16-18 Mill Street

Environmental Noise Assessment

Georgetown, ON

SLR Project No: 241.20189.00000

July 2022





ENVIRONMENTAL NOISE ASSESSMENT 16-18 Mill Street Georgetown, Ontario SLR Project No: 241.20189.00000

Submitted by: SLR Consulting (Canada) Ltd. 100 Stone Road West, Suite 201 Guelph, Ontario, N1G 5L3

Prepared for: Egmond Associates Ltd. 9601 Winston Churchill Blvd. Brampton, Ontario, L6X 0A4

July 6, 2022

This document has been prepared by SLR Canada. The material and data in this report were prepared under the supervision and direction of the undersigned.

Prepared by:

Kemi Mallinen

Keni Mallinen, P.Eng. Acoustics Engineer



Principal, Acoustics Noise and Vibration



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1. INTRODUCTION

SLR Consulting (Canada) Ltd. was retained by Egmond Associates Ltd. to conduct an environmental noise assessment for the proposed residential development to be located at 16-18 Mill, Georgetown, Ontario (the Project). This report has been prepared in support of the Site Plan Approval (SPA) application for the development.

1.1 FOCUS OF REPORT

In keeping with Ministry of Environment, Conservation and Parks (MECP) and Region of Halton requirements, this report examines the potential for:

- Impacts of the environment on the proposed development;
- Impacts of the proposed development on the environment; and
- Impacts of the proposed development on itself.

1.2 NATURE OF THE SUBJECT LANDS

The proposed development is located at 16-18 Mill Street, Georgetown. The site is located on the north side of the road, between Dayfoot Drive to the west and McNabb Street to the east. It is currently occupied by a low-rise residential building and a 2-storey house.

The proposed development will have two 4-storey townhouse blocks (herein referred to as the North Block and South Block, respectively). Two levels of underground parking will be provided. An indoor amenity area is planned for the second floor of the South Block.

Private balconies/terraces will be provided on the top floor of the South Block, facing south. The area between the two townhouse blocks will accommodate several at-grade private patios.

The site plan and architectural drawings of the proposed development are provided for reference in **Appendix A**.

1.3 NATURE OF THE SURROUNDINGS

Low-rise detached residential homes are situated immediately adjacent to the south and west of the Project site. An automotive shop (Kiyos Japanese Car Service) is located to the south at 21 Mill Street (on the opposite side of the road), and there is green space to the north and east.

Beyond the immediate surroundings, the Project area is dominated by detached residential dwellings to the west, east and south. Commercial businesses are located along Guelph Street approximately 200 m or more to the south.

The CN Halton Subdivision and Metrolinx rail corridor is located approximately 90 m to the north. The Georgetown GO station, which is also used as a layover yard by Metrolinx, is located approximately 300 metres northeast of the Project site.

The topography of the immediate surrounding area is relatively flat, with a minor increase in grade to the northwest along Dayfoot Drive, and a minor decrease in grade along Mill Street to the northeast.

A context plan is provided as Figure 1.

PART 1: IMPACTS OF THE ENVIRONMENT ON THE DEVELOPMENT

In assessing potential impacts of the environment on the Project, the focus of this report is to assess the potential for:

- Transportation noise impacts from the GO, CN Freight and Passenger trains along the CN Halton Subdivision; and
- Stationary noise impacts from surrounding industries on the development.

As the railway right of way (RoW) is located more than 75 m from the Project site, a vibration assessment was not completed.

2. TRANSPORTATION NOISE IMPACTS

2.1 TRANSPORTATION NOISE SOURCES

Transportation noise sources that have the potential to impact the Project are railway noise from CN Freight, VIA and GO trains along the Halton Subdivision.

Road traffic volumes from Mill Street are not considered to be significant, and adverse noise impacts are not expected. Therefore, analysis of road traffic noise has not been considered further in the analysis.

Sound levels at the proposed development have been predicted, and this information has been used to identify façade, ventilation and warning clause requirements.

2.2 SURFACE TRANSPORTATION NOISE CRITERIA

Noise Sensitive Developments

Ministry of the Environment, Conservation and Parks (MECP) Publication NPC-300 provides sound level criteria for noise sensitive developments. The applicable portions of NPC-300 are Part C – Land Use Planning and the associated definitions outlined in Part A – Background. **Tables 1 to 4** summarize the applicable surface transportation (road and rail) criteria limits.

