

Noise Abatement Guidelines

Regional Official Plan Guidelines



Halton Region Official Plan Guidelines

The **Regional Official Plan (ROP)** is Halton's guiding document for land use planning. It contains policies that guide decisions related to, among other things, managing growth and its effects on Halton's social, economic and natural environment.

The **ROP Guidelines** are a set of documents that clarify, inform, and aid in the implementation of the Plan's policies.

The Guidelines have been prepared in accordance with Section 192 of the ROP. They provide direction and outline approaches that can be used to satisfy the relevant policies of the Plan. They do not introduce additional policy requirements, and, in the event of a conflict between the Guidelines and the Regional Official Plan, the Plan shall prevail.

The Guidelines may be updated from time to time as required through a report to Regional Council.

For more information, visit halton.ca/ROP or halton.ca/ROPguidelines or call 311.

"This Plan calls for the preparation of certain guidelines or protocols to provide more detailed directions in the implementation of its *policies*."

Halton Region Official Plan – Section 192
as adopted by Regional Council, December 16, 2009

Noise Abatement Guidelines

The **Noise Abatement Guidelines** provide clear and practical direction regarding noise control for existing development, new development, and Regional Road projects.

Purpose

The purpose of the Noise Abatement Guidelines is to:

- **clarify** the definitions and technical criteria used to evaluate noise abatement issues;
- **outline** the policies and processes regarding requests for retrofitting noise mitigation measures for existing residential development, and,
- **outline** the policies and processes regarding noise barriers for Regional Road projects and new development.

Application & Use

The Noise Abatement Guidelines outline the implementation processes related to new and retrofitted noise mitigation measures. This Guideline is intended to be used for this purpose by a variety of users, including:

- **Regional, Local and external agency staff:** when reviewing development applications, undertaking regional road projects, or reviewing retrofit requests;
- the **development industry:** to understand the expectations regarding noise abatement and noise attenuation barriers in the context of new development;
- the **public:** for guidance on the processes surrounding retrofitting an existing noise mitigation measure; and, the noise abatement requirements for new development.

Supporting Documents

In addition to the policy direction provided by the Regional Official Plan, the following documents should be considered alongside this Guideline, as appropriate:

- Provincial Policy Statement, 2014
- Ministry of the Environment Noise Assessment Criteria in Land Use Planning (Publication LU-131, October 1997)
- Halton Region Noise Attenuation Technical Policy (CS-69-06)
- Local Official Plan & Zoning By-law

Version

Version 1.0 | This version of the Guidelines was brought before the Inter-Municipal Liaison Committee on June, 18 2014 through Report No. IMLC01-14.

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1.0 Introduction

In July 2006 Halton Regional Council approved report CS-69-06: "Noise Attenuation Policy Update," that established the Region's *Noise Attenuation Technical Policy* (the "Policy") which was attached as Appendix "A" to CS-69-06. The Policy is consistent with the noise control criteria, guidelines and principles outlined in the Ministry of the Environment's *Noise Assessment Criteria in Land Use Planning* (Publication LU-131, October 1997). Associated procedures within the Policy reflect the requirements of the *Municipal Act* and applicable regulations.

This guideline provides an overview of the approved Policy and outlines the implementation processes with respect to: existing residential development, Regional capital road projects, and new development.

1.1 Key Definitions

The following definitions are taken from the Policy and are applicable to these Guidelines:

First Row Receiver

All those receivers (or receptors) adjacent to a Regional Roadway where sound level differences are imperceptible (within 3 dab) from the noisiest receiver.

Noise

Sound having a level and characteristic that exceeds acceptable criteria set by the authority.

Noise Abatement Walls

Concrete, wood or metal walls or other material approved by the Region, installed within a Regional Road allowance or on a regionally owned reserve for the purpose of reducing the noise levels on adjacent properties.

Noise Attenuation Features

Any feature or combination of features such as: noise abatement walls; earth berms; building configuration; building materials; etc. (not intended to be a complete list) which provide a reduction in noise level for noise sensitive outdoor living areas.

