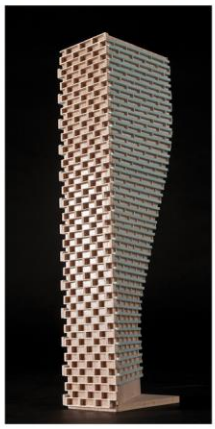
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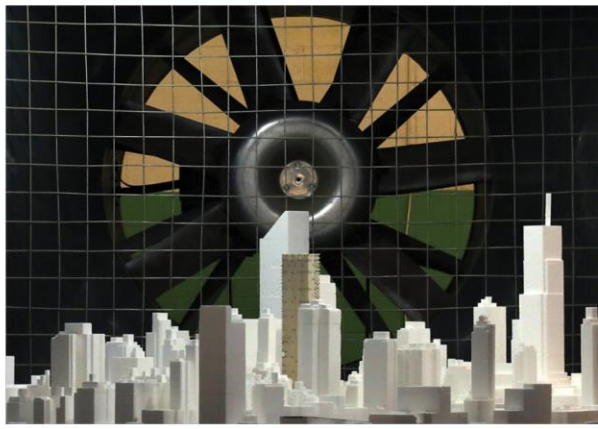
TRANSPORTATION NOISE & VIBRATION ASSESSMENT

2362 Fairview Street
Burlington, Ontario

REPORT: 23-092-Transportation Noise







April 22, 2024

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EXECUTIVE SUMMARY

This report describes a quantitative transportation noise and vibration assessment in support of an OPA/ZBA submission for the proposed residential development located at 2362 Fairview Street in Burlington, Ontario (hereinafter referred to as the "subject site", "study site", or "proposed development"). The proposed development is a 'U'-shaped 11-storey building. The study site is bordered by Fairview Street to the northwest, low-rise commercial buildings to the northeast and southwest, and low-rise residential to the southeast. GO Metrolinx Rail Line runs to the northwest of Fairview Street, separated by low-rise commercial buildings. Throughout this report, Fairview Street is referred to as north. The primary sources of transportation noise impacting the development are Fairview Street and the GO Metrolinx Rail Line. The ground vibration impact from the rail line is not considered in this study as the rail line is located farther than 75 metres.[1] Figure 1 illustrates a site plan with the surrounding context.

The assessment is based on (i) theoretical noise prediction methods that conform to the Ministry of the Environment, Conservation and Parks (MECP) and Ministry of Transportation of Ontario (MTO) requirements; (ii) future traffic volumes corresponding to roadway classification and projected data from AADT Counts 2018, City of Burlington; (iii) railway data provided by Metrolinx; and (iv) architectural drawings provided by Weston Consulting dated March 2024.

The results of the current analysis indicate that roadway noise levels will range between 32 and 69 dBA during the daytime period (07:00-23:00) and between 26 and 62 dBA during the nighttime period (23:00-07:00); railway noise levels will range between 48 and 75 dBA during the daytime period (07:00-23:00) and between 44 and 71 dBA during the nighttime period (23:00-07:00); at POW receptors. The highest noise levels (69 and 75 dBA) occur at the north façade of the building, which is nearest and most exposed to Fairview Street and GO Metrolinx Rail Line.

As the noise levels exceed the noise level criteria for roadways and railways defined by NPC-300, upgraded building components will be required for the exterior windows and walls of the study building. The results of the calculations also indicate that the development will require central air conditioning or a similar

[1] Dialog and J.E. Coulter Associates Limited, prepared for The Federation of Canadian Municipalities and The Railway Associated of Canada, May 2013

mechanical system, which will allow occupants to keep windows closed and maintain a comfortable living environment. In addition to upgraded building elements and ventilation requirements, a Type D Warning Clause will also be required in all Lease, Purchase and Sale Agreements, as summarized in Section 6.

Noise levels at the Rooftop Amenity Terrace exceed the NPC-300 criterion of 60 dBA. A noise barrier study was conducted to reduce the noise levels to or below 60 dBA. Our barrier investigation showed that the noise levels can be reduced close to the targeted levels on the rooftop amenity with a 2.4-metre-high barrier. Noise barriers should be built with solid elements having a minimum surface mass of 20 kg/m² and should contain no gaps. The barrier around the rooftop terrace can also be built as solid glass screens without gaps. In addition, a Type B Warning Clause will be required to be placed on all Lease, Purchase and Sale Agreements, as summarized in Section 6.

A Metrolinx warning clause will also be required as per GO Metrolinx requirements since the development is within 300 m of the rail line, as summarized in Section 6.

The subject site is surrounded by low-rise residential and commercial buildings. Gradient Wind conducted a survey of the study site, using the satellite view of the area, and did not identify any significant existing sources of stationary noise impacting the development.

With regards to the impacts of the proposed building on the surroundings and itself, by careful placement and judicious selection of noise-generating equipment like cooling towers, chillers, and generators, stationary noise impact from the proposed building can comply with the sound level limits defined in NPC-300. Where necessary, noise screens, silencers, and other noise control measures can be added.

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1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by Lockwood Auto Group to undertake a quantitative transportation noise and vibration assessment in support of an OPA/ZBA application for the proposed development located at 2362 Fairview Street in Burlington, Ontario. This report summarizes the methodology, results, and recommendations related to a transportation noise assessment investigating exterior noise levels generated by local road and railway traffic.

The assessment was performed based on theoretical noise calculation methods conforming to the Ministry of the Environment, Conservation and Parks (MECP) NPC-300 guidelines. Noise calculations were based on architectural drawings provided by Weston Consulting, dated March 2024, with future traffic volumes corresponding to roadway classification and projected data from AADT Counts 2018, City of Burlington[2], and railway data provided by Metrolinx.

2. TERMS OF REFERENCE

The subject site is located at 2362 Fairview Street in Burlington, Ontario. The study site is bordered by Fairview Street to the northwest, low-rise commercial buildings to the northeast and southwest, and low-rise residential to the southeast. GO Metrolinx Rail Line runs to the northwest of Fairview Street, separated by low-rise commercial buildings. Throughout this report, Fairview Street is referred to as north.

The proposed development site comprises an 11-storey building with a 'U' shaped planform. The building sets back on Levels 7 to 9 from the south side creating terraces and green roofs, respectively. The rooftop of the building is designed with outdoor living areas (OLA) as well as a covered amenity area.

The building is served by three levels of below-grade parking. Access to parking is provided by a lane, which runs from north to south at the centre of the site, through Fairview Street. The ground floor comprises a commercial space and a community space located on the north side, residential lobbies, amenity spaces, and 12 Townhouse units located along the east, west and south sides. Levels 2 to 11

[2] AADT Counts 2018, City of Burlington. Retrieved from: AADT Counts 2018 | AADT Counts 2018 | Navigate Burlington (arcgis.com)

consist of residential units. The central courtyard area is planned as outdoor parking, and an access ramp to the underground parking is located in this area as well. This study is based on drawings prepared by Weston Consulting, dated March 2024.

NPC-300 considers balconies and elevated terraces (e.g., rooftops), with a minimum depth of 4 metres, as outdoor living areas (OLA). Therefore, only the terraces on Levels 7 and the rooftop amenity areas are considered as OLAs in this study.

The primary sources of transportation noise impacting the development are Fairview Street and the GO Metrolinx Rail Line. The ground vibration impact from the rail line is not considered in this study as the rail line is located farther than 75 metres.[3] Figure 1 illustrates a site plan with the surrounding context.

3. OBJECTIVES

The main goals of this work are to (i) calculate the future noise levels on the study buildings produced by local transportation sources, (ii) determine whether exterior noise levels exceed the allowable limits specified by the MECP Noise Control Guidelines – NPC-300 as outlined in Section 4 of this report, and (iii) provide mitigation measures.

4. METHODOLOGY

4.1 Background

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

[3] Dialog and J.E. Coulter Associates Limited, prepared for The Federation of Canadian Municipalities and The Railway Associated of Canada, May 2013

4.2 Transportation Noise

4.2.1 Criteria for Transportation Noise

For vehicle traffic, the equivalent sound energy level, L_{eq}, provides a measure of the time-varying noise levels, which is well correlated with the annoyance of sound. It is defined as the continuous sound level, which has the same energy as a time-varying noise level over a period of time. For roadways, the L_{eq} is commonly calculated on the basis of a 16-hour (L_{eq16}) daytime (07:00-23:00)/8-hour (L_{eq8}) nighttime (23:00-07:00) split to assess its impact on residential buildings. The NPC-300 guidelines specify that the recommended indoor noise limit range (that is relevant to this study) is 50, 45 and 40 dBA for retail stores, residence living rooms and sleeping quarters respectively, as listed in Table 1. However, to account for deficiencies in building construction and to control peak noise, these levels should be targeted toward 47, 42 and 37 dBA.

