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# C12 Noise and Vibration

## A. Background

This section of the DCP provides objectives and controls for controlling environmental noise in relation to:

- a) Road traffic noise;
- b) Rail traffic noise;
- c) Aircraft noise;
- d) Industrial and commercial development;
- e) Rural development;
- f) Open air entertainment; and
- g) Vibration from development.

Generally, the controls in this Plan will only be applied to new development or substantial alterations and additions to existing development. In this case, new development may also include development applications for new land uses in existing buildings.

The controls in this Section will be applied at the discretion of Council where it is considered necessary or appropriate.

## B. General Objectives

The objective of this section is to ensure that future development that generates noise or vibration does not adversely affect the amenity of surrounding land uses.

## C. Other Relevant Sections of this DCP

Any applicant seeking to propose a development that has the potential to cause excessive noise or vibration impacts should consider the provisions not just of this Section of the DCP, but also the relevant provisions in other sections of this DCP.

Council will consider each development application on its merit, having regard to this section, other relevant sections of the DCP and relevant environmental planning instruments, contributions plans or Council policies. Compliance with this section alone does not guarantee that consent will be granted to an application.

In cases where Council determines that an acoustic report is required, applicants should refer to the DA Submission Requirements Appendix of this Plan, which sets out the requirements for preparing a *Noise Impact Statement*.

## **D. Other Relevant Sources of Information**

Some additional sources of information, including relevant legislation, Australian Standards and guidelines, include, but are not limited to:

- a) *Protection of the Environment Operations Act 1997*
- b) *State Environmental Planning Policy (Infrastructure) 2007.*
- c) *Development Near Rail Corridors and Busy Roads – Interim Guideline*, Department of Planning, 2008
- d) *Industrial Noise Policy*, Environment Protection Authority, Environment Protection Authority, 2000
- e) *Noise Guide for Local Government*, Environment Protection Authority, 2013
- f) *NSW Road Policy*, Department of Environment, Climate Change and Water NSW, 2011
- g) *Environmental Noise Management Manual*, Roads and Traffic Authority, 2001
- h) *Interim Construction Noise Guideline*, Department of Environment, Climate Change NSW, 2009.

## **12.1. Road Traffic Noise**

### **A. Background**

Currently, road traffic is the most widespread source of environmental noise. The controls below seek to minimise the impact of road traffic noise.

This Section of the DCP applies to all development that generates a significant level of traffic noise (as determined by Council) that has potential to impact upon residential and other sensitive land uses.

This Section is also applicable to any residential development, subdivision or other sensitive land uses, which propose to locate near existing areas of significant road traffic noise.

### **B. Objectives**

- a) To ensure that the amenity of all residential development and other sensitive land uses is not significantly affected by road traffic noise;
- b) To ensure that the traffic associated with development does not significantly impact upon the amenity of surrounding land uses;
- c) To ensure that the traffic associated with development does not have a significant noise impact on the existing road network; and
- d) To ensure that any subdivisions are designed to minimise the impact of road traffic noise on any residential development or other sensitive land uses.

## C. Controls

### 1) Road traffic noise criteria including sensitive land uses

- a) Council will not grant consent to development, particularly residential development, including subdivisions, unless the impact of traffic noise from freeway, arterial, designated or collector roads complies with the standards and guidelines for road traffic noise prepared by the relevant State Government authorities or agencies, as well as relevant Australian Standards.
- b) Council will not grant consent to development for sensitive land uses unless it complies with the provisions and standards for road traffic noise prepared by the relevant State Government authorities or agencies, as well as relevant Australian Standards.
- c) Sensitive land uses subject to road traffic noise criteria referred to in b) above include educational establishments (including schools), places of public worship, hospitals, and passive and active recreation areas.

#### Noise Impact Statements - Specific Requirements

- a) Where a site is likely to be affected by unacceptable levels of road traffic noise, the applicant is required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in the DA Submission Requirements Appendix of this DCP.
- b) The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with EPA and Department of Planning Criteria, as well as relevant Australian Standards.

**NOTE:** To determine whether your site is likely to be exposed to levels of road traffic noise that exceed residential standards:

- a) Contact Council regarding main road frontages known to exceed residential noise standards; and
- b) Obtain detailed advice from a qualified acoustic consultant regarding appropriate planning and design measures.

