Basingstoke and Deane

Environmental Protection Guidance Note for Developers and Consultants

Noise Assessments and Reports for Planning Applications

Contents

1. Aim

1.1 This technical guidance note on noise assessments is issued to assist developers, agents, and their consultants where noise could have an impact and is a consideration for any proposed development. This could be where noise would be caused by the proposed development, or the proposed development would be exposed to existing noise sources.

1.2 It will help consultants, agents and their clients understand how council officers will test and judge any noise assessment report submitted in support of an application, and when such assessments will be required. If the advice is followed, it should avoid situations which cause decisions on applications to be delayed or refused, because inadequate information has been provided in support of a proposal.

2. Introduction

2.1 Environmental noise is an inevitable by-product of day-to-day activities in the places we live and work. How loud noise is, what causes it, and how often particular noises are heard will vary enormously from place to place. These can be anonymous noise sources e.g. transport noise or be attributable to a specific source from a specific place. While some noises are often welcome and are an important part of everyday life, there are times when it will be considered intrusive or excessive. In these situations, it can have an adverse effect on people's quality of life if it is not properly controlled. Effects in such situations can range from annoyance, sleep disturbance, or the inability to use and enjoy homes without disturbance. Such effects can be serious and long lasting and may affect one individual or large parts of a community.

2.2 In the context of new development and the planning process, noise will often be a constraint due to pre-existing land uses (and noise sources) which may conflict with the development that is proposed. In these situations, noise assessments are needed to quantify and understand the likely impact. They will often be a key piece of information needed to inform the design process for a new proposal. Where noise is a potential constraint, noise assessments should be submitted at the application stage. Failure to consider noise early enough in the design process risks proposals not being supported.

2.3 The requirement for a noise assessment and report arises in two common scenarios:

i) The proposed development may itself be noise sensitive e.g. a residential development which could be affected by existing noise sources e.g. industry, commercial premises, fixed mechanical plant, road traffic, railway or industrial site; or

ii) The proposed development will likely create noise which may affect existing nearby noise sensitive receptors e.g. a new industrial use near existing residential development, a kitchen extract serving a new restaurant, or new transport infrastructure.

Purpose

2.4 The purpose of the noise impact assessment is to determine how and whether the proposed development is likely to be affected by noise, or whether it may cause noise which would affect existing development. This will inform the decision-making process for proposed development but should principally be used as a tool by the developer in the design stage.

2.5 If a noise impact assessment highlights noise as an issue, mitigation will have to be considered. The design of a proposal will often be crucial to effective mitigation. It is often possible to mitigate the predicted noise impact and where the mitigation is demonstrated to be sufficient, concerns regarding noise can be alleviated.

3. When is a noise impact assessment required?

3.1 If a proposal could cause a noise impact, or may be affected by noise, advice should be sought from the Environmental Protection team at the council. This is an opportunity to discuss the proposed development and identify noise concerns, whether they are known to the developer or ones which the council can identify.

3.2 Where noise is likely to be a constraint or a consideration in the decision-making process for a planning application, it is expected that a noise impact assessment will be submitted to accompany a planning application. Where one is not submitted, it is likely that the Environmental Health consultation response would object to the proposal. Where this is the case, often the design of a scheme or a proposal could offer the solution.

3.3 However, design layout and orientation are material planning matters in their own right and as such cannot be matters which can be addressed by way of a simple condition.

3.4 The following tables set out the situations when a noise assessment would be required in support of a planning application.

Table 1

New noise sensitive development					
Type of development	**Noise source and is an NIA required?**				
	Close to an 'A' road or major 'B' road with a ≥50mph speed limit	Close to an 'A' road or major 'B' road with a ≤40mph speed limit	Close to a railway	Close to a motorway	Close to industry and commercial activity
Dwellinghouses and HMOs (new-build & conversions/change of use) C3a,b,c & C4	Yes	Dependant on circumstances*	Yes	Yes	Yes
Hotels & Guest houses (C1)	Yes*	Dependant on circumstances*	Yes*	Yes	Dependant on circumstances*
Residential institutions (C2 & C2a)	Yes	Dependant on circumstances*	Yes	Yes	Yes
General Permitted Development Application for conversion to residential use.	N/a	N/a	N/a	N/a	Yes

*The determining factor will be how busy or otherwise the road(s), and/or the nature of industrial/commercial operations close to the residential premises are. The advice of the EH team should be sought in these situations.