TABLE 1: INDOOR SOUND LEVEL CRITERIA (ROAD) [4]

Type of Space	Time Period	L_{eq} (dBA)	
		Road	Rail
General offices, reception areas, **retail stores**, etc.	07:00 – 23:00	50	45
Living/dining/den areas of residences, hospitals, schools, nursing/retirement homes, day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, etc.	07:00 – 23:00	45	40
Sleeping quarters of hotels/motels	23:00 – 07:00	45	40
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	23:00 – 07:00	40	35

Predicted noise levels at the plane of window (POW) dictate the action required to achieve the recommended sound levels. An open window is considered to provide a 10 dBA reduction in noise while a standard closed window is capable of providing a minimum of 20 dBA noise reduction[5]. Therefore, where noise levels exceed 55 dBA daytime and 50 dBA nighttime, the ventilation for the building should consider

[4] Adapted from Table C-2, Part C, Section 3.2.3 of NPC-300
[5] Burberry, P.B. (2014). Mitchell's Environment and Services. Routledge, Page 125

the need for having windows and doors closed, which normally triggers the need for central air conditioning (or similar systems). Where roadway noise levels exceed 65 dBA daytime and 60 dBA nighttime and railway noise levels exceed 60 dBA daytime and 55 dBA nighttime, building components will require higher levels of sound attenuation[6]. Due to the significantly lower frequency content of railway noise, the indoor criteria for rail is 5 dBA lower than that of roadway noise, as can be seen in Table 1.

Due to the characteristics of rail noise which occur over short periods (i.e. whistles, brake squealing), and a significant low frequency component produced by the movement of the locomotive along the track, road and rail traffic noise require separate analyses, particularly when assessing indoor sound levels. In order to account for the special characteristics of railway sound, the indoor sound level criteria are more stringent by 5 dB as compared to the roadway traffic criteria (as shown in Table 1). This difference typically results in requirements for upgraded glazing elements to provide better noise attenuation from the building envelope. Interior noise level criteria include the influence from the rail crossings and warning whistle bursts. For this site, whistle bursts were not considered due to the lack of at-grade crossings in the vicinity.

The sound level criterion for outdoor living areas (OLA) is 55 dBA, which applies during the daytime period (07:00 to 23:00). When noise levels exceed 55 dBA and are less than or equal to 60 dBA, mitigation should be considered to reduce noise levels to as close to 55 dBA if technically, economically, and administratively feasible. If noise levels exceed 60 dBA, mitigation must be provided to reduce noise levels below 60 dBA.

4.2.2 Transportation Sources Volumes

NPC-300 dictates that noise calculations should consider future sound levels based on a roadway's classification at the mature state of development. Therefore, traffic volumes have been considered for the mature state of development based on roadway classification and data from AADT Counts 2018, City of Burlington[7]. The traffic data extracted from the City of Burlington's AADT Counts 2018 were projected for 10 years from the writing of this report by a 2% growth rate. The posted speed limits for the roadways were obtained from the street views.

[6] MECP, Environmental Noise Guidelines, NPC 300 – Part C, Section 7.1.3
[7] AADT Counts 2018, City of Burlington. Retrieved from: AADT Counts 2018 | AADT Counts 2018 | Navigate Burlington (arcgis.com)

The anticipated train counts of the GO Rail Line, which carries Lakeshore West GO Rail Service, and the speed limit were obtained from Metrolinx[8] (see Appendix A). Table 2 (below) summarizes the AADT values used for each roadway and rail line included in this assessment.

TABLE 2: TRANSPORTATION SOURCES DATA

Segment	Roadway/Transit Class	Speed Limit (km/h)	Existing AADT Count	Year of Count	Projected 2034 AADT
Fairview Street	4-Lane Urban Arterial-Undivided (4-UAU)	60	31,854	**2018**	**43,729**
GO Metrolinx Rail Line	Railway	150**	N/A	**N/A**	**324/74***

* - Daytime/nighttime volumes
** - The actual speed limit is 153 km/hr. However, the highest speed that can be calculated in STAMSON is 150 km/hr; therefore, this speed limit was used in the analysis.

4.2.3 Transportation Noise Predictions

The impact of transportation noise sources on the development was determined by computer modelling. Transportation noise source modelling is based on the software program *Predictor-Lima* which utilizes the United States Federal Highway Administration's Traffic Noise Model (TNM) to represent the roadway line sources. The TNM analysis model has been recognized by the Ministry of Transportation Ontario (MTO) as the recommended noise model for transportation projects (ref. Environmental Guide for Noise, 2022 by the Ministry of Transportation (MTO)[9]). The Ministry of Environment, Conservation and Parks has also adopted the TMN model as per their "Draft Guideline Noise Pollution Control Publications 306 (NPC-306)[10].

The *Predictor-Lima* computer program can represent three-dimensional surfaces and the first reflection of sound waves over a suitable spectrum for human hearing. Calculations were performed for receptors in close proximity to the railway with the assistance of the MECP rail and road noise analysis program STAMSON 5.04, which incorporates the calculation model '*Sound from Trains Environment Analysis*

[8] Email from Tara Kamal Ahmadi, Metrolinx
[9] Ministry of Transportation, Environmental Guide for Noise, 2022. Retrieved from Environmental Guide for Noise 2022
[10] Ministry of Environment, Conservation and Parks, Ontario, "Methods to determine Sound Levels Due to Road and Rail Traffic", Draft February 12, 2020

Method' (STEAM). The impact of railway noise is then correlated with the *Predictor-Lima* line source to accurately represent noise from the rail line within the Predictor model.

A set of comparative calculations were also performed for comparisons using STAMSON. The STAMSON model, however, is an older software and requires each receptor to be calculated separately. STAMSON also does not accurately account for building reflections and multiple screening elements, and curved road geometry. The result of the comparative calculations showed that the noise levels are within an acceptable range of 0-3 dBA of those predicted in Predictor. A total of fifteen (15) receptor locations were identified around the site, as illustrated in Figure 2.

Roadway noise calculations were performed by treating each road and rail segment as separate line sources of noise, and by using existing building locations as noise barriers. In addition to the traffic volumes summarized in Table 2, theoretical noise predictions were based on the following parameters:

- Truck traffic on all roadways was taken to comprise 5% heavy trucks and 7% medium trucks for conservatism.
- The day/night split for all roads was taken to be 90% / 10%, respectively.
- The ground surface was modelled as reflective due to the presence of pavement and concrete in the proximity of the study site.
- The GO rail line was modelled as diesel trains with 2 locomotives and 12 cars with a speed of 150 km/hr.
- Noise receptors were placed at eight (8) locations on the façades of the study building as Plane of Window (POW) receptors and seven (7) locations on the outdoor living areas (OLA).
- The locations of the receptors are illustrated in Figure 2.

4.3 Indoor Noise Calculations

The difference between outdoor and indoor noise levels is the noise attenuation provided by the building envelope. According to common industry practice, complete walls and individual wall elements are rated according to the Sound Transmission Class (STC). The STC ratings of common residential walls built in conformance with the Ontario Building Code (2020) typically exceed STC 35, depending on exterior cladding, thickness and interior finish details. For example, concrete and masonry walls can achieve STC 50 or more. Curtainwall systems typically provide around STC 35, depending on the glazing elements. Standard good quality double-glazed non-operable windows can have STC ratings ranging from 25 to 40 depending on the window manufacturer, pane thickness and inter-pane spacing. As previously mentioned, the windows are the known weak point in a partition.

According to the NPC-300, when daytime noise levels (from road and rail sources) at the plane of the window exceed 60 dBA, calculations must be performed to evaluate the sound transmission quality of the building components to ensure acceptable indoor noise levels. The calculation procedure[11] considers:

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

Based on published research[12], exterior walls possess specific sound attenuation characteristics that are used as a basis for calculating the required STC ratings of windows in the same partition. Due to the limited information available at the time of the study, final detailed floor layouts, building components' assembly details, and building elevations were unavailable and therefore detailed STC calculations could not be performed at this time. As a guideline, the anticipated STC requirements for windows have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels).

[11] Building Practice Note: Controlling Sound Transmission into Buildings by J.D. Quirt, National Research Council of Canada, September 1985
[12] CMHC, Road & Rail Noise: Effects on Housing

5. RESULTS AND DISCUSSION

5.1 Transportation Noise Levels

The results of the roadway traffic noise calculations are summarized in Table 3 below.

TABLE 3: EXTERIOR NOISE LEVELS DUE TO ROADWAY TRAFFIC SOURCES

Receptor Number	Receptor Type / Location	Receptor Height Above Grade (m)	Roadway Noise Levels (dBA)		Railway Noise Levels (dBA)		Transportation Noise Levels (dBA)	
			Day	Night	Day	Night	Day	Night
1	POW / North Façade	36.4	68	62	74	71	75	72
2	POW / North Façade	36.4	69	62	75	71	76	72
3	POW / East Façade	36.4	64	58	73	70	74	70
4	POW / South Façade	14.8	32	26	49	45	49	45
5	POW / West Façade (Interior)	27	35	28	49	46	49	46
6	POW / East Façade (Interior)	27	34	28	49	45	49	45
7	POW / South Façade	14.8	34	27	48	44	48	44
8	POW / West Façade	36.4	64	57	69	66	70	67
9	OLA / Rooftop Amenity North	39.8	51	N/A*	74	N/A*	74	N/A*
10	OLA / Rooftop Amenity Southeast	39.8	53	N/A*	67	N/A*	67	N/A*
11	OLA / Rooftop Amenity Southwest	39.8	52	N/A*	62	N/A*	62	N/A*
12	OLA / L7 Terrace Southwest	24.1	32	N/A*	49	N/A*	49	N/A*
13	OLA / L7 Terrace Southeast	24.1	33	N/A*	50	N/A*	50	N/A*

* OLA noise levels during the nighttime are not considered, as per NPC-300.

