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**Environmental Noise Feasibility
Assessment
Proposed Residential Development
547 King Street, Port Colborne**

Elevate Living



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Proposed Residential Development
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**February 2026
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Environmental Noise Feasibility Assessment
 547 King Street, Port Colborne
 February 2026

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Executive Summary

R.J. Burnside & Associates Limited (Burnside) was retained by Elevate Living to prepare an Environmental Noise Feasibility Assessment for the 547 King Street 30-Unit Apartment Building Development. The property is located at 547 King Street, Port Colborne, Ontario.

The only significant road traffic noise source is King Street. Sound levels from King Street were modelled based on the future traffic volumes.

The rail traffic noise source of concern is Trillium Railway. Sound levels from this railway were modelled based on the future traffic volumes. In order to determine whether any noise control measures are required, resulting sound levels were compared to the applicable Ministry of the Environment, Conservation and Parks (MECP) limits.

The respective road and rail traffic sound levels were combined and assessed together where appropriate. In order to determine whether any noise control measures are required, resulting sound levels were compared to the applicable Ministry of the Environment, Conservation and Parks (MECP) limits.

Although the subject development is in proximity to Port Colborne Airport, the proposed development is located outside of the NEF/NEP 25 noise contour for airports of a similar size. Therefore, aircraft noise is not considered a significant noise source for this proposed development.

The assessment revealed that transportation sound levels at all locations are below MECP limits; therefore, no noise mitigation measures are required.

There are no external stationary noise sources of concern surrounding the development.

An assessment of the internal stationary noise sources was not possible at this time because the plans for the development are too preliminary to include details on the locations and sizing of mechanical equipment. However, it is known that significant mechanical equipment will be required. Such equipment will require acoustic mitigation measures to be compliant with the proposed residential receptors of the development itself. A detailed assessment with mitigation plans will be prepared in a future Detailed Environmental Noise Assessment to be prepared at the Site Plan Approval stage.

A vibration study is also required for the subject property due to the proximity of the railway. The vibration study is being prepared as a separate submission.

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Aerial Photography taken from Google Earth Professional, 2015.

In acoustics it is impossible to achieve no adverse effects for one hundred percent of the population. Certain persons are hypersensitive to noise and will find compliant noise situations to cause adverse effects.

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) was retained by Elevate Living to prepare an Environmental Noise Feasibility Assessment for the new 547 King Street, 30-Unit Apartment Building Development. The property is located at 547 King Street, Port Colborne, Ontario.

The purpose of this assessment is to examine potential noise impacts relating to the proposed building on King Street in Port Colborne.

1.1 Objective

This report has been prepared in support of the new 547 King Street, 30-Unit Apartment Building Development. This report will be included in a submission for the Zoning Bylaw Amendment. The potential noise impacts were assessed using the Ministry of the Environment, Conservation and Parks (MECP) traffic and rail noise prediction models ORNAMENT and STEAM, implemented through the STAMSON (version 5.04) computer program. Sound levels were predicted based on 20-year future traffic forecast for King Street and the Trillium Railway (see Tables 1 through 4). The potential noise impact from Port Colborne Airport was also considered. The potential noise impacts were evaluated by comparing predicted sound levels at the representative points of reception with the MECP sound level limits.

1.2 Study Area

The proposed 547 King Street 30-Unit Apartment Building Development is located on King Street in Port Colborne, Ontario. The site location map is provided in Figure 1.

The Site Plan is shown in Figure 2. The proposed development is in an area currently zoned by Port Colborne as R2 (Second Density Residential). The zoning map is shown in Figure 3.

1.3 Site Visit

Burnside conducted a site visit of the proposed development on October 6, 2025.

Burnside's review of the study area did not discover any unregulated noise sources of potential concern such as a dog park or daycare playground.

2.0 Applicable Noise Criteria

The proposed 547 King Street 30-Unit Apartment Building Development is located in a Class 1 Urban Area.

2.1 MECP Noise Policies

Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (NPC-300) is the MECP Publication which provides advice, sound level limits and guidance that may be used when land use planning decisions are made under the Planning Act, and the Niagara Escarpment Planning and Development Act. This guidance is for land use planning authorities, developers, and consultants. It is intended to minimize the potential conflict between proposed noise sensitive land uses and sources of noise emissions.

2.1.1 Transportation Noise

2.1.1.1 Outdoor Living Areas

NPC-300 indicates that the sound level should be assessed in an outdoor living area (OLA). Where the noise exceeds the applicable sound level limits, mitigation measures may be required. Noise control measures are not required if the sound level estimated in the OLA is 55 dBA or less during the daytime hours.

NPC-300 indicates that if the 16-hour equivalent sound level in the OLA is between 55 dBA and 60 dBA, noise control measures may be applied to reduce the sound level to 55 dBA; otherwise, a warning clause Type A should be issued. If the sound level in the OLA is greater than 60 dBA, noise control measures should be implemented to reduce the level to 55 dBA. Only in cases where the required noise control measures are not feasible for technical, economic, or administrative reasons would an excess above the limit (55 dBA) be acceptable with a warning clause Type B.

2.1.1.2 Plane of a Window

If the sound level in the plane of a bedroom or living/dining room window is between 55 dBA and 65 dBA during daytime or between 50 dBA and 60 dBA during nighttime, the dwelling should be designed with a provision for the installation of central air conditioning in the future. Warning clause Type C is also recommended. If the sound level in the plane of a bedroom or living/dining room window is greater than 65 dBA during daytime or 60 dBA during nighttime, installation of central air conditioning should be implemented with a warning clause Type D.

The location and installation of any required outdoor air conditioning devices must comply with the MECP's publication: Residential Air Conditioning Devices (NPC-216).

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NPC-216 requires that the sound levels of the condensing units not exceed the maximum sound level of 55 dBA¹ at the neighbour's closest point of reception. Applicable points of reception are defined as the closest window or ground based outdoor living areas. Air conditioning units with a maximum Air-conditioning Refrigeration Institute (ARI) standard sound rating of greater than 7.6 Bels are also prohibited.

2.1.1.3 Indoor Living Areas

For road noise, the indoor sound level limit is 45 dBA for living/dining areas at any time and during daytime in the sleeping quarters. The sound level in the sleeping quarters should not exceed 40 dBA during nighttime.

For rail noise, the indoor sound level limit is 40 dBA for living/dining areas at any time and during daytime in the sleeping quarters. The sound level in the sleeping quarters should not exceed 35 dBA during nighttime.

2.1.1.4 Aircraft Noise

For aircraft noise, if the outdoor Noise Exposure Forecast/Noise Exposure Projection (NEF/NEP) value is less than 25, further assessment is not required. If the receptor is located between the NEF/NEP contours of 25 and 30, the dwelling should be designed with a provision for central air conditioning, along with warning clause Type C. In addition, the building components should be designed to achieve the indoor sound level limit of 0 NEF/NEP for sleeping quarters and 5 NEF/NEP for all other indoor living areas.

If the outdoor NEF/NEP value is greater than 30, municipal approval is required for a residential development proposal to proceed. If the municipality grants approval, then central air conditioning must be implemented, along with warning clauses Type B and Type D. In addition, the building components should be designed to achieve the indoor sound level limit of 0 NEF/NEP for sleeping quarters and 5 NEF/NEP for all other indoor living areas².

2.1.2 Stationary Noise

The applicable stationary noise criteria are dependent on the Class Area as well as the ambient sound levels present at each point of reception. The applicable criteria are the

¹ 55 dBA is permissible for new land use developments when air conditioning is a mandatory requirement.

² The indoor NEF/NEP values are not obtained from NEF/NEP contour maps. The values are representative of the indoor sound levels and are used as assessment criteria for the evaluation of acoustical insulation requirements (MECP, NPC-300, Section C-6). Since $NEF = L_{eq(24)} - 32$ dBA, NEF 0 corresponds to $L_{eq(24)}$ of 32 dBA and NEF 5 corresponds $L_{eq(24)}$ of 37 dBA.

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greater of the exclusion limits, provided in the MECP tables in Appendix B, or the lowest hourly ambient sound level predicted for a given point of reception.

The proposed 547 King Street 30-Unit Apartment Building Development is located in a Class 1 Urban Area.

The MECP criteria for the outdoor receptors considered in this report are 50 dBA from 07:00 – 23:00.

The MECP criteria for the plane of window receptors considered in this report are 50 dBA from 07:00 – 23:00 and 45 dBA from 23:00 – 07:00.

MECP tables showing all criteria for all Classes of Urban Areas and all time periods are shown in Appendix B.

2.2 Regional and Municipal Policies

In addition to the preceding MECP noise criteria from NPC-300, the proposed development is also subject to the following regional and municipal requirements:

The Regional Municipality of Niagara has a Regional Road Noise Policy PW5.NO1.0. This document requires 20 year traffic projections to be made for future traffic volumes, which is a doubling of the typical 10 year future traffic projection.

2.2.1 Guidelines for New Development in Proximity to Railway Operations

The Federation of Canadian Municipalities (FCM) and Railway Association of Canada (RAC) have together released a document entitled *“Guidelines for the New Development in Proximity to Railway Operations”*. FCM is a non-profit corporation founded to influence the public discourse and higher levels of governments to enhance the exposure of municipal level concerns. RAC is a private company created to represent the interests of railway companies in Canada. The recommendations set out by FCM and RAC in their 2013 guidelines are not government policies but do present design guidelines which, if followed, increases the favourability of a development in the opinion of any rail company which is a member of the RAC. It is in the interest of the developer of a property in proximity to railways to consider these recommendations as railways can slow the municipal approval processes by raising concerns when these guidelines are ignored.