Noise Barrier

A physical structure planned or otherwise, which is located between a noise source and a noise sensitive receptor and effects a reduction in sound level transmission from the source to the receptor. Noise barriers, in general, include walls, berms or combination thereof.

Noise Sensitive Areas (NSA) – Land Use

Any outdoor living areas associated with residential/institutional buildings. The following land uses, having OLA's associated with them would qualify as NSA's: private homes such as: single family residences; townhouses; multiple unit buildings (such as apartments with OLA's for use by all occupants); hospitals; or nursing homes where there are OLA's for the patients.

Outdoor Living Area (OLA)

The part of an outdoor amenity area provided for the quiet enjoyment of the outdoor environment. The OLA is typically an area at ground level accommodating outdoor living activities. This area may be situated on any side of a building. The usual distance from the dwelling unit wall is 3m. The vertical height is 1.5 meters above the existing ground surface. Where OLA location is unknown, the side closest to the roadway or transit way

should be assumed to be the OLA. Paved areas for multiple dwelling residential units may not be defined as an OLA.

Points of Reception (POR)

PORs are residential noise sensitive areas, situated along a Regional surface transportation corridor, which may be subject to an “unacceptable” sound level.

The following land uses, with OLAs {outdoor living area} associated with them would be considered points of reception under the above criteria:

- Private homes such as single family residences;
- Townhouses
- Multiple unit buildings, such as apartments with OLA’s for use by all occupants;

The land uses listed below, by themselves, do not qualify as points of reception:

- Apartment balconies above ground floor
- Educational facilities (except dormitories with OLA’s)
- Churches
- Cemeteries
- Public / Private Parks and picnic areas
- Day care centers
- All commercial areas, and
- All industrial areas.

Roadway

This means a common and public roadway, street, avenue, parkway, driveway, or part of a roadway on a bridge or trestle, under the jurisdiction of the Region, which is intended for, or used by the general public for, the passage of vehicles, and includes the area between the lateral property lines thereof.

2.0 Existing Residential Development

2.1 Purpose

The guideline applies to existing residential development that: abuts Regional Road allowances; has existing reverse frontage/flanking homes; and meets the criteria for retrofit locations. The purpose is to reduce traffic noise in outdoor living area(s) (OLA's) based on the Region's established sound level objectives.

The guideline was developed on the principle that existing Noise Sensitive Areas (NSA's) that are exposed to high noise levels due to their proximity to a Regional noise source, such as a Regional Road, should receive consideration by the Region for retrofitting through noise attenuation measures. Noise related to railway or provincial/private highway sources is not addressed by the Policy and the Guideline.

2.2 Exclusions & Limitations

It is not the intent of the Region to construct retrofit noise barriers along all Regional Roads where there is an identified candidate or prioritized site. Some candidate sites may not be suitable for retrofitting due to technical or economic factors that may include, but are not limited to: failure to meet the specified sound level criteria; site topography; physical limitations; and excessive costs. The construction of retrofit noise barriers may also be impacted by budgetary constraints.

The guideline does not apply to other sources of noise outside of the Region's jurisdiction such as roadways under the jurisdiction of the Local Municipality, Provincial Highways, railways and other transportation facilities that are not part of the Regional Road System.

It is not the intent of the Region, or its policies and guidelines, to mitigate indoor noise levels. This is the responsibility of the homeowners.

Retrofit noise barriers are not considered in this Guideline for dwelling units with direct frontage along a Regional Road. This is primarily due to aesthetics, practical limitations and safety considerations arising from the possible installation of noise barriers along the front yards of these dwellings.

2.3 Requests for Retrofitting Noise Mitigation Measures

Initial requests are the responsibility of the benefiting property owners within the community requesting the noise barrier. The Region's approach to the request will follow the process and policies adopted by Council in CS-69-06 "Noise Attenuation Policy Update" and any Council approved updates relating to such policy.