The results of the current analysis indicate that roadway noise levels will range between 32 and 69 dBA during the daytime period (07:00-23:00) and between 26 and 62 dBA during the nighttime period (23:00-07:00); railway noise levels will range between 48 and 75 dBA during the daytime period (07:00-23:00) and between 44 and 71 dBA during the nighttime period (23:00-07:00); at POW receptors. The highest noise levels (69 and 75 dBA) occur at the north façade of the building, which is nearest and most exposed to Fairview Street and the GO Metrolinx Rail Line.

A set of comparative calculations were also performed for comparisons using STAMSON. The STAMSON model, however, is an older software and requires each receptor to be calculated separately. STAMSON

also does not accurately account for building reflections and multiple screening elements, and curved road geometry. Table 4 below shows a comparison between Predictor-Lima and STAMSON. Noise levels calculated in STAMSON were found to have a good correlation with Predictor-Lima and variability between the two programs was within an acceptable level of ±0-3 dBA.

TABLE 4: RESULT CORRELATION WITH STAMSON

Receptor Number	Receptor Location	Receptor Height (m)	Railway & Roadway Total Noise Levels (dBA)			
			STAMSON 5.04		PREDICTOR-LIMA	
			Day	Night	Day	Night
R1	POW / North Façade	36.4	77	73	75	72
R3	POW / East Façade	36.4	73	69	74	70

5.2 Noise Control Measures

5.2.1 STC Requirements

The noise levels predicted due to roadway traffic exceed the criteria listed in Section 4.2 for building components. As discussed in Section 4.3, the anticipated STC requirements for windows have been estimated based on the overall noise reduction required for each intended use of space (STC = outdoor noise level – targeted indoor noise levels). Detailed STC calculations will be required to be completed prior to the building permit application for each unit type. The STC requirements for the windows are summarized below for various units within the development (see Figure 3):

- **Bedroom Windows**
  - (i) Bedroom windows facing north will require a minimum STC of 40
  - (ii) Bedroom windows facing east will require a minimum STC of 39
  - (iii) Bedroom windows facing west will require a minimum STC of 35
  - (iv) All other bedroom windows are to satisfy Ontario Building Code (OBC 2020) requirements.

- **Living Room/Office Windows**
  - (i) Living room windows facing north will require a minimum STC of 35
  - (ii) Living room windows facing east will require a minimum STC of 34
  - (iii) Living room windows facing west will require a minimum STC of 30
  - (iv) All other living room windows are to satisfy Ontario Building Code (OBC 2020) requirements.

- **Retail Windows**
  - (i) Retail windows facing north will require a minimum STC of 25
  - (ii) All other retail windows are to satisfy Ontario Building Code (OBC 2020) requirements.

- **Exterior Walls**
  - (i) Exterior wall components on the north façade will require a minimum STC of 45, which will be achieved with brick cladding or an acoustical equivalent according to NRC test data[13]

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

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

[13] J.S. Bradley and J.A. Birta. Laboratory Measurements of the Sound Insulation of Building Façade Elements, National Research Council October 2000.

5.2.2 Noise Barrier Calculation

Noise levels at the Rooftop Amenity exceed the NPC-300 criterion of 60 dBA. A noise barrier study was conducted to reduce the noise levels to or below 60 dBA. The noise barrier heights required in order to achieve the target value are noted below in Table 5. Noise barriers should be built with solid elements having a minimum surface mass of 20 kg/m² and should contain no gaps. The noise barrier for the terraces can be built as a parapet wall, a solid glass railing, or a combination of both. However, it should not contain gaps. Glass noise screens can be built as glass-to-glass. If balusters are used, the screen should be designed without any gap between the glass and balusters. Figure 4 illustrates the barrier locations.

TABLE 5: NOISE BARRIER INVESTIGATION RESULTS

Receptor Reference	Location	Barrier Height Above Walking Surface (m)	Daytime L_{eq} Noise Levels (dBA)	
			Without Barrier	With Barrier
R9	OLA / Rooftop Amenity North	1.1 m	74	66
		1.5 m		64
		1.8 m		63
		2.4 m		61
R10	OLA / Rooftop Amenity Southeast	1.1 m	67	62
		1.5 m		62
		1.8 m		61
		2.4 m		51
R11	OLA / Rooftop Amenity Southwest	1.1 m	62	60
		1.5 m		59
		1.8 m		58
		2.4 m		57

The noise barrier investigation showed that the noise levels can be reduced close to the targeted levels on the rooftop with a 2.4-metre-high barrier. The recommended heights are also shown in **bold** script in Table 5. The barrier around the rooftop terrace can also be built as glass screens as noted above. In addition, a Type B Warning Clause will be required to be placed on all Lease, Purchase and Sale Agreements.

6. CONCLUSIONS AND RECOMMENDATIONS

The results of the current analysis indicate that roadway noise levels will range between 32 and 69 dBA during the daytime period (07:00-23:00) and between 26 and 62 dBA during the nighttime period (23:00-07:00); railway noise levels will range between 48 and 75 dBA during the daytime period (07:00-23:00) and between 44 and 71 dBA during the nighttime period (23:00-07:00); at POW receptors. The highest noise levels (69 and 75 dBA) occur at the north façade of the building, which is nearest and most exposed to Fairview Street and GO Metrolinx Rail Line.

As the noise levels exceed the noise level criteria for roadways and railways defined by NPC-300, upgraded building components will be required for the exterior windows and walls of the study building. The Results of the calculations also indicate that the development will require central air conditioning or a similar mechanical system, which will allow occupants to keep windows closed and maintain a comfortable living environment.

In addition to upgraded building elements and ventilation requirements, a Type D Warning Clause will also be required in all Lease, Purchase and Sale Agreements, as summarized below:

> *"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."*

Noise levels at the Rooftop Amenity Terrace exceed the NPC-300 criterion of 60 dBA. A noise barrier study was conducted to reduce the noise levels to or below 60 dBA. Our barrier investigation showed that the noise levels can be reduced close to the targeted levels on the rooftop amenity with a 2.4-metre-high barrier. Noise barriers should be built with solid elements having a minimum surface mass of 20 kg/m² and should contain no gaps. The barrier around the rooftop terrace can also be built as solid glass screens without gaps. In addition, a Type B Warning Clause will be required to be placed on all Lease, Purchase and Sale Agreements, as summarized below:

Type B

> *"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing transportation noise may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."*

The following warning clause will also be required as per GO Metrolinx requirements since the development is within 300 m of the rail line:

GO/Metrolinx Warning Clause:

> *"Metrolinx, carrying on business as GO Transit, and its assigns and successors in interest has or have a right-of-way within 300 metres from the land the subject hereof. There may be alterations to or expansions of the rail facilities on such right-of way in the future including the possibility that GO Transit or any railway entering into an agreement with GO Transit to use the right-of-way or their assigns or successors as aforesaid may expand their 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."*

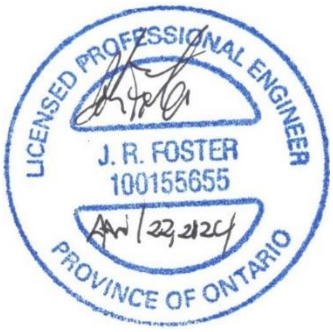
The subject site is surrounded by low-rise residential and commercial buildings. Gradient Wind conducted a survey of the study site, using the satellite view of the area, and did not identify any significant existing sources of stationary noise impacting the development.

With regards to the impacts of the proposed building on the surroundings and itself, by careful placement and judicious selection of noise-generating equipment like cooling towers, chillers, and generators, stationary noise impact from the proposed building can comply with the sound level limits defined in NPC-300. Where necessary, noise screens, silencers, and other noise control measures can be added.