Municipalities may choose to adopt the *“Guidelines for the New Development in Proximity to Railway Operations”* as requirements for their jurisdiction. RAC keeps a list

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of municipalities which have adopted in part or full their guidelines³. The City of Port Colborne, and the Regional Municipality of Niagara both do not appear on this list.

Burnside furthermore reviewed the Official Plan for the Region for policies relating to rail noise and vibration analysis and assessment. In the Regional Official plan, the “*Guidelines for the New Development in Proximity to Railway Operations*” are not mentioned. Therefore, there are no municipal or provincial requirements for enforcing the “*Guidelines for the New Development in Proximity to Railway Operations*” on the subject development.

Nevertheless, the following noise and vibration specific recommendations are made in the “*Guidelines for the New Development in Proximity to Railway Operations*”:

- Standard mitigation designs including a 3.0 m high acoustical fence located atop a 2.5 m earthen berm. The berm being fully located within the minimum 30 m setback from the right-of-way to the building edge.
- Standard mitigation measures are desired as a minimum requirement⁴.
- Other land uses should be considered in cases where standard mitigation measures are not possible.
- Mitigation solutions should not create an onerous highly engineered condition that overwhelms the aesthetic quality of the environment.
- Consultation with all stakeholders, including the railways, at the outset of the planning process.
- The following building setbacks are recommended:
 - Freight Rail Yard: 300 m
 - Principal Main Line: 30 m
 - Secondary Main Line: 30 m
 - Principal Branch Line: 15 m
 - Secondary Branch Line: 15 m
 - Spur Line: 15 m
- Designs with backyards shielded from rail noise by the dwellings themselves or garages are preferable.
- Outdoor and indoor noise predictions should be completed in a Noise Study as part of the initial submission for a development
- Though determined by an acoustic engineer, acoustic barrier heights are typically at least:
 - Principal Main Line: 5.5 m above top of rail

³ <https://www.proximityinitiative.ca/guidelines-adoption/>

⁴ Note that as “*Guidelines for the New Development in Proximity to Railway Operations*” is not government regulation, requirements of the document are better understood as recommendations, as the issuing body does not have the authority to require their implementation.

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- Secondary Main Line: 4.5 m above top of rail
- Principal Branch Line: 4.0 m above top of rail
- Secondary Branch Line: no minimum
- Spur Line: no minimum
- Acoustic barriers should mitigate the noise transmission by at least 10 dBA compared to the noise traveling over the barrier. Barriers should have at least 20 kg per square meter of surface area. Concrete or specialized materials are preferred over wood.
- Non noise sensitive room uses should be preferred on the sides of the buildings facing the railway, such as kitchens, bathrooms, and laundry rooms.
- Reduced sized windows should be considered facing the railway. Windows should have a high STC rating.
- Exterior Doors should be acoustically designed.
- Site specific vibration mitigation is highly recommended.

The “*Guidelines for the New Development in Proximity to Railway Operations*” makes other recommendations which fall outside of the scope of noise and vibration.

3.0 Transportation Noise Sources and Receptors

3.1 Road Noise Sources

The road traffic noise source assessed for the potential impact on the new 547 King Street 30-Unit Apartment Building Development is King Street. The development has some exposure to the east of Killaly Street, however the distance setback is large enough that this potential noise source is an order of magnitude less significant than the rail and King Street and had therefore not been assessed. The distance setback of Killaly is roughly ten times King Street, even with higher traffic counts the noise levels will be an order of magnitude lower.

Traffic volume data was received as intersection traffic counts from Niagara Region. To be conservative, the maximum hourly values were used in this assessment, converting to AADT by multiplying by a factor of 10. The traffic volumes are presented in Table 1 and Table 2. Table 1 shows a summary of the current traffic volumes while Table 2 shows a breakdown of the 10-year predicted road traffic volumes. The road traffic data provided to Burnside for this report is included in Appendix A.

It was observed that trucks make up 0.3% of the traffic on King Street. Burnside has assumed this is evenly split between medium and heavy trucks.

The day/night traffic volume was split 90%/10% as per the STAMSON Technical Document recommendation for regional roads.

The current unposted speed limit is 50 km/h on King Street. It was assumed to remain the same within the next 20 years. Given trends in traffic speeds in urban areas, the speed limit is most likely to decrease so choosing 50 km/h is a conservative approach.

3.2 Rail Noise Sources

The rail traffic noise source assessed for the potential impact on the new 547 King Street 30-Unit Apartment Building Development is Trillium Railway.

Rail traffic volumes are presented in Table 3 and Table 4. The rail traffic data was assembled from vibration meter observations and publicly available information. Burnside requested the traffic data directly from the rail corporation by email, but the request went unanswered. Burnside also attempted to collect count observations with a motion sensitive camera, however, foliage at the site highly restricted the visibility of the rail line. The camera footage was therefore not relied on. Assumptions and methods used are presented at the bottom of Table 3.

3.3 Aircraft Noise Sources

Although the subject development is in proximity to Port Colborne Airport, the proposed development is located outside of the NEF/NEP 25 noise contour of similarly sized airports. Port Colborne Airport has not issued their own NEF/NEP contour. Therefore, aircraft noise is not considered a significant noise source for this proposed development.

3.4 Transportation Noise Receptors

The proposed 547 King Street 30-Unit Apartment Building Development was assigned a single representative plane of an open window points of reception per noise source. The predictable worst-case location of the western façade was selected for road noise, and the eastern façade was selected for rail noise. Sound levels at all other plane of window receptors will be at or below the sound levels at these representative receptors. The point of reception was assumed to be at the third floor, which is the top level of the building.

The proposed 547 King Street 30-Unit Apartment Building Development contains only one OLA point of reception. The OLA is a third floor covered balcony, which is greater than 4 m in depth and therefore requires a noise assessment. There is no ground based OLAs.

4.0 Transportation Noise Impact Assessment

4.1 Methodology

Sound levels associated with road traffic predicted with MECP traffic noise prediction methodology ORNAMENT, implemented through the STAMSON (version 5.04) computer program. The model calculates expected sound levels based on road traffic, distance to receptor, receptor height, and topographical features. In order to predict sound levels from road traffic, STAMSON requires:

- Source to receiver distance – between 15 m and 500 m
- Minimum traffic volume – 40 vehicles per hour
- Minimum vehicle speed – 50 km/hr.

The assumptions below were used in the noise model:

- The road gradient was assumed to be 2%.
- Road pavement was assumed as a standard asphalt surface.
- Flat/gentle slope topography was selected.
- Intermediate surface was assumed to be reflective.

Plane of Windows points of reception were taken at the building façade and 7.5 m above the grade, representing the third floor.

Sound levels associated with rail traffic predicted with MECP rail traffic noise prediction model STEAM, implemented through the STAMSON (version 5.04) computer program. The model calculates expected sound levels based on rail traffic, distance to receptor, receptor height, and topographical features. To predict sound levels from rail traffic STAMSON requires:

- Source to receiver distance – between 15 m and 500 m
- Type of Train – Electric or Diesel
- Cars per Train
- Locomotives per Train
- Maximum traffic volume
- Train speed
- Welded rail? – Yes/No
- Whistle? – Yes/No
- Angle to whistle crossing

The assumptions below were used in the noise model:

- Flat/gentle slope topography was selected.
- Intermediate surface was assumed to be absorptive.

- A 2.5% growth rate was assumed for the 20-year future traffic prediction.
- A 100% Day/0% Night traffic split was assumed, based on observations over 20 days.

4.2 Predicted Sound Levels – Plane of Window (POW)

Following the methodology presented above, Burnside has predicted sound levels at two representative receptors which provide sufficient information to determine the requirements for the entire development site. Each point was taken at the most exposed point to the noise source, at the height of the top residential floor. These results are summarized in Table 5. A sample modeling printout is included in Appendix C (Description: Point of Reception 1 – Plane of Window Calculation). The worst case predicted level was 55 dBA during the daytime, and 49 dBA during the nighttime.

Based on the calculations, the development is not required to have any mitigation, as the predicted sound levels are at or below 55 dBA during the daytime and 50 dBA during the nighttime.

4.3 Predicted Sound Levels – Outdoor Living Area (OLA)

Following the methodology presented in Section 4.1, Burnside has predicted OLA sound levels at the sole receptor that provide sufficient information to determine the requirements for the whole development site. The points were taken at a height of 7.5 m, equivalent to the height of the balcony OLA. These results are summarized in Table 5. A sample modeling printout is included in Appendix C (Description: POR 7 – OLA Calculation). The worst case predicted level was 45 dBA during the daytime.

Based on the calculations, an acoustic barrier is not required for the proposed development, as the predicted unmitigated sound levels are at or under the MECF objective sound level of 55 dBA during the daytime.

4.4 Predicted Sound Levels – Indoor Living Areas

A preliminary building component assessment is required when rail noise is the source if the daytime sound levels at the plane of window exceeds 60 dBA or the nighttime sound levels at the plane of window exceeds 55 dBA from rail noise, or 65 and 60 dBA for road noise. As the sound levels at any units did not exceeded these criteria, the assessment was not required and Standard Sound Transmission Class (STC) window and wall designs will be acceptable for all units.