## 12.2. Rail Traffic Noise and Vibration

### A. Background

Penrith is serviced by the Main Western Rail Line. With the population spreading further away from the Sydney metropolitan area, the Western Rail Line has experienced an increase in the number of passenger trains, both suburban and inter-urban. Freight train movements along the Main Western Rail Line are also considerable. To reduce congestion on commuter lines and to improve efficiency, the number of wagons per train has been increased which has resulted in an increase in average noise levels (or the LAeq) because pass-by times increase correspondingly.

The extent of properties affected by rail traffic noise is far more concentrated than noise due to road traffic owing to the single rail corridor. This Section of the DCP applies to all development in the vicinity of the rail corridor as defined by Council.

## B. Objectives

- a) To ensure that the amenity of all development, including residential development and other sensitive land uses is not adversely affected by rail traffic noise; and
- b) To ensure that the amenity of all development, including residential development and other sensitive land uses is not significantly affected by the vibration of rail traffic.

## C. Controls

### 1) Rail noise and vibration

- a) The siting and design of developments on land sited on, or within, 80m of an operating rail corridor or land reserved for the construction of a railway line is to address the matters raised in the *Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning, 2008)* and, where appropriate, incorporate any recommendations into the design of the development.
- b) Council will not grant consent to residential development, residential subdivision or other sensitive land uses on land in the vicinity of a rail corridor unless it complies with the relevant standards and criteria set by the EPA and Department of Planning, as well as any relevant Australian Standards.
- c) Council will not grant consent to any development which potentially has sensitive occupancies (such as residential, office or laboratory premises) and is proposed to be constructed within 20m of the rail line unless an assessment of the vibration impacts from the rail line has been carried out. This is to be undertaken by a recognised acoustic consultant to demonstrate that the impact of vibration from the rail corridor will not significantly impact upon the future occupants of the development.
- d) Sensitive land uses subject to rail noise and vibration criteria referred to in (b) above include educational establishments (including schools), places of public worship, hospitals, nursing homes, mixed use development, offices/workplaces, and passive and active recreation areas.

### Noise Impact Statements - specific requirements

- a) Where a site is likely to be affected by unacceptable levels of rail noise or vibration, the applicant is required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in Appendix F3 – Submission Requirements of this DCP.
- b) The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with EPA and Department of Planning criteria, as well as relevant Australian Standards and Clause 87 – Impact of Rail Noise or Vibration on Non-Rail Development of *SEPP (Infrastructure) 2007*.

**NOTE:** To determine whether your site is likely to be exposed to levels of rail noise and vibration that exceed residential standards:

- a) Contact Council; and
- b) Obtain detailed advice from a qualified acoustic consultant regarding appropriate planning and design measures.

## 12.3. Aircraft Noise

### A. Background

To date, the City of Penrith has not been subject to significant numbers of commercial aircraft operations, with the exception of light aircraft movements, periodic helicopter activity and RAAF overflights.

The LEP contains provisions to ensure that incompatible development does not occur in the vicinity of the site reserved for a second Sydney airport.

The controls below supplement the provisions of the 'Development of land in the flight paths of the site reserved for the proposed Second Sydney Airport' clause of the LEP. The controls seek to ensure that any new development in the Penrith LGA is not significantly affected by any potential future aircraft noise.

This section applies to all development that is located within the vicinity of the proposed second Sydney airport as defined by Council.

### B. Objective

The objective of this section is to ensure that all development is not significantly affected by aircraft noise.

