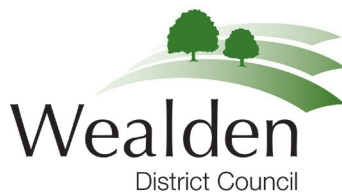


Planning Noise Advice Document: Sussex

July 2015



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Glossary of Terms

Ambient Noise	Totally encompassing sound in a given situation at a given time composed of sound from all sources near and far.
Background Noise	Is the ambient noise, in the absence of the noise under investigation, measured using time weighting “F”, that is equaled or exceeded for 90% of the measurement time interval. Expressed as LA90,T, where “T” refers to the measurement time interval in minutes.
dB(A)	The noise level in decibels, a measure including a correction for the sensitivity of the human ear defined in the International standard IEC61672:2003 and various national standards relating to the measurement of sound level. Measurements in dB(A) broadly agree with people’s assessment of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions, and a change of 10 dB(A) corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB(A); normal conversation about 60 dB(A) at 1 metre; heavy road traffic about 80 dB(A) at 10 metres; the level near a pneumatic drill about 100 dB(A).
LA90, T	This is the noise level exceeded for 90% of the measurement period. Often referred to as the background noise level.
LAm_{ax}, T	This is the maximum recorded sound pressure level within the relevant time interval (t).
LA_{eq}, T	This is the equivalent continuous A weighted sound pressure level and is the level of a notional steady sound which has the same acoustic energy as the fluctuating sound over a given time period. It often used as a measurement of environmental noise.
LA10, T	This is the noise level exceeded for 10% of the measurement period.
Local Planning Authority (LPA)	A local planning authority is the local authority (usually the District, Borough or City Council) that is empowered by law to exercise statutory town planning functions for a particular area of the United Kingdom. In Sussex, the two County Councils are the Planning Authorities for waste and minerals planning applications for their areas. The South Downs National Park Authority is the Planning Authority for its area.

Modelling	The process of generating abstract, conceptual, graphical and/or mathematical models.
Noise	This was defined in the Wilson report published in 1963 as ‘unwanted sound’. Noise includes vibration, except where the context indicates otherwise. Sound is a periodic fluctuation in pressure, typically in air. Noise is classified as a pollutant in the European Directive on Integrated Pollution Prevention and Control.
Noise climate	General description of existing noise levels in respect to a particular area.
Noise generating	A development that has the potential to create a negative noise development impact on sensitive receptors.
Noise sensitive receptor	Any dwelling, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity, which may be susceptible to noise.
Rating Level	The noise level of an industrial noise source which includes an adjustment for the character of the noise. Used in BS4142: 2014.
Tonality	Whilst tonality can be judged subjectively, it is often useful to measure it. This can be achieved through 1/3rd octave band or by narrow band analysis. The level differences between adjacent one third octave bands that identify a tone are: - 15 dB in the low frequency one third octave bands (25Hz to 125 Hz); - 8 dB in the middle frequency one third octave bands (160 Hz to 400 Hz); - 5 dB in the high frequency one third octave bands (500 Hz to 10,000 Hz). The Standard used within an objective method for assessing the audibility of tones in BS4142: 2014 is “ISO 1996 Acoustics – Description, measurement and assessment of environmental noise – Part 2: Determination of environmental noise levels”.

Quick reference guides – Is a Noise Report Required?

Table 1. NEW NOISE SENSITIVE USES

Type of development		Noise Report required?	Comments	
New residential development and extensions to existing residential dwellings (C3 and C4 use classes)	Close to a major highway (motorways, A-class & major B roads)	YES	Noise report will normally be required for residential development in close proximity to a major road. A noise report will not be required when average noise levels fall below 55dBA LAeq16hr.	
	Near to a railway	YES	Noise report will normally be required for any property within several hundred meters from a major railway line. A noise report is unlikely to be required when average noise levels fall below 55dBA LAeq16hr.	
	Within the predicted 57dB contour of an airport with both a single or twin wide spaced runway	YES	Noise report will normally be required. Noise reports can be found via the DfT website.	
	10+ houses in a rural/ suburban environment	MAYBE	In certain circumstances, a noise report will be required. Please consult with Environmental Health Department.	
Change of use to residential		MAYBE	Noise report may be required, for example if there are existing noise sources in close proximity. Please consult with the LPA.	
Hotels, guest houses, etc (C1 uses)		MAYBE	It is the responsibility of the developer to ensure hotel rooms meet reasonable noise standards. However, if the hotel/ guest house includes permanent residential accommodation for staff, a noise report may be required.	Hotels, guest houses and residential institutions can also present a new noise source. Consequently, if such a development is proposed in close proximity to existing residential uses, a noise report may be required.
Residential institutions: C2 uses (care homes, hospitals, nursing homes, residential colleges, etc), and C2a uses (secure residential institutions including prisons, secure hospitals)		MAYBE		

