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AIR QUALITY, NOISE, AND VIBRATION BRIEF

AT

**0TH FORKS RD
PORT COLBORNE, ON**

Prepared for:

September 18, 2025

Introduction

King EPCM was retained to review potential Air Quality, Noise, and Vibration considerations associated with the proposed two-storey commercial building at 0th Forks Road, Port Colborne, Ontario. This review has been prepared to support the Zoning By-law Amendment (ZBA) application and to determine whether additional technical studies are required.

Approach

The assessment was carried out with reference to:

- Ontario MECP D-Series Guidelines (Land Use Compatibility).
- Ontario NPC-300 Environmental Noise Guideline (Stationery and Transportation Sources).
- Niagara Region Official Plan policies on compatibility and environmental screening.
- Review of available land use mapping, aerial imagery, and railway alignment data.

Site Context

- Proposed Use: Two-storey commercial building.
- Surrounding Area (within ~500 m): Primarily agricultural and open lands with limited commercial/industrial activity.
- Residential Uses: The nearest residence is located approximately 450 m to the east, beyond the railway corridor.
- Railway: A single-track railway line is located to the east of the property, also ~450 m from the proposed building.
- Road Network: Local access is provided by Forks Road, a low-volume road. No major arterials or provincial highways are located in the immediate vicinity.

Findings

Air Quality

- Anticipated on-site emissions are limited to standard HVAC systems and minor traffic associated with a commercial use.
- No significant off-site industrial emission sources were identified within 500 m.
- The nearest residential receptor, located 450 m east of the site, is well beyond the distance at which air quality impacts would occur.
- Conclusion: A dedicated Air Quality Study is not required.

Noise

- Road traffic volumes in the area are low and are not expected to generate adverse noise impacts.
- The single-track railway is located ~450 m east of the site; at this distance, noise attenuation is expected to reduce levels to background.

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- The nearest residence, also ~450 m away, will not be adversely affected by the proposed commercial development.
 - A dedicated traffic study will be issued, but in general, does not expect to have any significant volumes behind baseline traffic.
 - Road traffic volumes in the area are low and are not expected to generate adverse noise impacts. The single-track railway is located approximately 450 m east of the site; at this distance, noise attenuation is expected to reduce levels to background.
 - Note that a dedicated Traffic Study is required by the Zoning By-Law Amendment (ZBA) process to remove the Holding Provision. This study will provide a more details discussion of expected traffic loads, including new traffic generated from the proposed development, to confirm that any potential increase in vehicles movement will not result in significant noise or congestion impacts.
 - In addition to transportation-related noise, other baseline noises typical to commercial environmental – such as vehicles back up alarms, garbage truck operations, and other general mechanical or service-related sound – may occur intermittently. These are considered part of the normal background soundscape and are not expected to cause adverse impacts given the distance to the nearest residential receptor.
 - Construction and Operational Effects: Temporary noise and activity during construction may be noticeable at the nearest residence; however, construction is short-term and expected to comply with municipal noise by-laws. Once operational, typical commercial activities are unlikely to generate significant noise or vibration at 450 m.
 - Conclusion: Based on the current assessment, a dedicated Noise Study is not required at this stage. The subsequent Traffic Study will further evaluate the new traffic generated by the proposed development to confirm that overall noise and traffic impacts remain minimal.

Vibration

- Rail vibration effects are typically limited to 75–100 m from the track alignment. At 450 m, vibration from rail traffic is negligible.
- Construction-related vibration will be short-term, localized, and subject to municipal by-law controls.
- Conclusion: A dedicated Vibration Study is not required.