5.0 Stationary Noise Sources and Receptors

5.1 Internal Stationary Noise

Internal stationary noise is defined as the on-site stationary noise of the proposed development. The potential impact of internal stationary noise is assessed at neighbouring noise sensitive land uses and at noise sensitive locations within the proposed development itself, if appropriate.

5.1.1 Internal Stationary Noise Sources

The proposed development contains the following sources of stationary noise:

One of either:

- Central air conditioning units located on the building rooftop
- PTAC units for each of the 30 units

At this time, it is not known which of the options may be pursued for the development. These details are not likely to be confirmed by the time of Site Plan Application. Either option is possible to mitigate in the opinion of Burnside based on our experience with similar sized developments with proximity to other noise sensitive areas. It is more likely that a PTAC design will be implemented, therefore Burnside has created a preliminary assessment of the PTACs.

5.1.2 Internal Stationary Noise Points of Reception

The proposed 547 King Street 30-Unit Apartment Building Development is in immediately adjacent to the following noise sensitive residential land uses:

- POR 1 & OPOR1 – 537 King Street
- POR 2 & OPOR2 – 555 King Street
- POR3 & OPOR3 – 569 King Street
- POR4 – 521 King Street

The POR locations are shown in Figure 4.

5.2 External Stationary Noise

External stationary noise is defined as the off-site stationary noise with potential to impact the proposed development. The potential impact of external stationary noise is assessed at all worst-case predictable noise sensitive locations within the proposed development itself. There are no significant external stationary noise sources in the vicinity of the development.

6.0 Internal Stationary Noise Impact Assessment

With no confirmed HVAC details at this time, an internal stationary noise assessment in detail is premature. The sources will either be central HVAC units or PTAC units.

The residential unit's PTAC units can be considered exempt from assessment under NPC-216. NPC-216 requires that the sound rating of residential central air conditioning systems are a maximum of 7.6 Bels or 76 decibels⁵. Additionally, the limits applied are the least restrictive of either:

- 5 dB more than the average sound level during the 7:00 to 21:00 hour period.
- 50 dBA L_{eq} 1 hr. for a Class 1 area.

Residential AC units can be assessed individually. To comply with the 50 dBA limit for a Class 1 area each residential unit needs to be 8 m from a neighbouring properties noise sensitive window assuming the worst case allowable emission limit of 76 decibels is specified.

The distance to the nearest building to the south is approximately 17 m. South facing PTACs for residential units will therefore be compliant. Receptors to the east and west are further away and therefore also compliant. To the north the nearest receptors are only 6 m away. With the worst-case sound power level of 76 dB for a PTAC unit these north facing PTACs have a predicted sound pressure level of 52 dB at the receptor. Therefore, the north facing PTACs would require a reduced sound power maximum of 74 decibels.

The PTACs which may be provided for the common spaces (primarily hallways) would most likely be located at the centre of the east and west facades. Up to one PTAC per floor could be required. Burnside has modeled the site as having one PTAC per floor located on the east façade.

EX001 – EX003: PTAC

Sound power assumed: NPC-216 allowable maximum of 76 dBA. A 100% duty cycle is assumed during day, evening and night.

The sound levels from the common space PTAC units are reported in Table 7. The noise contours are provided in Figure 5.

⁵ If manufactured in 1995 or later.

7.0 Noise Mitigation Measures

Based on the predicted sound levels it was determined that noise mitigation measures are not required for the 30-Unit Apartment Building Development. The required measures are summarized in Table 8.

7.1 Ventilation Requirements

All units in the proposed 547 King Street 30-Unit Apartment Building Development do not have any ventilation requirements.

7.2 Acoustic Barrier Requirements

All units in the proposed 547 King Street 30-Unit Apartment Building Development do not have any acoustic barrier recommendations or requirements.

7.3 STC Requirements

All units in the proposed development will achieve the minimum MECP indoor sound levels by incorporating standard requirements for the exterior walls and doors as per the Ontario Building Code. The windows required to meet the minimum MECP indoor sound level are of a commonly available STC rating.

7.4 Internal Stationary Noise Mitigation Requirements

The assessment of the proposed 547 King Street's potential internal stationary sources determined that mitigation to future HVAC is likely but can be resolved through specification of low sound emission units, or use of rooftop acoustic barriers in the worst-case scenario. Details will only be confirmed at the time of Site Plan Approval.

8.0 Implementation Procedures

The following implementation procedures are recommended to ensure that each requirement of this study is implemented at the correct stage of the development process:

The recommendations of this Environmental Noise Feasibility Assessment are preliminary estimates to ensure the viability of the proposed development. A Detailed Environmental Noise Assessment may be required (prior to Site Plan Approval) to finalize most of the acoustic requirements for the development. This condition will arise if:

- The HVAC proposal for the development is changed to a central air conditioning system using rooftop units; OR

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- The preliminary PTAC HVAC assumptions used in this Environmental Noise Feasibility Assessment are found not to be possible or practical to implement. These conditions include:
 - Sound power limits of 74 dBA for all PTAC units on the north façade which are within 8 m of a window on the neighbouring building to the north.
 - Sound power limits of 76 dBA for all PTAC units in any other location

If the Detailed Environmental Noise Assessment is needed it should be conducted prior to Site Plan Approval and prepared by a qualified Acoustical Consultant. However, if the final HVAC proposal aligns with the assumptions used for this Environmental Noise Feasibility Assessment no update is necessary.

9.0 Conclusion

The results of 547 King Street 30-Unit Apartment Building Development Environmental Noise Feasibility Assessment demonstrate that if all noise mitigation measures prescribed in Table 8 are implemented, sound levels at all developed lots will meet the Ministry of the Environment, Conservation and Parks noise guideline requirements. The Implementation Procedures as outlined in Section 8.0 should be followed carefully to ensure that no requirements of the noise study are overlooked during the development and construction process.

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Tables

Table 1: Traffic Data

Road	King Street
Location	North of Killaly Street W
Current Peak Hourly	139
"Current" Daily Traffic	1390
"Current" Year	2024
Assumed Growth Rate	2.50%
"Future" Year	2045
20-Year Daily Traffic ¹	2,335
No. of Lanes	2
Posted Speed	50 km/h
% Heavy Trucks	0.15%
% Medium Trucks	0.15%
Day/Night Split	90%/10%
Light Vehicles	2307
Medium Vehicles	4
Heavy Vehicles	4

Notes

1. Traffic growth Formula:

$$\text{Future traffic} = \text{Present Traffic} * (1 + \text{growth \%})^{\text{Years}}$$

Table 2: 20-year Predicted Road Traffic Volumes

Road	Maximum AADT Traffic			
	Total	# of Light Vehicles	# of Medium Trucks	# of Heavy Trucks
King Street	2,335	2,327	4	4

Table 3: Rail Traffic Volumes

Road	Trillium Railway
Location	Harbour Spur
"Current" Daily Traffic	2 Freight - Daytime
"Current" Year	2025
Assumed Growth Rate	2.50%
"Future" Year	2045
20-Year Daily Traffic ¹	3 Freight
Maximum Speed	24 km/h ¹ 15 mph
Maximum Locomotives	2 ²
Maximum Car Count	17 ³
Day/Night Split	100%/0%

Environmental Noise Feasibility Assessment
547 King Street, Port Colborne
February 2026

Notes:

Attempts to collect data through a request to the railway operator were not returned. Burnside also attempted to collect data by video recording at the site, which failed due to site conditions, heavy foliage, inconclusive results.

1. Assumed based on reported data from the Government of Canada's Grade Crossings Inventory.
2. Assumed based on similar railways.
3. Assumed based on observed maximum length vibration levels length and speed. 63 seconds passby. 6.67 m/s speed = 240 m long. Using average rail car size 25.9 m equates to 17 rail cars.

Table 4: 20 year Predicted Rail Traffic Volumes

Rail	Maximum Traffic	
	Total	# of Freight
Trillium Railway	3	3

Table 5: Predicted Daytime and Nighttime Sound Levels for the Forecasted 20-Year Traffic Volumes

Receptor ID	Façade	Area	Source	Distance (m)	Predicted Sound Levels (dBA)	
					Daytime	Nighttime
1	West	POW	Road	10.8 ¹	55	49
2	East	POW	Rail	56	46	-
7	East	OLA	Rail	58	45	-

Notes:

- Outdoor Living Area (OLA) points of assessment were taken:
 - 3 m from the building façade;
 - 1.5 m above grade; and
 - aligned with the midpoint of the subject façade.
 - Plane of Window (PofW) points of assessment were taken:
 - at the building façade; and
 - 7.5 m above grade.
1. STAMSON limits the minimum distance to 15 m. To work around this restriction Burnside has doubled the distance to 21.6 m and also doubled the traffic counts. These changes cancel each other out as both are 3 dB adjustments up and down. Increasing the traffic counts was necessary to work around the 40 vehicle per hour lower limit affecting the nighttime sound level calculations. Although these limits were built into the MECP approved software, the MECP has accepted these forms of manipulation of the program.

