

Requirements of Developers – Noise Sensitive Uses

Scope

The purpose of these guidelines is to provide clarity and guidance to VicRoads staff, Councils and property developers, in relation to noise amelioration responsibility and standards, for noise sensitive developments adjacent to Freeways under VicRoads control.

Background

VicRoads as a referral authority may not necessarily be in a position to directly impose requirements on planning permits for developments adjacent to the freeways under its control. However, as a referral authority, VicRoads maybe requested by local Councils to suggest requirements that should be included in planning permit for developments. This could include requirements to reduce traffic noise impacts on noise sensitive uses.

The building developments covered by these guidelines are for buildings that will accommodate or have the potential to accommodate noise sensitive uses. Some local Councils may specify actual uses that need protection, however the noise reduction requirements of these guidelines applies to all noise sensitive uses.

The type of development covered by these guidelines includes, but is not limited to the following:

- Multi unit low level developments,
- Single unit developments,
- Multi unit, multi level developments
- Substantial refurbishment of existing buildings.

In some circumstances it may be adequate to only include some clauses from the requirements to be included in Council permits. These requirements are by no means the definitive list, however, they provide an adequate starting point.

VicRoads Traffic Noise Reduction Policy

VicRoads policy provides exemptions from the application of the policy. The policy states that:

There are a limited number of situations where expenditure of public monies on noise attenuation is not considered to be justified. Accordingly, VicRoads will not take action to protect existing or future development in the following circumstances:

- **Category A or Category B** buildings, as defined below, where such land use is defined as a non-conforming use in the relevant planning scheme.
- new buildings or subdivisions abutting any existing road under the control of VicRoads
- new buildings or subdivisions abutting any road zone shown on any planning scheme for a new road or a road widening.

- *buildings or subdivisions abutting any proposed road zone where the planning approval was obtained after the commencement of the exhibition period to set aside land for a future road in the relevant planning scheme.*

Where:

- **Category A:** - *For residential dwellings, aged persons homes, hospitals, motels, caravan parks and other buildings of a residential nature, the noise level objective will be 63 dB(A) L10 (18hr) measured between 6 am and midnight,*
- **Category B:** - *For schools, kindergartens libraries and other noise-sensitive community buildings the noise level objective will be 63 dB(A) L10 (12hr) measured between 6 am and 6 pm.*

Note

Noise levels dB(A) used in this document are dB(A) L10 (18 or 12 hour), where applicable, at a position 1 metre out from the façade of the building. The desirable noise objective should be achieved at all habitable levels of the building unless otherwise specified.

Requirements of Developers

To minimise the road noise impacts and ensure that the occupiers of developments remain protected into the future after the developer has finished a project, VicRoads requests that the Council apply the following conditions to a development planning permit. For the purposes of these guidelines, both Category A and B developments are subjected to the following conditions.

Multi unit low level developments

Where it is a practical option to erect a noise barrier to protect a large number of buildings in a sub-division, then the developments should be subject to the following noise requirements:

1. No new allotment should be created such that there is insufficient space at the 75 dB(A) noise contour, to erect a house or other noise sensitive development, (that is, the area of the allotment at the 75 dB(A) contour or lesser noise level, must be of a sufficient size to build a dwelling).
2. The developer shall attenuate traffic noise from a Freeway to a level of 63 dB(A) or less, at the most exposed façade of the noise sensitive building, (alternative requirements in paragraph 10).
3. The noise sensitive buildings adjacent to the Freeway should also be designed and constructed to protect internal noise sensitive areas. That is, the building layout should have the service areas (laundry, bathroom, garage, etc,) facing the freeway whilst the noise sensitive uses (bedrooms, living areas, etc,) are located away from the freeway side of the building. Furthermore, for the exposed façade, window and door openings should be of a minimum size.

4. Council should request the developer to provide a report by a qualified acoustic consultant outlining the necessary noise control measures to achieve the preferred actions outlined above.
5. The adopted noise attenuation requirements will be met for 10 years after finalization of the development or, where relevant, for each stage of the development.
6. The noise fence shall have a design life of not less than 25 years.
7. After the installation of noise barriers erected to satisfy the requirement of (2) above, noise measurements shall be taken at several suitable locations that have been agreed to by all relevant parties. The results of the measurements will be distributed to these parties. It should be noted that the measurements should demonstrate that the noise barrier would perform as required in (6) above.
8. In recognition of the fact that the traffic noise measurements can be significantly influenced by isolated weather and traffic conditions, then the Council should accept a maximum tolerance of 1.5 dB(A) above the design level of 63 dB(A) for the compliance check.
9. Should the performance of the barrier not comply with the objective, then the Council shall require the developer to modified the barrier to achieve the objective.

Where the developer decides, in consultation with VicRoads and Council that it is not desirable to erect high noise barriers then the following conditions should apply to the permits.