To qualify for consideration by Council as a Regional retrofit project, a formal petition requesting the installation of noise barriers must be certified by the Regional Clerk. As required under the *Municipal Act*, the petition must be signed by at least two-thirds of the property owners representing at least fifty percent of the assessed property value of those properties abutting and benefiting from the proposed work.

2.4 Criteria for Consideration of Retrofitting Noise Mitigation Measures

2.4.1 Points of Reception Criteria

To qualify for the construction of retrofit noise barriers, noise sensitive points of reception must meet the following criteria:

1. A residential area adjacent to a Regional Road.

2. Reversed frontage lots or blocks including flanking units where their OLA's are directly exposed to traffic noise.
3. The residential area must have ground-based OLA's associated with the residential unit, such as a backyard.
4. The following land uses having OLA's associated with them would qualify as points of reception:
 - a) Single family residences;
 - b) Townhouses, including stacked and back-to back townhouses;
 - c) Multiple unit residential buildings, such as apartment buildings with common OLAs. Paved areas and common OLA's for multiple dwelling units do not qualify; or
5. Received Draft Plan Approval or Site Plan Approval prior to Council approval of the Policy.

Decks, elevated patios and areas that are located above ground level are excluded from this guideline.

2.4.2 Sound Level Criteria

The evaluation of mitigation alternatives for noise-sensitive points of reception shall consider the following:

1. The area / site specific sound levels established by the Region in accordance with its procedures, as amended from time-to-time;
2. The sound levels, established based on the future road and traffic parameters such as the traffic volume, percentage of truck traffic, posted speed limit, road gradient, etc;
3. A prediction of the future sound levels corresponding to the "mature state of development traffic data;"
4. Whether or not the daytime noise level is lower than 60 dBA. The objective daytime (7:00 a.m. to 11:00 p.m.) sound level under the retrofit policy is 60 dBA after attenuation. Therefore, points of reception subject to sound levels lower than Leq (day) 60 dBA within the majority of the OLA's will not qualify for retrofit under the Policy;
5. The feasibility of traffic noise control measures;
6. The feasibility of streetscaping and landscaping, including berms, service roads, or buffers. Emphasis will be directed toward more aesthetically pleasing treatments to mitigate road noise without creating barriers between the residential lots and the streets; and
7. Whether the noise barrier will provide a minimum sound reduction (Insertion Loss (IL)) of 5 dBA to the First Row Receiver.

The method for calculating noise levels will be in accordance with the Ontario Ministry of the Environment (MOE) Guidelines, i.e. *Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT) Technical Document* (Ontario Ministry of the Environment, ISBN 0-7729-6376, 1989). Site specific enhancements to the MOE guidelines for analysis and assessment are provided in the document.

2.5 Upgrade of Existing Noise Barriers

Residential areas with existing noise barriers may be eligible for an upgrade to an existing noise barrier under the Noise Attenuation Technical Policy if new noise mitigation measures can achieve an additional acoustic benefit of at least 5 dBA over and above the existing noise level and all other existing retrofit warrants/ conditions are satisfied.

2.6 Noise Barrier Design

The design of the noise abatement walls, as retrofit noise mitigation measures, will consider the following factors:

1. The noise barrier must be installed on a complete block to ensure its effectiveness. Therefore, it is important that the homeowners consult as a group from block to block or from one side of a development to the other.
2. Noise barriers will be constructed on the Region's R.O.W., where feasible, and will be maintained by the Region. In cases where it is not feasible to construct the barriers on the Region's R.O.W., an easement granted to Halton Region must be given in order for the Region to assume maintenance responsibilities.
3. Where deemed necessary, each section of the noise barrier will be individually designed (location, height, extent, material) and cost estimates will be prepared accordingly.
4. It is the practice of the Region to use noise abatement walls for retrofitting purposes. The use of berms as a base for a retrofit noise barrier may be considered on a case-by-case basis, where such use is technically warranted and practically feasible.
5. The choice and colour of the noise barrier material utilized will be jointly determined by the Region and the homeowners. However, the noise barrier material specifications will be subject to the Region's specifications for noise barriers, as updated from time to time. Consideration will be given to aesthetic impacts, as well as the safety and security of pedestrians using the street
6. The height of noise abatement walls shall be a minimum 2.4 m to a maximum of 3.5 meters, as measured from the barrier base elevation. Higher noise abatement walls may be allowed, subject to approval by Regional Council, considering the aesthetics of the installation, the width of the right-of-way, and depth of residential lots.
7. The design of the noise abatement walls may require wall openings that provide fire protection personnel and vehicles access to hydrants on Regional Road allowances or on adjacent local streets.
8. If required to provide protection for the rear yard area of an adjacent property, property owners at the termination points of the noise abatement wall will be required to register an easement in favour of Halton Region for the construction and maintenance of a noise abatement wall along a side lot line.