Table 2. NEW/ ADDITIONAL NOISE SOURCES

Type of development	Noise Report required?	Comments
INDUSTRIAL TYPE USES (e.g. B2 general industrial uses, B8 storage or distribution uses, Waste management sites, Minerals development, access roads & haul roads)	YES	Noise report will normally be required. Please consult with LPA if there are no existing noise sensitive premises in close proximity. Includes new development and changes of use. Also includes changes in operations or layout, extensions or new equipment at existing sites.
ENTERTAINMENT/ FOOD & DRINK, ETC (e.g. A3 uses - restaurants/ cafes, A4 - drinking establishments, A5 - hot food takeaways, D2 uses e.g. cinemas, concert halls, swimming baths, sports halls. Also nightclubs, casinos, theatres, amusement centres).	YES	Noise report will normally be required. Please consult with LPA if there are no existing noise sensitive premises in close proximity. Includes new air handling units, extractor fans, air-conditioning and chiller units at existing sites. The noise impact of car parking should also be considered.
OUTDOOR SPORTS & RECREATION Including some D2 class uses, also multi-use games areas, motor sports and shooting ranges.	YES	Noise report will normally be required.
COMMERCIAL USES A1 and A2 uses (shops and financial/ professional services, etc)	MAYBE	Noise report will normally be required in the following circumstances: - The application involves the introduction of new uses and the development is greater than small scale (e.g. a new supermarket or several shops, a new office block/ industrial estate, a new school/ library), or - The application includes new air handling units, extractor fans, air-conditioning, chiller units, etc, or - The development would involve activities during unsociable hours (including deliveries), or - The development would involve particularly noisy activities (including during construction) or is proposed in particularly close proximity to noise-sensitive premises.
OFFICES, ETC B1 uses (including offices, light industry)	MAYBE	
NON-RESIDENTIAL INSTITUTIONS D1 uses (non-residential institutions, e.g. day centres, schools, libraries, places of worship, training centres)	MAYBE	
OTHER Other Sui Generis uses, e.g. petrol filling stations, launderettes, taxi businesses	MAYBE	
TRANSPORT SCHEMES e.g. new roads, rail, port and airport development, including extensions/ alterations to existing schemes	YES	Early consultation with the Local Planning Authority/Environmental Health department would be expected.
WIND TURBINES	YES	Early consultation with the local planning authority/ environmental health department would be expected. Micro wind turbines may not require planning permission, however in some cases they may cause a statutory noise nuisance to neighbours. Please contact the Environmental Health Department.

How to find the relevant sections of the document

	Type of development	Relevant section(s) of document
NOISE SENSITIVE USES	Residential	- 1.2 (basic principles) - 1.3 (noise reports) - 5 (new noise sensitive developments)
	Hotels, guest houses, etc	- 1.2 (basic principles) - 1.3 (noise reports) - 5 (new noise sensitive developments)
	Residential Institutions	- 1.2 (basic principles) - 1.3 (noise reports) - 5 (new noise sensitive developments)
POTENTIAL NEW NOISE SOURCES	Industrial type uses (e.g. B2, B8, waste and minerals development)	- 1.2 (basic principles) - 1.3 (noise reports) - 2 (industrial and commercial noise sources)
	Entertainment uses, food and drink, etc (e.g. A3, A4, A5, D2 uses)	- 1.2 (basic principles) - 1.3 (noise reports) - 3 (entertainment premises) - 2.3 (extraction units, etc)
	Outdoor sports and recreation	- 1.2 (basic principles) - 1.3 (noise reports) - 4 (outdoor sports & recreation)
	Commercial uses (e.g. A1 and A2 uses)	- 1.2 (basic principles) - 1.3 (noise reports) - 2.3 (extraction units, etc)
	Offices, light industry	- 1.2 (basic principles) - 1.3 (noise reports) - 2.3 (extraction units, etc)
	Non-residential institutions (e.g. clinics, crèches, day nurseries, day centres, schools, libraries, places of worship)	- 1.2 (basic principles) - 1.3 (noise reports) - 2.3 (extraction units, etc)
	Other Sui Generis uses, e.g. petrol filling stations, launderettes, taxi businesses	- 1.2 (basic principles) - 1.3 (noise reports) - 2.3 (extraction units, etc)

1. Introduction

1.1. Aims and Objectives

- 1.1.1. The aim of this document is to provide advice for developers and their consultants when making a planning application in East and West Sussex. The document seeks to complement the Noise Policy Aims set out in the Noise Policy Statement for England (2010), namely to:
 - avoid significant adverse impacts on health and quality of life
 - mitigate and minimise adverse impacts on health and quality of life, and
 - where possible, contribute to the improvement of health and quality of life.
- 1.1.2. This is an advice document only, for information on planning policy please refer to relevant local planning policy, the National Planning Policy Framework (2012) and the National Planning Policy Guidance. Please also note that the need to meet noise standards does not necessarily overrule other material planning considerations (eg. some proposed noise mitigation measures may cause an unacceptable visual impact). If in doubt, please talk to the Local Planning Authority.
- 1.1.3. In particular, the document aims to:
 - I. Offer clear and consistent guidance to developers on the level of information that will be required to be submitted with planning applications for noise generating developments or noise sensitive developments, including guidance on when it is appropriate to submit a noise report and the expected contents of such a report.
 - II. Ensure better regulation by setting out existing standards that should be referred to in undertaking noise assessments, and applying these existing standards consistently in planning decisions.
 - III. Highlight the points that need to be considered and addressed prior to making a planning application and therefore minimise any potential delays to the decision making process.
- 1.1.4. This document will not cover all variables. Therefore, it's expected that the applicant or their representative will have a pre-application discussion with the Local Planning Authority (LPA) and/ or the local Environmental Health team. Please note that some LPAs will charge for pre-application advice.
- 1.1.5. It is intended that the document will be updated from time to time to take account of any new standards/ information/ policy.
- 1.1.6. The basic principles expected for all developments are described below, followed by more detailed objectives aimed specifically at new noise sources and new noise sensitive developments.
- 1.1.7. Throughout this document, Standards and Codes of Practice are referred to. These are detailed and referenced at Annex 1.