Location Specific Criteria

Table 1 outlines sound level limits in terms of energy equivalent sound exposure (L_{eq}) levels for specificnoise-sensitive locations. Both outdoor and indoor locations are identified, with the focus of outdoor areasbeing amenity spaces. Indoor criteria vary with sensitivity of the space. As a result, Sleeping Quarters havemore stringent criteria than Living/Dining room spaces.

Outdoor Amenity Areas

Table 2 summarizes the noise mitigation requirements for communal outdoor amenity areas ("OutdoorLiving Areas" or "OLAs").

For the assessment of outdoor sound levels, the surface transportation noise impacts are determined by combining road and rail traffic sound levels. Whistle noise from trains is not included in the determination of outdoor sound levels.

Type of Space	Time Period	Energy Equivalent Level - L	Assessment	
		Road	Rail ^[1]	Location
Outdoor Living Area (OLA)	Daytime (0700-2300h)	55	55	Outdoors ^[2]
	Daytime (0700-2300h)	45	40	Indoors ^[3]
Living / Dining Room	Night-time (2300-0700h)	45	40	Indoors ^[3]
	Daytime (0700-2300h)	45	40	Indoors ^[3]
Sleeping Quarters	Night-time (2300-0700h)	40	35	Indoors ^[3]

Table 1: MECP Publication NPC-300 Sound Level Criteria for Road and Rail Noise

Notes: [1] Whistle noise is excluded for OLA noise assessments, and included for Living/Dining Room and Sleeping Quarters assessments.

[2] Road and Rail noise impacts are to be combined for assessment of OLA impacts.

[3] An assessment of indoor noise levels is required only if the criteria in Table 4 are exceeded.

Table 2: MECP Publication NPC-300 Outdoor Living Area Mitigation Requirements

Time Period	Equivalent Sound Level in Outdoor Living Area (dBA)	Ventilation Requirements		
	<u><</u> 55	• None		
Daytime (0700-2300h)	56 to 60 incl.	Noise barrier OR Warning Clause A		
(0700 23001)	> 60	 Noise barrier to reduce noise to 55 dBA OR Noise barrier to reduce noise to 60 dBA and Warning Clause B 		

Ventilation and Warning Clauses

Table 3 outlines ventilation requirements where windows would potentially have to remain closed as a means of noise control. Despite implementation of ventilation measures where required, if sound exposure levels exceed the guideline limits in **Table 1**, warning clauses advising future occupants of the potential excesses are required. Warning clauses also apply to OLAs.

Table 3: MECP Publication NPC-300 Ventilation & Warning Clause Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L _{eq} (dBA) Road Rail ^[1]		Ventilation and Warning Clause Requirements ^[2]	
Outdoor Living Area	Daytime (0700-2300h)	56 to 60 incl.		Type A Warning Clause	
		≤	55	None	
	Daytime (0700-2300h) Night-time (2300-0700h)	56 to 65 incl.		Forced Air Heating /provision to add air conditioning + Type C Warning Clause	
Plane of Window		> 65		Central Air Conditioning + Type D Warning Clause	
		51 to 60 incl.		60 incl.	Forced Air Heating/ provision to add air conditioning + Type C Warning Clause
		>	60	Central Air Conditioning + Type D Warning Clause	

Notes: [1] Rail whistle noise is excluded.

[2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements.

Building Shell Requirements

Table 4 provides sound level thresholds which if exceeded, require the building shell and components (i.e., wall, windows) to be designed and selected accordingly to ensure that the Table 3 and 4 indoor sound criteria are met.

Assessment	Time Period	Energy Equivalen Level - L	t Sound Exposure _{eq} (dBA))	Component Requirements	
Location		Road	Rail ^[1]		
Plane of	Daytime (0700-2300h)	> 65	> 60	Designed/ Selected to Meet	
Window	Night-time (2300-0700h)	> 60	> 55	Indoor Requirements ^[2]	

Table 4: MECP Publication NPC-300 Building Component Requirements

Notes: [1] Rail whistle noise is included.

[2] Building component requirements are assessed separately for Road and Rail noise. The resultant sound isolation parameter is required to be combined to determine an overall acoustic parameter.

