway 8	10 032	90 / 10	2.0	3.0	50

4.2 Rail Traffic Data

Rail traffic data for the CN Guelph Subdivision was obtained from CN and Metrolinx personnel and is attached in Appendix B. This line is used for way freight and passenger operations and is classified as a principal main line. The maximum permissible train speed in the area of the site is 89 kph (55 mph) for way freight and 113 kph (70 mph) for passenger/GO trains. One way freight train was included during the night as a worst-case scenario. In conformance with CN assessment requirements, the maximum speeds, maximum number of cars and locomotives per train were used in the traffic noise analysis to yield a worst-case estimate of train noise. The data was projected to the year 2035 using a 2.5% growth rate and is shown in Table 3. Data obtained from Metrolinx is in the form of forecasted volumes.

Table 3: Rail Traffic Data Projected to Year 2035

Type of Train	Number of Locomotives	Number of Cars	Max Speed (kph)	Current Volume Day/Night	Projected Volume Day/Night
Way Freight	4	25	89	4 / 1	5 / 1
Passenger	2	10	113	3 / 0	4 / 0
GO	1	4	113	--	2 / 0

Note:

* A nighttime way freight train was included in the analysis as a conservative measure, even though data obtained from CN and Metrolinx personnel did not indicate any nighttime trains.

4.3 Traffic Noise Predictions

To assess the levels of road and rail traffic noise which will impact the study area in the future, sound level predictions were made using STAMSON version 5.04, a computer algorithm developed by the MECP. STAMSON outputs are included in Appendix C. Sound level predictions at the façades also consider train whistle noise for the crossing at Perth Road 107.

Sound levels were predicted in the plane of the top storey windows to investigate ventilation and glazing requirements and in the outdoor amenity areas to determine acoustic barrier requirements.

The predicted traffic sound levels at the proposed residential development are summarized in Table 4 below. Prediction locations are indicated in Figure 2.

Table 4: Predicted Traffic Sound Levels [dBA], Without Mitigation

Location	Description	Daytime – OLA LEQ(16)	Daytime – Façade Road/Rail/Total LEQ(16)	Nighttime – Façade Road/Rail/Total LEQ(8)
A	North Façade of the proposed dwelling unit on the severed lot to the west	--	55 / -- / 55	48 / -- / 48
B	West Façade of the proposed dwelling unit on the severed lot to the west	--	55 / 37 / 55	48 / 32 / 48
A_OLA	Rear yard	54	--	--

5 DISCUSSION & RECOMMENDATIONS

The sound level predictions indicate that traffic sound levels will not exceed MECP criteria during the daytime and nighttime at the proposed dwelling units. Recommendations for traffic noise are provided below.

5.1 Outdoor Living Areas

Without mitigation, the future sound levels at the rear yards of the proposed residential units will be less than 55 dBA. Noise mitigation measures will not be required.

5.2 Indoor Living Areas and Ventilation Requirements

The predicted future sound levels at the proposed dwelling units are less than 50 dBA and 55 dBA during nighttime and daytime, respectively. This is below the MECP limit and thus there are no specific ventilation requirements for the proposed dwelling units.

5.3 Building Façade Constructions

The predicted future sound levels at the proposed dwelling units will be less than 60 dBA during the nighttime and less than 65 dBA during daytime. Thus, any exterior wall and double glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation.

6 WARNING CLAUSES

MECP guidelines recommend that appropriate warning clauses be used in the Development Agreements and in purchase, sale and lease agreements (typically by reference to the Development Agreements), to inform future owners and occupants about the proximity to commercial/retail facilities in the area.

Suitable wording to inform future residents of the surrounding commercial/retail facilities and that sounds from these facilities may at times be audible is provided below:

Type E:

Purchasers are advised of the proximity of adjacent commercial/retail facilities, the sound from which may at times be audible.

This sample clause is provided by the MECP as an example and can be modified by the Municipality as required.

7 SUMMARY OF RECOMENDATIONS

The following recommendations are provided regarding noise mitigation for traffic noise.

1. A noise warning clause should be included in the property and tenancy agreements and offers of purchase and sale for the dwelling units to inform future owners and occupants of the proximity to existing commercial/retail uses, as indicated in Section 6.
2. There are no specific ventilation or acoustic barrier requirements.
3. Any building construction meeting the minimum requirements of the Ontario Building Code will provide sufficient acoustical insulation for the proposed building.

The reader is referred to the previous sections of this report where these recommendations are discussed in more detail. The following table summarizes the recommendations made in this report.

