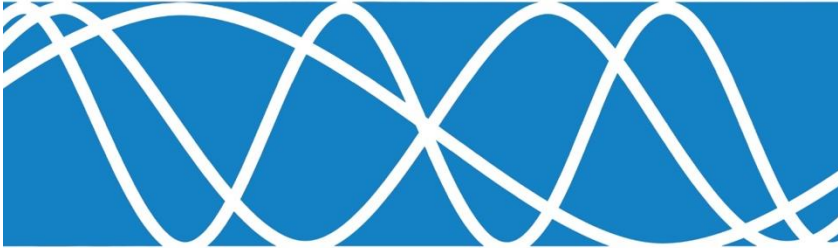


Land Use Compatibility Study
(Noise)

**Proposed Industrial
Subdivision
1665 Scotch Line Road
Elmira Ontario**

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HGC Project#: 02400782



Prepared for:

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1 EXECUTIVE SUMMARY

Howe Chapnik Gastmeier Limited (HGC Noise Vibration Acoustics) was retained by 1000535725 Ontario Inc. to investigate issues of compatibility of a proposed industrial subdivision on neighbouring residential uses. The lands under consideration are located at 1665 Scotch Line Drive in Elmira, Ontario, as shown in Figure 1.

The study is required by the municipality as part of the planning and approvals process with the Regional Municipality of Waterloo (RMOW).

The results of the study indicate that the presence of single-family residences to the north, east, and south of the proposed industrial development can present a potential issue of incompatibility with some future industrial uses. These residences significantly constraint the development of Class III (heavy) industry on Blocks 1, 2, 7-10, 16, and 17 as all or portions of those Blocks are located within the minimum required distance setback of 300 m.

Further consideration such as noise studies or a site plan analysis should be conducted for site plan approval for any heavy industrial uses proposing to locate on any of the industrial Blocks; any medium industries proposing to locate on Blocks 1, 2, 7-10, 16, and 17, and any light industry proposing to locate on Block 10 to confirm that their zones of influence can be reduced such that compliance with Ministry of Environment, Conservation and Parks (MECP) sound level limits can be achieved at the residences.

These results may be subject to change if the site plan is changed significantly.

2 SITE DESCRIPTION & NOISE SOURCES

2.1 Site Description

Figure 2 is the draft plan of subdivision by MHBC, dated February 20, 2025. The subdivision is proposed as 11 industrial blocks, a stormwater management block, a pumping station block, an open space block, future development blocks, road widening blocks, and reserve blocks. The site is currently used for agricultural purposes with a farm cluster, including residential and farm-use buildings, located in the centre of the property.

A zoning map of the surrounding area, obtained from Township of Woolwich's publicly available resources, is included in Appendix A. HGC Engineering personnel visited the site in December 2024 to make observations of the surrounding area and the acoustical environment.

Immediately to the west of the subject lands are open space lands zoned O. Further west of the open space lands are existing industries and commercial facilities on lands zoned EM and C to the west of the site, including manufacturing facilities, automotive part manufacturers, trucking facilities, a telecommunication equipment supplier, and storage facilities. There is a residential dwelling to the northeast of the subject land on lands zoned EM.

To the north, east, and south of the site are agricultural properties on lands zoned A each which include a cluster of buildings for with farming operations and single-family residential dwellings located in the centre of the properties. Based on the Zoning By-Law from the Township of Woolwich, included in Appendix B, and MECP Guidelines, portions of the agricultural properties further than 30 m from the residential buildings are not considered noise sensitive.

During the site visit sound from the existing industrial/commercial facilities was not audible at the residences due the distance from the industrial uses and background sound due to traffic on the roadways.

3 THE POLICY AND REGULATORY CONTEXT

There are several regulations, policies, and agreements which should be considered in addressing the issue of computability and noise impact in the context of this development plan.

3.1 The Environmental Protection Act and the Planning Act

The legislation which applies to industries is the Environmental Protection Act (EPA). It considers sound as a contaminant to the environment, and the industries are thereby subject to the provision that “no person shall discharge a contaminant ... into the natural environment that causes or is likely to cause an adverse effect”.

Unless specifically exempt, industries are required to apply for Environmental Compliance Approvals or register under Environmental Activity and Sector Registry for their operations under this Act. The MECP has published criteria and guidelines for sound which are used by the industries to obtain approvals or to register with the MECP as per the EPA.