2.7 Construction and Maintenance

Construction and maintenance of retrofit noise barriers will be subject to the following:

1. The design and construction of the retrofit noise barrier will be undertaken by Halton Region. The costs of any necessary engineering studies and design will be included in the overall cost of the barriers;

2. The Region will make the final decision on the selection of material, wall height, wall location within the Regional road allowance, and any other such design parameters; and
3. Ongoing maintenance of noise barriers within the Regional right-of-way shall be the responsibility of the Region. The homeowner will be required to enter into an agreement with the Region, to permit personnel and/or applicable machinery access for noise barrier maintenance and reconstruction purposes.

2.8 Existing Noise Barriers not on Regional Right-of-way

Existing noise barriers erected to mitigate noise from a Regional road, which are not located on a Regional right-of-way, will be maintained by the Region upon request from the property owner at the owner's expense. Interim repairs will be undertaken on an 'as needed' basis. Regional staff will take measures to ensure that any part of the noise barrier that poses a potential safety risk is removed and that a temporary fence will be erected until such time as the barrier is replaced, either through a petition, or by the property owners themselves.

When the noise barriers reach the end of their service life and minor repairs are no longer practical and complete replacement is necessary, then the property owners must petition the Region, as per the Policy, to have the noise barrier replaced or replace the noise barrier themselves.

2.9 Cost

All costs associated with the retrofitting will be allocated in accordance with the Region's Policy as set out in CS-69-06 and the *Municipal Act* and its regulations as applicable.

Eligible applications for retrofit noise attenuation measures will be considered by Regional Council for inclusion into the 10 year Roads Capital Budget Forecast on a case by case basis. Applications will be prioritized on the basis of need, cost, benefit derived, and number of residential OLAs that are being protected and as outlined in the Policy.

The cost of noise attenuation within an individual dwelling, or an outdoor area that is not part of the approved points of reception area, will be the sole responsibility of the homeowners. Furthermore, the homeowner will be responsible for all noise abatement features required within the interior building such as: air conditioning; double-glazed windows; brick; veneer; etc.

3.0 Regional Road Projects

3.1 Purpose

For Regional road reconstruction or expansion projects that are proposed adjacent to a Noise Sensitive Area (NSA), noise abatement features will be considered under the processes identified in the *Environmental Assessment Act* and/or *Planning Act*. The noise abatement features will be designed to attenuate noise generated from the projected future traffic to 2031.

3.2 Applicable Sound Level Criteria

For the implementation of capital road projects, future noise levels with and without the capital project improvement will be assessed.

Where increase in noise levels are predicted, the Region will take the following actions:

- 0-5 dBA – no action required;
- Greater than 5 dBA – investigate noise control measures within right-of-way where a minimum attenuation of 5 dBA can be achieved.

When noise mitigation is not warranted on the basis of projected noise levels, an application may be made through a petition process under the Retrofit guideline if existing noise levels are greater than 60 dBA.

3.3 Noise Barrier Design

The design of Noise Barriers in conjunction with Regional road projects shall be in accordance with the Region's *Noise Attenuation Technical Policy* as summarized in Section 2 of these guidelines.

3.4 Cost

The cost of all noise mitigation measures required as a result of a Regional road reconstruction or expansion project will be borne by the Region and the Region shall assume the ownership and maintenance of such noise mitigation measures.