Table 5: Summary of Noise Control Requirements and Noise Warning Clauses

Description	Acoustic Barrier	Ventilation Requirements	Type of Warning Clause	Minimum Glazing Constructions
Proposed Dwelling Units	--	--	E	OBC

Notes:

-- no specific requirement

OBC – Ontario Building Code Requirements

8 CONCLUSIONS

In summary, HGC has reviewed the proposed site plan for the proposed residential development located at 2184 Perth Line 34 in the Town of Shakespeare, Ontario and performed calculations to determine the traffic noise impact in accordance with MECP guidelines.

The development is feasible from a noise perspective. The results of the traffic noise assessment indicate that there are no ventilation or barrier requirements, and any building construction meeting the minimum requirements of the OBC is expected to provide sufficient acoustical insulation for the proposed dwelling units. A noise warning clause is required for the dwelling units.



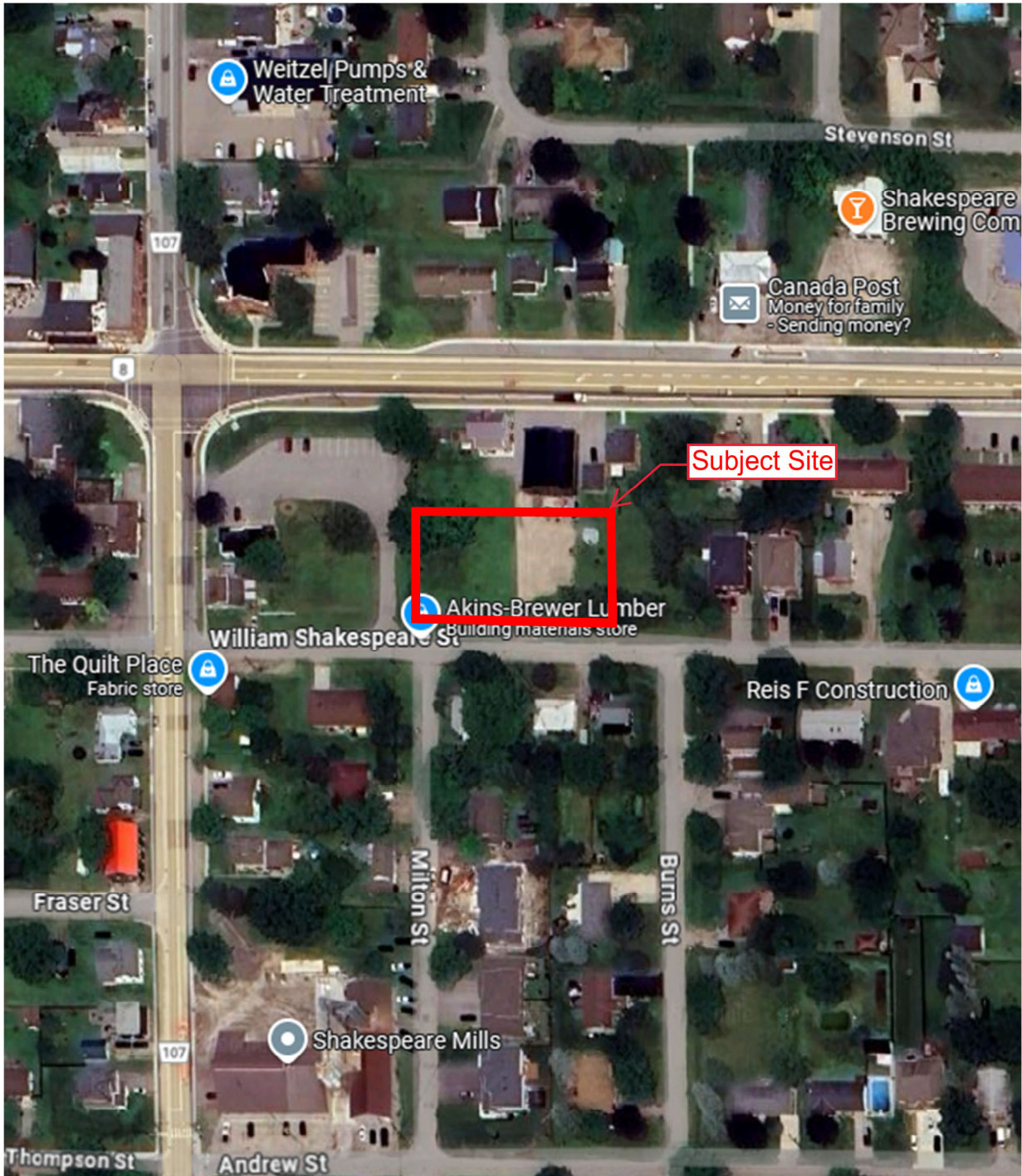


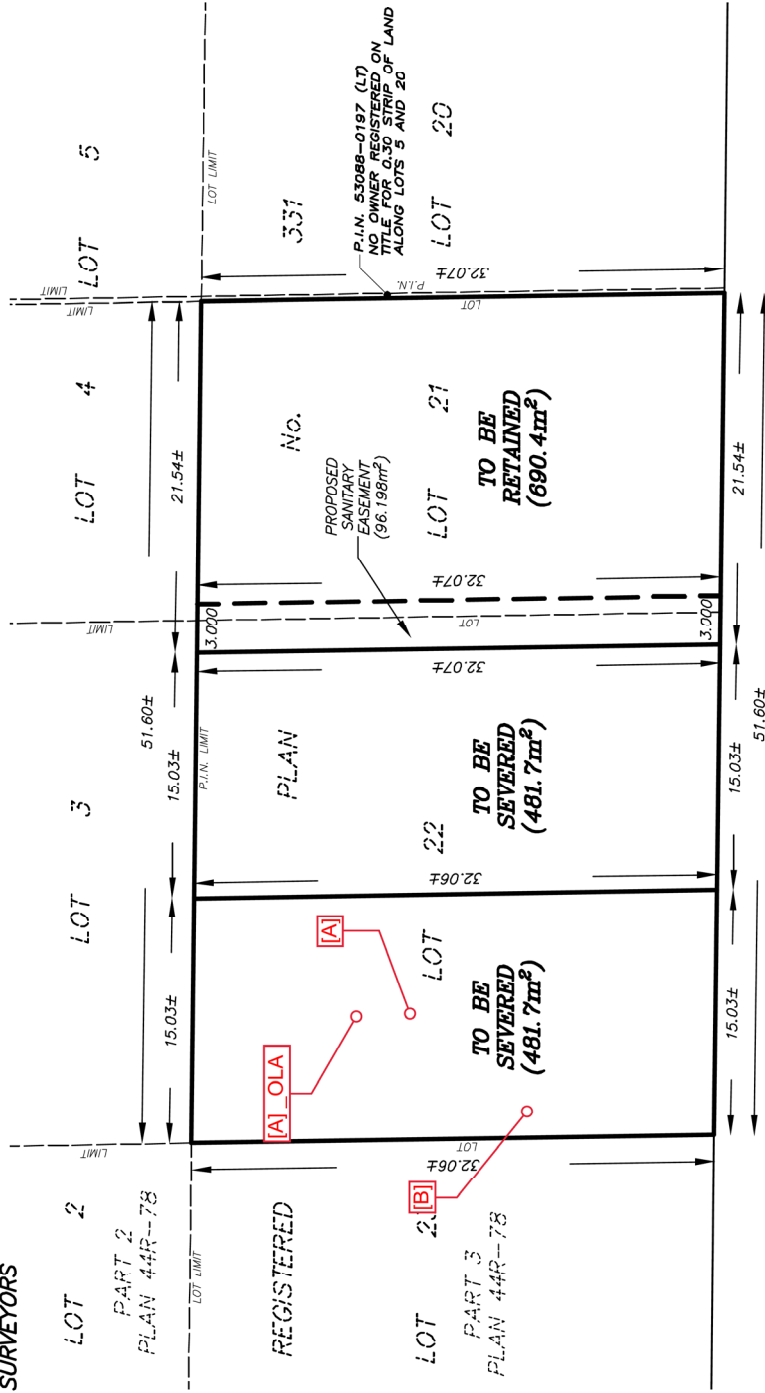
Figure 1: Key Plan

SEVERANCE SKETCH

SCALE 1:300



MTE OLS LTD.
ONTARIO LAND SURVEYORS



WILLIAM STREET
KNOWN AS WILLIAM SHAKESPEARE STREET
(ESTABLISHED BY REGISTERED PLAN 331)

CAUTION:

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSES INDICATED IN THE TITLE BLOCK. THIS SKETCH IS PREPARED FOR RON & BRENDA HYDE DATE : AUGUST 13, 2024 © COPYRIGHT 2024, MTE OLS LTD.