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

Sincerely,

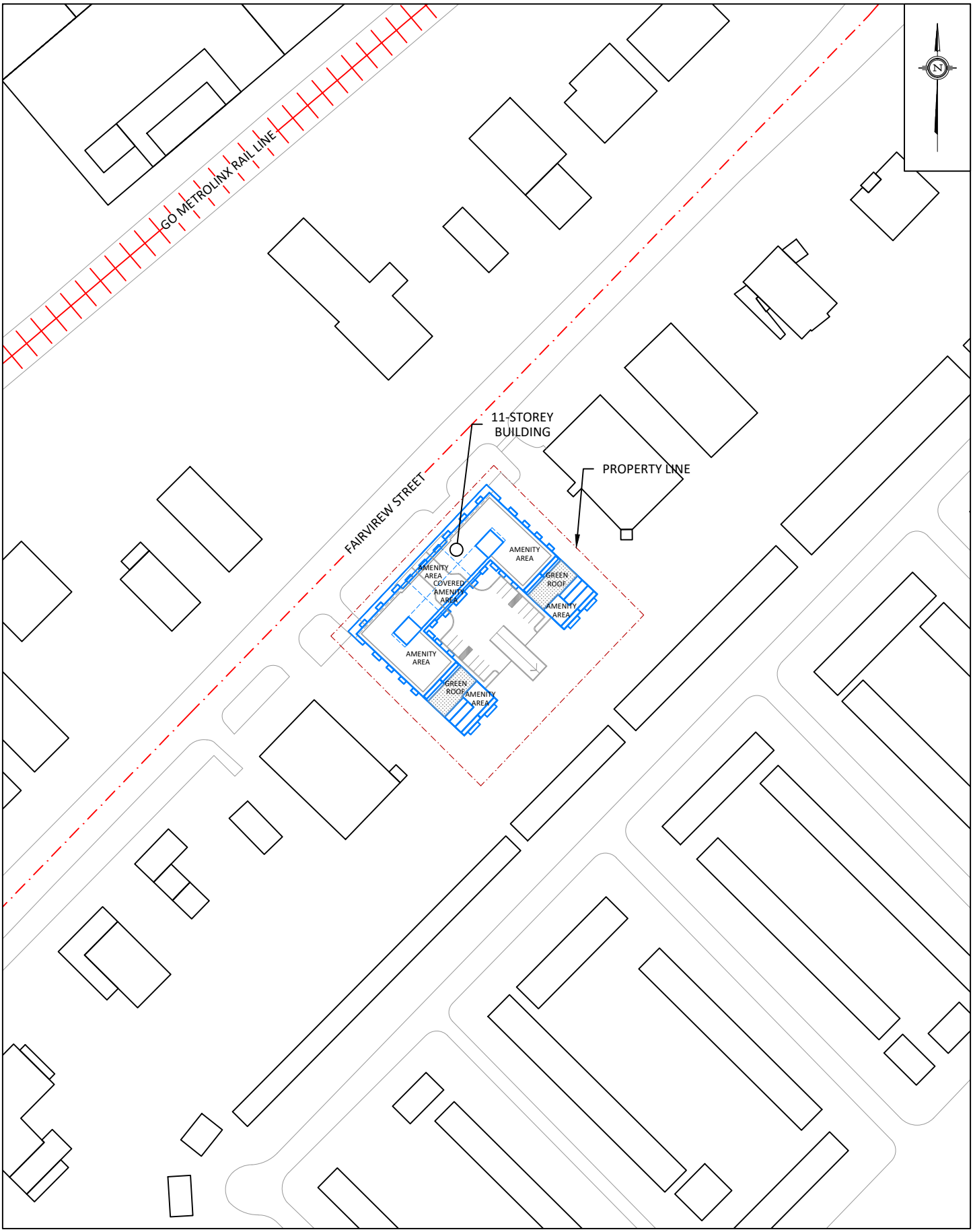
Gradient Wind Engineering Inc.



Efser Kara, MSc, LEED GA
Acoustic Scientist

Joshua Foster, P.Eng.
Lead Engineer

Gradient Wind File #23-092-Transportation Noise



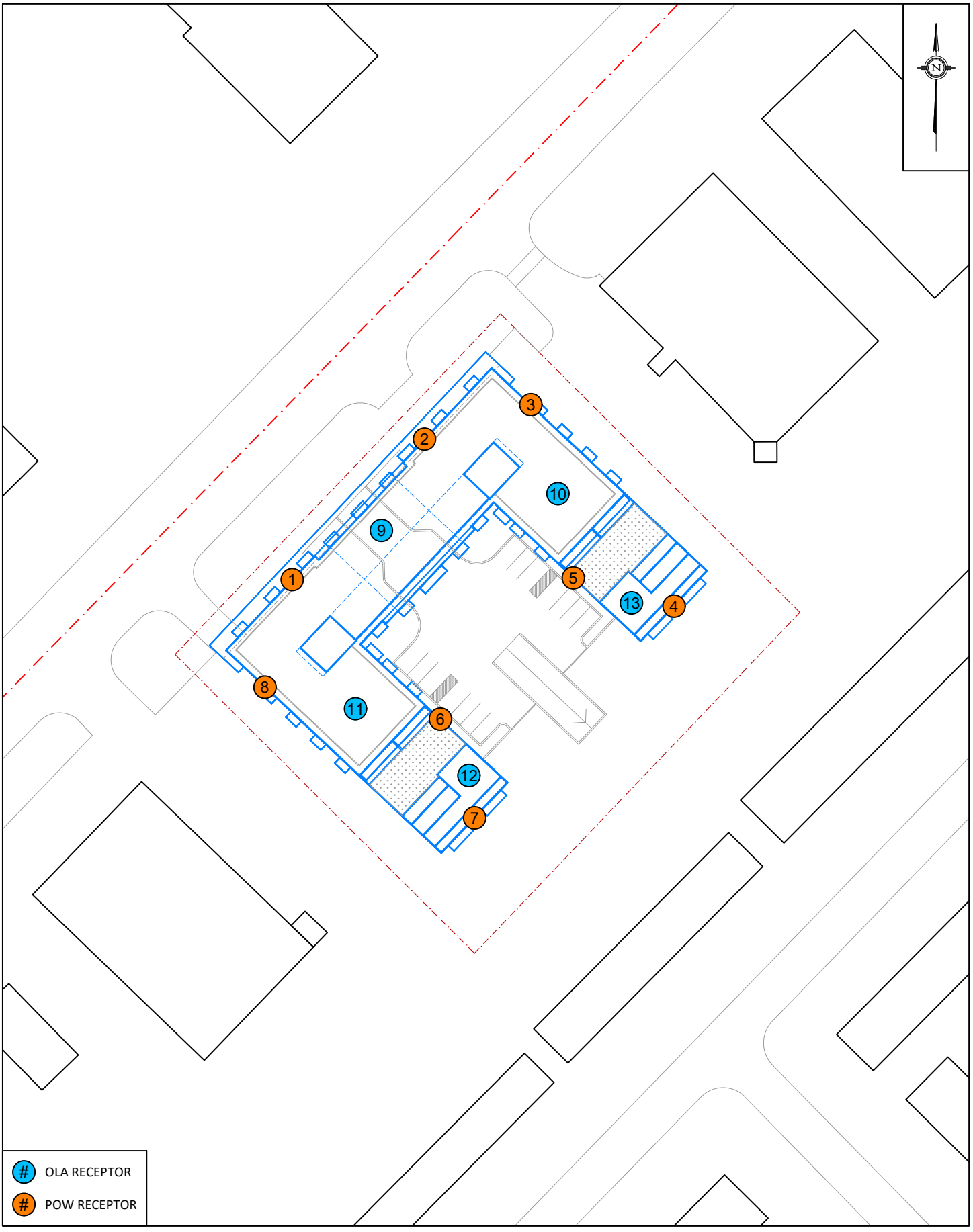
GRADIENTWIND
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127 WALGREEN ROAD , OTTAWA, ON
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PROJECT	2362 FAIRVIEW STREET, BURLINGTON TRANSPORTATION NOISE & VIBRATION ASSESSMENT
SCALE	1:2000 (APPROX.)
DRAWING NO.	GW23-092-1
DATE	APRIL 22, 2024
DRAWN BY	E.K.

DESCRIPTION

FIGURE 1:
SITE PLAN AND SURROUNDING CONTEXT



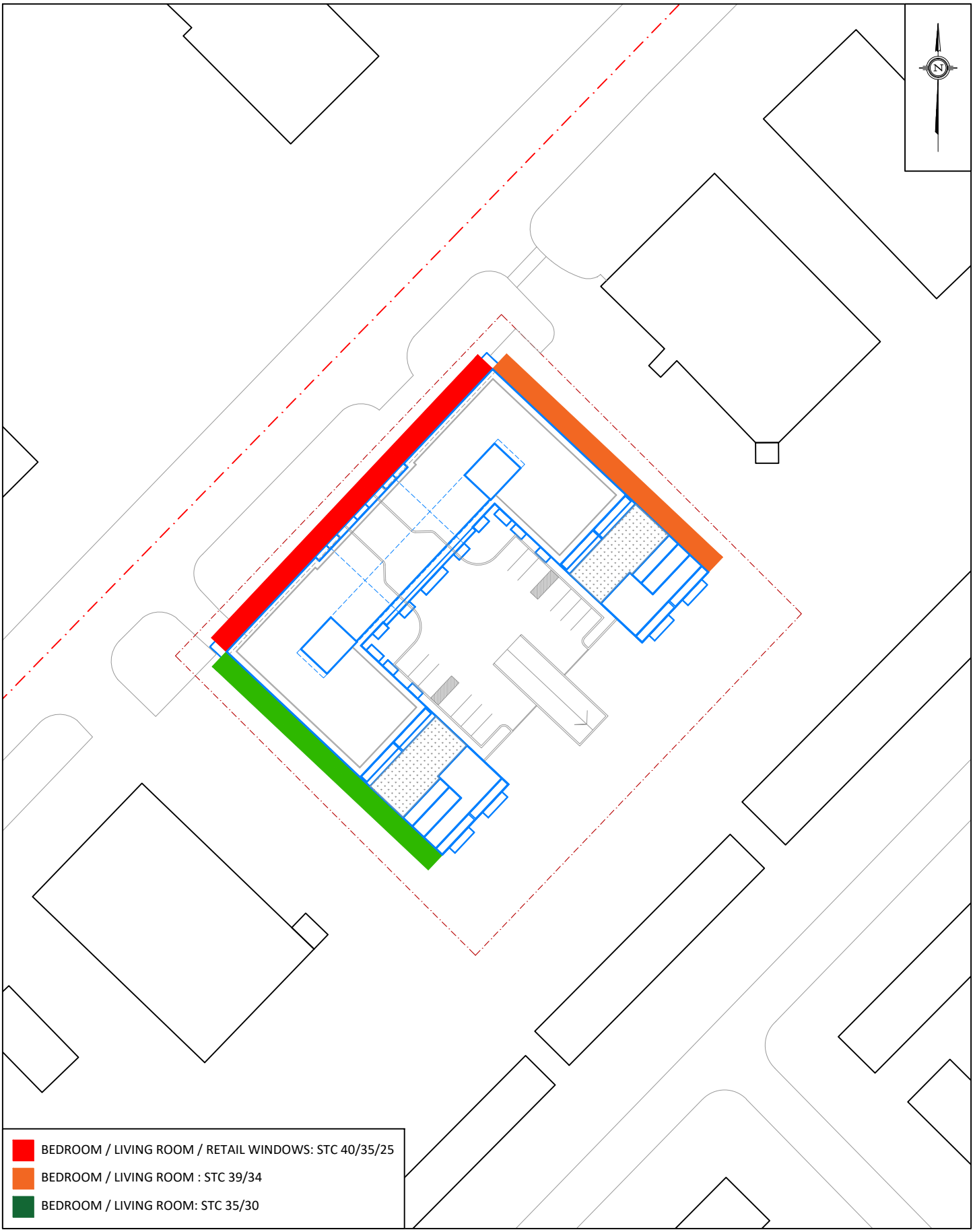
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PROJECT	2362 FAIRVIEW STREET, BURLINGTON TRANSPORTATION NOISE & VIBRATION ASSESSMENT
SCALE	1:1000 (APPROX.)
DRAWING NO.	GW23-092-2
DATE	APRIL 22, 2024
DRAWN BY	E.K.