In addition to the requirements outlined in **Table 4**, NPC-300 also dictates façade construction requirement for rail noise only, outlined in **Table 5**. Upgraded exterior wall construction is required if the proposed development is located in the first row of dwellings adjacent to the rail corridor, within 100 m of the tracks, and the 24-hr rail sound level (L_{eq}) is greater than 60 dBA predicted at a location of a night-time receptor.

Table 5: MECP Publication NPC-300 Rail Noise Façade Requirements

Assessment Location	Distance to Railway Tracks	L _{eq} (24hr) ^{[1], [2]} (dBA)	Noise Control Requirements
	of Less than 100 m	<u><</u> 60	No additional requirement
Plane of Bedroom		> 60	Brick Veneer or Masonry Equivalent Construction from foundation to rafter
Window	Greater than 100 m	<u><</u> 60	No additional requirement
		> 60	No additional requirement

Notes: [1] Assessed for proposed developments located within the first row of dwellings within 100 m of the rail tracks. [2] Assessment includes train whistle noise.

2.3 TRAFFIC DATA AND FUTURE PROJECTIONS

2.3.1 RAILWAY TRAFFIC DATA

GO train volumes were obtained directly from Metrolinx in the form of ultimate volumes. Correspondence including the forecasted traffic data volumes is included for reference in **Appendix B**.

CN Rail train data for this track segment was grown to the future 2037 year assuming a typical growth rate of 2.5% per annum. This growth rate is recommended by CN for rail noise assessments. Applicable traffic data correspondence is provided in **Appendix B**.

 Table 6 summarizes the rail traffic volumes used in the analysis.

		No. of Core por	No. of	Modelled	
Type of Trains	per Train	Train	Daytime (0700-2300h)	Night-time (2300-0700h)	Speed (km/h)
CN Passenger (Diesel)	2	10	10	14	80
CN Freight (Diesel)	4	140	0	7	80
CO Passanger (Diesel)	1	12	23	7	80
GO Passenger (Diesel)	2	12	15	0	80

Table 6: Summary of Rail Traffic Data Used in Transportation Noise Assessment

2.4 PROJECTED SOUND LEVELS

Future rail operation sound levels at the Project were predicted using the U.S. Department of Transportation Federal Transit Administration ("FTA") and Federal Railway Administration ("FRA") rail noise modelling algorithms included in the Cadna/A software. FTA reference sound levels were applied to passenger train (GO and VIA) diesel locomotives and rail cars, with FRA reference sound levels for Freight Train locomotives. The FTA/FRA algorithms are the replacement models for the former MECP "STEAM" model and are written into the current draft version of MECP Publication NPC-306, which will replace the current NPC-206 guideline on transportation noise prediction. The FTA/FRA algorithms have been used in numerous Environmental Assessments ("EAs") for Metrolinx and CN railway projects, as well as in numerous land use planning projects across the province.

Most of the intervening ground between the railway line and the Project site is open green space; therefore, absorptive ground was applied in the assessment.

2.4.1 FAÇADE SOUND LEVELS – DAYTIME AND NIGHT-TIME PERIODS

Predicted worst-case façade sound levels are presented in **Table 7** and shown in **Figure 2** and **Figure 3** for daytime and night-time periods, respectively.

	Façade ^[1]	Predicted Rail Traffic Sound Levels ^[2]			
Project Building		L _{eq} Daytime (dBA)	L _{eq} Night-time (dBA)		
	North	58	61		
North Dlock	East	51	54		
NOTITI BIOCK	South	53	56		
	West	58	61		
	North	56	58		
Couth Block	East	50	53		
SOULT BIOCK	South	53	56		
	West	58	61		

Table 7: Summary of Transportation Facade Sound Levels – Daytime/Night-Time

Notes: [1] Façade locations are shown in Figure 2 and Figure 3.

[2] The sound levels presented are the worst case for the exposed facade.

The façade sound levels due to rail traffic are predicted to be above 55 dBA during the night-time period respectively on the north, west and south facades of the Project townhouse blocks. Therefore, an assessment of building components is required. Refer to **Section 2.5**.

2.4.2 FAÇADE SOUND LEVELS – 24-HR PERIOD

An assessment of 24-hour L_{eq} sound levels is required providing the setback distance between the closest façade to the rail track is less than 100 m. Predicted worst-case façade 24-hour L_{eq} sound levels are presented in **Table 8** and shown in **Figure 4**.