Table 6: Applicable Stationary Sound Level Criteria

POR #	Time of Day	Ambient Sound Level	NPC-300 Exclusion Limit	Applicable Sound Level Criteria
All PORs	Daytime	- dBA	50 dBA	50 dBA
	Evening	- dBA	50 dBA	50 dBA
	Nighttime	- dBA	45 dBA	45 dBA

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 547 King Street, Port Colborne
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Table 7: Common Area PTACs Internal Stationary Noise Assessment

POR #	Time of Day	Sound Level	Applicable Sound Level Criteria	Compliance
POR01	Daytime	27 dBA	50 dBA	Yes
	Evening	27 dBA	50 dBA	Yes
	Nighttime	27 dBA	45 dBA	Yes
OPOR01	Daytime	39 dBA	50 dBA	Yes
	Evening	39 dBA	50 dBA	Yes
	Nighttime	39 dBA	-	-
POR02	Daytime	28 dBA	50 dBA	Yes
	Evening	28 dBA	50 dBA	Yes
	Nighttime	28 dBA	45 dBA	Yes
OPOR02	Daytime	49 dBA	50 dBA	Yes
	Evening	49 dBA	50 dBA	Yes
	Nighttime	49 dBA	-	-
POR03	Daytime	43 dBA	50 dBA	Yes
	Evening	43 dBA	50 dBA	Yes
	Nighttime	43 dBA	45 dBA	Yes
OPOR03	Daytime	43 dBA	50 dBA	Yes
	Evening	43 dBA	50 dBA	Yes
	Nighttime	43 dBA	-	-
POR04	Daytime	32 dBA	50 dBA	Yes
	Evening	32 dBA	50 dBA	Yes
	Nighttime	32 dBA	45 dBA	Yes

Environmental Noise Feasibility Assessment
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Table 8: Minimum Noise Mitigation Measures

Receptor ID	Lot #	Air Conditioning ¹	Exterior Wall STC Rating ²	Window STC Rating ²	Door STC Rating ²	Acoustic Barrier Height (m) ³	Warning Clause ⁴
1, 2	1	No requirements	standard	standard	standard	-	none

Notes:

1. "Provision for adding" means that building must be built so that the occupant can install conditioning in the future, at their discretion. Required means that the building must be built with central air conditioning installed.
2. STC – Sound Transmission Class rating. STC values are based upon the assumption that all wall and window areas are 80% and 30%, respectively, of the corresponding room floor area.
3. Height of an acoustic barrier with no gaps underneath or in the wall.
4. Notification to potential purchaser of a potential annoyance due to an existing source of environmental noise. Warning clauses should be included in agreements of Offers of Purchase and Sale.

Table 9: Train Passby Observations

Location	Date (DDMMYYYY)	Start Time (HH:MM:SS)
1	9Oct2025	11:16:08
1	14Oct2025	9:43:32
1	15Oct2025	9:28:27
1	22Oct2025	11:57:24
1	28Oct2025	10:04:31

Environmental Noise Feasibility Assessment
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Warning Clauses - Transportation Sources

Type A

“Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.”

Type B

“Purchasers/tenants are advised that despite the inclusion of noise mitigation features in the development and within the building units, sound levels due to increasing road traffic (rail traffic) (air traffic) 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.”

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 low and medium density developments 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.”

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.”

Warning Clauses - Stationary Sources

Type E

“Purchasers/tenants are advised that due to the proximity of the adjacent industry (facility) (utility), noise from the industry (facility) (utility) may at times be audible.”

Environmental Noise Feasibility Assessment
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Warning Clauses – Class 4 Area Notification

Type F

“Purchasers/tenants are advised that sound levels due to the adjacent industry (facility) (utility) are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a ventilation/air conditioning system which will allow windows and exterior doors to remain closed.”

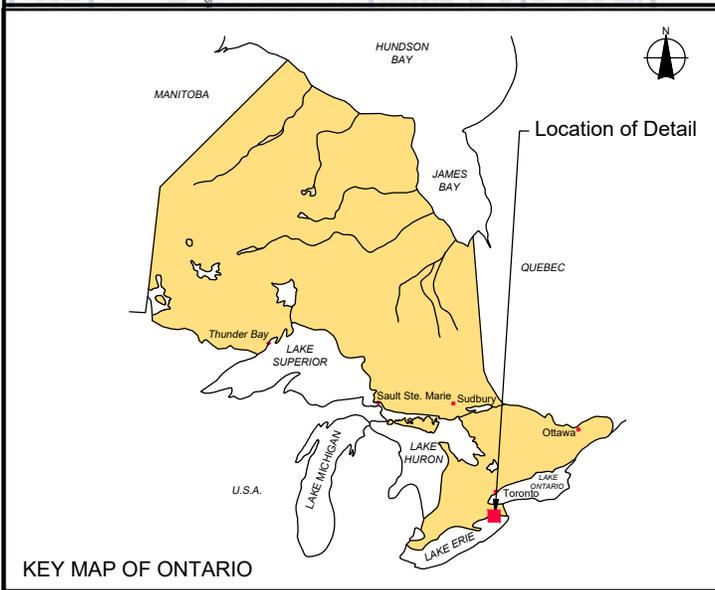
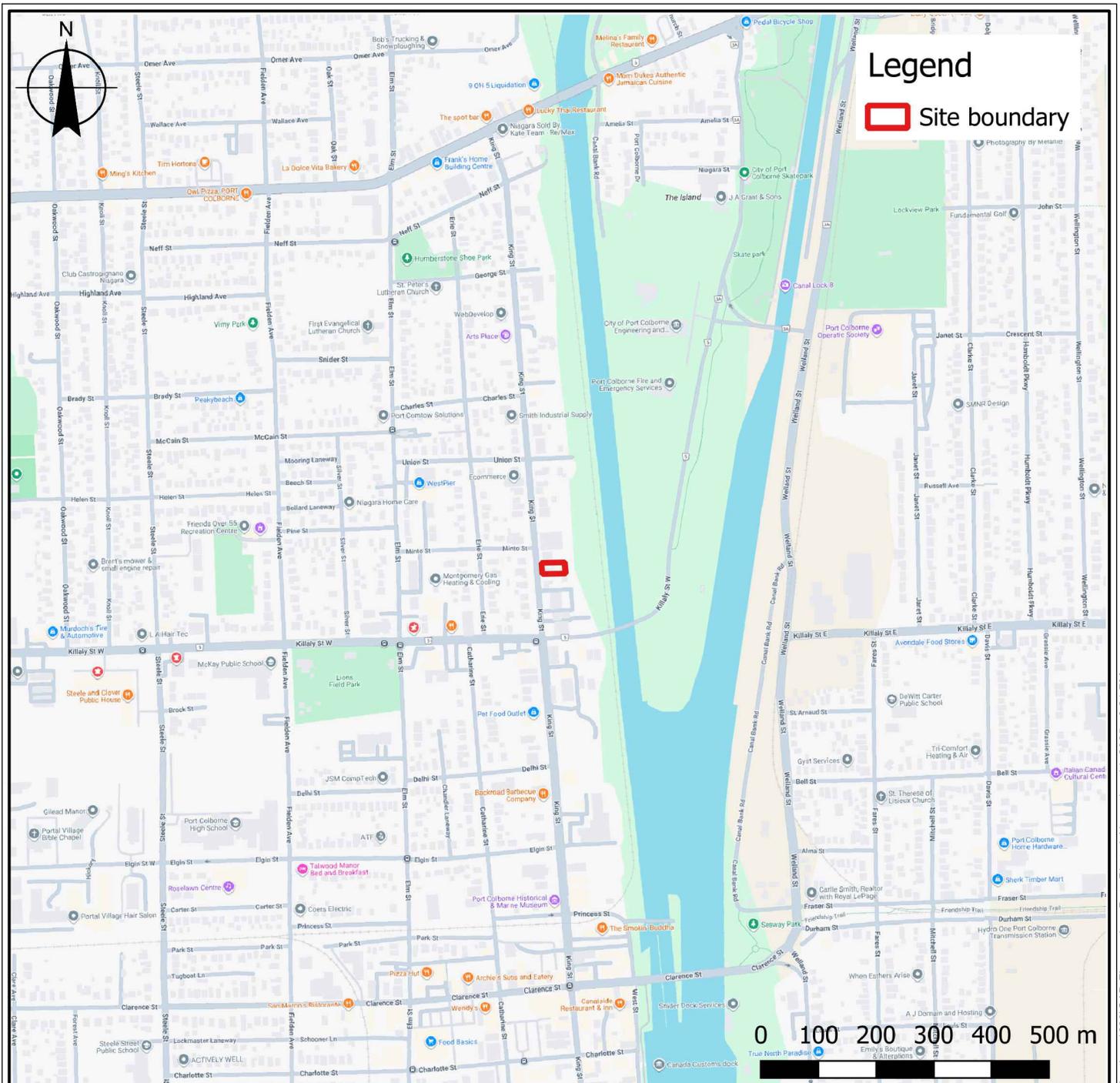