DESCRIPTION

FIGURE 2:
RECEPTOR LOCATION

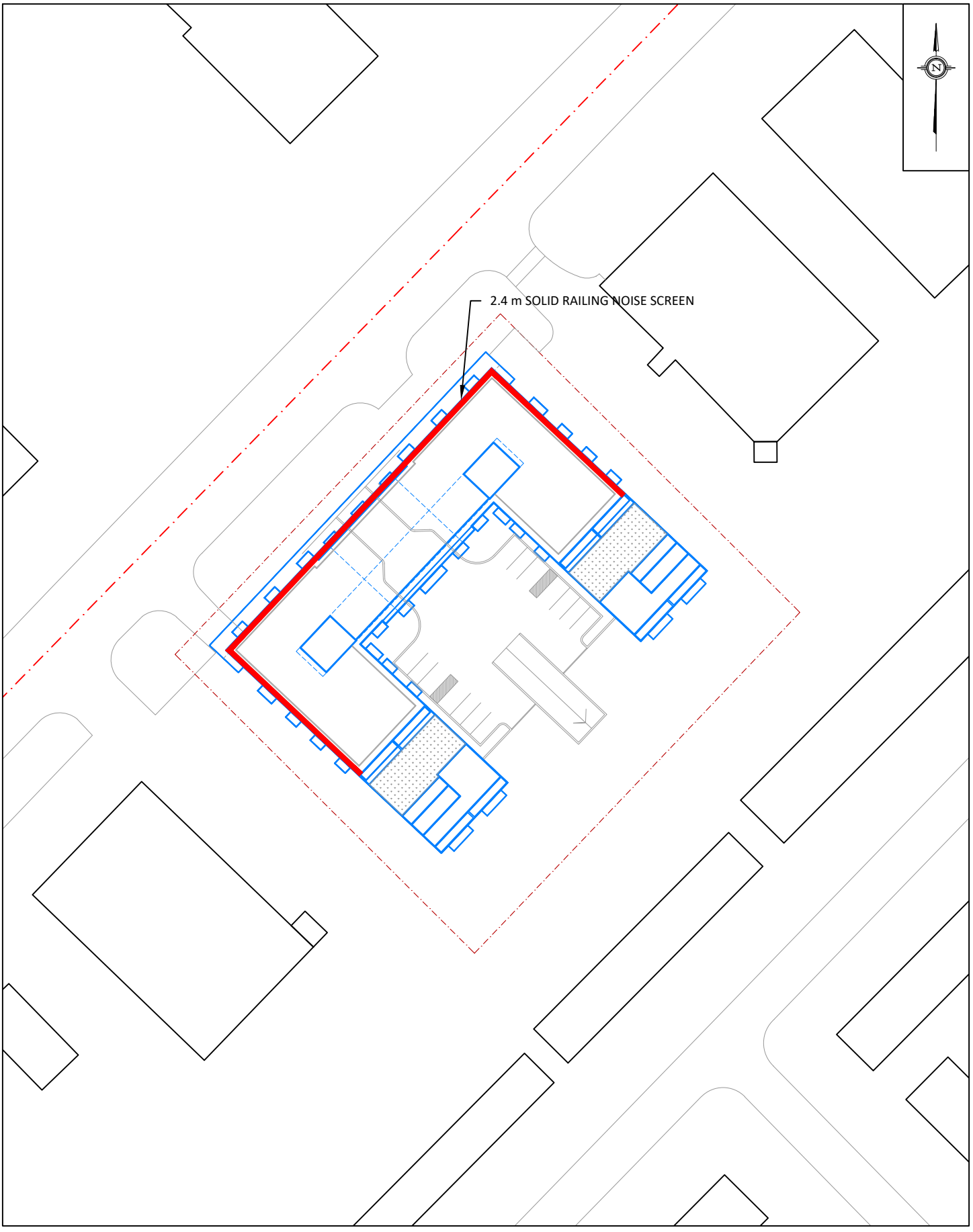


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613 836 0934 • GRADIENTWIND.COM

PROJECT	2362 FAIRVIEW STREET, BURLINGTON TRANSPORTATION NOISE & VIBRATION ASSESSMENT		DESCRIPTION
SCALE	1:1000 (APPROX.)	DRAWING NO.	GW23-092-3
DATE	APRIL 22, 2024	DRAWN BY	E.K.

FIGURE 3:
UPGRADED BUILDING COMPONENTS
STC RATINGS



GRADIENTWIND
ENGINEERS & SCIENTISTS

127 WALGREEN ROAD , OTTAWA, ON
613 836 0934 • GRADIENTWIND.COM

PROJECT	2362 FAIRVIEW STREET, BURLINGTON TRANSPORTATION NOISE & VIBRATION ASSESSMENT		DESCRIPTION
SCALE	1:1000 (APPROX.)	DRAWING NO.	GW23-092-4
DATE	APRIL 22, 2024	DRAWN BY	E.K.