Project Building	Façade ^[1]	Predicted Rail Traffic Sound Levels L _{eq} 24-hr ^[2] (dBA)
	North	59
North Plack	East	52
NOT LIT BIOCK	South	54
	West	59
	North	56
Couth Block	East	51
SOULH BIOCK	South	54
	West	58

Table 8: Summary of Transportation Facade Sound Levels – 24-hr

Notes: [1] Façade locations are shown in Figure 4.

[2] The sound levels presented are the worst case for the exposed facade.

The 24-hr sound levels do not exceed 60 dBA. Therefore, upgraded exterior wall construction (i.e., brick veneer or masonry equivalent) is not required for the Project.

2.4.3 OUTDOOR LIVING AREAS

All private balconies and terraces in the proposed development are less than 4 m deep and do not meet the minimum MECP requirements for inclusion; therefore, an assessment of OLA sound levels is not required.

2.5 FAÇADE ASSESSMENT

2.5.1 GLAZING REQUIREMENTS

Indoor sound levels and required façade Sound Transmission Classes (STCs) were estimated using the procedures outlined in National Research Council Building Practice Note 56 (i.e., BPN-56). Dimensions from floor plans and elevation drawings included in **Appendix A** were used in the assessment.

Preliminary acoustical requirements for the Project townhouse blocks are summarized in **Table 9** and the notes to **Table 9**.

Proiect	Floor	Leasting	Non-Glazing	Glazing Requirements ^[1]			
Building	FIOOr	Location	Component	Living Room	Bedroom		
	1st Floor	Northwest Corner	54	OBC	-		
	1º FIOOr	North Façade	54	OBC	-		
		Northwest Corner	38 (West)/54 (North)	-	30		
	2 nd Elecer	North Façade	54	-	OBC		
	2 1001	Southwest Corner	38	-	30		
North Block		South Façade	38	-	OBC		
	2rd Eleor	Northwest Corner	38	OBC	-		
	5 FI001	North Façade	54	OBC	-		
	4 th Floor	Northwest Corner	38	-	35		
		Southwest Corner	38	-	33		
	4' FIUUI	North Façade	38	-	32		
		South Façade	38	-	OBC		
		Northwest Corner	38	OBC	-		
	2 nd Floor	North Façade	38	-	OBC		
South Block		Southwest Corner	38 (West)/54 (South)	-	OBC		
SOUTH BIOCK	3 rd Floor	Southwest Corner	38 (West)/54 (South)	OBC	-		
	4 th Floor	Northwest Corner	38	_	34		
	4 FI00f	North Facade	38	-	OBC		

Table 9: Summary of Project Glazing Requirements

Notes: [1] OBC = Ontario Building Code, meeting a rating of STC 29

Where upgraded glazing is required, the combined glazing and frame assembly must be constructed to ensure the overall sound isolation performance of the entire window unit meets the specified STC rating. It is recommended that the window manufacturer's test data be reviewed to confirm the required acoustical performance is achieved.

2.6 VENTILATION AND WARNING CLAUSE REQUIREMENTS

The triggers for warning clause requirements were previously summarized in **Table 2** and **Table 3**. Where required, the warning clauses should be included in agreements registered on Title for the residential units, and included in all agreements of purchase and sale or lease, and all rental agreements. Warning clauses required for the Project are summarized in **Appendix C**.

Based on the predicted façade noise levels and preliminary drawings, the following residential units require central air conditioning for noise control purposes along with a **Type D** warning clause:

- North Block westernmost residential units; and
- South Block westernmost residential units;

Forced air heating with provision for future installation of central air-conditioning and a **Type C** warning clause are required for the following:

- North Block all other residential units;
- South Block all other residential units;

Due to the proximity of the Project to the railway corridor, **CN** and **Metrolinx** warning clauses are also required for all residential units.

3. STATIONARY SOURCE NOISE IMPACTS

A review was completed of the surrounding area, based on the current aerial photography. As the surrounding lands are primarily noise sensitive residential lands, including the current development lands, stationary noise impacts from surrounding buildings are not anticipated to be of concern. In addition, any significant stationary noise sources (e.g., GO Train Layover Yard, auto mechanic shop) are required to meet the NPC-300 guideline limits at closer, intervening noise-sensitive buildings. Therefore, stationary source noise impacts are not anticipated and a detailed assessment of surrounding stationary noise impacts on the development was not completed.