1.2. Basic Principles

“Well designed buildings and places can improve the lives of people and communities”

(National Planning Policy Framework, paragraph 8).

- 1.2.1. Any development proposal should follow the basic principles of noise control set out below, which are to separate noise sources from sensitive receptors, then to control the noise at source and finally to protect the receptor:
 - I. Separation of noise source from receptor: Any application likely to result in a noise source being located near an existing, permitted or allocated noise sensitive receptor (i.e. a residential area, school or hospital), whether as a result of a proposed new noise source, or a proposed new noise sensitive receptor, will need to demonstrate that there will be no unacceptable noise effect on sensitive receptors, and that all steps have been taken to reduce any adverse effects. If the development is likely to result in adverse noise levels, the developer should first consider whether there are alternative site locations which are more suitable.
 - II. If no alternative site is available then the applicant will need to demonstrate that all reasonable steps have been taken to reduce the impact of the noise. This should include consideration of the most appropriate positioning and orientation of the noise source/ sensitive receptor within the chosen site boundary.
 - III. If all reasonable steps have been taken to reduce the impact of the noise but the development is still likely to lead to adverse effects, then adequate mitigation should be employed. Appropriate mitigation could include changes to the site layout, a noise management plan, the construction of noise barriers, and as a last resort, the insulation of buildings.
- 1.2.2. Noise that could arise from demolition and construction activities should also be considered in developing the proposal and best practice should be adopted at all times, as prescribed in BS 5228-1:2009+A1:2014.

1.3. Noise Reports

- 1.3.1. In certain circumstances the applicant will be required to supply a noise report in support of their application. This section outlines the basic requirements for such a report and sets out when it will be required. It also details the requirements of the report, depending on the type of development being planned.
- 1.3.2. The noise report should give accurate, clear and relevant information about the existing noise environment, and the likely impact of the proposed development. A report lacking vital information or containing misleading information may ultimately delay the whole planning process, whilst clarification or further information is sought.

- 1.3.3. The table provided in Annex 1 provides a list of appropriate national and international standards for most types of noise and provides a quick overview of the criteria set out in those documents. This aims to help the developer decide which standards will be most appropriate for each development, but it is recommended that copies of the relevant standards are obtained and referred to in full. You may wish to consult with the local authority regarding the standards you intend to use and the approach you wish to take at an early stage.
- 1.3.4. The report should follow recommended methodologies laid out in the appropriate standards. Any departure from those methodologies should be clearly explained, with the reasons clearly stated.
- 1.3.5. The noise report should contain some or all of the following:
 - I. Details of the author, their qualifications, the noise equipment used and details of latest calibration.
 - II. A detailed description of the proposal including the layout of the proposed development in relation to the existing neighbourhood. It should highlight the proximity of any noise sources to noise sensitive receptors, giving distances as necessary. This should be illustrated on a scaled plan.
 - III. Details of the existing noise climate and context in that location prior to development. The size and scale of the background assessment should reflect the nature of the development. The choice of location and duration for measurements should be explained in the report.

The scope of the noise report should be agreed with the local authority. Otherwise there is a risk that a development may incur a delay and/or additional costs later on if the correct information isn't provided to enable the Local Planning Authority to determine a planning application.

- 1.3.6. For a new noise sensitive development near an existing source of transport noise (road, rail, ports or aircraft) the LAeq (16hr day and 8hr night), or the shortened calculation method, should be measured, as agreed. In addition, suitable shorter term LAeq, LA90, LA10 and LAm_{ax} would be expected to give a clearer picture of the existing noise environment. This could also apply to extensions/ alterations to existing development.
- 1.3.7. For a new noise sensitive development next to a commercial noise source, where practical, each existing potential noise source would need to be measured separately and details provided of the hours of operation, the LAeq, the tonality, character, impulsivity and/or intermittency of the noise (see BS4142) and the hours of occurrence. The existing background noise level (LA90) will also have to be measured with and without the commercial noise sources in operation. This could also apply to extensions/ alterations to existing development.