METRIC:
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTES:
MEASUREMENTS ON THIS SKETCH OBTAINED FROM ACTUAL FIELD SURVEY

AREAS:
AREAS SHOWN ON THIS PLAN ARE IN SQUARE METRES AND CAN BE CONVERTED TO ACRES BY DIVIDING BY 4046.8564.



MTE MTE ONTARIO LAND SURVEYORS LTD.
365 HOME STREET
STRAITFORD, ONTARIO, N5A 2A5
TEL: 519-271-7952

Code File: P:\P\42130\100\42130-100-5\2.DWG
CADD : 42130-100-UTMGROUND.ASC
Drawn By : C. JANSSEN
Checked By : D. REAUME
File No : 42130-100-SV2 (S)

Figure 2: Proposed Site Plan Showing Prediction Locations

Appendix A

Road Traffic Data



NOISE



VIBRATION



ACOUSTICS

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10704
 Station ID: U122
 Rd 107 between Line 33 & Hwy 8

Date Start: 31-May-23
 Date End: 31-May-23

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/23	0	7	1	0	0	0	0	1	5	0	0	0	0	14
01:00	0	15	3	0	0	0	0	1	1	0	0	0	0	20
02:00	0	4	2	0	0	0	0	0	1	1	0	0	0	8
03:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
04:00	0	14	7	0	0	1	0	0	4	1	0	0	0	27
05:00	0	33	29	1	0	3	0	1	4	1	0	1	0	73
06:00	1	82	40	0	0	3	1	3	4	5	3	0	5	147
07:00	0	86	50	1	3	7	2	4	5	8	5	0	0	171
08:00	1	86	32	0	9	5	1	3	10	6	2	1	5	161
09:00	1	76	50	0	1	4	0	4	2	9	0	0	7	154
10:00	1	85	42	0	2	3	1	1	4	7	2	0	4	152
11:00	2	96	54	0	2	6	0	1	6	8	0	0	1	176
12 PM	1	91	44	0	1	3	1	1	8	5	1	0	5	161
13:00	2	82	37	0	4	5	2	4	7	3	0	0	5	151
14:00	1	78	40	0	5	3	1	1	8	4	0	0	3	144
15:00	1	108	50	0	5	3	0	0	3	5	0	1	1	177
16:00	2	133	56	0	1	3	0	1	11	6	3	1	8	225
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22:00	0	33	12	0	1	0	0	2	3	1	0	0	0	52
23:00	0	29	7	0	0	0	0	0	1	1	0	0	0	38
Day Total	16	1469	696	2	36	54	11	30	107	81	19	4	44	2569
Percent	0.6%	57.2%	27.1%	0.1%	1.4%	2.1%	0.4%	1.2%	4.2%	3.2%	0.7%	0.2%	1.7%	
AM Peak	11:00	11:00	11:00	05:00	08:00	07:00	07:00	07:00	08:00	09:00	07:00	05:00	09:00	11:00
Vol.	2	96	54	1	9	7	2	4	10	9	5	1	7	176
PM Peak	13:00	16:00	16:00		14:00	13:00	13:00	13:00	16:00	16:00	16:00	15:00	16:00	16:00
Vol.	2	133	56		5	5	2	4	11	6	3	1	8	225
Grand Total	16	1469	696	2	36	54	11	30	107	81	19	4	44	2569
Percent	0.6%	57.2%	27.1%	0.1%	1.4%	2.1%	0.4%	1.2%	4.2%	3.2%	0.7%	0.2%	1.7%	

Ontario Traffic, Inc.
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SB

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05/31/23	0	7	3	0	0	0	0	1	0	0	0	0	0	11
01:00	1	5	6	1	0	1	0	0	1	1	0	0	0	16
02:00	0	1	0	0	1	0	1	0	0	0	0	0	1	4
03:00	1	5	3	1	1	0	0	0	0	0	0	0	0	11
04:00	0	15	7	1	0	2	0	0	4	1	0	0	0	30
05:00	0	55	29	2	5	3	0	2	2	3	3	0	1	105
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Day Total	15	1617	782	30	81	67	24	44	96	69	42	1	59	2927
Percent	0.5%	55.2%	26.7%	1.0%	2.8%	2.3%	0.8%	1.5%	3.3%	2.4%	1.4%	0.0%	2.0%	
AM Peak	06:00	07:00	06:00	07:00	07:00	11:00	06:00	11:00	10:00	09:00	07:00	11:00	11:00	11:00
Vol.	2	113	57	3	10	10	2	6	9	8	5	1	7	213
PM Peak	14:00	16:00	16:00	14:00	16:00	17:00	12:00	14:00	12:00	12:00	16:00		12:00	16:00
Vol.	2	146	66	4	7	6	4	5	7	10	6		6	248
Grand Total	15	1617	782	30	81	67	24	44	96	69	42	1	59	2927
Percent	0.5%	55.2%	26.7%	1.0%	2.8%	2.3%	0.8%	1.5%	3.3%	2.4%	1.4%	0.0%	2.0%	