PART 2: IMPACTS OF THE DEVELOPMENT ON THE SURROUNDING AREA

4. NOISE IMPACTS ON SURROUNDING PROPERTIES

In terms of the acoustic environment of the area, it is expected that the Project will have a negligible effect on neighbouring properties.

Traffic volumes related to the Project will be small relative to existing traffic volumes within the area; therefore, road traffic noise is not of concern.

Other possible development noise sources with potential for noise impacts on the surrounding neighbourhood dwellings are mechanical equipment associated with the townhouse blocks (e.g., air conditioning units, parking garage vents and others). Mechanical equipment associated with the Project is required to meet MECP Publication NPC-300 requirements at the worst-case off-site noise sensitive receptors.

Potential impacts should be assessed as part of the final building design. The criteria can be met at all surrounding receptors through appropriate selection of mechanical equipment, by locating equipment with sufficient setback from noise sensitive locations, and by incorporating control measures (e.g., silencers, barriers) into the design.

It is recommended the mechanical systems be reviewed by an Acoustical Consultant prior to final equipment selections.

PART 3: IMPACTS OF THE DEVELOPMENT ON ITSELF

5. NOISE IMPACTS FROM THE DEVELOPMENT ON ITSELF

The Project mechanical systems (e.g., air conditioning units, parking garage vents and others) have not been designed in detail at this stage. Although no adverse noise impacts are expected, such equipment has the potential to result in noise impacts on the noise sensitive spaces within the development itself.

Therefore, noise impacts from the Project's mechanical equipment on the development itself should be assessed as part of the final building design. The criteria are expected to be met at all on-site receptors with the appropriate selection of mechanical equipment, by locating equipment to minimize noise impacts within the development, and by incorporating control measures (e.g., silencers, barriers) into the design.

It is recommended that the mechanical systems be reviewed by an Acoustical Consultant prior to final equipment selection.

6. CONCLUSIONS AND RECOMMENDATIONS

The potential for noise impacts on and from the proposed development have been assessed. Impacts of the environment on the development, the development on the surrounding area and the development on itself have been considered. Based on the results of our studies, the following conclusions have been reached:

6.1 TRANSPORTATION NOISE

- An assessment of transportation noise impacts from the nearby railway corridor has been completed.
- Upgraded glazing is required for some residential units as outlined in Section 2.5.1;
- Ventilation and warning clause requirements are outlined in **Section 2.6**, and summarized as follows:
 - Central Air Conditioning and a **Type D** warning clause are required for the westernmost residential units of the North and South Blocks;
 - Provision for Air Conditioning and a **Type C** Warning clause are required for all other residential units in the North and South Blocks; and
 - o CN and Metrolinx warning clauses are required for all residential units.
- Warning clauses should be included in agreements registered on Title for the residential units and included in agreements of purchase and sale/rental agreements. Required warning clauses are summarized in in **Appendix C**.

6.2 STATIONARY NOISE

• As the surrounding lands are intermixed with residential homes and the development site is currently noise sensitive, stationary noise is not expected to be a concern; therefore, a stationary noise assessment was not conducted

6.3 OVERALL ASSESSMENT

- Impacts of the environment on the proposed development can be adequately controlled through the feasible mitigation measures, and warning clauses detailed in **Part 1** of this report.
- Impacts of the proposed development on the surrounding area are anticipated to be adequately controlled by following the design guidance outlined in **Part 2** of this report.
- Impacts of the proposed development on itself are anticipated to be adequately controlled by following the design guidance outlined in **Part 3** of this report.
- As the mechanical systems for the proposed development have not been designed at the time of this assessment, the acoustical requirements above should be confirmed by an Acoustical Consultant as part of the final building design.

7. REFERENCES

International Organization for Standardization, ISO 9613-2: Acoustics – Attenuation of Sound During Propagation Outdoors Part 2: General Method of Calculation, Geneva, Switzerland, 1996.

Ontario Ministry of the Environment, Conservation and Parks, 1989, Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT)

Ontario Ministry of the Environment, Conservation and Parks, 1996, STAMSON v5.04: Road, Rail and Rapid Transit Noise Prediction Model

Ontario Ministry of the Environment, Conservation and Parks, Publication NPC-300: *Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning*, 2013.