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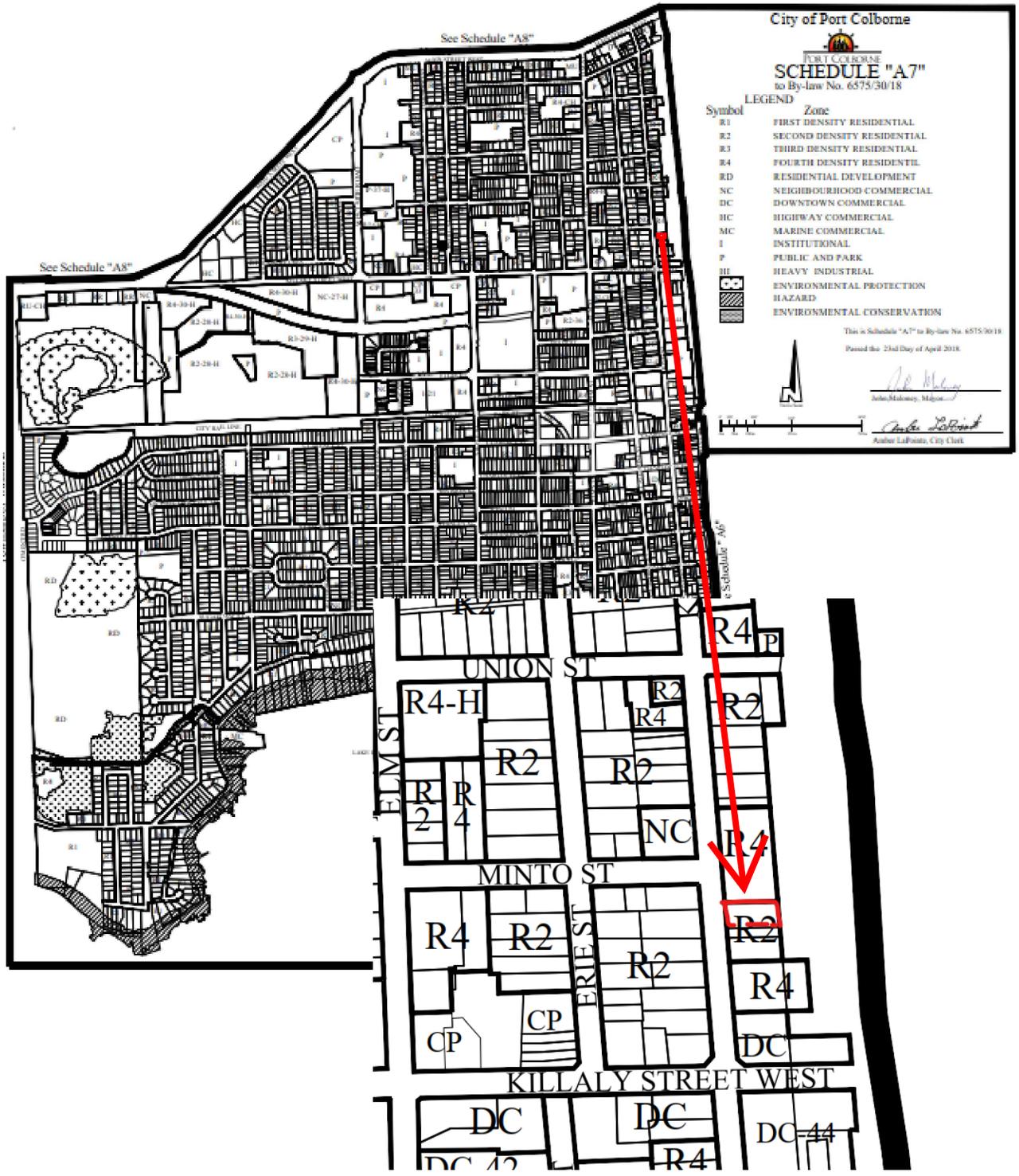
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Figures

Figures



		Client			
		Elevate Living			
Figure Title		Figure No.			
Site Location Map		1			
Environmental Noise and Vibration Feasibility Assessment					
Drawn	Checked			Date	
BM	HW	November 2025			
Scale		Project No.			
1:10,000		300060756.0000			



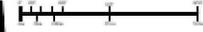
City of Port Colborne

SCHEDULE "A7"
to By-law No. 6575/2018

LEGEND

Symbol	Zone
R1	FIRST DENSITY RESIDENTIAL
R2	SECOND DENSITY RESIDENTIAL
R3	THIRD DENSITY RESIDENTIAL
R4	FOURTH DENSITY RESIDENTIAL
RD	RESIDENTIAL DEVELOPMENT
NC	NEIGHBOURHOOD COMMERCIAL
DC	DOWNTOWN COMMERCIAL
HC	HIGHWAY COMMERCIAL
MC	MARINE COMMERCIAL
I	INSTITUTIONAL
P	PUBLIC AND PARK
HI	HEAVY INDUSTRIAL
	ENVIRONMENTAL PROTECTION
	ENVIRONMENTAL CONSERVATION

This is Schedule "A7" to By-law No. 6575/2018
Passed the 23rd Day of April 2018.



John Mahoney, Mayor
Arthur LaPointe, City Clerk

See Schedule "A8"

See Schedule "A8"

See Schedule "A6"



Figure Title

Zoning Map

Environmental Noise and Vibration Feasibility Assessment

Client

Elevate Living

Drawn

BM

Scale
N/A

Checked

HW

Date

November 2025

Project No.

300060756.0000

Figure No.

3A



Approximate location of subject site

City of Port Colborne

SCHEDULE "A6"
to By-law No. 6575/30/18

LEGEND

Symbol	Zone
A	AGRICULTURAL
AR	AGRICULTURAL RESIDENTIAL
RR	RURAL RESIDENTIAL
LR	LAKESHORE RESIDENTIAL
R1	FIRST DENSITY RESIDENTIAL
R2	SECOND DENSITY RESIDENTIAL
R3	THIRD DENSITY RESIDENTIAL
R4	FOURTH DENSITY RESIDENTIAL
RD	RESIDENTIAL DEVELOPMENT
MU	MIXED USE
NC	NEIGHBOURHOOD COMMERCIAL
DC	DOWNTOWN COMMERCIAL
HC	HIGHWAY COMMERCIAL
I	INSTITUTIONAL
P	PUBLIC AND PARK
LI	LIGHT INDUSTRIAL
HI	HEAVY INDUSTRIAL
MAO	MINERAL AGGREGATE OPERATIONS
GI	GATEWAY INDUSTRIAL
ID	INDUSTRIAL DEVELOPMENT
EP	ENVIRONMENTAL PROTECTION
HAZARD	HAZARD
ENVIRONMENTAL CONSERVATION	ENVIRONMENTAL CONSERVATION

This is Schedule "A6" to By-law No. 6575/30/18 Passed the 23rd Day of April 2018.

John McInnes, Mayor

Anthea LaPrade, City Clerk



Figure Title

Zoning Map- Part 2

Environmental Noise and Vibration Feasibility Assessment

Client

Elevate Living

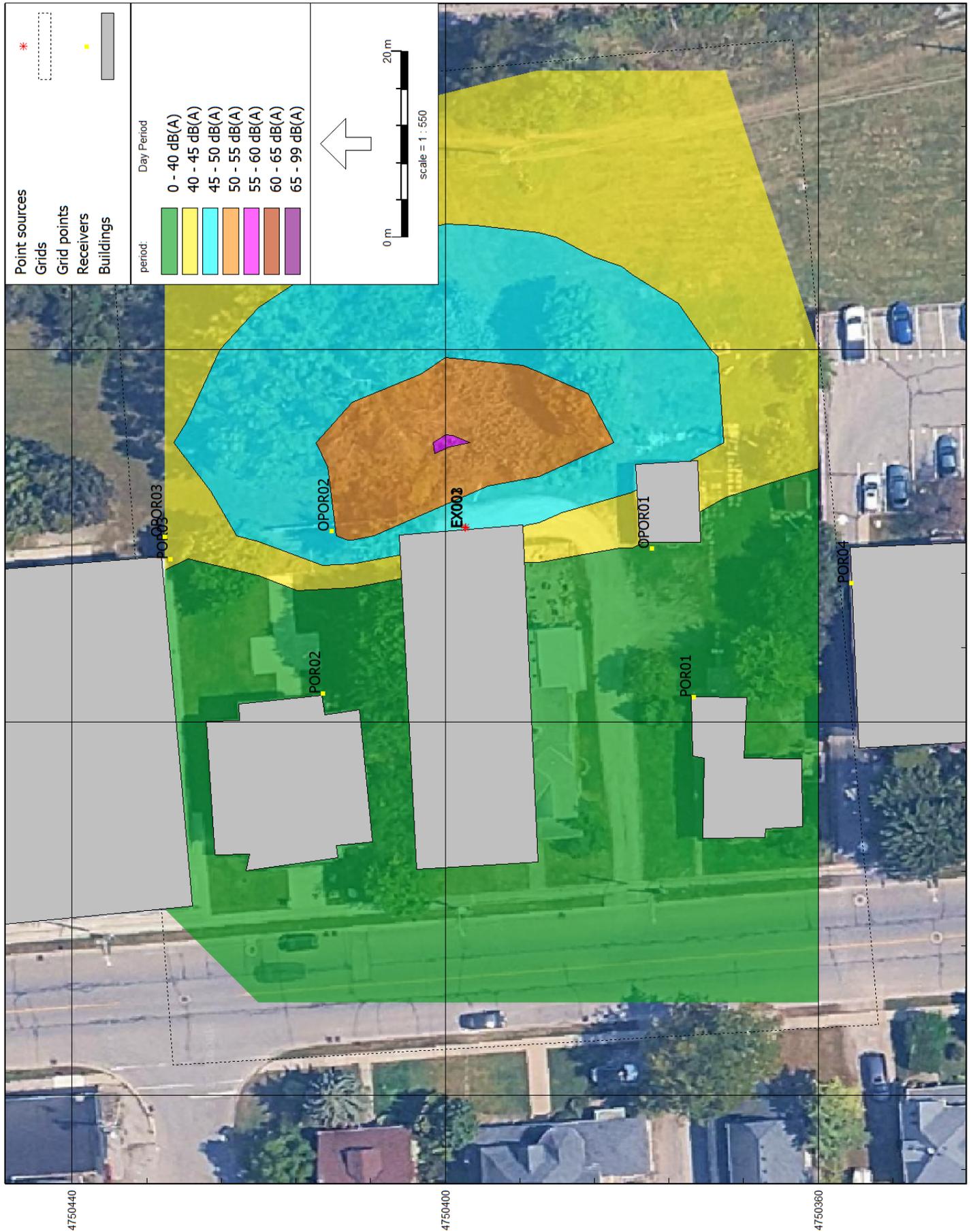
Drawn	Checked	Date	Figure No.
BM	HW	November 2025	
Scale		Project No.	
N/A		300060756.0000	