- 1.3.8. For a new noise source being introduced near existing noise sensitive premises then an ambient and background noise survey (LA90) should cover the times when the proposed development will be in operation. The expected levels and duration of all the potential noise sources likely to be in operation from the proposed development, whether measured or predicted, should be provided with details of tonality, character, impulsivity and/or intermittency of each noise (e.g. BS4142). This could also apply to extensions/ alterations to existing development.
- 1.3.9. Background noise monitoring can create a large volume of information. The analysis and interpretation of this data should be set out within the report. The raw data should also be included as an appendix.
- 1.3.10. Background noise levels can be affected by a range of factors such as wind speed and surrounding foliage. It's important to measure the most appropriate and representative background noise levels, and explain their selection and context (eg. when wind speeds are less than 5ms^{-1}), except where a proposal for wind turbines is being assessed
- 1.3.11. Once the expected impact of the proposed development has been assessed and if it has been shown that mitigation is required, the report should identify all methods of noise control and mitigation available to reduce the impact to an acceptable level (including the calculations of the expected reduction in decibels). All appropriate methods of mitigation should be considered and an explanation of why each method has been chosen or dismissed should be provided, to demonstrate that all reasonable steps have been taken to manage noise.
- 1.3.12. In certain circumstances, monitoring may be required after the development has been completed in order to demonstrate that the development complies with any relevant noise limit.
- 1.3.13. The next part of the document will consider some of the most common broad types of development:
 - Industrial and commercial development
 - Entertainment premises
 - Outdoor sports and recreation
 - New noise sensitive development.

2. Industrial and Commercial Noise Sources

2.1. Scope

- 2.1.1. The scope of this section covers noise sources of an industrial and commercial nature. It refers to those noise sources which would be covered by BS 4142:2014, such as noise from factories, industrial processes and fixed installations such as air conditioning units and compressors. It also covers some aspects of waste and minerals developments (see Annex 1 for standards applicable to waste and minerals sites).

2.2. Guidelines and Criteria

- 2.2.1. The starting point for designing any industrial/ commercial development should be to minimise noise “as far as reasonably practicable”. The rating level of the plant/process, when measured in accordance with BS4142:2014, should, where practicable, be no greater than the existing background levels when measured in accordance with BS4142:2014. There may be instances, for specific sites, where a rating level below background is deemed appropriate. This can be determined through prior discussion with the Local Planning Authority or Local Environmental Health Department. For example, a rating level of 10 dBA below background may be required in certain instances if there are specific concerns such as the potential for noise creep. It is considered that meeting these criteria would avoid adverse noise impacts, in the interests of ensuring a good standard of amenity and protecting human health. Where these criteria are not attainable, the noise report should explain why, and how best practicable means will be implemented to control noise in order to satisfy the LPA that the development is acceptable.

2.3. Information required to support a planning application

- 2.3.1. New noise generating developments may vary greatly in size and scale. Advice should always be sought from the LPA if it is unclear whether the development requires a comprehensive noise report, but as a general rule the following should be considered where sensitive receptors could be affected:
- Larger scale developments or those including noisy site plant, which are to be located near to noise sensitive receptors will generally require a noise report, following the advice given in section 1.3.
 - Small scale developments, such as a single extraction unit or air conditioning unit may not always require a noise report, however in order to help the LPA to decide whether it is likely to conform to a required noise level, the following information should be submitted to the LPA prior to the submission of the formal planning application.
 - The proposed hours and days of operation, and hours of use of any potentially noisy equipment.

- The sound power levels of the equipment/plant to be installed or sound pressure levels at a specified distance, in decibels dB(A), from the equipment (which can be obtained from manufacturer's specifications).
- Details of where the equipment will be placed i.e. within or outside of the building, marked on to a scale plan.
- Details of silencers to be fitted, and other sound insulation measures to reduce any noise impacts on neighbours including their noise reduction in dB(A).
- Distance away from noise sensitive receptors and the nature of these premises (e.g. offices, houses or flats).

2.3.2. Consideration of the above information will help the LPA determine whether a full noise report will be required to be submitted with the planning application.

2.3.3. Whether basic information is deemed to be sufficient or a full noise report is needed, accurate prediction of the impact from the new noise source is vital and therefore robust and realistic data should be used. Manufacturers' data sheets will normally provide the sound power level for new equipment or plant. Data can also be obtained from measurements taken from identical plant at a similar facility. Where there is a degree of uncertainty this should be explained clearly to ensure transparency.

2.4. Prediction Methods/Modelling

2.4.1. There are a range of prediction and modelling tools available for determining the impact from new industrial noise sources. Where they are to be used, the method should be discussed and considered against current standards and practices. Information including details of inputs and calculations used, plus any assumptions made within the modelling/prediction exercise, should be explained clearly, and uncertainty discussed.

2.4.2. Modelling and predictions should be undertaken in two stages: with and without mitigation. For instance, if particularly noisy plant is likely to be used, then predictions should be made for both the untreated plant and with attenuation measures in place.

2.4.3. The receptors used for the modelling should coincide with background monitoring locations. Where they do not, a detailed rationale should be provided.

3. Entertainment Premises

3.1. Scope

- 3.1.1. This chapter is a guide to the noise issues associated with premises used for public entertainment, including clubs, pubs, bars, restaurants and other recreational uses such as wedding venues and conference facilities.
- 3.1.2. Most of these types of premises will also require a Premises License (Licensing Act 2003) and the applicant should approach the Licensing Authority as early as possible to ensure that the proposed final use of the premises complies with their Licensing Policy.
- 3.1.3. Planning permission, building control approval and licensing regimes are required to be properly separated in order to avoid duplication and inefficiency (Home Office Amended Guidance issued under the amended guidance under Section 182 of the Licensing Act 2003, published June 2013). The planning and licensing regimes involve consideration of different (albeit related) matters. Licensing committees are not bound by decisions made by a planning committee, and vice versa.
- 3.1.4. There may be circumstances when as a condition of planning permission, a terminal hour is set for the use of premises for commercial purposes. Where these hours are different to the licensing hours, the applicant must observe the earlier closing time. Premises operating in breach of their planning permission would be liable to prosecution under planning law.