FIGURE 4:
NOISE BARRIERS/SCREENS LOCATIONS

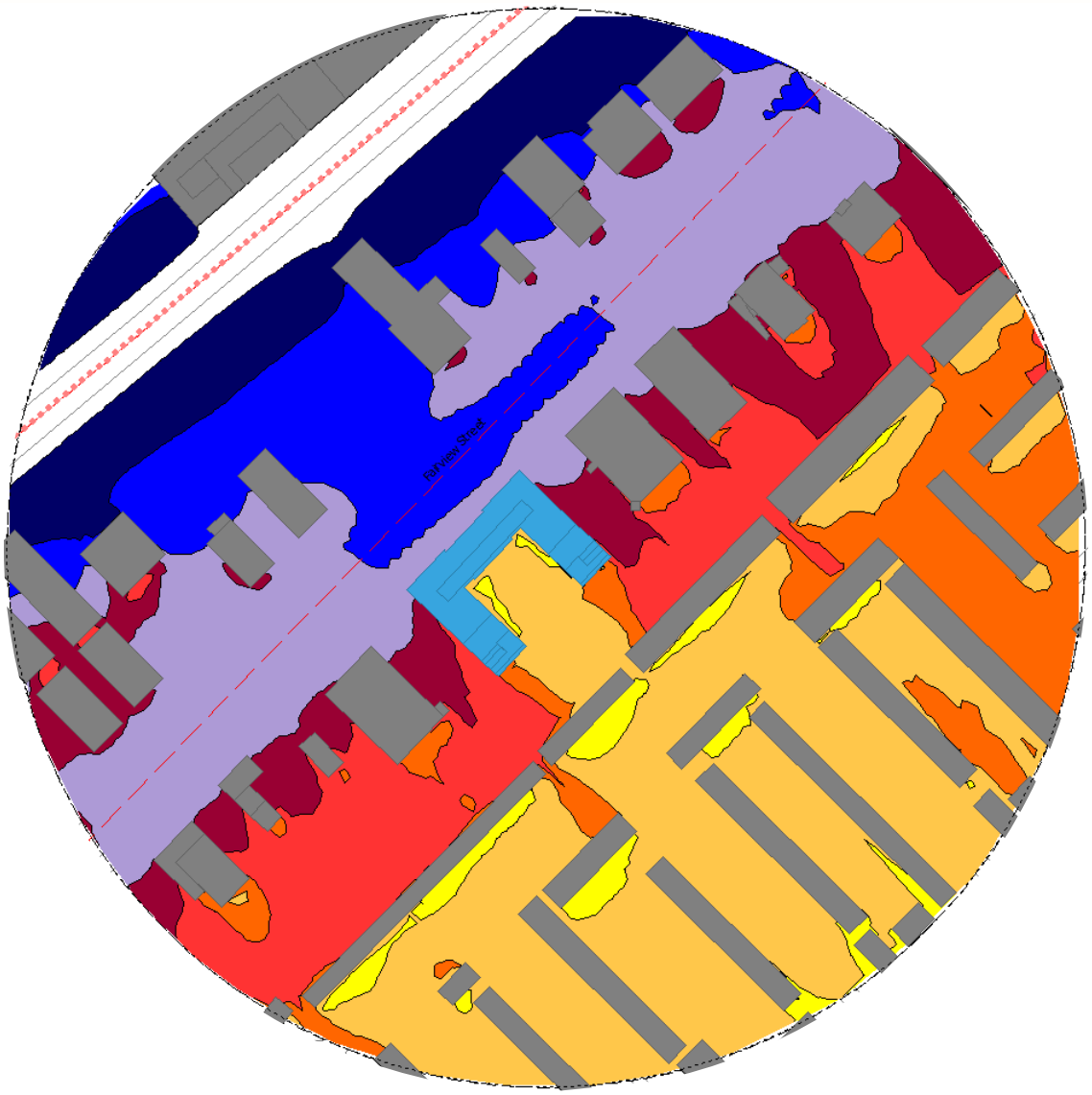


FIGURE 4: DAYTIME NOISE CONTOURS (4.5 M ABOVE GRADE)

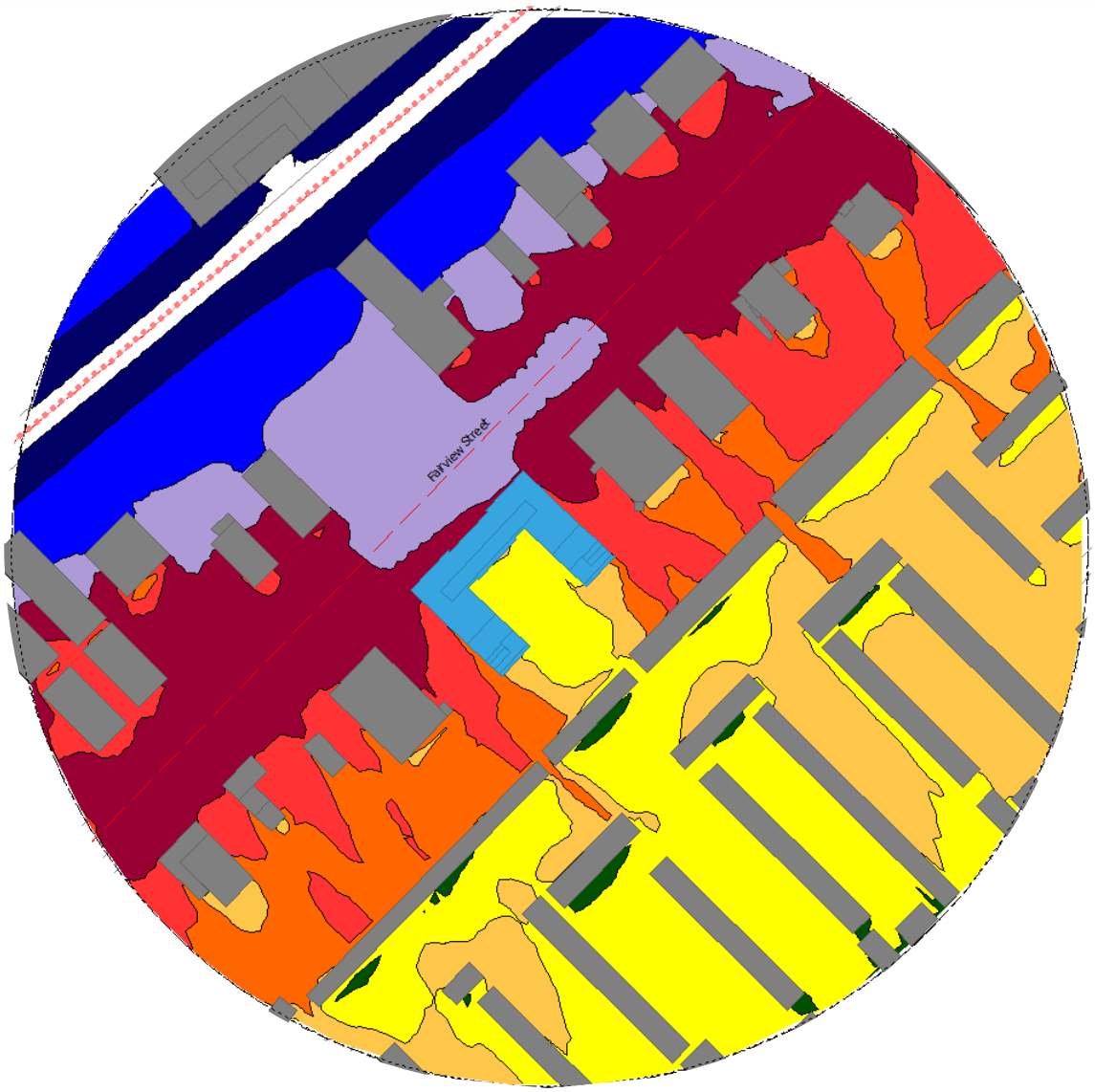
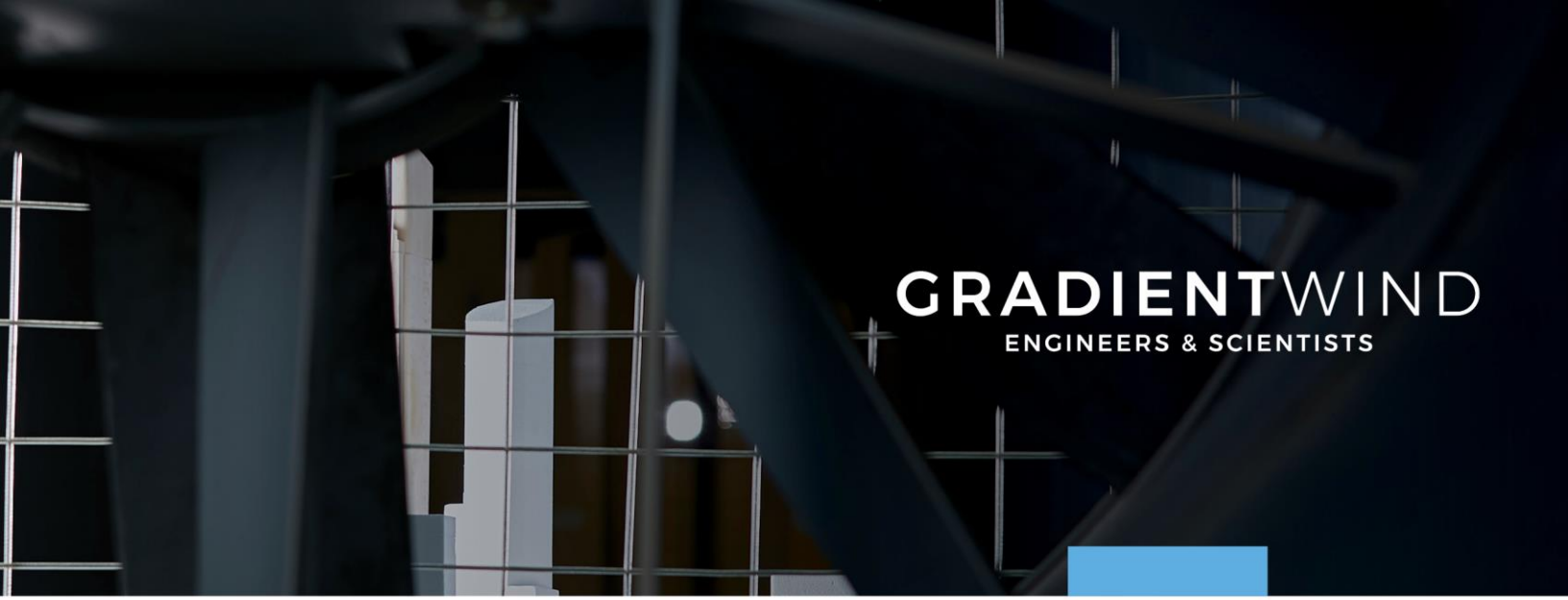
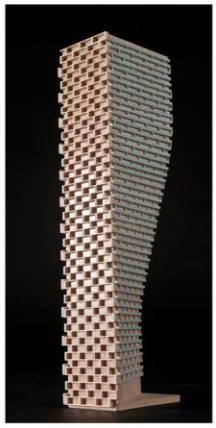


