

Noise Impact and Vibration Study Terms of Reference

Description

A technical report that provides a written description of the impact of noise generated by a proposed development on the surrounding environment, the impact of noise and/or vibration from the surrounding environment on the proposed development, both stationary and mobile sources, and the impact of noise from the proposed development on itself as well as mitigation measures to reduce any negative impacts.

In addition to a Noise Study there may be a requirement for a Vibration Study if the property is within 75 metres of a railway operation. The Vibration Study would be combined with the Noise Study.

The Noise Impact Study or Noise and Vibration Study is to be prepared by a Consultant that is either an accredited Acoustic expert or a qualified Professional Engineer.

When Required

Noise Impact (Feasibility and/or Detailed Assessment) Studies may be required to support the following applications for developments:

- Official Plan and Zoning By-law Amendments
- Site Plan
- Plans of Subdivision and Condominium
- Consent

A Noise Study is normally required, when a noise-sensitive development is proposed:

- within 500 m of a Provincial Highway/Freeway;
- within 250 m of an Regional Road of Municipal arterial road whose future traffic volume may be greater than 10,000 vehicles/day;
- within 300 m of a main line railway (requirements may be less for a spur or secondary line);
- within the 25 NEF contours of an Airport;
- within the potential zone of influence, as defined in MOE documents D-1 and D-6, of a Stationary Source of noise (industrial/commercial/institutional);
- in close proximity to extensive commercial operations (loading docks of supermarkets, large commercial buildings with prominent ventilation and air conditioning equipment, automatic car washes, etc.);
- within 500 m of aggregate operations (pits, quarries, etc.); or
- in close proximity to any other noise sources not mentioned above.

A vibration study is required for all proposed developments within 75 metres of a rail corridor or yard.

The requirement for a Noise Impact Study may be a condition of initial approval of the proposed development.

Waiving of Noise Study Requirements

During pre-application consultation, Staff may waive the requirement of a Noise (and Vibration) Study in site specific situations where it is determined there are mitigating circumstances and/or the following requirements can be met:

- Inclusion of enhanced building materials, such as brick or equivalent, double pane windows;
- Inclusion of provision to require central air conditioning so that windows and exterior doors can remain closed to ensure indoor sound levels are met;
- Installation of noise attenuation fencing constructed of any wood, metal or masonry construction with a minimum surface density of 20 kilograms per square metre and should be free of holes or gaps within or below its extent;
- Agreement from applicant to the inclusion of the applicable warning clauses in all Agreements of Purchase and Sale or Lease or Occupancy and all development agreements;
- Inclusion of the requirement for the owner/applicant to implement the above noted requirements.

When considering waiving of this requirement staff will review if any studies have been prepared for similar sensitive use developments located in the vicinity of the proposed development.

Noise study requirements cannot be waived if required under legislation or by Provincial policies or guidelines (i.e. D1-D6 Series Guidelines)

Rationale

A Noise Impact Study or Noise and Vibration Impact Study will help in assessing the compatibility of the proposed development with the existing and/or future land uses in the surrounding area as it relates to transportation and stationary noise both on site and off site.

Required Contents

During pre-application consultation, it will be determined if a report is required and, if so, the specific requirements of the Study, based on the nature of the proposed application and the context of the study area. Ultimate traffic data must be obtained from the Region and/or Local Municipality when analyzing transportation noise from Regional and Local roads.

The Noise or the Noise and Vibration Study should include the following components, but is not necessarily limited to:

Introduction

- Description of the subject site and the proposed development;

- Location/context map;
- Identification of the noise source(s); and
- Description of the sound level guidelines/standards applied (methods).

Environmental Noise (and Vibration) Assessment

- Identify all stationary and transportation (road, rail, air) noise sources, including data collection and methods;
- Assessment procedure and methodology should clearly be outlined;
- Provide predicted noise level forecasts without mitigation;
- Environmental noise guidelines;
- Noise impact assessment (including low frequency noise impacts); and
- Vibration assessment, if applicable

Noise (and Vibration) Mitigation Recommendations

- Indoors: architectural requirements, ventilation requirements;
- Outdoors: at source requirements, sound barrier requirements;
- Provide tables and figures to support the recommendations of the report; and
- Warning clauses;
- Proposed mitigation measures will need to adhere to any engineering or policy guidelines that a municipality may have; and

If a Class 4 designation is recommended the report shall discuss the mitigation measures that would be required to satisfy Class 1 or 2 standards and why the required mitigation is not feasible. Rationale must be provided for recommending a Class 4 designation. Implementing Official Plan and Zoning by-law amendment documents should address placing the lands on which the sensitive use is located under a Class 4 designation.

Conclusions

Appendix A – Base Noise Level Calculations (Noise Source Data)

Appendix B – Ministry of Environment Noise Guidelines

Appendix C – Sample Sound Exposure Calculation