3.2. Design Criteria

- 3.2.1. People living near to places of entertainment have a right to enjoy reasonable standards of amenity. To protect that amenity, the LPA must be satisfied that the applicant has successfully addressed the issue of noise control.
- 3.2.2. It is likely that most planning applications for these types of premises will require a noise report. The level of detail required will depend on the location (i.e. the proximity to noise sensitive premises) and the nature of the proposed use. Early consultation with the local authority is strongly recommended.
- 3.2.3. To satisfy the LPA that the development is acceptable, the applicant should usually be able to demonstrate that the following criteria can be achieved:
 - Where regular use of the proposed premises is planned, any amplified sound (including music and speech), should be inaudible within any nearby noise sensitive premises with or without one or more windows open.
 - Any other noise sources associated with the premises, such as patron noise, should also be inaudible inside residential properties.
 - If the noise report indicates that the above criteria would not be achievable, the development may still be considered but subject to restrictions on the hours of operation and/or frequency of use of the premises.

3.3. Considerations

3.3.1. To protect local amenity the following should be considered:

- The volume of amplified sound (especially low frequency or bass music).
- The location and nature of plant and equipment associated with licensed premises e.g. air conditioning systems and extractor fans, especially at night.
- Noise from patrons outside the venue, either queuing to enter, using external seating areas, smoking or departing.
- Ancillary activities associated with the premises e.g. deliveries, bottle recycling.

These will be detailed further, below.

3.3.2. The premises should be designed and constructed with an adequate level of insulation so that the music or noise from patrons does not materially impact on the amenity of those living in the surrounding properties. The louder the proposed music, the more robust the structure will need to be. If the structure is not robust then there may be a requirement for physical controls on the actual level of amplified or live music, which could include the use of noise limiters or other electronic devices.

3.3.3. Where the proposed development shares a party wall or floor or is structurally connected to adjoining residential dwellings or other noise-sensitive premises, particular attention should be given to structure-borne noise and vibration. Full details of potential impacts and how these have been mitigated should be provided with the planning application.

3.3.4. Doors and windows will often need to be kept closed to prevent the break out of noise from the premises and therefore, alternative forms of ventilation and air-conditioning may be required. The main entrance to the premises is often a cause for noise breakout as customers arrive and depart, and an acoustic lobby may be required. Clearly, the requirements of Building Regulations in terms of safety need to be considered.

3.3.5. External seating areas and smoking areas in close proximity to neighbouring residents are often a cause for complaint, especially during the evening and night time periods. The location and nature of the premises will dictate the size of any seating area and the hours of use. There will be a need to identify a designated smoking area and provide details of how noise from patrons using that area will be controlled. Potential impacts arising from the arrival and dispersal of patrons from the premises should also be considered. This could include private vehicles, taxis and mini-cabs and groups of patrons congregating outside the premises, especially late at night.

3.3.6. Details of how and when ancillary activities such as deliveries, waste collections and bottle recycling will be carried out should be supplied, together with an assessment of their relative impact.

- 3.3.7. The location and use of kitchen extraction systems, air-conditioning units and refrigeration plant will also need to be considered. The predicted noise levels of such plant should be provided together with details of any additional noise attenuation works to ensure the design criteria is achieved for the proposed times of use. With regards to noise from any plant, including air conditioning units, refrigeration units or extraction/ventilation system, please refer to paragraph 2.2.1.
- 3.3.8. If noise impacts are likely to arise from the arrival and dispersal of patrons, the use of designated smoking areas and external seating areas, or deliveries and collections; then there may be a requirement to produce a Noise Management Plan which states how the impacts of these activities will be controlled.

4. Outdoor Sports and Recreation

4.1. Scope

- 4.1.1. This section covers sport and leisure activities which take place outside, such as clay target shooting, off road motorcycle sports and model aircraft flying, as well as the use of multi-use games areas (MUGAs), all weather pitches (AWPs) and skate parks.

4.2. Considerations

- 4.2.1. In some circumstances, the noise levels generated from these types of activities are likely to be higher than would normally be accepted for other development consents, such as industrial processes, because of the characteristics of the noise generated, the controls that are possible, and the pattern of use.
- 4.2.2. For these activities, the LPA will need to take account of how frequently the noise will be generated and how disturbing it will be. Therefore, clear details of the proposed development are crucial.
- 4.2.3. It is common for these types of activities to take place in suburban and rural locations, where existing ambient noise levels can be very low and therefore, such activities can greatly impact on surrounding amenity. The selection of suitable sites is very important and care should be taken at an early stage to ensure that the chosen location is appropriate

4.3. Codes of Practice

- 4.3.1. Some of the more common recreational activities have associated Codes of Practice. While these Codes of Practice do not have the force of law, they do provide important guidance on likely noise impacts and advice on setting suitable controls.
- 4.3.2. Any noise report required to assess likely noise impact should properly consider any relevant Codes of Practice.
- 4.3.3. Current Codes of Practice are listed in Annex 1.