3B

Figure 5:
Sound Level Contours PTAC Noise Assessment

PTAC Noise Model 1/1 Octave Model

2 Dec 2025, 11:30





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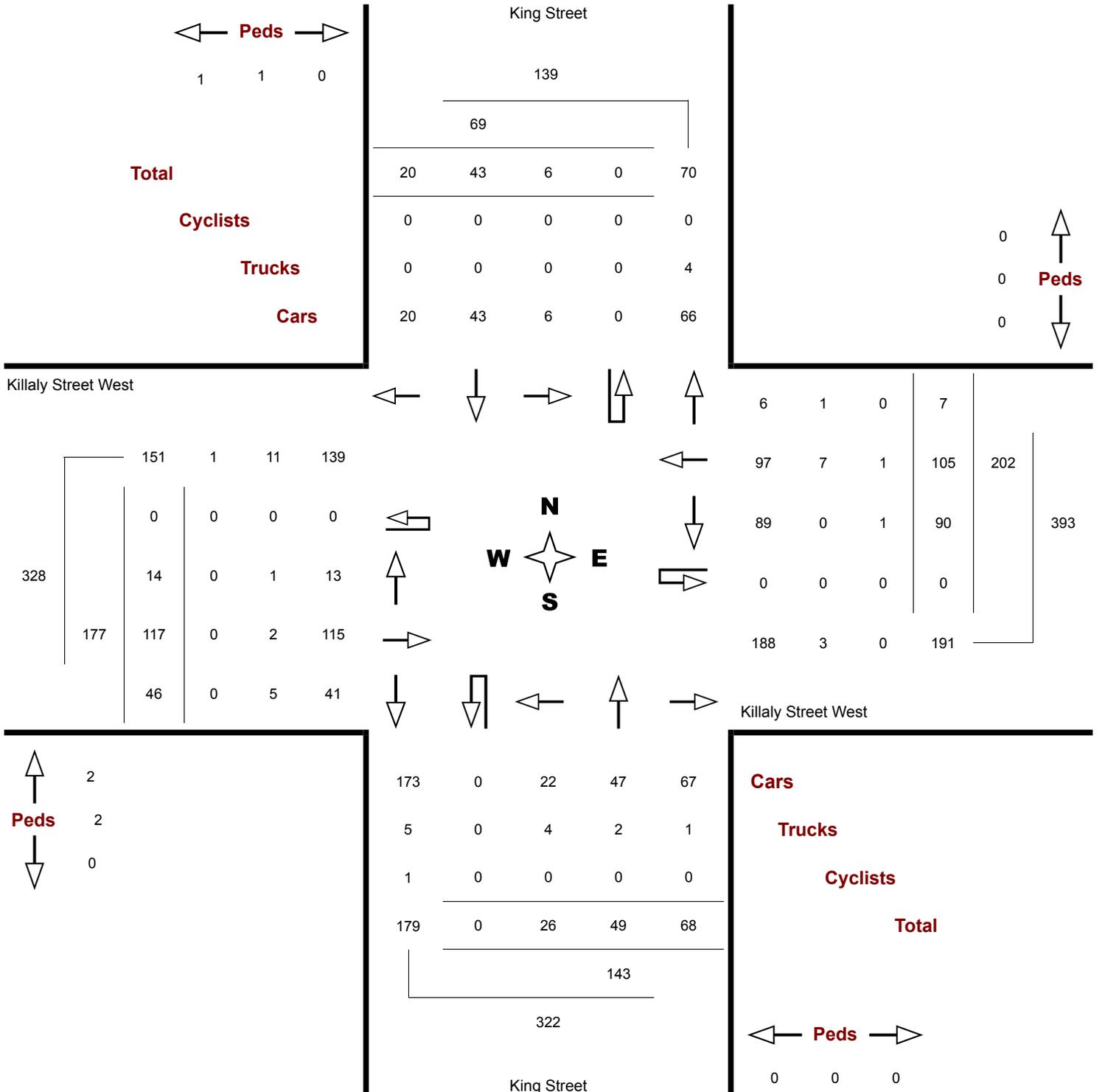
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Appendix A

Traffic Data

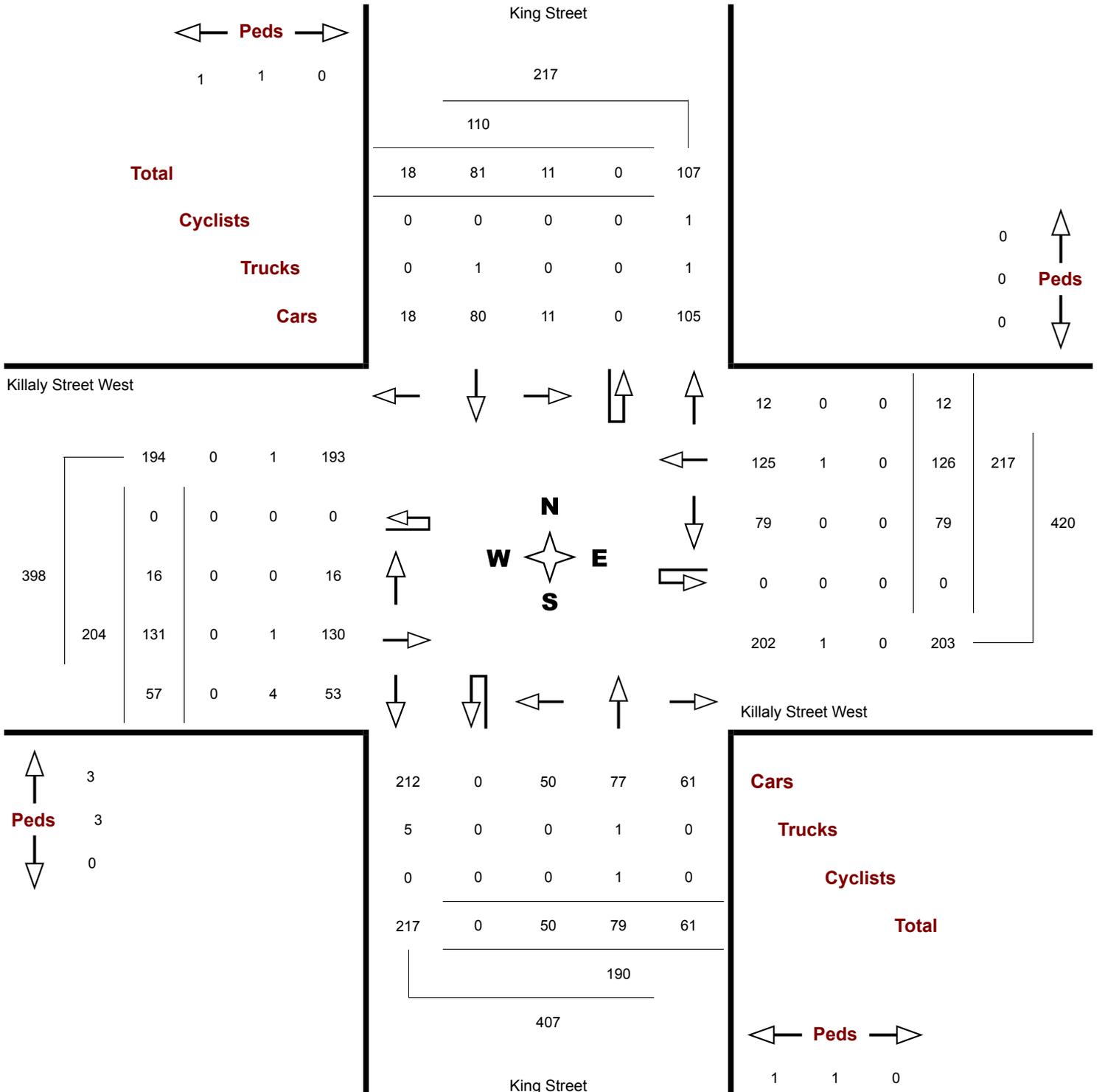
Turning Movement Count Peak Hour Diagram

Location	Killaly Street West @ King Street		
Municipality	PORT COLBORNE	GeoID	05947
Jurisdiction	Regional municipality	Traffic Control	Traffic signal
Count Date	Wednesday, November 27, 2024	Count Period	7:00 AM - 6:00 PM
Major dir.	East-West	Peak Hour	8:00 AM - 9:00 AM