U.S. Department of Transportation - Federal Transit Administration (FTA), 2006. *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06

STATEMENT OF LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by SLR Consulting (Canada) Ltd. (SLR) for Egmond Associates Ltd.., hereafter referred to as the "Client". It is intended for the sole and exclusive use of the Client. The report has been prepared in accordance with the Scope of Work and agreement between SLR and the Client. Other than by the Client and by the Region of Halton in their role as a land use planning approval authority, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted unless payment for the work has been made in full and express written permission has been obtained from SLR.

This report has been prepared in a manner generally accepted by professional consulting principles and practices for the same locality and under similar conditions. No other representations or warranties, expressed or implied, are made.

Opinions and recommendations contained in this report are based on conditions that existed at the time the services were performed and are intended only for the client, purposes, locations, time frames and project parameters as outlined in the Scope or Work and agreement between SLR and the Client. The data reported, findings, observations and conclusions expressed are limited by the Scope of Work. SLR is not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. SLR does not warranty the accuracy of information provided by third party sources.



Environmental Noise Assessment





EGMOND ASSOCIATES LTD.	True North	Scale: 1:5000	METRES	
16-18 MILL STREET, GEORGETOWN		Data: Jul 6 2022 Pay 10		
CONTEXT PLAN	$ \langle \rangle$		1	JLR
		Project No. 241.20189.00000		global environmental solutions



EGMOND ASSOCIATES LTD.	True North	Scale:	1:500	METRES	
16-18 MILL STREET, GEORGETOWN	\frown		Pov 10		
FAÇADE SOUND LEVELS – RAIL – DAYTIME	$\left\{ \right\}$	Project No. 241.2018	39.00000	2	global environmental solutions



EGMOND ASSOCIATES LTD.	True North	Scale:	1:500	METRES		
16-18 MILL STREET, GEORGETOWN	\frown		Pov 10			
FAÇADE SOUND LEVELS – RAIL – NIGHT-TIME	$\left\{ \right\}$	Project No. 241.201	89.00000	Bigure No.	global environmental solutions	



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Environmental Noise Assessment

















Contended Appendix B Traffic Data and Calculations

Environmental Noise Assessment

Train Count Data

1 Administration Road Concord, ON, L4K 1B9 T: 905.669.3264 F: 905.760.3406

TRANSMITTAL

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Urgent	🗌 For Your Use 🔲 For I	Review [For Your Information Confidential
Cc:	Adjacent Development CN via e-mail		
From: Expéditeur :	Michael Vallins	Date:	2020/12/18
Att'n:	Marcus Li	Routing:	mli@slrconsulting.com
To: Destinataire :	SLR 150 Research Lane Suite 105 Limited	Project :	HAL – 23.5 Georgetown Go Station, Georgetown ON

Re: Train Traffic Data – CN Halton Subdivision near Georgetown Go Station in Georgetown, ON

Please find attached the requested Train Traffic Data; this data does not reflect GO Metrolinx Traffic. 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, CN Design & Construction

Michael Vallins P.Eng Manager, Public Works-Eastern Canada Permits.gld@cn.ca **Date:** 2020/12/18

Dear Marcus:

Re: Train Traffic Data – CN Halton Subdivision near 11611 Trafalgar in Georgetown, ON

The following is provided in response to Marcus's 2020/09/08 request for information regarding rail traffic in the vicinity of Georgetown Go station in Georgetown at approximately Mile 23.5 on CN's Halton 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:

	0700-0000	and the second second		
Type of Train	Volumes	Max Consist	Max Speed	Man Day
Freight	6	140	50	Max. Power
Way Freight	0	25	50	4
Passenger	0	10	50	2

*Maximum train speed is given in Miles per Hour

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max Power
Freight	9	140	50	A A
Way Freight	0	25	50	4
Passenger	4	10	50	2

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

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There is no at-grade crossing in the immediate vicinity of the study area. 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 286,000 lbs.

The double 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 <u>Proximity@cn.ca</u> 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

Marcus Li

From:	Rail Data Requests <raildatarequests@metrolinx.com></raildatarequests@metrolinx.com>
Sent:	May 19, 2021 11:41 AM
То:	Marcus Li
Cc:	Gustavo Elgueta
Subject:	RE: Rail Traffic Data Request - 18 Mill St., Georgetown

Hi Marcus:

Sorry for the delay. Further to your request dated March 28, 2021, the subject lands (18 Mill St., Georgetown) are located within 300 metres of the CN Georgetown Subdivision (which carries Kitchener GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel and electric trains. The GO rail fleet combination on this Subdivision will consist of up to 2 locomotives and 12 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 45 trains. These trains shall be modelled as pass-by trips for the subject application. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive	2 Diesel Locomotives		1 Diesel Locomotive	2 Diesel Locomotives
Day (0700- 2300)	23	15	Night (2300- 0700)	7	0

The current track design speed near the subject lands is 50 mph (80 km/h).