Table 2

New/additional noise sources close to existing noise sensitive development		
Type of development	**NIA required**	**Advice**
Industrial type uses B2 Storage or Distribution B8 General Industrial	Yes	This includes general industrial use. Activities will vary enormously from one to another. However, if manufacturing, fabrication, or storage and distribution are involved there is very likely to be a noise impact if near a sensitive development
Entertainment/food & drink etc. Class E(b) (Restaurants and cafes): Sale of food and drink for consumption (mostly) on the premises. Sui Generis (Drinking establishments) Sui Generis (Hot food takeaways). Class E(d) Indoor sport, recreation, or fitness (not involving motorised vehicles or firearms or use as a swimming pool or skating rink), Class F(c) Areas or places for outdoor sport or recreation (not involving motorised vehicles or firearms), F(d) Indoor or outdoor swimming pools or skating rinks.	Yes	Any premises preparing food and whose kitchen is served by air extraction units will require a NIA*. In addition, if premises are to hold entertainment/play music then a NIA would also be needed to consider this type of source.
Outdoor sports & recreation D2 & sui generis (see above)	Yes	Facilities such as skate parks, multi-use game areas, motor sports, clay pigeon shooting motor sports of any kind will all require NIAs.
Commercial uses Class E (a) Shops. Display or retail sale of goods, other than hot food. Class E(b) Sale of food and drink for consumption (mostly) on the premises. Class E(c)(i) Financial Services (c)(ii) Professional services (other than health or medical services) (c)(iii) other appropriate services in a commercial, business r service locality. B1 (Business). This was replaced by Offices to carry out any operational or administrative functions, (g)(ii) Research and development of products or processes, (g)(iii) Industrial processes.	Maybe	This covers shops, offices for businesses, light industry, and D1 broadly covers buildings with a community/public use. Often these types of uses will introduce air handling units, chillers, refrigeration units. It may also involve activities at un-sociable hours. Where either or both are part of a development an NIA will be required.
Non-residential institutions Class E(e) Provision of medical or health services (except the use of premises attached to the residence of the consultant or practitioner). Class E(f) Creche, day nursery or day centre (not including a residential use) and Class F1 (a-g) – Learning and non-residential institutions.	Maybe	

New/additional noise sources close to existing noise sensitive development		
Type of development	**NIA required**	**Advice**
Other (Sui Generis)	Yes	This covers a multitude of uses and is usually large developments of one type or another. Based on the type of use this is likely to be, it is more likely that an NIA would be required than not.
Transport schemes	Yes	Early engagement with EH would be expected
Wind turbines	Yes	Early engagement with EH would be expected

4. Scope, content, and competency

4.1 A Noise Impact Assessment or an Acoustic Design Statement submitted in support of proposed development must;

- demonstrate that noise sources are fully understood and quantified
- that all nearby noise sensitive receptors have been identified
- that the impact on the receptor has been established with reference to relevant acceptability criteria; and
- set out specific mitigation measures to demonstrate good acoustic design and compliance with relevant criteria, guideline, or standard values.

4.2 Whether compliance with noise criteria will be met at a noise sensitive receptor will usually be demonstrated by prediction and comparing to existing measured levels.

4.3 The council may also ask for a post-completion noise assessment to demonstrate that the finished development (with mitigation) achieves the criteria. Most acceptability criteria are set out in British Standards or other published guidance (see below). For some scenarios, where there is no specific published guidance, agreement on methodology and criteria should be agreed with the Environmental Health team.

4.4 Noise is a specialist area of work, and therefore, where developers are required to submit a noise assessment, the work must be done by a competent person. To be considered competent, it is expected that consultants hold qualifications on the assessment of environmental noise and/or building acoustics and are members of the Institute of Acoustics. Acoustic Consultancies should be members of the Association of Noise Consultants.

4.5 If a developer engages someone who is not appropriately qualified or members of the above organisations, the Environmental Health team may not accept the work as competent.

4.6 The report submitted should be set out in a format which is logical and understandable. It will provide the council with the information it requires about the consultant, instrumentation used, methodology, relevant criteria, survey undertaken, noise source(s), receptors, and the judged impact. See Appendix 2.

5. Assessing and determining the impact of noise

5.1 The purpose of a noise assessment is to understand the impact of a noise source on a receptor and specify any necessary mitigation measures.

5.2 National planning policy (National Planning Policy Framework, Noise Policy Statement for England, National Planning Practice Guide) does not set out specific noise level criteria for assessing the impact of noise. Reliance is therefore placed on other published guidance (see appendix 3), to judge the significance of noise for any proposed scheme.

5.3 For proposed development where existing (or new) transport noise is relevant, proposals will be tested against the noise acceptability criteria detailed in the ProPG: Planning & Noise - Professional Practice and Guidance on Planning & Noise. This places a clear emphasis on encouraging good acoustic design of new residential development to protect residents from the harmful effects of noise. Although the guidance relates to new residential development exposed predominantly to transport noise, it is considered that the general principles of good acoustic design should be applied to other comparable noise sources.

