Development application guidelines

Noise and vibration study

What is the purpose of this?

A ***noise and vibration study*** (environmental noise analysis) determines the projected sound and vibration exposures for a proposed development both from and to adjacent uses, for stationary and mobile noise sources, and any mitigation measures needed.

Who should prepare this?

The study should be prepared by a registered professional engineer qualified in acoustical engineering and experienced in the preparation of noise and vibration studies.

When is this required?

A ***noise and vibration study*** may be required as part of the following applications:

- Official Plan Amendment
- Zoning By-law Amendment
- Draft Plan of Subdivision / Condominium
- Site Plan Control

Why do we need this?

This study is required to assess the compatibility and/or potential impacts from a proposed development.

How should this be prepared?

A typical ***noise and vibration study*** should include the following components:

Introduction

- description of the subject site and the proposed development
- location/context map
- identification of the noise source(s)
- description of the sound level guidelines/standards applied (methods)

Environmental Noise (and Vibration) Assessment

- noise sources and noise level forecasts (e.g. tables showing ultimate road traffic and predicted unmitigated sound energy exposures outdoors)
- environmental noise guidelines
- noise impact assessment (including low frequency noise impacts)
- vibration assessment, if applicable

Noise (and Vibration) Mitigation Requirements

- indoors: architectural requirements, ventilation requirements
- outdoors: at source requirements, sound barriers (i.e. description and site plan with noise mitigation)
- warning clauses

Conclusions
Appendix A – Base Noise Level Calculations (Noise Source Data)
Appendix B – Ministry of Environment Noise Guidelines
Appendix C – Sample Sound Exposure Calculation

What else should we know?

A ***noise and vibration study*** (or environmental noise analysis) should be based on the applicable guidelines established by the Association of Professional Engineers of Ontario, the Ministry of the Environment, CNR, Go Transit (Metrolinx), Halton Region, and Town By-laws.

Input assumptions to a noise model relating to future traffic flows should be based upon a review of the long-term forecasts contained in any Town-wide or area-specific transportation studies.

What other resources are there?

Town of Oakville - Noise By-Law No. 2008-098 as amended:
http://www.oakville.ca/townhall/by-laws.html

Halton Region - Noise Abatement Policy for Regional Roads, Retrofit Locations and New Developments:
http://www.halton.ca/common/pages/UserFile.aspx?fileId=17610

Association of Professional Engineers of Ontario - Guideline, Professional Engineers Providing Acoustical Engineering Services in Land Use Planning, 1998:
http://www.peo.on.ca/Guidelines/P.EngsProvAcousiticalEng2010.pdf

Ministry of the Environment - Noise Assessment Criteria in Land Use Planning, Publication LU-131, October 1997:
http://www.ene.gov.on.ca/envision/gp/3372e.pdf

Ministry of the Environment - Annex to Publication LU-131, Noise Assessment Criteria in Land Use Planning, October 1997:
http://www.ene.gov.on.ca/envision/gp/337201e.pdf

Ministry of the Environment - Noise Assessment Criteria in Land Use Planning: Requirements, Procedures and Implementation, 1997:
http://www.ene.gov.on.ca/envision/gp/3517e.pdf
- technical details pertinent to MOE guideline LU-131

Ministry of the Environment - Sound Levels due to Road Traffic, Publication NPC-206, October 1995:
http://www.ene.gov.on.ca/envision/gp/3407e.pdf

Ministry of the Environment - Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban), Publication NPC-205, October 1995:
http://www.ene.gov.on.ca/envision/gp/3406e.pdf

National Research Council of Canada - Building Practice Note No. 56: Controlling Sound Transmission into Buildings, September 1985:
http://www.nrc-cnrc.gc.ca/obj/irc/doc/pubs/bpn/56_e.pdf