Noise Impact Studies (Noise Feasibility and/or Detailed Noise Study)

PURPOSE:

This document provides guidance for the preparation of Noise Impact Studies (Noise Feasibility and/or Detailed Noise Study), which may be required for the submission of an application under the *Planning Act*. All Noise Impact Studies shall follow the guidelines contained and referenced in this document.

A Noise Impact Study provides information to determine appropriate control measures for the mitigation of all noise impacts. The City shall require Feasibility and/or Detailed Noise Impact Studies to support the application of a noise sensitive land use development or a development located near a noise sensitive land use.

The purpose of a Noise Impact Study is:

- To identify all noise sources including transportation and stationary noise sources from the surrounding environment on the proposed development;
- Identify all transportation noise sources e.g. major arterial road within 400 metres, and Airport Noise (see Urban Hamilton Official Plan and Rural Hamilton Official Plan;
- To identify all noise sources generated by the proposed development on the surrounding environment; and,
- To identify forecasted noise levels with and without mitigation measures.

A Noise Impact Study is required for all proposed developments with or near a noise sensitive land use as defined by the Ministry of Environment, Conservation and Parks (MECP), and NPC-300 Environmental Noise Guideline.

Noise Impact Studies are required by the MECP in the context of an application for an MECP approval. The MECP guidance for applying for approvals includes the requirements for noise impact studies.

Feasibility Study

The objective of the Feasibility Study is to establish the feasibility of the proposal in the context of site design and the extent/cost of noise control measures such as barriers, ventilation requirements and building components. A Feasibility Study will also identify if a change in noise classification from Class 1 to Class 4 is required. Feasibility Studies are assessed early in the land use planning process. In most scenarios, a Feasibility Study is submitted with an Official Plan Amendment, Zoning By-law Amendment, and/or Draft Plan of Subdivision/Condominium application submission. However, in circumstances where a proposed development is located in close proximity to a significant noise source (e.g. residential development adjacent to a highway) or the proposed development itself is a significant noise source towards the surrounding land uses (e.g. heavy industrial land use adjacent to a residential area) a Feasibility Study may be requested at the Formal Consultation stage if the proponent chooses to seek a Formal Consultation ahead of a formal Planning Application submission.

Detailed Noise Impact Study

The purpose of the Detailed Noise Impact Study is to assess the impact of all noise sources affecting the development proposal and determine the appropriate layout, design and required noise control measures.

PREPARED BY:

A Noise Impact Study and/or Feasibility Study must be prepared by a qualified acoustical consultant. The Noise Impact Study must be stamped, dated, and signed by a licensed Professional Engineer (P. Eng.) to assure professional standards are met within the criteria for which a Professional Engineer providing acoustical services in land use planning are satisfied. Approval by Council, external authorities, or assessment by

way of qualified peer reviewer may be necessary in scenarios where noise classification is changed from Class 1 to Class 4 or in situations as deemed appropriate by Planning Division staff.

CONTENTS:

Feasibility Study

The Feasibility Study should assess the site layout including roadways and orientation of the buildings, stationary noise sources, location of outdoor living areas (OLA's), and consider the zoning of land uses. The study should alert the proponent and the City of the potential for conflicting land uses and determine the feasibility of physical noise control measures, in conjunction with the selected site design.

The Feasibility Study should also include direction on the need for additional detailed studies as part of the complete submission of a Draft Plan of Subdivision Application or Site Plan Control Application providing direction for when the required noise control measures are to be implemented. The City may request detailed studies as a condition of development approval.

Detailed Noise Impact Study

The Detailed Noise Impact Study should include details of assessment methods inclusive of assessed or forecasted noise levels with and without noise mitigation measures, and recommend noise control measures and maintenance procedures, where required. In scenarios where the noise classification is changing from Class 1 to Class 4, full justification is required to identify if the extent of the noise mitigation measures needed adhere to Class 1. Full justification is required to address why mitigation measures to adhere to Class 1 are not possible or reasonable. Internal and external noise levels must be identified and analysed to evaluate the impact on conditions experienced by occupants or users of the sensitive land use (existing and proposed). A Detailed Noise Impact Study may be requested as a condition of Draft

Plan Approval (Subdivisions and/or Condominium), conditional Site Plan Approval, condition of Consent to Sever, and/or as a Holding provision.