### C. Controls

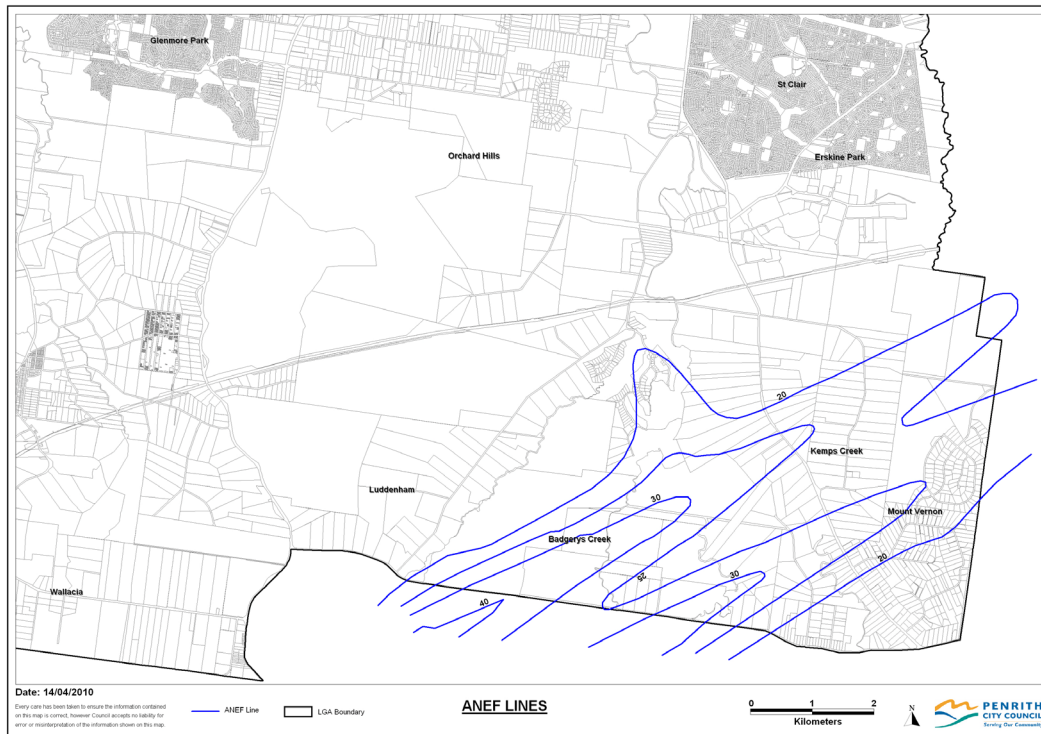
#### 1) General

- a) Council will not grant consent to any development unless it is demonstrated to Council's satisfaction that:
  - i) The building site is considered acceptable for the proposed development based upon ANEF (Australian Noise Exposure Forecast) zones in accordance with Australian Standard 2021-2000.
  - ii) Where a building site is classified by AS 2021-2000 as 'conditionally acceptable', an assessment of the proposed development is to be conducted by an accredited acoustical consultant in accordance with the procedures set out in Australian Standard 2021-2000 to ensure that the indoor design sound levels of the Standard are achieved within the various areas of occupancy.

#### 2) Determination of Noise Levels

- a) Assessment of site acceptability shall be determined by means of the most recent ANEF contour map available for the Second Sydney Airport (see Figure C12.1).
- b) Determination of maximum noise levels due to aircraft flyovers at the site shall be conducted in accordance with the procedures laid down in Australian Standard 2021-2000.

**Figure C12.1: Land affected by ANEF contours for the proposed Second Sydney Airport**



### 3) Noise Impact Statements - specific requirements

- a) Any development classified as 'conditionally acceptable' in Australian Standard 2021-2000 is to include a Noise Impact Statement which is to be prepared in accordance with the minimum requirements set out in Appendix F3 of this DCP. In addition, the following additional specific information is to be provided:
  - i) The site acceptability classification based upon ANEF zones in accordance with AS 2021-2000;
  - ii) The maximum noise level due to aircraft flyover at the site and the method used for determination (i.e. in accordance with AS 2021-2000, or based upon information supplied by the relevant Government Aviation Authority);
  - iii) The indoor design sound level for aircraft flyovers in accordance with AS 2021-2000;
  - iv) The aircraft noise reduction(s) (ANR) required to be incorporated in the building envelope;
  - v) Details of building components and construction techniques required to provide sufficient noise reduction;
  - vi) A map clearly indicating the location of the development site in relation to the most recent ANEF contour map produced for the second Sydney airport;
  - vii) Sketch plans of the site illustrating building locations and any other relevant details, together with detailed floor plans and elevations;

- viii) Any other significant or relevant acoustic information concerning the project; and
- ix) A statement of opinion confirming compliance with the acoustical design criteria requirements.

## **12.4. Industrial and Commercial Development**

### **A. Background**

This Section of the DCP applies to all industrial development, commercial development (including recreation facilities) and licensed premises which, in the opinion of Council, will impact upon the amenity of surrounding developments.

#### **Industrial Development**

There are industrially zoned precincts in Penrith City, extractive industries and employment zones at North Penrith, Erskine Park and within a number of new urban release areas. With this new development for industrial and employment related uses, there are likely to be conflicts between noise created in industrial areas and adjoining sensitive land uses.

#### **Commercial Development**

The main source of noise generated by commercial development is from the operation of machinery and equipment. In particular, noise generated from air conditioning, exhaust and refrigeration systems have been major sources of noise complaints received by Council.