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05/31/23	0	14	4	0	0	0	0	2	5	0	0	0	0	25
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17:00	0	227	102	2	3	8	0	5	7	7	5	0	6	372
18:00	3	174	85	0	2	1	2	0	9	1	3	0	4	284
19:00	0	133	61	1	2	3	2	1	10	4	2	0	2	221
20:00	1	107	45	0	0	3	0	1	7	0	0	0	1	165
21:00	1	84	18	0	0	2	0	0	4	3	0	0	3	115
22:00	0	60	21	0	1	1	3	3	4	1	0	0	0	94
23:00	0	42	14	0	2	1	0	0	3	1	0	0	0	63
Day Total	31	3086	1478	32	117	121	35	74	203	150	61	5	103	5496
Percent	0.6%	56.1%	26.9%	0.6%	2.1%	2.2%	0.6%	1.3%	3.7%	2.7%	1.1%	0.1%	1.9%	
AM Peak	06:00	07:00	11:00	07:00	07:00	11:00	06:00	06:00	08:00	09:00	07:00	05:00	09:00	11:00
Vol.	3	199	108	4	13	16	3	7	18	17	10	1	12	389
PM Peak	13:00	16:00	16:00	14:00	14:00	13:00	12:00	13:00	16:00	12:00	16:00	15:00	12:00	16:00
Vol.	3	279	122	4	10	10	5	7	17	15	9	1	11	473
Grand Total	31	3086	1478	32	117	121	35	74	203	150	61	5	103	5496
Percent	0.6%	56.1%	26.9%	0.6%	2.1%	2.2%	0.6%	1.3%	3.7%	2.7%	1.1%	0.1%	1.9%	

Year	Highway	Location Description	Dist (KM)	Pattern Type	AAAT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
1991	8			UC	61,200	64,900	70,400	59,400	4,300	47	1.0	10	0.2
1992	8			UC	61,600	65,300	70,800	59,100	4,300	58	1.2	6	0.1
1993	8			UC	61,600	64,900	70,000	57,700	4,300	35	0.7	3	0.1
1994	8			UC	68,300	72,400	78,100	63,500	4,800	22	0.4	1	0.0
1995	8			UC	71,100	75,000	81,300	66,300	5,000	17	0.3	1	0.0
1996	8			UC	73,900	78,200	86,500	70,300	5,150	48	0.8	3	0.1
1997	8			UC	76,700	80,500	89,700	72,100	5,350	28	0.5	5	0.1
1998	8			UC	79,500	84,300	93,000	75,500	5,550	38	0.6	6	0.1
1999	8			UC	82,300	87,200	96,300	78,200	5,750	43	0.7	0	0.0
2000	8			UC	82,600	87,600	97,500	77,600	5,800	38	0.6	3	0.0
2001	8			UC	84,800	90,800	99,800	79,700	5,950	45	0.7	8	0.1
2002	8			UC	87,000	92,700	102,300	81,500	6,100	99	1.4	14	0.2
2003	8			UC	89,200	94,300	104,500	84,300	6,250	65	0.9	7	0.1
2004	8			UC	90,600	97,000	106,600	85,100	6,350	51	0.7	4	0.1
2005	8			UC	86,900	92,000	101,600	81,500	6,100	49	0.7	6	0.1
2006	8			UC	92,400	97,700	108,000	87,000	6,450	38	0.5	4	0.1
2007	8			UC	95,100	100,900	110,100	89,200	6,650	51	0.7	7	0.1
2008	8			UC	97,800	103,300	117,600	91,500	6,850	53	0.7	5	0.1
2009	8			UC	100,500	106,500	117,600	94,500	7,050	29	0.4	3	0.0
2010	8			UC	101,400	107,200	118,000	95,300	6,100	36	0.4	5	0.1
2011	8			UC	101,400	101,700	105,200	96,200	6,100	44	0.5	4	0.0
2012	8			UC	103,400	104,000	110,700	98,200	6,200	37	0.4	9	0.1
2013	8			UC	104,400	104,700	105,000	99,100	6,250	39	0.5	3	0.0
2014	8			UC	105,400	105,700	101,400	100,000	6,300	41	0.5	4	0.0
2015	8			UC	106,500	106,800	102,400	101,100	6,400	74	0.9	13	0.2
2016	8			UC	107,600	107,900	103,500	102,100	6,450	98	1.1	15	0.2
2017	8			UC	111,900	111,200	112,200	107,200	6,700	86	1.0	4	0.0
2018	8			UC	113,600	112,700	114,500	109,000	6,800	93	1.0	9	0.1
2019	8			UC	115,400	113,700	115,400	111,200	6,900	106	1.1	17	0.2
2021	8			UC	118,900	119,200	120,700	114,600	7,150	59	0.6	4	0.0
2021	8	E JCT HWY 7 IC	41.4										
2021	8	STRATFORD E LTS START OF NA	3.0										
1988	8		5.7	IC	6,900	8,000	7,800	6,050	480	13	0.9	6	0.4
1989	8			IC	7,200	8,300	8,150	6,400	430	18	1.2	1	0.1
1990	8			IC	7,350	8,400	8,250	6,550	440	18	1.2	1	0.1
1991	8			IC	7,500	8,500	8,300	6,700	450	15	1.0	1	0.1
1992	8			CR	5,900	7,250	6,750	5,300	470	9	0.7	2	0.2
1993	8			CR	6,300	7,750	7,250	5,650	500	9	0.7	1	0.1
1994	8			CR	7,150	8,800	8,150	6,450	570	15	1.0	4	0.3
1995	8			IC	7,050	7,900	7,950	6,350	560	14	1.0	2	0.1
1996	8			IC	7,400	8,300	8,350	6,600	590	15	1.0	1	0.1