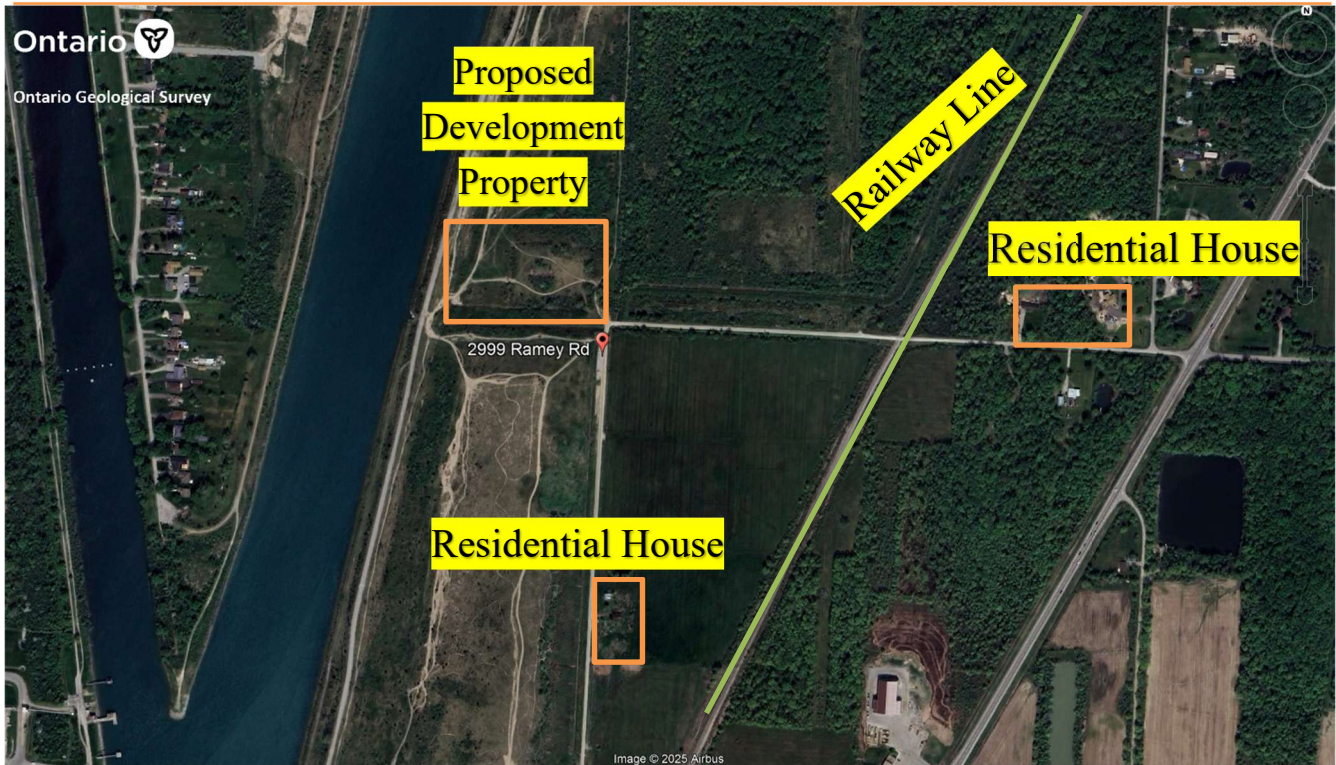


Figure 1, Site Image



Figure 2, West Neighbourhood General Distance from proposed Development



Figure 3, East Neighbourhood General Distance from proposed Development



Figure 4, South Neighbourhood General Distance from proposed Development

Conclusion

The review indicates that:

1. Air Quality impacts from the proposed development will be negligible, with no significant nearby emission sources.
2. Noise impacts from local traffic and the railway are minimal, and the nearest residential receptor is sufficiently distant.
3. Vibration impacts from the railway are negligible at 450 m, and construction-related vibration will be temporary.

On this basis, Air Quality, Noise, and Vibration studies are not required to support the ZBA application for 0th Forks Road, Port Colborne. The proposed commercial use is compatible with surrounding residential and agricultural land uses, consistent with MECP and Niagara Region policy requirements.

For questions or concerns regarding this report, please contact Tony Wang, P. Eng at 647-459-5647 or Twang@KingEPCM.com. This report is an intellectual property of King EPCM and may only be used and relied upon by the property owner, its designers, engineers, or other personnel related to the project.

Sincerely,



Tony Wang, P. Eng
Principal Engineer
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