Typical Contents of Study

Traffic Data must be obtained from the City (trafficops@hamilton.ca) when analysing transportation noise from City roads. Traffic Data within the Study must be the most recent on record.

The report shall include a Site Plan depicting the locations of the Noise receptor locations (including OLAs).

The report shall include an area map or aerial photo depicting the location of stationary noise sources and the distance to the closest point of the proposed development.

1. Introduction
    - Description of the subject site and the proposed development; and,
    - Identification of adjacent land uses, structures, stationary noise sources and other potential sources of noise in the area (e.g. highway, railway, industrial operations, etc.).
2. Noise Assessment
    - Identify and discuss the relevant noise guidelines (e.g.: Ministry of Environment, Conservation and Parks Noise Guideline NPC-300, Ministry of Transportation's Environmental Guide for Noise, Urban Hamilton Official Plan (UHOP) Policies B.3.6.3 to B.3.6.3.20 and Rural Hamilton Official Plan (RHOP) Policies B.3.6.3 to B.3.6.3.21;
    - Provide data for each noise source and noise levels. Include copies of correspondence (e.g., road & rail traffic, etc., in an appendix);
    - Present a sound level analysis of all the sources at each receptor;
    - Forecast noise levels and impacts of the proposed development during and after construction on adjacent land uses and on the surrounding area;

- Include background sound levels caused by road traffic except in areas removed from activities of people, and noise from stationary sources. Intrusive short-term noise from aircraft or a train (including light rail transit) pass-by may be excluded;
- Provide details of required mitigation measures;
- Include drawings:
    - Site plan, Elevation plans, and/or other plans as deemed necessary;
    - locations of Outdoor Living Areas (OLAs); and,
    - noise mitigation plan (barriers):
        - location;
        - height; and,
        - elevation at base and top if complicated grading/topography; and,
- Mitigation measures reflective of conducted noise forecast with and without noise mitigation measures, all calculations, assumptions, and rationales for the noise assessments should be included and meet industry standards.

3. Conclusion, Recommendations, and References
    - Proposal of noise mitigation measures when noise mitigation measures are required;
    - Temporary noise reduction strategies, if applicable; and,
    - Brief conclusion of findings.
4. Addendums
    - Provide a detailed Cover Letter and/or Matrix in response to Reviewer comments;
    - Provide a detailed Cover Letter identifying all revisions to the Noise Impact Study, and reasons for revisions;
    - Reference previous Noise Impact Study and issuance date; and,
    - Include required contents as specified in items 1 to 3.

OTHER INFORMATION:

The report may be combined with a Vibration Study.

General policies for Noise and Vibration Emissions are contained within the Urban Hamilton Official Plan and Rural Hamilton Official Plan (links are provided below).

Should a peer review of the Noise Impact Study and/or Feasibility Study be warranted, all associated costs shall be borne by the owner / applicant and shall be submitted to the satisfaction of the City of Hamilton, Director of Planning and Chief Planner.

Environmental Noise Guideline - Stationary and Transportation Sources - Approval and Planning (NPC-300) | ontario.ca

Ministry of Transportation's Environmental Guide for Noise

UHOP Policies B.3.6.3.1 - B.3.6.3.20

RHOP Policies B.3.6.3.1 - B.3.6.3.21

PEO Acoustical Guidelines

REVIEWED AND APPROVED BY:

Development Planning, Planning and Economic Development Department

Additional agencies may have jurisdiction, and their approvals or permits may also be required (e.g. Canadian National Railway, Canadian Pacific Railway, GO Transit/Metrolinx, Ministry of Transportation, Hamilton International Airport/Transport Canada, etc.).

CONTACT:

Development Planning, Planning and Economic Development Department

pdgening@hamilton.ca