5.4 ProPG recommends a 2-stage approach; an initial noise risk assessment of the proposed development site and, where the results indicate that noise requires further consideration, a full assessment in the form of an Acoustic Design Statement. A noise impact assessment will inform how risk from noise is assessed, and what is set out in an Acoustic Design Statement.

5.5 The main emphasis of ProPG is the encouragement of good acoustic design (such as site layout, building massing, orientation and internal layout), at an early stage of the development process. For medium/ high risk noise sites it is imperative that building location, design, orientation, room layout, and the use of buildings as noise shields is considered at the outset of the design. Consideration of acoustic design after the site and building layout has been defined will not be considered good acoustic design. The ProPG details:

> *"In requiring good acoustic design, there is a hierarchy of noise management measures that LPAs should encourage, including the following, in descending order of preference:*
>
> *i. Maximising the spatial separation of noise source(s) and receptor(s).*
> *ii. Investigating the necessity and feasibility of reducing existing noise levels and relocating existing noise sources.*
> *iii. Using existing topography and existing structures (that are likely to last the expected life of the noise-sensitive scheme) to screen the proposed development site from significant sources of noise.*
> *iv. Incorporating noise barriers as part of the scheme to screen the proposed development site from significant sources of noise.*

v. *Using the layout of the scheme to reduce noise propagation across the site.*
vi. *Using the orientation of buildings to reduce the noise exposure of noise-sensitive rooms.*
vii. *Using the building envelope to mitigate noise to acceptable levels.*

It should be remembered that good acoustic design is a process that begins as soon as land is under consideration for development. The timeline for good acoustic design stretches from the conceptual design stage, through quality control during construction, and beyond to post construction performance testing.

Both internal and external spaces should be considered in the acoustic design process. Care should be taken to ensure that acoustic mitigation measures do not result in an otherwise unsatisfactory development. Good acoustic design must be regarded as an integrated part of the overall design process."

Refer to 'ProPG: Planning & Noise Supplementary Document 2 – Good Acoustic Design' for further information.

5.6 For proposed development where existing commercial or industrial noise is relevant, or new activity of this nature is proposed, an assessment using the BS 4142:2019 – Method for rating and assessing industrial and commercial sound will be required.

5.7 Good acoustic design will ensure that internal noise levels are achieved with windows open as far as reasonably practicable, as well as mitigate the impact of noise on external amenity areas such as gardens. Keeping windows closed to maintain a satisfactory indoor acoustic environment would not be considered a solution to meeting the relevant noise criteria.

5.8 As per published National Policy (NPPF & NPSE), and in accordance with Policies EM10 and EM12 of the Basingstoke and Deane Local Plan 2011-2029, development should ensure a good standard of amenity for all existing and future occupants of land and buildings. Developers are expected to adhere to the following guiding principles:

i) Development should not give rise to, or be exposed to noise, which would have any adverse impact on quality of life. Where possible development should contribute to the improvement of quality of life.
ii) It may not always be possible to achieve 'i)' due to land use pressures, and the development of land in urban environments where environmental noise often cannot be avoided. As such where a noise source is to be introduced, or a new development is to be exposed to an existing noise source, exposure to the noise in question must be mitigated and minimised to avoid adverse impacts on quality of life.
iii) There will be occasions where existing noise or noise from proposed development is inevitable, and any proposed mitigation has limited benefit. However, the development in question may be viewed as favourable for a variety of other reasons. In this situation, where all mitigation options have been

explored, and noise is to be mitigated as far as reasonably practicable; as a minimum standard, noise should not give rise to any significant adverse impacts on quality of life. Developments which are considered to have significant adverse impacts will not be supported.

5.9 Outline planning applications for new residential developments at sites considered to pose a medium or high noise risk must demonstrate that good acoustic design will be able to overcome the acoustic challenges present at the development site. Acoustically critical issues such as site layout, building heights, materials, landform contouring, detailed design and landscaping, the location of vehicle and pedestrian access, boundary treatments, amenity spaces etc. should not be left for agreement at a later reserved matters stage. Any changes in acoustically critical issues following grant of outline consent should be fully assessed in an Acoustic Design Statement.