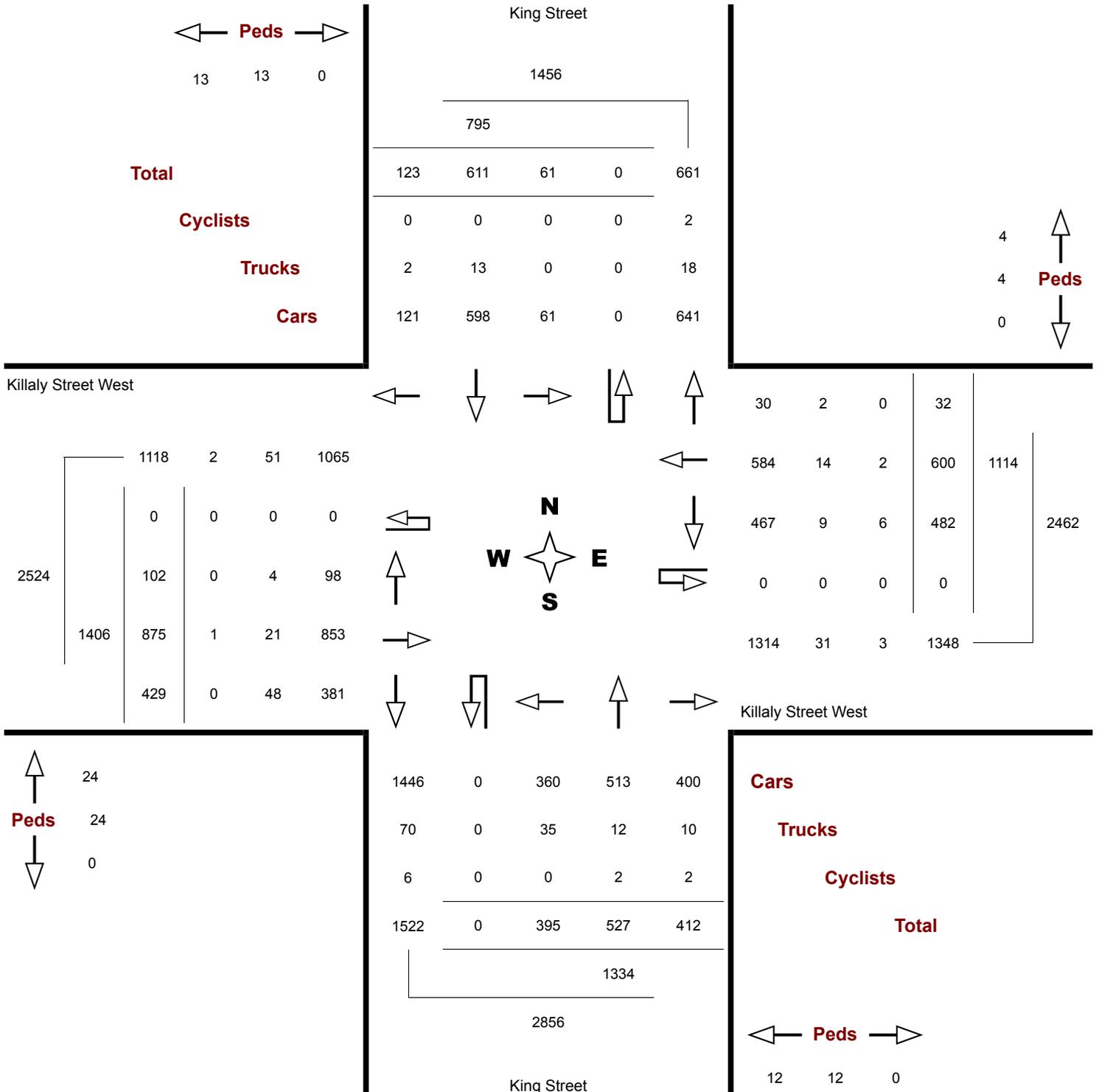
Turning Movement Count Peak Hour Diagram

Location	Killaly Street West @ King Street		
Municipality	PORT COLBORNE	GeoID	05947
Jurisdiction	Regional municipality	Traffic Control	Traffic signal
Count Date	Wednesday, November 27, 2024	Count Period	7:00 AM - 6:00 PM
Major dir.	East-West	Peak Hour	4:00 PM - 5:00 PM



Turning Movement Count Full Diagram

Location	Killaly Street West @ King Street		
Municipality	PORT COLBORNE	GeoID	05947
Jurisdiction	Regional municipality	Traffic Control	Traffic signal
Count Date	Wednesday, November 27, 2024	Count Period	7:00 AM - 6:00 PM
Major dir.	East-West		



Turning Movement Count - Details Report (Ped included)

Location: Killaly Street West @ King Street

Municipality: PORT COLBORNE

Start Date: 2024-11-27 7:00

End Date: 2024-11-27 18:00

Geo ID: 05947

King Street													Killaly Street West												
North Approach							South Approach						East Approach					West Approach							
Time Period	LT	TH	RT	U - Turn	Ped	TOT	LT	TH	RT	U - Turn	Ped	TOT	LT	TH	RT	U - Turn	Ped	TOT	LT	TH	RT	U - Turn	Ped	TOT	
7:00	7:15	3	3	1	0	0	7	3	5	5	0	0	13	5	8	0	0	0	13	0	15	3	0	0	18
7:15	7:30	0	11	2	0	0	13	1	4	10	0	0	15	8	16	0	0	0	24	1	24	9	0	0	34
7:30	7:45	2	8	1	0	0	11	3	11	50	0	0	64	17	29	1	0	0	47	1	25	0	0	0	26
7:45	8:00	1	17	5	0	0	23	11	6	4	0	0	21	8	10	1	0	0	19	2	33	16	0	0	51
8:00	8:15	2	5	4	0	0	11	5	12	10	0	0	27	15	22	1	0	0	38	3	24	4	0	0	31
8:15	8:30	2	10	2	0	0	14	4	8	36	0	0	48	35	45	6	0	0	86	1	29	8	0	1	39
8:30	8:45	2	12	7	0	0	21	8	14	15	0	0	37	31	29	0	0	0	60	5	32	14	0	0	51
8:45	9:00	0	16	7	0	1	24	9	15	7	0	0	31	9	9	0	0	0	18	5	32	20	0	1	58
11:00	11:15	0	21	5	0	1	27	14	18	8	0	1	41	10	9	0	0	0	19	3	23	15	0	1	42
11:15	11:30	2	29	3	0	0	34	9	19	7	0	0	35	10	19	1	0	0	30	5	23	16	0	1	45
11:30	11:45	1	36	5	0	1	43	15	20	4	0	1	40	10	16	0	0	0	26	3	18	16	0	2	39
11:45	12:00	2	19	5	0	0	26	19	23	7	0	0	49	7	10	1	0	0	18	2	29	10	0	0	41
12:00	12:15	2	19	4	0	2	27	21	21	11	0	0	53	11	9	0	0	0	20	6	28	27	0	0	61
12:15	12:30	0	23	6	0	0	29	11	16	5	0	0	32	9	7	0	0	0	16	4	26	18	0	0	48
12:30	12:45	1	19	8	0	0	28	14	20	5	0	1	40	13	9	1	0	0	23	0	14	18	0	0	32
12:45	13:00	0	18	2	0	1	21	19	15	9	0	2	45	12	14	1	0	1	28	2	30	15	0	1	48
13:00	13:15	2	20	4	0	0	26	23	19	3	0	3	48	8	19	0	0	0	27	3	22	14	0	2	41
13:15	13:30	0	28	6	0	4	38	15	22	6	0	0	43	16	15	1	0	0	32	7	37	21	0	5	70
13:30	13:45	2	31	4	0	1	38	9	25	36	0	0	70	30	20	2	0	1	53	7	24	19	0	0	50
13:45	14:00	0	31	5	0	0	36	12	18	7	0	1	38	16	17	0	0	0	33	4	31	13	0	0	48
15:00	15:15	2	18	4	0	0	24	15	18	9	0	0	42	11	20	0	0	0	31	0	31	9	0	0	40

Turning Movement Count - Details Report (Ped included)

Location: Killaly Street West @ King Street

Municipality: PORT COLBORNE

Start Date: 2024-11-27 7:00

End Date: 2024-11-27 18:00

Geo ID: 05947

King Street													Killaly Street West												
North Approach							South Approach						East Approach					West Approach							
Time Period	LT	TH	RT	U - Turn	Ped	TOT	LT	TH	RT	U - Turn	Ped	TOT	LT	TH	RT	U - Turn	Ped	TOT	LT	TH	RT	U - Turn	Ped	TOT	
15:15	15:30	4	23	0	0	0	27	14	15	4	0	0	33	13	14	1	0	1	29	11	26	15	0	0	52
15:30	15:45	3	25	0	0	0	28	35	22	9	0	0	66	10	20	0	0	1	31	1	25	15	0	0	41
15:45	16:00	7	20	0	0	1	28	15	18	12	0	0	45	18	14	2	0	0	34	2	30	12	0	1	45
16:00	16:15	3	21	3	0	0	27	13	25	10	0	0	48	17	22	3	0	0	42	5	35	14	0	1	55
16:15	16:30	4	14	4	0	1	23	18	14	4	0	1	37	23	43	8	0	0	74	4	38	17	0	2	61
16:30	16:45	2	23	4	0	0	29	10	24	6	0	0	40	10	24	0	0	0	34	3	25	10	0	0	38
16:45	17:00	2	23	7	0	0	32	9	16	41	0	0	66	29	37	1	0	0	67	4	33	16	0	0	53
17:00	17:15	7	24	0	0	0	31	14	23	9	0	0	46	12	19	0	0	0	31	2	27	15	0	1	45
17:15	17:30	0	15	6	0	0	21	10	18	20	0	0	48	10	23	1	0	0	34	5	25	15	0	0	45
17:30	17:45	2	10	3	0	0	15	12	13	37	0	2	64	42	21	0	0	0	63	1	34	7	0	4	46
17:45	18:00	1	19	6	0	0	26	5	10	6	0	0	21	7	11	0	0	0	18	0	27	8	0	1	36
Total		61	611	123	0	13	808	395	527	412	0	12	1346	482	600	32	0	4	1118	102	875	429	0	24	1430



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Appendix B

MECP Sound Level Limits

APPENDIX B**Table B-1: Sound Level Limit for Outdoor Living Areas – Road and Rail (MECP Table C-1 of NPC-300)**

Time Period	$L_{eq}(16)$ (dBA)
16-hour, 07:00 – 23:00	55

Table B-2: Indoor Sound Level Limits – Road and Rail (MECP Table C-2 of NPC-300)

Type of Space	Time Period	L_{eq} (dBA)	
		Road	Rail
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	07:00 – 23:00	45	40
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	23:00 – 07:00	45	40
Sleeping quarters	07:00 – 23:00	45	40
Sleeping quarters	23:00 – 07:00	40	35

Table B-3: Road Noise Control Measures – Outdoor Living Areas (Adapted from NPC Section C7.1.1)

Sound Levels	Measures
≤ 55 dBA	Noise control measures may not be required.
> 55 dBA and ≤ 60 dBA	Noise control measures may be applied, otherwise warning clause Type A.
> 60 dBA	Noise control measures should be implemented to reduce the levels to 55 dBA, otherwise warning clause Type B.