10. No new allotment should be created such that there is insufficient space at the 75 dB(A) noise contour, to erect a house or other noise sensitive development, (that is, the area of the allotment at the 75 dB(A) contour or lesser noise level, must be of a sufficient size to build a dwelling).
11. The noise sensitive buildings adjacent to the Freeway must be designed and constructed to meet the desirable acoustic standards set out in AS 2107-2000 "Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors". It should be recognized that AS2107-2000 does not adequately consider peak noise levels. Due regard should also be given to the requirements set out in AS 3671-1989 "Acoustics – Road Traffic Noise Intrusion – Building Siting and Construction".
12. The building layout requirements in part 3, above, will apply.
13. The developer must provide a fence that visually screens the traffic from the view at the lowest habitable level of the development. This screen would be expected to screen out vehicles that are up to 3.5 metres high.
14. Council should request the developer to provide a report by a qualified acoustic consultant outlining the necessary noise control measures to achieve the preferred actions outlined above.
15. After the development has been completed a survey of the internal noise levels should be undertaken within several suitable buildings to demonstrate that the

internal noise levels have been achieved. The results of the measurements will be distributed to the relevant parties.

16. Should the internal noise levels not comply with the AS 2107-2000 objectives, then the Council should require the developer to undertake works rectifying the situation.

For a single unit developments

The requirements should be specified as for the multi unit development above, parts (1) to (3). However, if it demonstrated that it is ineffective or impractical to erect a noise barrier to protect a single building, then the developments should be subject to parts (10) to (12). The permit should recognize that a small development may have limited resources and it may be impractical to request compliance checks. If this is the case, Council should inspect the building to check that the basic requirements have been complied with.

Multi unit high level developments

Where erecting a noise barrier will be of limited benefit and only protect the lower levels of a development, then the developments should be subject to the following noise requirements:

1. The developer shall attenuate traffic noise from a Freeway to a level of 63 dB(A) or less, at the most exposed façade of the noise sensitive building that faces the freeway.
2. The noise sensitive buildings adjacent to the Freeway should be designed and constructed to protect internal noise sensitive areas. That is, the building layout should have the service areas (laundry, bathroom, garage, etc.) facing the freeway whilst the noise sensitive uses (bedrooms, living areas, etc.) are located away from the freeway side of the building. Furthermore, for the exposed façade, window and door openings should be of a minimum size.
3. Where the developer decides, in consultation with VicRoads and Council, that it is not desirable to erect noise barriers, then:
 - the development must be designed and constructed to meet (3) above and the desirable acoustic standards set out in AS 2107-2000 "Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors". Due regard should also be given to the requirements set out in AS 3671-1989 "Acoustics – Road Traffic Noise Intrusion – Building Siting and Construction".
 - the developer must provide a fence that visually screens the traffic from the view at the lowest habitable level of the development. This screen would be expected to screen out vehicles up to 3.5 metres high.
4. Council should request the developer to provide a report by a qualified acoustic consultant outlining the necessary noise control measures to achieve the preferred actions outlined above.
5. The adopted noise amelioration requirements will be met for 10 years after finalization of the development or, where relevant, for each stage of the development.

6. After the development has been completed a survey of the external/internal noise levels should be undertaken at several suitable locations to demonstrate that the relevant noise levels have been achieved. The results of the measurements will be distributed to the relevant parties. It should be recognized that AS2107-2000 does not adequately consider peak noise levels.
7. Should the relevant noise levels not comply with permit requirements, then the Council should require the developer to undertake works rectifying the situation.
8. In recognition of the fact that the traffic noise measurements can be significantly influenced by isolated weather and traffic conditions, then the Council should accept a maximum tolerance of 1.5 dB(A) above the design level of 63 dB(A) for the compliance check.

Substantial refurbishment of existing buildings

Where an existing building adjacent to a freeway is being refurbished to the extent that:

- the current use is being changed from insensitive to a Category A or B use, or
- the building works include roof, windows, external wall changes, or
- a single unit is to be made into a multiple unit, or
- extra levels are to be added.

then the developer should:

1. The developer shall attenuate traffic noise from a Freeway to a level of 63 dB(A) or less, at the most exposed façade of the building that faces the freeway.
2. The noise sensitive buildings adjacent the Freeway should be designed and constructed to protect internal noise sensitive areas, if it is practical. That is, the building layout should have the service areas (laundry, bathroom, garage, etc,) facing the freeway whilst the noise sensitive uses (bedrooms, living areas, etc,) are located away from the freeway side of the building. Furthermore, for the exposed façade, window and door openings should be of a minimum size.
3. Where the developer decides, in consultation with VicRoads and Council, that it is not desirable to erect noise barriers as required in (1) above, then:
 - the development must be designed and constructed to meet (3) above and the desirable acoustic standards set out in AS 2107-2000 "Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors". Due regard should also be given to the requirements set out in AS 3671-1989 "Acoustics – Road Traffic Noise Intrusion – Building Siting and Construction".
 - the developer must provide a fence that visually screens the traffic from the view at the lowest habitable level of the development. This screen would be expected to screen out vehicles up to 3.5 metres high.
 - the building layout requirements in part 2, above, will apply.
4. Council should request the developer to provide a report by a qualified acoustic consultant outlining the necessary noise control measures to achieve the preferred actions outlined above.
5. The adopted noise amelioration requirements will be met for 10 years after finalization of the development or, where relevant, for each stage of the development.

6. The noise fence shall have a design life of not less than 25 years.
7. After the development has been completed a survey of the external/internal noise levels should be undertaken at several suitable locations to demonstrate that the relevant noise levels have been achieved. The results of the measurements will be distributed to the relevant parties. It should be recognized that AS2107-2000 does not adequately consider peak noise levels.
8. In recognition of the fact that the traffic noise measurements can be significantly influenced by isolated weather and traffic conditions, then the Council should accept a maximum tolerance of 1.5 dB(A) above the design level of 63 dB(A) for the compliance check.