4.4. Multi Use Games Areas (MUGAs)

- 4.4.1. Currently, there are no Codes of Practice for controlling noise from MUGAs. Planning applications for such facilities can give rise to a range of amenity concerns, especially noise, particularly where they are proposed in residential neighbourhoods. Noise impacts from MUGAs can vary depending on a number of factors including the location, design, and size of the facility and the level of use. Consequently, early guidance should be sought from the LPA. It's recommended that a Noise Management Plan is submitted with planning applications for MUGAs, covering issues such as community liaison, complaints procedures, student briefings and preventing unauthorised use.

- 4.4.2. On flat terrain sites, landscaping, mounding and noise barriers can be used to mitigate noise breakout and floodlight spillage.
- 4.4.3. In noise sensitive locations, the materials chosen and the design should be strongly influenced by noise reduction considerations. Fences should be fixed to support posts to prevent excessive movement of fencing, and rubber damping pads could be considered.
- 4.4.4. Consideration of the above points is vital as controlling noise levels from the use of such developments can be difficult. It is therefore important to provide as much information of the proposed use and expected noise impact on the neighbouring noise sensitive premises (both indoors and outdoors). Short and long term LAeq, LAmax, LA90 and LA10 would be appropriate indices for this purpose.
- 4.4.5. Sport England guidance on the design and construction of MUGAs is available on Sport England's website.

5. New Noise Sensitive Developments

5.1. Scope

- 5.1.1. The guidance in this chapter relates to residential developments only. Schools and hospitals should be judged against appropriate existing standards such as Building Bulletin 93: Acoustic Design of Schools, A Design Guide and the Health Technical Memorandum 56.

5.2. Determining Site Suitability

- 5.2.1. In determining the suitability of the chosen site and the layout and design of the development, the applicant should have regard to the basic principles of noise control detailed in Section 1.2 of this document. The developer should be aware of, and may wish to have regard to the Environmental Noise Directive (END) noise maps, to identify where people are already exposed to high levels of noise (see: <http://services.defra.gov.uk/wps/portal/noise>).
- 5.2.2. As with all planning applications, regard should be had to the National Planning Policy Framework and the National Noise Planning Guidance in developing the proposal. The LPA will be able to provide information about any relevant locally set noise limits or standards for new noise-sensitive development. This may be detailed in the relevant Local Plan.

5.3. Criteria for requiring a Noise Assessment

- 5.3.1. Where new noise sensitive premises are proposed on a site which is likely to experience noise from transport sources or other sources, such as industrial development (see section 5.6), the LPA is likely to require a noise assessment. As a guide, this is likely to include all sites located near to a motorway, dual carriageway, major A road, railway lines or airport/airfield and ports.
- 5.3.2. It is important to note that this is only a guide and other locations may also need to be considered. For example, some B roads may have a higher than average traffic load and could generate high levels of road noise. These will need to be considered on a case by case basis and early discussions are recommended.
- 5.3.3. The noise assessment should be carried out to help determine the suitability of the site, the number of units and the type of accommodation to be built, as well as the final layout and design of the units.
- 5.3.4. It is important, therefore, that wherever possible, the noise assessment is carried out at the pre-application stage and used to inform the site design and layout, which should be discussed with the LPA.

5.4. Assessment Methodology

- 5.4.1. The methodology for carrying out the assessment should follow the advice set out in Section 1.3 along with the following considerations.
- 5.4.2. Road traffic and rail calculation methodologies are detailed in the Control of Traffic Road Noise (CTRN) and Control of Rail Noise (CRN)..
- 5.4.3. The size of the development and proximity to the noise source will determine the preferred methodology and length of monitoring required.
- 5.4.4. Any calculations should be made against future road traffic predictions, as well as current levels (See CTRN). Additional shorter term LAeqs would be appropriate to identify noisier periods when the impact from noise will be greater.
- 5.4.5. Night time noise monitoring will be expected.
 - Night time periods can see an increase in HGV movements on roads, which can affect the expected drop in dB levels.
 - Consideration should be had to the influence of individual LA max levels which can only be obtained by measurement using short 5 minute periods. If the noise climate is made up of a large number of isolated events then LA1 data would be expected.
 - Road texture, speed and gradient, plus existing noise barriers and land topography can greatly influence the noise levels.
- 5.4.6. Therefore, the prediction of night time noise levels using calculation methods only will normally be rejected unless strong evidence is provided to show the method is robust and accurate.
- 5.4.7. Appropriate computer models showing noise contours across the entire site and the proposed facades would be viewed as preferable.
- 5.4.8. Predictions/calculations should also be carried out at 1st/2nd/3rd floor heights where appropriate. This needs to be considered alongside appropriate ventilation, notably in areas where the air quality is poor.