3.2 MECP Guidelines for Land Use Compatibility and Distance Separation

MECP Guidelines D-1, ‘Land Use Compatibility’ and D-6 ‘Compatibility Between Industrial Facilities and Sensitive Land Uses’ were prepared to address the potential incompatibility of industrial land uses and noise sensitive land uses in relation to land use approvals under the Planning Act. They recommend separation distances and the implementation of mitigation measures based on the results of technical studies in this regard. The recommended minimum separation distances are 20 m for Class I (light) industry, 70 m for Class II (medium) industry and 300 m for Class III (heavy) industry.

The classifications are general, leaving some room for interpretation on a specific basis. For example, a Class 1 industry is categorized as a small-scale plant with no outside storage, sound not audible off property, with daytime only



operations and infrequent movement of products and/or heavy trucks. A Class II industry is categorized as a medium level of production with outside storage permitted, with sound that may occasionally be audible off property, shift operations are permitted and there are frequent movement of products and/or heavy trucks. A Class III industry is described as a large-scale facility with sound frequency audible off property, with shift operations, outdoor processes/storage, and continuous movement of products and/or heavy trucks.

The minimum separation distances generally apply between the property lines of the industrial and sensitive uses, but portions of the industrial land can be considered as some or all of the setback if the specific use of that portion of the industrial land is controlled in a site specific zoning bylaw. For lots permitting a residential use including these agriculturally zoned lands, only the residential dwelling and any point on the property within 30 m of the of the existing farm buildings is considered to be noise sensitive, since all new buildings including residential must be within 30 m of the existing farm buildings as per Township of Woolwich's Zoning By-Law (included in Appendix B). Therefore, the majority of the agricultural lands abutting the subject lands are not considered to be noise sensitive and may be considered as part of the separation distance.

For planning purposes, the potential zone of influence is 70 m for Class I (light) industry, 300 m for Class II (medium) industry and 1000 m for Class III (heavy) industry. If it can be shown through technical studies which determine actual zone of influence and illustrate that any potential noise impacts can be mitigated through the implementation of site-specific control measures the actual zone of influence can be reduced. These technical studies may be requested by a Municipality under the Planning Act and are required by the MECP to obtain approvals under the EPA depending on the industrial use.

3.3 MECP Guidelines for Stationary and Transportation Sources

MECP Publication NPC-300, entitled "Environmental Noise Guideline, Stationary and Transportation sources – Approval and Planning" establishes sound level limits for stationary sources of sound. Stationary sources of sound can be

individual facilities or pieces of equipment or the cumulative sound of activity or conveyances operating on industrial property. NPC-300 is used by industry to determine the impact of their operations at neighbouring noise sensitive receptors to demonstrate compliance for the purpose of obtaining approvals. It is also used by the development industry to determine if there may be significant noise impacts on lands considered for the development of noise sensitive uses. Given the presence of the County Roads and other industrial/commercial uses in the area, the lands would be considered to be in an urban or semi-urban area for noise assessment purposes.

NPC-300 recommends sound level limits as a function of the background sound levels due to road traffic and other industry. The objective of the guidelines is to establish a sound level limit at each noise sensitive receptor on the basis of "predictable worst case" impact. In general, the sound level limit must represent the minimum background sound level that occurs during an hour of the day in which the stationary source may operate, subject to exclusionary minima of 45 to 50 dBA, depending upon time of day (daytime, evening or nighttime) and proximity to the roadways.

The sound limits apply to outdoor living areas and at the plane of windows. There are no indoor sound level criteria associated with NPC-300 for industrial noise sources. This is because the point of reception is generally considered to be outside the building on lands within 30 m of the dwelling on an agriculturally zoned property.

3.4 Municipal Noise By-Law

By-Law No. 47-2023 of the Township of Woolwich has specific prohibitions for noise generated by specific noise sources, such as construction equipment, vehicles, and amplified music, with prohibitions by time and place. Generally, there are no prohibitions for industrial noise sources conforming to the applicable zoning. Municipal By-Law Enforcement is responsible for investigating complaints concerning industrial uses such as the proposed.

3.5 Summary

As an overview of the above regulations, policies and agreements, the industrial developer and the future proposed industries are obliged to provide a suitable distance setback and any additional mitigation to mitigate any potential sound level excesses at the existing residences in accordance the requirements of the EPA through the Certificate of Approval process and the Planning act as per MECP D1, D6 and NPC-300 Guidelines and related documents.

4 PROPOSED INDUSTRIAL ZONING

The subject application is to rezone the lands to Employment (EM-5) to permit a variety of industrial and commercial uses. A review of the permitted uses also included in Appendix B indicates that most would be considered to be light or medium depending on the specific nature of their operations. In our experience several could be considered heavy, particularly if they were to operate 24 hours per day. For example, a large-scale manufacturing facility with outdoor processes and storage; a facility for the sales and service of large machinery particularly if it serviced machinery which may require outdoor testing; a large scale sawmill particularly if it has open door ventilation. A metal stamping operation could be considered heavy, although it would need to comply with the Special Provisions for the EM-5 zone requiring it to be located at least 300 metres from a residential lot line, and a minimum of 150 metres from an office building and a large warehousing/distribution facility with high levels of truck traffic. The recommended minimum distance setbacks are shown in Figure 3.