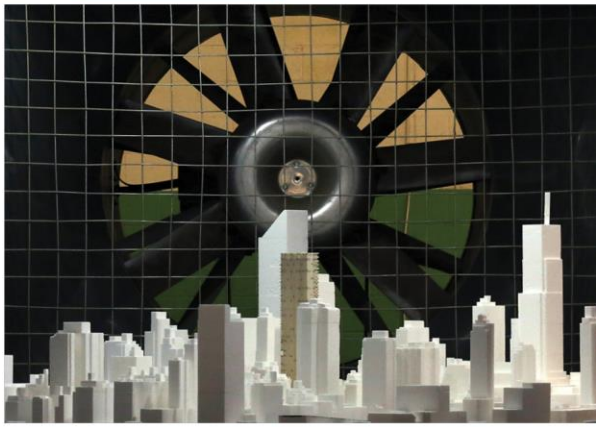
FIGURE 5: NIGHTTIME NOISE CONTOURS (4.5 M ABOVE GRADE)











APPENDIX A

STAMSON 5.04 – INPUT AND OUTPUT DATA

127 WALGREEN ROAD, OTTAWA, ON, CANADA K0A 1L0 | 613 836 0934
GRADIENTWIND.COM

STAMSON 5.0 NORMAL REPORT Date: 04-04-2024 18:56:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1.te Time Period: Day/Night 16/8 hours
Description:

Rail data, segment # 1: GO Rail Ln-1 (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. Diesel	324.0/74.0	150.0	2.0	12.0	Diesel	No

Data for Segment # 1: GO Rail Ln-1 (day/night)

```
Angle1   Angle2          : -90.00 deg   -17.00 deg
Wood depth               :     0      (No woods.)
No of house rows         :     0 / 0
Surface                  :     2      (Reflective ground surface)
Receiver source distance : 169.00 / 169.00 m
Receiver height          : 36.40 / 36.40  m
Topography               :     2      (Flat/gentle slope; with barrier)
No Whistle
Barrier angle1           : -90.00 deg   Angle2 : -17.00 deg
Barrier height           :  7.00 m
Barrier receiver distance :  90.00 / 90.00  m
Source elevation         :  0.00 m
Receiver elevation       :  0.00 m
Barrier elevation        :  0.00 m
Reference angle          :  0.00
```

Rail data, segment # 2: GO Rail Ln-2 (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. Diesel	324.0/74.0	150.0	2.0	12.0	Diesel	No

Data for Segment # 2: GO Rail Ln-2 (day/night)

Angle1 Angle2 : -17.00 deg 21.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 169.00 / 169.00 m
Receiver height : 36.40 / 36.40 m
Topography : 1 (Flat/gentle slope; no barrier)
No Whistle
Reference angle : 0.00

Rail data, segment # 3: GO Rail Ln-3 (day/night)

Train Type	Trains	Speed (km/h)	# loc /Train	# Cars /Train	Eng type	Cont weld
1. Diesel	324.0/74.0	150.0	2.0	12.0	Diesel	No

Data for Segment # 3: GO Rail Ln-3 (day/night)

Angle1 Angle2 : 21.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 169.00 / 169.00 m
Receiver height : 36.40 / 36.40 m
Topography : 2 (Flat/gentle slope; with barrier)
No Whistle
Barrier angle1 : 21.00 deg Angle2 : 90.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 134.00 / 134.00 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

Results segment # 1: GO Rail Ln-1 (day)

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
---+---+---+---
4.00 ! 36.40 ! 19.15 ! 19.15
0.50 ! 36.40 ! 17.28 ! 17.28

LOCOMOTIVE (0.00 + 69.92 + 0.00) = 69.92 dBA
Angle1 Angle2 Alpha RefLeq D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 -17 0.00 84.35 -10.52 -3.92 0.00 0.00 -0.06 69.86*
-90 -17 0.00 84.35 -10.52 -3.92 0.00 0.00 0.00 69.92
---

* Bright Zone !

WHEEL (0.00 + 64.15 + 0.00) = 64.15 dBA
Angle1 Angle2 Alpha RefLeq D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
-90 -17 0.00 78.59 -10.52 -3.92 0.00 0.00 -0.09 64.07*
-90 -17 0.00 78.59 -10.52 -3.92 0.00 0.00 0.00 64.15
---

* Bright Zone !

Segment Leq : 70.94 dBA

Results segment # 2: GO Rail Ln-2 (day)

LOCOMOTIVE (0.00 + 67.08 + 0.00) = 67.08 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-17	21	0.00	84.35	-10.52	-6.75	0.00	0.00	0.00	67.08

WHEEL (0.00 + 61.32 + 0.00) = 61.32 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-17	21	0.00	78.59	-10.52	-6.75	0.00	0.00	0.00	61.32

Segment Leq : 68.10 dBA

Results segment # 3: GO Rail Ln-3 (day)

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
---+---+---+---
4.00 ! 36.40 ! 10.71 ! 10.71
0.50 ! 36.40 ! 7.93 ! 7.93

LOCOMOTIVE (0.00 + 69.67 + 0.00) = 69.67 dBA
Angle1 Angle2 Alpha RefLeq D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
21 90 0.00 84.35 -10.52 -4.16 0.00 0.00 -0.29 69.39*
21 90 0.00 84.35 -10.52 -4.16 0.00 0.00 0.00 69.67
---

* Bright Zone !

WHEEL (0.00 + 63.91 + 0.00) = 63.91 dBA
Angle1 Angle2 Alpha RefLeq D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
21 90 0.00 78.59 -10.52 -4.16 0.00 0.00 -2.57 61.34*
21 90 0.00 78.59 -10.52 -4.16 0.00 0.00 0.00 63.91
---

* Bright Zone !

Segment Leq : 70.69 dBA

Total Leq All Segments: 74.86 dBA

Results segment # 1: GO Rail Ln-1 (night)

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
---+---+---+---
4.00 ! 36.40 ! 19.15 ! 19.15
0.50 ! 36.40 ! 17.28 ! 17.28

LOCOMOTIVE (0.00 + 66.51 + 0.00) = 66.51 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-17	0.00	80.95	-10.52	-3.92	0.00	0.00	-0.06	66.45*
-90	-17	0.00	80.95	-10.52	-3.92	0.00	0.00	0.00	66.51

* Bright Zone !

WHEEL (0.00 + 60.75 + 0.00) = 60.75 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-17	0.00	75.19	-10.52	-3.92	0.00	0.00	-0.09	60.67*
-90	-17	0.00	75.19	-10.52	-3.92	0.00	0.00	0.00	60.75

* Bright Zone !

Segment Leq : 67.53 dBA

Results segment # 2: GO Rail Ln-2 (night)

LOCOMOTIVE (0.00 + 63.68 + 0.00) = 63.68 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-17	21	0.00	80.95	-10.52	-6.75	0.00	0.00	0.00	63.68

WHEEL (0.00 + 57.92 + 0.00) = 57.92 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-17	21	0.00	75.19	-10.52	-6.75	0.00	0.00	0.00	57.92

Segment Leq : 64.70 dBA

Results segment # 3: GO Rail Ln-3 (night)

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)
---+---+---+---
4.00 ! 36.40 ! 10.71 ! 10.71
0.50 ! 36.40 ! 7.93 ! 7.93

LOCOMOTIVE (0.00 + 66.27 + 0.00) = 66.27 dBA
Angle1 Angle2 Alpha RefLeq D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
21 90 0.00 80.95 -10.52 -4.16 0.00 0.00 -0.29 65.98*
21 90 0.00 80.95 -10.52 -4.16 0.00 0.00 0.00 66.27
---

* Bright Zone !

WHEEL (0.00 + 60.51 + 0.00) = 60.51 dBA
Angle1 Angle2 Alpha RefLeq D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
21 90 0.00 75.19 -10.52 -4.16 0.00 0.00 -2.57 57.94*
21 90 0.00 75.19 -10.52 -4.16 0.00 0.00 0.00 60.51
---

* Bright Zone !

Segment Leq : 67.29 dBA

Total Leq All Segments: 71.45 dBA

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

Car traffic volume : 33954/3773 veh/TimePeriod *
Medium truck volume : 2701/300 veh/TimePeriod *
Heavy truck volume : 1929/214 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): 42871
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Fairview St (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 36.40 / 36.40 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Fairview St (day)

Source height = 1.50 m

ROAD (0.00 + 72.24 + 0.00) = 72.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	74.46	0.00	-2.22	0.00	0.00	0.00	0.00	72.24

Segment Leq : 72.24 dBA

Total Leq All Segments: 72.24 dBA

Results segment # 1: Fairview St (night)

Source height = 1.49 m

ROAD (0.00 + 65.71 + 0.00) = 65.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	67.93	0.00	-2.22	0.00	0.00	0.00	0.00	65.71

Segment Leq : 65.71 dBA

Total Leq All Segments: 65.71 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 76.75
(NIGHT): 72.48

STAMSON 5.0 NORMAL REPORT Date: 04-04-2024 19:00:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3.te Time Period: Day/Night 16/8 hours
Description:

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

Train Type	Trains (km/h)	Speed /Train	# loc /Train	# Cars type	Eng	Cont weld
1. Diesel	324.0/74.0	150.0	2.0	12.0	Diesel	No