Year	Highway	Location Description	Dist (KM)	Pattern Type	AAAT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
1997	8			CTR	7,500	9,600	9,200	6,300	520	12	0.8	1	0.1
1998	8			CTR	7,900	10,000	9,650	6,650	790	4	0.2	1	0.1
1999	8			CTR	7,700	9,700	9,300	6,450	690	7	0.4	1	0.1
2000	8			CTR	7,600	9,600	9,200	6,400	680	8	0.5	0	0.0
2001	8			CTR	7,750	9,800	9,400	6,550	700	5	0.3	0	0.0
2002	8			CTR	7,750	9,800	9,400	6,550	700	3	0.2	0	0.0
2003	8			CTR	7,800	9,700	9,300	6,600	700	13	0.8	1	0.1
2004	8			CTR	7,650	9,650	9,250	6,450	610	9	0.6	1	0.1
2005	8			CTR	7,500	9,300	8,900	6,350	600	9	0.6	1	0.1
2006	8			CTR	7,500	9,300	8,900	6,350	820	6	0.4	2	0.1
2007	8			CTR	7,500	9,300	9,200	6,350	820	7	0.5	1	0.1
2008	8			CTR	6,850	8,500	8,300	5,800	480	5	0.4	1	0.1
2009	8			CTR	7,500	9,150	8,850	6,400	520	9	0.6	1	0.1
2010	8			CTR	7,350	8,950	8,600	6,250	440	6	0.4	0	0.0
2011	8			CTR	7,350	8,950	8,600	6,250	440	8	0.5	1	0.1
2012	8			UC	6,850	6,900	7,350	6,500	420	3	0.2	0	0.0
2013	8			UC	6,850	6,850	6,900	6,500	420	6	0.4	0	0.0
2014	8			UC	7,200	7,200	6,900	6,850	440	5	0.3	1	0.1
2015	8			UC	7,150	7,150	6,900	6,800	440	16	1.1	0	0.0
2016	8			UC	7,100	7,100	6,850	6,750	430	6	0.4	0	0.0
2017	8			UC	7,100	7,050	7,100	6,800	430	4	0.3	0	0.0
2018	8			UC	7,050	7,000	7,100	6,750	430	9	0.6	1	0.1
2019	8			UC	6,800	6,700	6,800	6,550	340	8	0.6	0	0.0
2021	8			UC	7,000	7,000	7,100	6,750	350	7	0.5	1	0.1
1988	8	PERTH RD 135 WARTBURG RD (N)	11.2	IC	5,150	5,950	5,800	4,550	520	31	1.5	2	0.1
1989	8			IC	5,400	6,200	6,100	4,800	540	16	0.7	0	0.0
1990	8			IC	5,650	6,450	6,350	5,050	560	16	0.7	4	0.2
1991	8			IC	5,750	6,500	6,400	5,100	580	15	0.6	0	0.0
1992	8			CR	5,500	6,750	6,250	4,950	550	11	0.5	3	0.1
1993	8			CR	5,700	7,000	6,550	5,150	570	18	0.8	1	0.0
1994	8			CR	6,050	7,450	6,900	5,450	600	15	0.6	2	0.1
1995	8			IC	6,250	7,000	7,050	5,600	880	15	0.6	2	0.1
1996	8			IC	6,350	7,150	7,150	5,650	890	16	0.6	1	0.0
1997	8			IC	6,550	7,350	7,400	5,750	920	16	0.6	1	0.0
1998	8			IC	6,700	7,500	7,500	5,950	740	13	0.5	4	0.1
1999	8			IC	6,450	7,200	7,200	5,750	710	7	0.3	0	0.0
2000	8			IC	6,500	7,300	7,300	5,800	720	11	0.4	0	0.0
2001	8			IC	6,450	7,200	7,250	5,700	710	3	0.1	0	0.0
2002	8			IC	6,500	7,250	7,300	5,750	720	12	0.5	1	0.0
2003	8			IC	6,500	7,250	7,300	5,750	720	16	0.6	1	0.0
2004	8			IC	6,500	7,250	7,300	5,750	650	17	0.6	3	0.1