5 DISCUSSION AND RECOMMENDATIONS

The result of the study indicate that the proposed industrial development can be compatible with the existing noise sensitive residential homes in the area and is feasible on this site. We have the following recommendations.

1. Class III (heavy) industrial uses are not recommended on Blocks 1, 2, 7-10, 16, and 17, considering the required 300 m minimum distance setback from

the existing residences for a Class III industry. All the other Blocks fall within the potential zone of influence of 1000 m for a Class III industry. The zoning bylaw should include provisions which permit Class III industrial uses on any of the Blocks subject to that industry demonstrating that the actual zone of influence of their operations can be sufficiently reduced through the preparation of a noise study at the discretion of the Municipality.

The goal of the studies would be to identify mitigation measures as required, which can be implemented on the site plan and the design of the buildings and equipment to illustrate compliance with the environmental noise criteria contained MECP Guideline NPC-300, resulting in acceptable sound levels at the residences.

2. Class II (medium) industrial uses are feasible on all blocks considering the required 70 m minimum distance setback and 300 m potential zone of influence from the existing residences. For Blocks 1, 9, 10, 16 and 17, the zoning bylaw should include provisions which permit Class II industrial uses subject to those industries demonstrating that the actual zone of influence of their operations can be sufficiently reduced through the preparation of noise studies at the discretion of the Municipality.

The goal of the studies would be to identify mitigation measures as required, which can be implemented on the site plan and the design of the buildings and equipment to illustrate compliance with the environmental noise criteria contained MECP Guideline NPC-300, resulting in acceptable sound levels at the residences.

For Blocks 2, 7 and 8 of which only a small portion of those Blocks lies within the 300 m potential zone of influence of a Class II industry, a similar noise study or a simpler site plan analysis could be conducted, at the discretion of the municipality, to ensure that those portions of those lots will be reserved for non noise producing activities such as parking lots, planting strips, landscaped areas or left vacant.

3. Class 1 (light) industrial uses are feasible on all blocks, considering the required 20 m minimum distance setback from the existing residences and that none of the industrial block fall within the potential zone of influence of 70 m for a light industry.
4. When details of the pumping station at Block 13 are known (e.g. the intended use, building footprint, mechanical equipment, roof plan,



mechanical equipment specifications, etc), sound emissions of the pumping station at nearby noise-sensitive uses should be assessed.

5. Individual industries may also be required to obtain Environmental Compliance Approvals or register under the Environmental Activity and Sector Registry with the MECP for their operations under the Environmental Protection Act, depending on the nature of the industry and the potential for adverse effects. This may include the preparation of specific Acoustic Assessment reports to support their applications in that regard.

The following table summarizes the noise control recommendations for the proposed development. These results may be subject to change if the site plan and/or grading is changed significantly.

Table 1: Summary of Land Use Compatibility

Block	Description	Class III Industries	Class II Industries	Class I Industries
1	Industrial	NR ⁺	✓ ⁺	✓
2	Industrial	NR ⁺	✓ ⁺	✓
3	Industrial	✓ ⁺	✓	✓
4	Industrial	✓ ⁺	✓	✓
5	Industrial	✓ ⁺	✓	✓
6	Industrial	✓ ⁺	✓	✓
7	Industrial	NR ⁺	✓ ⁺	✓
8	Industrial	NR ⁺	✓ ⁺	✓
9	Industrial	NR ⁺	✓ ⁺	✓
10	Industrial	NR ⁺	✓ ⁺	✓
11	Industrial	✓ ⁺	✓	✓
12	Stormwater Management	--	--	--
13	Pumping Station	--	--	--
14	Open Space	--	--	--
15	Future Development	✓ ⁺	✓	✓
16	Future Development	NR ⁺	✓ ⁺	✓
17	Future Development	NR ⁺	✓ ⁺	✓
Others	Open Space/Road Widening/Reserve	--	--	--

Notes:

NR Not recommended as the required mitigation may not be economically or operationally feasible

+ Study required at the discretion of the Municipality to demonstrate that the actual zone of influence of the industrial operations can be sufficiently reduced.

-- Not applicable.



Appendix A

Zoning Map



NOISE



VIBRATION



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Appendix B

Township of Woolwich Zoning By-Law and EM-5 Permitted Uses



NOISE



VIBRATION



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