The other major source of noise generated from commercial development is often of a transient nature, for example, when an entertainment facility, such as a cinema, closes.

### **B. Objectives**

- a) To ensure that industrial development does not adversely impact on the amenity of neighbouring residential development and other sensitive land uses; and
- b) To ensure that the amenity of development surrounding commercial development and licensed premises is not adversely impacted.

### **C. Controls**

#### **1) General**

- a) Council will not grant consent to any noise generating industrial development, commercial development or licensed premises unless it can be demonstrated that:
  - i) The development complies with the relevant State Government authority or agency standards and guidelines for noise, as well as any relevant Australian Standards;
  - ii) The development is not intrusive (as defined in the EPA's Industrial Noise Policy);
  - iii) Road traffic noise generated by the development complies with the provisions of Section 12.1 Road Traffic Noise of this Section;
  - iv) The development complies with rail noise and vibration criteria (refer Section 12.2 Rail Traffic Noise and Vibration of this Section); and



- v) The development does not adversely impact on the amenity of the area or cause sleep disturbance.

### **Noise Impact Statements - specific requirements**

- a) All development applications where the above controls are relevant are required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in the DA Submission Requirements Appendix of this DCP.
- b) The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with relevant noise criteria, as well as relevant Australian Standards.

**NOTE:** Council considers all forms of recreation facilities, as commercial development. Any applications for these land uses would be subject to the above provisions.

## **12.5. Rural Development**

### **A. Background**

Noise from rural developments, such as poultry farms, piggeries, animal boarding establishments, etc have the potential to cause significant disturbance to neighbouring properties due to the nature of the noise emitted and the times at which it occurs.

The controls below seek to reduce the noise impact of rural developments to a reasonable level.

This Section particularly focuses on the following uses:

- Dog boarding, training and breeding establishments;
- Piggeries;
- Poultry farms;
- Cattle feed lots; and
- Bird scare guns.

### **B. Objectives**

- a) To promote the acoustical amenity of rural properties by controlling noise emissions from rural development; and
- b) To reduce the exposure of properties to noise from road traffic.

## C. Controls

### 1) Dog Boarding, Training and Breeding Establishments

- a) Council will not grant consent to applications for dog boarding, training and breeding establishments unless it can be demonstrated that:
- i) The development complies with the relevant State Government authority or agency standards and guidelines for noise, as well as any relevant Australian Standards;
  - ii) The development complies with the following locational criteria:
    - Kennels are located a minimum distance of 150m from any existing dwelling or potential dwelling site;
    - Kennels, which are located 150m from existing or future dwellings, are limited to cater for 10 dogs;
    - Council may permit a proportional increase in the number of dogs as the distance from existing or future dwellings is increased, to a maximum of 40 dogs for 300m;
  - iii) Road traffic noise generated by the development complies with the provisions of Section 12.1 Road Traffic Noise of this Section;
  - iv) The development manages and mitigates noise so as to not adversely impact on the amenity of surrounding rural properties. This is to be demonstrated in a Noise Impact Statement. The DA Submission Requirements Appendix sets out the minimum requirements for a Noise Impact Statement.
- b) All development applications for dog boarding, training and breeding establishments shall also demonstrate the following noise mitigation measures in the design and management procedures:
- i) All kennel buildings to be of masonry construction, concrete floors and incorporate screening measures to adequately restrict external stimulation;
  - ii) Kennels to be separated by a solid divider of adequate height;
  - iii) Sound-proofed kennels to be provided, incorporating internal absorptive lining to reduce reverberant sound, for particularly noisy dogs. A minimum of one sound-proofed kennel shall be provided for every 10 dogs accommodated;
  - iv) Dogs to be housed and exercised singly or in compatible pairs;
  - v) Feeding to be restricted to late afternoon or early evening;
  - vi) Lights to be extinguished after evening feeding; and
  - vii) No animals permitted in the run areas between the hours of 8.00pm to 7.00am Monday to Friday and 8.00pm to 8.00am Weekends and Public Holidays.

### **Noise Impact Statements - specific requirements**

- a) All development applications for dog boarding, training and breeding establishments are required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in this DCP.

The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with relevant noise criteria, as well as relevant Australian Standards.

**NOTE:** The above noise controls should be read in conjunction with the specific development controls for dog boarding, training and breeding establishments in the Rural Land Uses Section of this Plan.