5.5. Design Criteria for Noise Sensitive Development

- 5.5.1. Where the noise assessment has shown that habitable rooms will be exposed to noise levels likely to give rise to any adverse impact, noise mitigation will be required.
- 5.5.2. Design control measures should aim to meet the recommended standards set out in table 4 of BS 8233:2014 and the night time LA_{max} level recommended in the WHO's Night Noise Guidelines for Europe (2009), unless there are particular reasons why this is not considered appropriate. In such cases, a clear explanation of the reasons should be provided.
- 5.5.3. While it is acknowledged that noise mitigation measures can be used in a lot of cases to achieve suitable internal levels, it is important that preference is given to criteria based on windows being partially open. If it is not possible to achieve suitable internal levels with the windows opened then details of alternative ventilation must be supplied.
- 5.5.4. The advice set out in the BRE document 'Sound Control for Homes' (1993) should be considered.
- 5.5.5. Specific points for consideration include:
 - Provide appropriate distances between noise sensitive developments and noise sources;
 - Land zoning to separate noisy uses from noise sensitive uses, for example, avoiding the siting of children's playing areas next to accommodation for the elderly;
 - Careful orientation of building layout, such as at right angles to the noise source;
 - Introduction of single aspect buildings;
 - Internal layout of dwellings, through the location of non-habitable rooms such as bathrooms, kitchens and circulation areas as buffers between the noise source and habitable rooms;
 - Screening by non-noise sensitive structures or barrier blocks such as garages and walls;
 - The introduction of acoustic screening such as bunding/embankments, fencing and walling;
 - Protection of external residential amenity areas by positioning them towards the centre of the development sites.
- 5.5.6. The submission of details of layout and design should be supported by a scheme showing details of mitigation techniques. Computer modelling which shows the impact of the design measures should be produced. See paragraph 2.4 for information on prediction methods and modelling.

5.6. New Noise Sensitive Developments near to existing Industrial/Commercial noise sources

- 5.6.1. Careful consideration will need to be given to proposals that are likely to site new noise sensitive developments near to existing industrial, commercial, entertainment premises ports and airports.
- 5.6.2. There is no protection offered in law to existing premises, from nuisance complaints made by new residents. This may result in formal action being taken against these premises if a statutory nuisance is established.
- 5.6.3. Therefore, in general, where it is apparent to the LPA that existing noise from an existing industrial, commercial, entertainment premises, ports and air ports is likely to cause disturbance or a statutory nuisance to new residents, the development is unlikely to be supported unless clear evidence can be shown that adequate noise attenuation to the existing noise sources can and will be provided.
- 5.6.4. In some circumstances, legal agreements can be entered into, whereby the developers provide the necessary measures to attenuate the existing noise through adequate sound proofing or re-locating of the noise source.

6. Transport Schemes

6.1. Scope

- 6.1.1. This section covers noise from additional vehicle movements likely to be generated by new development (eg. new commercial and industrial sites, entertainment premises and so on), and stand-alone transport schemes (eg. significant changes to existing roads and new road developments).

6.2. Guidelines and criteria

- 6.2.1. The Department for Transport's Design Manual for Roads and Bridges (DMRB) Volume 11 Section 3 sets out a method for evaluating both the immediate and long term impact of changes in the 18-hour traffic flow (06.00 – 24.00) on noise sensitive receptors and the information to be provided for different types of schemes. It also sets out the noise criteria to consider, namely whether there is likely to be a change in:
- noise level of 1 dB $LA_{10,18h}$ or more in the short-term or 3 dB $LA_{10,18h}$ in the long-term at any sensitive receptor within the study area.
 - noise level of 3 dB $L_{night,outside}$ or more in the long term at any sensitive receptor within the study area where an $L_{night,outside}$ greater than 55 dB is predicted.

6.3. Information required to support a planning application

- 6.3.1. The DMRB sets out the indices to use, the way to assess predicted noise levels, the effect of mitigation measures, and the information to be provided for different levels of noise assessments. Always check the Department for Transport's website for the most up-to-date guidance (see:

<http://dft.gov.uk/ha/standards/dmr/vol11/section3.htm>).

7. National Planning Policy Guidance

Table 3, taken from the NPPG (December 2014), provides a guide as to how to assess whether noise from a development needs to be mitigated or a development might be refused planning permission because of noise:

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
		Lowest Observed Adverse Effect Level	
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
		Significant Observed Adverse Effect Level	
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Note: NPPG is periodically updated, therefore please check that you have the most recent version (see: www.gov.uk/).

Annex 1

Summary of key information from relevant national and international standards and guidance documents

The following national and international documents provide further technical advice and guidance which should be referred to when making your application.

Development category	Type of development	Relevant standards (see reference list below for full details)	Recommended noise thresholds (dB) at the nearest noise sensitive properties
All types of development	This standard is relevant to all categories of noise assessment for any development.	ISO 1996 Parts 1, 2 & 3	N/A.
Construction sites	All construction sites	BS 5228-1:2009+A1:2014	Apply tables E.1 & E.2 of BS 5228.
Entertainment premises	Clubs, pubs, bars, places of entertainment & other recreational uses	Relevant Local Authority Licensing Policy. CoP on Control of Noise from Pubs and Clubs: IOA 2003.	Any amplified sound (including music and speech) will be inaudible within any nearby noise sensitive premises with or without one or more windows open.
Medical sites	New build or extensions that require planning permission	BS 8233:2014. WHO (2009).	Apply the indoor ambient noise levels in Tables 4 and 6 of BS 8233.