Appendix B

Rail Traffic Data



NOISE



VIBRATION



ACOUSTICS

Victor Garcia

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: August 16, 2024 1:25 PM
To: Victor Garcia
Subject: RE: Rail Traffic Data - Stratford, Ontario

Hi Victor,

Further to your request dated August 14, 2024, the subject lands (3025 Ontario Street, Stratford) are located within 300 metres of the Canadian National (CN) Guelph Subdivision (which carries Kitchener GO rail service). We do have forecasted data for this line near this property.

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains only. The GO rail fleet combination on this Subdivision will consist of up to 1 locomotive and 4 passenger cars. The typical GO rail weekday train volume forecast near the subject lands, including both revenue and equipment trips is in the order of 2 trains. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive		1 Diesel Locomotive
Day (0700-2300)	2	Night (2300-0700)	0

The current track design speed near the subject lands is 70 mph (113 km/h).

There are *anti-whistling by-laws* in affect near the subject lands Downie St.

Operational information is subject to change and may be influenced by, among other factors, service planning priorities, operational considerations, funding availability and passenger demand.

It should be noted that this information only pertains to Metrolinx rail service. It would be prudent to contact other rail operators in the area directly for rail traffic information pertaining to non-Metrolinx rail service.

I trust this information is useful. Should you have any questions or concerns, please do not hesitate to contact me.

Best,

Jenna Auger (She/Her)

Third Party Projects Review (TPPR)
Development & Real Estate Management
10 Bay Street | Toronto | Ontario | M5J 2N8



From: Victor Garcia <vgarcia@hgcengineering.com>
Sent: Wednesday, August 14, 2024 3:38 PM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Subject: Rail Traffic Data - Stratford, Ontario

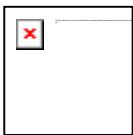
Victor Garcia

From: Sarangan Srikanth <Sarangan.Srikanth@cn.ca>
Sent: August 16, 2024 8:58 AM
To: Victor Garcia
Cc: GLD-Permits; Umair Naveed
Subject: RE: Rail Traffic Data Verification - Stratford

Hello Victor,

This is to confirm that the Data is still valid.

Thank you,



Sarangan Srikanth

Officer Public Works | Engineering-GLD- Eastern Canada
T: **905-669-3000** | C: **437-329-4963**

[What's New at CN](#) | [Quoi de neuf au CN](#)

From: Victor Garcia <vgarcia@hgcengineering.com>
Sent: Tuesday, August 6, 2024 9:27 AM
To: Sarangan Srikanth <Sarangan.Srikanth@cn.ca>
Cc: GLD-Permits <permits.gld@cn.ca>; Umair Naveed <Umair.Naveed@cn.ca>
Subject: RE: Rail Traffic Data Verification - Stratford

CAUTION: This email originated from outside CN: DO NOT click links or open attachments unless you recognize the sender AND KNOW the content is safe.

AVERTISSEMENT : ce courriel provient d'une source externe au CN : NE CLIQUEZ SUR AUCUN lien ou pièce jointe à moins de reconnaître l'expéditeur et d

Good morning,

Would we be able to get an update on the request below?