The typical GO rail weekday train volume forecast at the layover facility is in the order of 61 trains. These trains shall be modelled as stationary noise for the subject application. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive		1 Diesel Locomotive
Day (0700- 2300)	50	Night (2300- 0700)	11

There are no *anti-whistling by-laws* in affect near the subject lands.

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.

Regards,

Lyndsy You, B.Eng. Project Manager Third Party Projects Review, Capital Projects Group Metrolinx|30 Wellington St. W |Toronto, Ontario|M5J 2N8 C: 416.399.8284 From: Marcus Li <mli@slrconsulting.com>
Sent: March 28, 2021 12:09 PM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Cc: Tony To <Tony.To@metrolinx.com>; Gustavo Elgueta <gelgueta@slrconsulting.com>
Subject: RE: Rail Traffic Data Request - 18 Mill St., Georgetown

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Hello Edmond,

Just following up on this. We've started seeing traffic data coming out for other requests. If you could please provide the new rail volumes forcasts, that would be great.

Thanks

Marcus

Marcus Li, P.Eng.

Principal, Acoustics Noise and Vibration

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From: Rail Data Requests <<u>RailDataRequests@metrolinx.com</u>>
Sent: October 20, 2020 5:38 PM
To: Marcus Li <<u>mli@slrconsulting.com</u>>
Cc: Tony To <<u>Tony.To@metrolinx.com</u>>
Subject: RE: Rail Traffic Data Request - 18 Mill St., Georgetown

Hi Marcus:

I apologize for the delay in responding to your request. At this time, Metrolinx is continuing to refine GO Expansion Environmental Assessments as well as the associated rail traffic forecast updates. As such we are not in a position to provide this information to you at present. We have been told that the EA process will be completed shortly, however, and we will be sure to contact you to provide the new data at that time.

Further to your request dated September 8, 2020, the subject property (18 Mill Street, Georgetown) is located adjacent to CN Rail's Halton Subdivision which carries Metrolinx's Kitchener GO Train services. We note we do not maintain information pertaining to idling and stationary activities at stations – that would be up to the consultant to collect that information for a typical weekday period.

The maximum track design speed at this location on this corridor is 50 mph (80 km/h).

T There are no anti-whistling by-laws in place around the subject property.

With respect to future electrified rail service, Metrolinx is committed to finding the most sustainable solution for electrifying the GO and UP Express rail network and we are currently working towards the next phase. Metrolinx has not made a final decision regarding the electric train technology or technologies to be deployed. We can, however, provide the following interim information which may be helpful;

1. At lower speeds, train noise is dominated by the powertrain. At higher speeds, train noise is dominated by the wheel- track interaction. Hence, at higher speeds, the noise level and spectrum of electric trains is expected to be very similar, if not identical, to those of equivalent diesel trains.

2. Along with electrification, Metrolinx will intensify service levels along all of its corridors to deliver the promised GO Expansion service. Everything else being equal, this will likely result in an overall increase in train noise emissions.

Given the above considerations, it would be prudent, for the purposes of acoustical analyses, to assume that the acoustical characteristics of electrified and diesel trains are equivalent. In light of the aforementioned information, acoustical models should employ diesel train parameters as the basis for analyses. We anticipate that additional information regarding specific operational parameters for electrified trains will become available in the future.

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 is only as it pertains to Metrolinx trains. It would be prudent to contact other rail operators in the area directly for their rail traffic information.

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

EDMOND WU, MCIP, RPP

Project Manager Third Party Projects Review, Capital Projects Group Metrolinx | 20 Bay Street | Suite 600 | Toronto | Ontario | M5J 2W3 T: 416.202.8513 | C: 437.240.8613

From: Marcus Li [mailto:mli@slrconsulting.com]
Sent: Tuesday, September 08, 2020 8:33 PM
To: Rail Data Requests
Cc: Brandon Gaffoor
Subject: Rail Traffic Data Request - Georgetown

Hello,

We're in the process of completing a noise study for a development at 18 Mill Street in Georgetown Ontario. The site is near the Georgetown GO Station. Please provide the forecasted traffic data set for this section of track.