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

```
Angle1   Angle2          :  -6.00 deg   90.00 deg
Wood depth               :     0       (No woods.)
No of house rows         :     0 / 0
Surface                  :     2       (Reflective ground surface)
Receiver source distance : 173.00 / 173.00 m
Receiver height          :  16.50 / 16.50  m
Topography               :     1       (Flat/gentle slope; no barrier)
No Whistle
Reference angle          :   0.00
```

Results segment # 1: Go Rail Line (day)

LOCOMOTIVE (0.00 + 71.00 + 0.00) = 71.00 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-6	90	0.00	84.35	-10.62	-2.73	0.00	0.00	0.00	71.00

WHEEL (0.00 + 65.24 + 0.00) = 65.24 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-6	90	0.00	78.59	-10.62	-2.73	0.00	0.00	0.00	65.24

Segment Leq : 72.02 dBA

Total Leq All Segments: 72.02 dBA

Results segment # 1: Go Rail Line (night)

LOCOMOTIVE (0.00 + 67.60 + 0.00) = 67.60 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-6	90	0.00	80.95	-10.62	-2.73	0.00	0.00	0.00	67.60

WHEEL (0.00 + 61.84 + 0.00) = 61.84 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-6	90	0.00	75.19	-10.62	-2.73	0.00	0.00	0.00	61.84

Segment Leq : 68.62 dBA

Total Leq All Segments: 68.62 dBA

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

Car traffic volume : 33954/3773 veh/TimePeriod *
Medium truck volume : 2701/300 veh/TimePeriod *
Heavy truck volume : 1929/214 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): 42871
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Fairview St (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 34.00 / 34.00 m
Receiver height : 36.40 / 36.40 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Fairview St (day)

Source height = 1.50 m

ROAD (0.00 + 67.90 + 0.00) = 67.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	74.46	0.00	-3.55	-3.01	0.00	0.00	0.00	67.90

Segment Leq : 67.90 dBA

Total Leq All Segments: 67.90 dBA

Results segment # 1: Fairview St (night)

Source height = 1.49 m

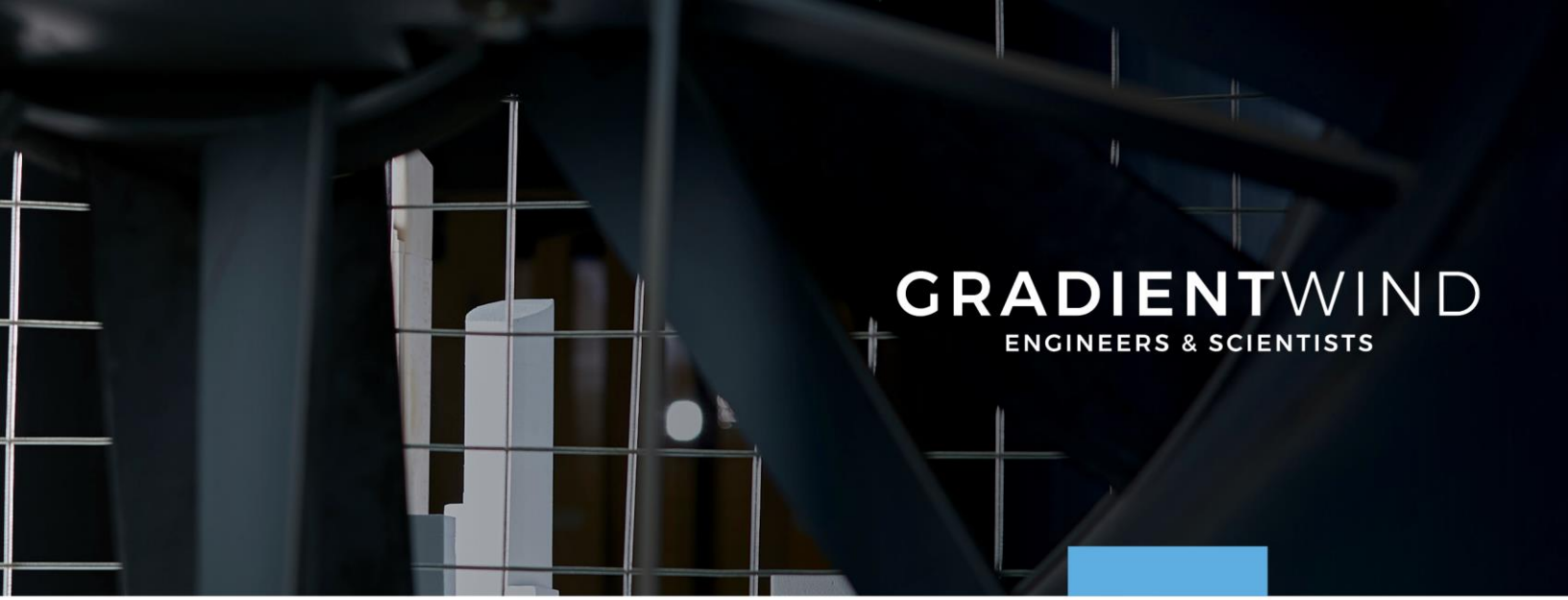
ROAD (0.00 + 61.36 + 0.00) = 61.36 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	67.93	0.00	-3.55	-3.01	0.00	0.00	0.00	61.36

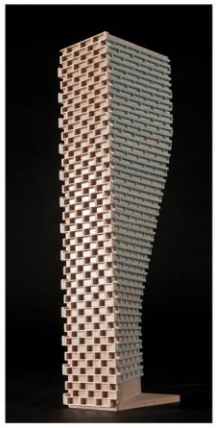
Segment Leq : 61.36 dBA

Total Leq All Segments: 61.36 dBA

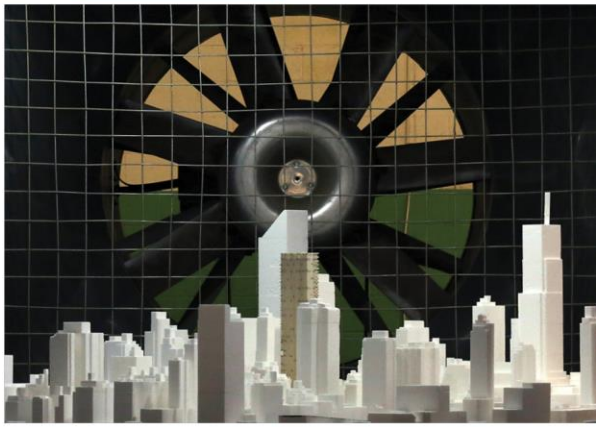
TOTAL Leq FROM ALL SOURCES (DAY): 73.44
(NIGHT): 69.37











APPENDIX B

SUPPORTING DOCUMENTATION

127 WALGREEN ROAD, OTTAWA, ON, CANADA K0A 1L0 | 613 836 0934
GRADIENTWIND.COM

From: Rail Data Requests
To: Efser Kara
Subject: RE: Oakville, ON - GO Metrolinx Information
Date: May 11, 2023 11:40:21 AM
Attachments: image002.png
image003.png

CAUTION: This email originated from outside of Gradient Wind. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Efser,

Further to your request dated May 10, 2023, the subject lands (2362 Fairview Street, Burlington) are located within 300 metres of the Metrolinx Oakville Subdivision (which carries Lakeshore West 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 398 trains. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives		1 Diesel Locomotive	2 Diesel Locomotives	1 Electric Locomotive	2 Electric Locomotives
Day (0700-2300)	132	0	192	0	Night (2300-0700)	20	0	54	0

The current track design speed near the subject lands is 95 mph (153 km/h).
There are no *anti-whistling by-laws* in affect near the subject lands.
With respect to future electrified rail service, Metrolinx is committed to finding the most sustainable solution for electrifying the GO rail network and we are currently working towards the next phase.
Options have been studied as part of the Transit Project Assessment Process (TPAP) for the GO Expansion program, currently in the procurement phase. The successful proponent team will be responsible for selecting and delivering the right trains and infrastructure to unlock the benefits of GO Expansion. The contract is in a multi-year procurement process and teams have submitted their bids to Infrastructure Ontario and Metrolinx for evaluation and contract award. GO Expansion construction will get underway in late 2023.
However, we can advise that train noise is dominated by the powertrain at lower speeds and by the wheel- track interaction at higher speeds. Hence, the noise level and spectrum of electric trains is expected to be very similar at higher speeds, if not identical, to those of equivalent diesel trains.
Given the above considerations, it would be prudent at this time, for the purposes of acoustical analyses for development in proximity to Metrolinx corridors, 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 once the proponent team is selected.
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,
Tara

Tara Kamal Ahmadi
Junior Analyst
Third Party Projects Review, Capital Projects Group
Metrolinx | 20 Bay Street | Suite 600 | Toronto | Ontario | M5J 2W3

METROLINX

From: Efser Kara <efser.kara@gradientwind.com>
Sent: May 10, 2023 8:35 AM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Subject: RE: Oakville, ON - GO Metrolinx Information

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Good morning,

Will the same data apply to 2362 Fairview Street, Burlington?

Regards,

EFSER KARA, MSc, LEED GA
ACOUSTIC SCIENTIST
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ENGINEERS & SCIENTISTS

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: Tuesday, April 25, 2023 3:57 PM
To: Efser Kara <efser.kara@gradientwind.com>
Subject: RE: Oakville, ON - GO Metrolinx Information

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Good Afternoon,