Thanks,

Victor Garcia, P.Eng
HGC Engineering **NOISE | VIBRATION | ACOUSTICS**
Howe Gastmeier Chapnik Limited
t: 905.826.4044

Any conclusions or recommendations provided by HGC Engineering in this e-mail or any attachments have [limitations](#).

From: Victor Garcia
Sent: Thursday, August 1, 2024 8:19 AM
To: sarangan.srikanth@cn.ca
Subject: Rail Traffic Data Verification - Stratford

Good morning,



Train Count Data

TRANSMITTAL

To: HGC Engineering
Destinataire : 2000 Argentia Rd
Plaza, Suite 203
Mississauga ON
L5N 1P7

Project : GPH-86.65- Road 111 Stratford ON

Att'n: Victor Garcia

Routing: vgarcia@hgcengineering.com

From: Michael Vallins
Expéditeur :

Date: 2021/09/27

Cc: Adjacent Development
CN via e-mail

Urgent For Your Use For Review For Your Information Confidential

Re: Train Traffic Data – CN Guelph Subdivision- Near Road 111 in Stratford ON

Please find attached the requested Train Traffic Data. The application fee in the amount of **\$500.00** +HST will be invoiced.

Should you have any questions, please do not hesitate to contact the undersigned at permits.gld@cn.ca.

Sincerely,

Michael Vallins P.Eng
Manager Public Works- Eastern Canada
permits.gld@cn.ca

Date: 2021/09/27

Project Number: GPH-86.65- Road 111 Stratford ON

Dear Victor:

Re: Train Traffic Data – CN Guelph Subdivision- Near Road 111 in Stratford ON

The following is provided in response to Victor's 2021/07/28 request for information regarding rail traffic in the vicinity of Road 111 in Stratford ON at approximately at Mile 86.65 on CN's Guelph Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

*Maximum train speed is given in Miles per Hour

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	55	4
Way Freight	4	25	55	4
Passenger	3	10	70	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	55	4
Way Freight	0	25	55	4
Passenger	0	10	70	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Guelph Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There are four (4) at-grade crossings in the immediate vicinity of the study area at Mile 85.61 Farm Xing, Mile 85.85 Forest Rd. E., Mile 86.29 Forest Rd. W. and Mile 86.65 111th Rd. Anti-whistling bylaws are not in effect at these crossings. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 263,000 lbs. There is no switch in the immediate vicinity of the study area.

The single mainline track is considered to be continuously welded rail throughout the study area.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,



Michael Vallins P.Eng
Manager Public Works – Eastern Canada
permits.gld@cn.ca

Appendix C

STAMSON 5.04 Outputs



NOISE



VIBRATION



ACOUSTICS

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Hwy 8 (day/night)

```

-----
Angle1  Angle2      : -90.00 deg   90.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      1 / 1
House density   :      50 %
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 47.00 / 47.00 m
Receiver height :      4.50 / 4.50 m
Topography      :      1      (Flat/gentle slope; no barrier)
Reference angle :      0.00

```

Results segment # 1: Rd107 (day)

Source height = 1.93 m

ROAD (0.00 + 50.35 + 0.00) = 50.35 dBA

```

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

```

```

-----
---
-90      0      0.56  68.20   0.00 -10.88  -4.29   0.00  -2.67   0.00
50.35

```

Segment Leq : 50.35 dBA

Results segment # 2: Hwy 8 (day)

Source height = 1.32 m

ROAD (0.00 + 52.69 + 0.00) = 52.69 dBA

```

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

```

```

-----
---
-90      90      0.58  64.56   0.00  -7.81  -1.31   0.00  -2.74   0.00
52.69

```

Segment Leq : 52.69 dBA

Total Leq All Segments: 54.69 dBA

Results segment # 1: Rd107 (night)

Source height = 1.93 m

ROAD (0.00 + 43.81 + 0.00) = 43.81 dBA
 Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
 SubLeq

-90	0	0.56	61.66	0.00	-10.88	-4.29	0.00	-2.67	0.00
-----	---	------	-------	------	--------	-------	------	-------	------

43.81

Segment Leq : 43.81 dBA

Results segment # 2: Hwy 8 (night)

Source height = 1.32 m

ROAD (0.00 + 46.15 + 0.00) = 46.15 dBA
 Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
 SubLeq

-90	90	0.58	58.02	0.00	-7.81	-1.31	0.00	-2.74	0.00
-----	----	------	-------	------	-------	-------	------	-------	------

46.15

Segment Leq : 46.15 dBA

Total Leq All Segments: 48.15 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 54.69
 (NIGHT) : 48.15