

Noise and Vibration Study

(Last update: June 2025)

A Noise and Vibration Study determines the projected sound and vibration exposures for a proposed development both from and to adjacent uses, for stationary and transportation related noise sources, and any mitigation measures needed.

Required by Legislation

The Ontario *Planning Act*.

Who should prepare this study?

A Noise and Vibration Study must be completed by a registered professional engineer qualified in acoustical engineering and experienced in the preparation of noise and vibration studies.

Why do we need this study?

A Noise and Vibration Study is required to assess the compatibility and/or potential impacts from a proposed development. It should also ensure that industry is able to operate and maintain compliance with regulatory approvals.

How should this study be prepared?

A Noise and Vibration Study should at a minimum contain:

Introduction

- Address of the subject property
- General site location of the subject property
- Project Name (if applicable)
- Applicant and owner's contact information
- Author name, title, qualifications, company name and appropriate stamp
- Brief description of the proposed development, site plan, and site location.

Proposal Description and Context

- A description of the proposal, development stats (such as number of units, site area) type of development proposed, height, parking areas, access points, location of amenity areas, specified receptor location(s), proposed phasing.
- A description of the existing on-site conditions as well as surrounding areas, roads, natural areas, buildings, parking areas.
- Concept Plan for the development including building location, parking, access, amenity areas, grading, natural features and any natural hazards, proposed streets.

Investigation/Evaluation

- Identification of the noise source(s)
- Noise Impact Study
 - Description of the sound level guidelines/standards applied (methodology and approaches)
 - Identification of both Transportation and Stationary noise source(s), all the assumptions related to the stationary noise sources should be clearly documented in the report.
 - Data collection (e.g., ultimate AADT, truck percentage, reference sound power data, noise measurement, etc.)
 - Receptor selection process
 - Noise impact assessment (including low frequency noise impacts)
 - Unmitigated and mitigated noise level forecasts (e.g., tables showing ultimate road traffic and predicted unmitigated sound energy exposures outdoors)
 - The report must be stamped, dated, and signed by a Professional Engineer.
- Vibration Impact Study (if applicable)
 - Methodology and approaches
 - Identification of the vibration sources
 - Description of the vibration measurement procedure and criteria, as well as the equipment used for the vibration measurement.
 - Receptor selection process
 - Measured/predicted vibration level.
 - The report must be stamped, dated, and signed by a Professional Engineer.

Impacts and Mitigation Measures

- Indoors: architectural requirements, ventilation requirements
- Outdoors: at source requirements, sound barriers (i.e., description and a site plan depicting noise mitigation)
- Warning clauses as per Section C8 of Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (NPC-300) by the Ministry of the Environment, Conservation and Parks (MECP).
- Vibration mitigation requirement

Recommendations

- Summary and conclusions of the supporting studies and how they support the development and any special considerations or conditions that should be imposed.
- Any recommendations, or conditions that should form part of a decision on the matter.
- Please note that the inclusion of Warning Clauses will be required for any agreements between the City and the applicant.
- A cost estimate for mitigation measures may also be required for inclusion in future agreements.

What else should we know?

A Pre-Submission Meeting with City Planning staff is encouraged prior to submitting a development application. The scope of the Study should be discussed with City staff and/or other agencies as part of the pre-submission process which would generally take place prior to the submission of a *Planning Act* application.

Additional Terms

To be identified by the City through the pre-submission process.

Study Submission Instructions

To be submitted in accordance with the [City's requirements for Development Planning Applications](#).

What other resources are there?

Richmond Hill [Development Application Resources](#)

Ontario Ministry of the Environment, Conservation and Parks (MECP) [Environmental Noise Guideline](#)

Professional Engineers of Ontario – [Why employ a professional engineer?](#)

About these Terms of Reference

These Terms of Reference were developed as a joint effort with participation by representatives from all York Region municipalities and the Region. The Terms of Reference are in widespread use across the Region, with local requirements added as prescribed by each municipality.

If determined that this study is applicable, the study terms may vary depending on the nature of the proposal. Discussion and confirmation as to whether all criteria outlined within these Terms of Reference are appropriate for your development project, will also take place with you and in consultation with any relevant external agencies.

In addition to these Terms of Reference, municipal departments and/or external agencies may require analysis of specific technical components that should be addressed in the study. Confirmation of additional technical requirements, and a checklist identifying detailed standards to be met, in turn may be provided.

Notes:

If the proposed development is revised, the study/report shall reflect the revisions by an updated report or letter from the author indicating the changes and whether or not the recommendations and conclusions are the same. (Note: this is subject to the extent of the revisions).

A peer review may be required. The cost of the peer review will be borne by the applicant.

If the submitted study is incomplete, is authored by an unqualified individual or does not contain adequate analysis, the applications will be considered incomplete and returned to the applicant.