Development category	Type of development	Relevant standards (see reference list below for full details)	Recommended noise thresholds (dB) at the nearest noise sensitive properties
Industrial & commercial sites & plant	Factories, industrial premises, fixed installations, or sources of an industrial nature in commercial premises	BS 4142: 2014 BS 8233: 2014 WHO (2009) DMRB (2011) Defra: 2005	1) The rating level of the plant should, where practicable, be no greater than the existing background levels, when measured in accordance with BS4142. 2) Where background levels are very low, discussions should be had with the LPA on the objectives to be agreed. 3) Apply the indoor ambient noise levels in Tables 4 and 6 of BS 8233.
Mineral sites	All mineral extraction sites	BS4142:2014. WHO (2009).	1) The rating level of the plant should, where practicable, be no greater than the existing background levels, when measured in accordance with BS4142. 2) Where background levels are very low, discussions should be had with the LPA on the objectives to be agreed.
Residential development	New houses, extensions, flats and house conversions that require planning permission	BS 8233:2014 WHO (2009) Building Regulations 2010. Approved Document E	Apply the indoor ambient noise levels in Tables 4 and 6 of BS 8233.
Schools & residential care homes	New build or extensions that require planning permission	BS 8233:2014 WHO (2009) BS4142:2014.	Apply the indoor ambient noise levels in Tables 4 and 6 of BS 8233.
Outdoor sports & recreation facilities	Multi-use games areas, all weather pitches, stadia, leisure centres, clay target shooting, skateparks & off-road motorcycle sports	BS 8233:2014. WHO (2009). BS4142:2014.	Apply the indoor ambient noise levels in Tables 4 and 6 of BS 8233.

Development category	Type of development	Relevant standards (see reference list below for full details)	Recommended noise thresholds (dB) at the nearest noise sensitive properties
Transport	Road (new & improved roads)	DMRB The Noise Insulation Regulations 1975 (as amended 1988)	Apply the requirements of the Regulations & WHO's night noise guideline (NNG) of 40 dB Lnight,outside.
	Rail		
	Ports	BS 8233:2014 WHO (2009)	Apply the indoor ambient noise levels in Tables 4 and 6 of BS 8233.
	Airports		
Waste sites	All waste sites, including waste water treatment sites	BS 4142:2014. BS 8233: 2014. WHO (2009). DMRB. IPPC H3 (Part 2).	1) The rating level of the plant should, where practicable, be no greater than the existing background levels, when measured in accordance with BS4142. 2) Where background levels are very low, discussions should be had with the LPA on the objectives to be agreed. 3) Apply the indoor ambient noise levels in Tables 4 and 6 of BS 8233.
Wind turbines (NB: due to concerns with ETSU-R-97 please discuss the appropriate thresholds with the LPA as early as possible)	Single turbines	ETSU-R-97. WHO (2009). IoA (2013).	35 dBL90, 10 mins (freefield).
	Wind farms		1a) Daytime (07.00 – 23.00): <5dB above background. 1b) Daytime (07.00 – 23.00) in low noise environments (taken as below 30 dB): 35 dBL90,10mins (freefield). 2) Night (23.00 – 07.00): 43 dBL90, 10mins (freefield).

References:

- 1 ISO 1996 Parts 1, 2 & 3- Description, measurement and assessment of environmental noise.
- 2 BS 5228-1:2009 + A1:2014 - Code of practice for noise and vibration control on construction and open sites.
- 3 BS 6472:2008: Parts 1 & 2 – Guide to evaluation of human exposure to vibration.
- 4 BS 7385 – Guide to damage levels from ground borne vibration.
- 5 BS 8233:2014: Guidance on sound insulation and noise reduction for buildings – Code of practice.
- 6 WHO (2009): World Health Organisation – Night noise guidelines for Europe.
- 7 BS 4142:2014 - Method for rating and assessing industrial and commercial sound.
- 8 DMRB: Design Manual for Roads & Bridges, Volume 11, Section 3, Part 7, HD 213/11 – revision 1 (November 2011).
- 9 Defra: 2005. Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems.
- 10 the National Planning Policy Framework (2012).
- 11 The National Planning Practice Guidance – noise (December 2014).
- 12 The Noise Insulation Regulations 1975 (as amended 1988).
- 13 IPPC H3 (Part 2): Horizontal Guidance Note, Integrated Pollution Prevention & Control (IPPC), Part 2 – Noise Assessment & Control (2004).
- 14 ETSU-R-97 (2006): The assessment of rating of noise from wind farms.
- 15 A good Practice Guide to the Application of ETSU-R-97 (Institute of Acoustics, 2013).

Codes of Practice include the following:

- CoP Environmental Noise Control at Concerts; Noise Council 1999 (under review)
- CoP on Noise from Model Aircraft, DoE, 1982.
- CoP on Control of Noise from Pubs and Clubs: IOA 2003
- Clay Target Shooting - Guidance on the control of noise, CIEH 2003
- CoP on noise from organised off-road motorcycle sport, Noise Council 1984
- CoP on Powerboat Racing and Water-Ski racing, British Water Skiing Federation 1999
- CoP for Control of noise from Oval Motor racing Circuits, NSCA 1996.