Table B-4: Plane of a Window – Ventilation Requirements**Daytime Period, 07:00 – 23:00 Hours (Adapted from NPC Section C7.1.2.1)**

Sound Levels	Measures
≤ 55 dBA	Noise control measures may not be required.
> 55 dBA and ≤ 65 dBA	The dwelling should be designed with a provision of for the installation of central air conditioning in the future, at the occupant's discretion. Warning clause Type C is also recommended.
> 65 dBA	Installation of central air conditioning should be implemented with a warning clause Type D. In addition, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in Table B-2.

Table B-5: Plane of a Window – Ventilation Requirements**Nighttime Period, 23:00 – 07.00 Hours (Adapted from NPC Section C7.1.2.2)**

Sound Levels	Measures
≤ 50 dBA	Noise control measures may not be required.
> 50 dBA and ≤ 60 dBA	The dwelling should be designed with a provision of for the installation of central air conditioning in the future, at the occupant's discretion. Warning clause Type C is also recommended.
> 60 dBA	Installation of central air conditioning should be implemented with a warning clause Type D. In addition, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in Table B-2.

Table B-6: Indoor Living Areas – Building Components (Adapted from NPC Section C7.1.3)

Sound Levels	Measures
> 60 dBA nighttime > 65 dBA daytime	Building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in Table B-2. The acoustical performance of the building components (windows, doors and walls) should be specified.

Table B-7: Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA) Outdoor Points of Reception (MECP Table C-5 of NPC-300)

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 19:00	50 dBA	50 dBA	45 dBA	55 dBA
19:00 – 23:00	50 dBA	45 dBA	40 dBA	55 dBA

Table B-8: Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA) Plane of Window of Noise Sensitive Spaces (MECP Table C-6 of NPC-300)

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 19:00	50 dBA	50 dBA	45 dBA	60 dBA
19:00 – 23:00	50 dBA	50 dBA	40 dBA	60 dBA
23:00 – 07:00	45 dBA	45 dBA	40 dBA	55 dBA

Table B-9: Exclusion Limit Values of Impulsive Sound Level (LLM, dBAI) Outdoor Points of Reception (MECP Table C-7 of NPC-300)

Time of Day	Actual number of impulses in Period of one hour	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
07:00 – 23:00	9 or more	50	50	45	55
07:00 – 23:00	7 to 8	55	55	50	60
07:00 – 23:00	5 to 6	60	60	55	65
07:00 – 23:00	4	65	65	60	70
07:00 – 23:00	3	70	70	65	75
07:00 – 23:00	2	75	75	70	80
07:00 – 23:00	1	80	80	75	85

Table B-10: Exclusion Limit Values of Impulsive Sound Level (LLM, dBAI) Plane of Window – Noise Sensitive Spaces (Day/Night) (MECP Table C-8 of NPC-300)

Actual number of impulses in Period of one hour	Class 1 Area (7:00-23:00) / (23:00-7:00)	Class 2 Area (7:00-23:00) / (23:00-7:00)	Class 3 Area (7:00-19:00) / (19:00-7:00)	Class 4 Area (7:00-23:00) / (23:00-7:00)
9 or more	50/45	50/45	45/40	60/55
7 to 8	55/50	55/50	50/45	65/60
5 to 6	60/55	60/55	55/50	70/65
4	65/60	65/60	60/55	75/70
3	70/65	70/65	65/60	80/75
2	75/70	75/70	70/65	85/80
1	80/75	80/75	75/70	90/85



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Appendix C

Sample Transportation Noise Modeling Printouts

Filename: por1pow.te Time Period: Day/Night 16/8 hours
 Description: Point of Reception 1 -Plane of Window

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

 Car traffic volume : 4190/466 veh/TimePeriod *
 Medium truck volume : 6/1 veh/TimePeriod *
 Heavy truck volume : 6/1 veh/TimePeriod *
 Posted speed limit : 50 km/h
 Road gradient : 2 %
 Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 2780
 Percentage of Annual Growth : 2.50
 Number of Years of Growth : 21.00
 Medium Truck % of Total Volume : 0.15
 Heavy Truck % of Total Volume : 0.15
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: King Street (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 : 21.60 / 21.60 m
 Receiver height : 7.50 / 4.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑
 Results segment # 1: King Street (day)

 Source height = 0.61 m

ROAD (0.00 + 55.24 + 0.00) = 55.24 dBA

Angle1	Angle2	Alpha	RefLeq	P. Adj	D. Adj	F. Adj	W. Adj	H. Adj	B. Adj	SubLeq
-90	90	0.00	56.83	0.00	-1.58	0.00	0.00	0.00	0.00	55.24

Segment Leq : 55.24 dBA

Total Leq All Segments: 55.24 dBA

↑
Results segment # 1: King Street (night)

Source height = 0.68 m

ROAD (0.00 + 48.96 + 0.00) = 48.96 dBA

Angle1	Angle2	Alpha	RefLeq	P. Adj	D. Adj	F. Adj	W. Adj	H. Adj	B. Adj	SubLeq
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-90	90	0.00	50.54	0.00	-1.58	0.00	0.00	0.00	0.00	48.96
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Segment Leq : 48.96 dBA

Total Leq All Segments: 48.96 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 55.24
(NIGHT): 48.96

↑

↑

Filename: POR2POW.te Time Period: 24 hours
 Description: Point of Reception 2 - Plane of Window

Rail data, segment # 1: Trillium

Train Type	! Trains !	! Speed ! (km/h)	!# Loc !/Train!	!# Cars! /Train!	Eng type	!Cont !weld
1. Freight	! 3.0/1.0 !	! 24.0 !	! 2.0 !	! 17.0 !	!Diesel!	! No

Data for Segment # 1: Trillium

 Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0
 Surface : 1 (Absorptive ground surface)
 Receiver source distance : 56.00 m
 Receiver height : 7.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 No Whistle
 Reference angle : 0.00

↑
 Results segment # 1: Trillium

LOCOMOTIVE (0.00 + 45.13 + 0.00) = 45.13 dBA

Angle1	Angle2	Al pha	RefLeq	D. Adj	F. Adj	W. Adj	H. Adj	B. Adj	SubLeq
-90	90	0.41	54.15	-8.04	-0.99	0.00	0.00	0.00	45.13

WHEEL (0.00 + 35.50 + 0.00) = 35.50 dBA

Angle1	Angle2	Al pha	RefLeq	D. Adj	F. Adj	W. Adj	H. Adj	B. Adj	SubLeq
-90	90	0.51	45.33	-8.64	-1.19	0.00	0.00	0.00	35.50

Segment Leq : 45.58 dBA
 Total Leq All Segments: 45.58 dBA

↑

TOTAL Leq FROM ALL SOURCES: 45.58



Filename: por70LA.te Time Period: 24 hours
 Description: Point of Reception 2 - Outdoor Living Area

Rail data, segment # 1: Trillium

Train Type	! Trains !	! Speed ! (km/h)	!# Loc !/Train!	!# Cars !/Train!	Eng type	!Cont !weld
1. Freight	! 3.0/1.0 !	! 24.0 !	! 2.0 !	! 17.0 !	!Diesel!	! No

Data for Segment # 1: Trillium

Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0
 Surface : 1 (Absorptive ground surface)
 Receiver source distance : 58.00 m
 Receiver height : 7.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 No Whistle
 Reference angle : 0.00

↑
 Results segment # 1: Trillium

LOCOMOTIVE (0.00 + 44.91 + 0.00) = 44.91 dBA

Angle1	Angle2	Al pha	RefLeq	D. Adj	F. Adj	W. Adj	H. Adj	B. Adj	SubLeq
-90	90	0.41	54.15	-8.25	-0.99	0.00	0.00	0.00	44.91

WHEEL (0.00 + 35.27 + 0.00) = 35.27 dBA

Angle1	Angle2	Al pha	RefLeq	D. Adj	F. Adj	W. Adj	H. Adj	B. Adj	SubLeq
-90	90	0.51	45.33	-8.87	-1.19	0.00	0.00	0.00	35.27

Segment Leq : 45.36 dBA
 Total Leq All Segments: 45.36 dBA

↑

TOTAL Leq FROM ALL SOURCES: 45.36