4.0 New Development

4.1 Purpose

All development applications will be considered for noise abatement features during the planning approvals stage in accordance with the Region's *Noise Attenuation Technical Policy*.

The developer will be required to abate noise originating from traffic, industrial and commercial plazas, and/or other noise sources which exceed the Ministry of the Environment guidelines, for the following noise sensitive land use areas:

- all types of residential buildings, including apartments and condominiums;
- institutional buildings such as hospitals, old age home, places of worship;
- certain park locations and recreational areas which have been designated for quiet environment; and
- other noise sensitive areas to be defined at the time of the development application.

Where possible, noise sensitive land uses should not be located adjacent to Regional or major arterial roads.

The developer will be responsible to provide noise abatement features for outdoor areas. Decks, elevated patios and areas that are located above ground level are excluded from this guideline. Purchasers shall be advised that the construction of elevated decks within their yards may compromise the effectiveness of the noise mitigation measures and controls established for their properties during the subdivision planning stage.

The homeowner or developer will be responsible for all noise abatement features required to the building, such as: air conditioning; double-glazed windows; brick veneer; etc.

4.2 Development Approval Criteria

- a) Noise attenuation reports, prepared in accordance with the Halton Region and MOE criteria and approved and recommended by the Local Municipalities, must be provided to the Region during the submission of an application for draft plan approval of a subdivision or prior to Site Plan approval;
- b) Noise barriers shall only be considered when alternate methods of reducing the noise impact are not feasible;
- c) The design of Noise Barriers in conjunction with development shall be in accordance with the Region's *Noise Attenuation Technical Policy* as summarized in Section 2 of these Guidelines;
- d) Noise attenuation barriers shall be constructed on the Regional R.O.W. or on an easement in favour of the Region (easement width to be determined by Halton Region). If a combination of noise wall and berm is proposed to achieve acceptable sound levels, the developer must ensure adequate lands are available outside the Regional right-of-way, not including local buffers, in order to be able to adequately construct the berm;
- e) The Region shall assume the ownership and maintenance of such noise mitigation measures within the Regional rights of way or within an easement granted to the Region for that purpose;
- f) A condition will be included in the plan of the subdivision agreement whereby confirmation is to be received from the developer's noise consultant that the recommendations from the final noise study have been implemented prior to the release of securities held under the Subdivision Agreement;

- g) When new developments are proposed in urban areas and there are requirements to provide unobstructed access to the Regional road network and/or Active Transportation network, additional analysis may be required with respect to the warrant/need for implementing a noise barrier;
- h) If it is determined that a warranted noise barrier is not constructed at the time of the proposed development due to the policies or requirements outside of the Regional Noise Guidelines as indicated in Section 4, in order to provide unobstructed access to the Regional road network and/or Active Transportation network, purchasers shall be advised that the lack of a noise barrier may compromise the effectiveness of the noise mitigation measures and controls which have been established within the subdivision for their lots. Purchasers shall be advised that lots not receiving a noise barrier at the time of construction in order to provide unobstructed access to a Regional Road will not be eligible under the retrofit provisions of the Region's *Noise Attenuation Technical Policy* in the future; and
- i) At the discretion of Halton Region, all noise studies may be subject to a peer review at the developer's cost.

4.3 Mitigation of Impact to Existing Properties

Where a new development road will be constructed adjacent to existing homes and the net change in traffic volumes based on the design life of the road results in a change of 5 dBA over that which exists today, then noise abatement features must be incorporated into the new roadway design. The impact criteria apply to existing residential areas only.

4.4 Enforcement of Requirements

The noise abatement measures implemented in conjunction with development will be enforced as follows:

- All noise abatement features external to the building, such as noise abatement walls and berms, etc., will be enforced under the requirements of the appropriate development agreement; and
- All noise abatement features to be incorporated into the building construction will be enforced by the Local Municipality under the building permit requirements.

4.5 Cost

The cost of all noise mitigation measures required as a result of development shall be borne by the developer.