If you need any additional information, please just let me know.

Thanks

Marcus

Marcus Li, P.Eng. Principal, Acoustics Noise and Vibration

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RAILWAY SOURCES																	
			Lw'		Train Class	Correct.	Vmax	Height				Length	Train Type 1				
Description	Train Type	M. ID	Day	Night		Track		Α	E	A_att	E_Att	(m)	Туре	No.		Speed	Throttle
			(dBA)	(dBA)		(dB)	(km(km/h)	(m)	(m)					Dav	Night	(km/h)	(1 to 8)
GO Train	GO	GO_loco	67.6	61.8	(local)	0		0.6		r			FTA_COMM_LOC_DE	53	7	80	8
GO Train	GO	GO_wheel	60.9	56.6	(local)	0		0.6		r			FTA_COMM_CAR	456	84	80	0
CN Freight	Freight	Freight_loco	66	70.7	(local)	0		0.6		r			FRA_CONV_FRE_LOC	37	55	80	0
CN Freight	Freight	Freight_wheel	65.4	70.1	(local)	0		0.6		r	2655		FTA_COMM_CAR	1279	1918	80	0
CN Passenger	Passenger	Passenger_loco	-81	64.5	(local)	0		0.6		r	2655		FTA_COMM_LOC_DE	0	13	80	8
CN Passenger	Passenger	Passenger_wheel	-81	55.2	(local)	0		0.6		r	2655		FTA_COMM_CAR	0	61	80	0
GO Train	GO	GO_loco_24Loco	68.2	-81	(local)	0		0.6		r	2655		FTA_COMM_LOC_DE	60	0	80	8
GO Train	GO	Go_wheel_24Wheel	61.6	-81	(local)	0		0.6		r	2655		FTA_COMM_CAR	540	0	80	0
CN Freight	Freight	Freight_loco_24Loco	69.9	-81	(local)	0		0.6		r	2655		FRA_CONV_FRE_LOC	92	0	80	0
CN Freight	Freight	Freight_wheel_24Wheel	69.4	-81	(local)	0		0.6		r	2655		FTA_COMM_CAR	3197	0	80	0
CN Passenger	Passenger	Passenger_loco_24Loco	61.5	-81	(local)	0		0.6		r	2655		FTA_COMM_LOC_DE	13	0	80	8
CN Passenger	Passenger	Passenger_wheel_24Wheel	50.4	-81	(local)	0		0.6		r	2655		FTA_COMM_CAR	61	0	80	0
											2655						
											2655						

2655

Appendix C Warning Clause, Ventilation and Barrier Summary

Environmental Noise Assessment

Ventilation, Warning Clause and Barrier Summary

The following Warning Clauses are recommended for inclusion in agreements registered on Title for the residential units, and included in all agreements of purchase and sale or lease, and all rental agreements.

A summary of the Warning Clause and Ventilation Requirements is included in Table C1.

MECP Type C: "This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

MECP Type D: "This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

CN: "Purchasers are advised that Canadian National Railway (CN) or its assigns or successors in interest has or have a right-of-way within 300 metres from the land the subject thereof. There may be alterations to or expansions of the rail facilities on such right-of-way in the future, including the possibility that the railway or its assigns or successors as aforesaid may expand its operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). CN will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way."

Metrolinx: "Purchasers are advised that Metrolinx or its assigns or successors in interest has or have a right-of-way within 300 metres from the land the subject thereof. There may be alterations to or expansions of the rail facilities on such right-of-way in the future, including the possibility that the railway or its assigns or successors as aforesaid may expand its operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). Metrolinx will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way."

Table C1:	Summary of	Ventilation,	Barrier and	Warning	Clause	Requirements
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Residential Units	Barrier Required	Air Conditioning Requirement ^[1]	Warning Clause
North Block – Westernmost Residential Units	-	Central A/C	Type D, CN, Metrolinx
North Block – All Other Residential Units	-	Provision for AC	Type C, CN, Metrolinx
South Block – Westernmost Residential Units	-	Central A/C	Type D, CN, Metrolinx
South Block – All Other Residential Units	-	Provision for AC	Type C, CN, Metrolinx

Notes: [1] Provision for AC = forced air heating with a provision for installation of central air conditioning