### **2) Piggeries, Poultry Farms, Cattle Feed Lots, Bird Scare Guns**

- a) Council will not grant consent of any new piggeries, poultry farms, cattle feed lots or bird scare guns unless it can be demonstrated that:
- i) The development complies with the relevant State Government authority or agency standards and guidelines for noise, as well as any relevant Australian Standards;
  - ii) Road traffic noise generated by the development complies with the provisions of Section 12.1 Road Traffic Noise of this Section; and
  - iii) The development manages and mitigates noise so as to not adversely impact on the amenity of surrounding rural properties. This is to be demonstrated in a management plan for the development.

### **Noise Impact Statements - specific requirements**

- a) Council may require a Noise Impact Statement to be submitted, depending on the scale and location of sheds or external structures to residential and other sensitive land uses. Information on the requirements of a Noise Impact Statement is provided in Appendix F3 – DA Submission Requirements of the DCP.

**NOTE:** The above noise controls should be read in conjunction with the specific development controls for piggeries, poultry farms and cattle feed lots in the Rural Land Uses Section of this Plan.

## **12.6. Open Air Entertainment**

### **A. Background**

Open-air entertainment events, such as concerts or motor racing, have the potential to significantly impact upon the amenity of surrounding areas. Consequently, these activities usually require the consent of Council.

This Section of the DCP focuses on the following uses:

- Motor sport;
- Open air concerts; and

- Sporting activities.

## **B. Objectives**

The objective of this section is to minimise the likelihood of disturbance to the surrounding community as a result of open air entertainment or outdoor facilities.

## **C. Controls**

### **1) Motor Sport**

- a) Council will not grant consent to a motor sport event unless it can be demonstrated that the motor sport event or facility will operate between the following hours:
  - i) Monday to Friday – 7.00am to 10.00pm;
  - ii) Weekends and Public Holidays – 8.00am to 10.00pm; and
  - iii) The event occurs only once in a twelve month period.
- b) Council will not grant consent to a motor sport event unless it can be demonstrated that the event or facility will operate within the following criteria:
  - i) LAeq noise level not exceeding 55 dBA when measured in the immediate vicinity of the external structure of any residential premises; and
  - ii) The maximum noise level when measured at 30 metres from any vehicle shall not exceed 95 dBA.

### **2) Open Air Concerts**

- a) Council will not grant consent to open air concerts unless it can be demonstrated that the concert will operate within the following criteria:
  - i) The LAeq noise level measured over any 5 minute period during the broadcasts of amplified music does not exceed 55 dBA when measured in the immediate vicinity of the external structure of any residential premises; and
  - ii) The event is completed by 10.00pm.
- b) In cases of special cultural or social significance, Council may permit an exceedance of the above criteria subject to the preparation of a Noise Impact Statement which must address the following:
  - i) Stage orientation;
  - ii) Fold back monitors;
  - iii) Speaker stack height; and
  - iv) Location, orientation and implementation of noise control measures.
- c) In these special cases, all open air entertainment must operate so that:

- i) The maximum permissible noise level measured in the immediate vicinity of the external structure of the nearest and most potentially affected residential premises does not exceed 70 dBA LA<sub>max</sub>; and
- ii) A warning is issued to the mixing desk when the maximum level reaches 65 dBA at the nearest or most potentially affected residential premises.

### **3) Outdoor Sporting Activities**

- a) Outdoor sporting activities are to operate between the hours of:
  - i) Monday to Friday – 7.00am to 6.00pm; and
  - ii) Weekends and Public Holidays – 8.00am to 6.00pm.
- b) Outdoor sporting activities are permitted provided the LA<sub>eq</sub> noise level, measured over a representative period, does not exceed the background LA<sub>90</sub> sound level by more than 10 dBA when measured in the vicinity of the external structure of any residential premises.

### **4) Noise Impact Statement - specific requirements**

- a) Council may require a Noise Impact Statement to be submitted, depending on the scale, nature and location of the development to residential areas and other sensitive land uses. Information on the requirements of a Noise Impact Statement is provided in the DA Submission Requirements Appendix of the DCP.

## **12.7. Vibration and Blasting**

When development may have a vibration impact on neighbouring premises, a Vibration Impact Assessment is to be prepared by a suitably qualified consultant and submitted with the development application. This assessment is to be carried out with consideration of the *Assessing Vibration: a technical guideline* (Department of Environment and Conservation NSW, 2006) and demonstrate that there will be no impact or recommend suitable mitigation measures.