5.10 Where proposals do not follow these principles, Environmental Health are likely to raise an objection.

6. Internal noise level criteria

6.1 As presented in British Standard 8233:2014 and ProPG: Planning & Noise the table below sets the target noise criteria for residential premises exposed to external noise sources which will often be anonymous in nature e.g. transport noise sources:

Activity	Location	07:00-23:00 hrs	23:00-07:00 hrs
Resting	Living Room	35 dB LAeq,16 hr	-
Dining	Dining room/area	40 dB LAeq,16 hr	-
Sleeping (daytime resting)	Bedroom	35 dB LAeq,16 hr	30 dB LAeq,8 hr Not exceeding 45 dB *LAmax,F* more than 10 times

6.2 Where the above levels would not be met the development should be designed so that noise levels are minimised as far as practical. This should be achieved through site layout incorporating good acoustic design principles and allowing the criteria to be met with windows open where practicable using passive ventilation solutions such as building orientation, room orientation, acoustic/plenum windows, acoustic balconies, and façade treatments.

6.3 Site layout and room orientation should be considered as a first preference to achieve internal noise levels. Only when site layout solutions have been exhausted, should façade solutions be considered. Table B5 of the Acoustics, Ventilation and Overheating (AVO) Guide provides information on passive solutions providing noise attenuation. Schemes which rely on windows being kept closed and supplied with trickle ventilation will not be considered as adequate design solutions. Please note that the criteria set out in table 3-3 of the AVO will not be accepted.

6.4 Where the above internal noise levels cannot be achieved with windows open, good acoustic design and passive design measures should be used to minimise internal noise levels as far as practicable. Supplementary mechanical ventilation e.g. mechanical heat recovery system (with cool air bypass) systems should also be provided in accordance with Part F and Part O of the Building Regulations. Any supplementary mechanical ventilation must:

i) Provide mechanical supply ventilation, to allow for occupants to have adequate levels of fresh air, should they choose to shut windows to screen out noise. In instances where this is likely, applicants will need to provide a report from a ventilation specialist which follows the guidance in the Chartered Institute of Building Engineers (CIBSE) Environmental Design Guide 2021, or later replacement guidance.
ii) Not compromise the façade insulation or the resulting internal noise level.
iii) Operate at a level to comply with noise rating curve NR25 or lower.

6.5 Any design measures that are used to control the ingress of noise must be consistent and compatible with the requirements of the Building Regulations.

7. External noise level criteria

7.1 An External Amenity Area Noise Assessment should be carried out in accordance with the guidance in ProPG to demonstrate good acoustic design and ensure that noise levels will not exceed the range of 50 – 55 dB LAeq,16hr within external amenity spaces (gardens, patios, larger balconies, roof gardens and terraces), as far as practicable.

7.2 In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. The decision to exercise this discretion will be determined by the degree to which mitigation is proposed, the proportion of the development affected and the profile of noise over a 16hr period. This relaxation is not to be applied ahead of mitigation schemes which would provide the desired level of protection.

7.3 Some developments e.g. flats and apartment blocks may be built with small balconies or terraces. Where this is the case and provision is made for outdoor amenity space elsewhere in the development e.g. roof gardens or in grounds surrounding the development, the external design criteria will not be applied to the small balcony or terrace.

7.4 Where provision for amenity space is made in flat and apartment block developments in the form of roof gardens or garden space in the grounds, a judgement will be made on a case-by-case basis on the need for any balcony or terraces provided with those flats to meet the external noise criteria.

8. Internal building services

8.1 The below levels are applicable when considering high rise residential developments which are served by lifts.

Room	Maximum noise level (dB $L_{Amax, F}$)
Bedroom	25
Living room	30
Other areas	35

Table 5 (BS 8233:2014)

9. Industrial and commercial noise sources

9.1 British Standard 4142 is the governing guidance where noise of an industrial nature or commercial nature is under consideration. This method is to be used for assessing impact from noise sources within the scope of this methodology. Please refer to BS 4142:2019 (or as updated), for further information. Where BS 4142 assessments are carried out the council's advice is detailed below.

9.2 <u>New noise sources</u>

While a noise source which is assessed to be at, or marginally above the existing background noise level is unlikely to lead direct adverse impacts (unless background sound levels are already high); where various mechanical plant and equipment is introduced over time, ambient and background noise levels are likely to progressively creep upwards. As such, to minimise this, as a starting point, noise from new mechanical sources should preferably be below, but certainly no greater than the existing background level at the most sensitive period when the plant will be operated (e.g. evenings, nights and weekends). If this cannot be achieved, then a view will be taken on the context and character of the noise as discussed in section 11 of BS 4142.

Where new retail, commercial or industrial premises are proposed, hours of delivery are often a relevant noise consideration. Unless there is reason to stipulate otherwise, reasonable hours of delivery are 0730 to 2200 Monday to Saturday and 0900 to 1600 on Sundays or public holidays which may be stipulated by a planning condition.

9.3 Existing noise sources and new noise sensitive development

As stated in BS 4142, *the lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on context.*

Where a noise already exists, generally, the rated noise level should be no greater than 3dBA above the background noise level (where the specific noise is present and rated). However, the acceptability of the proposal will be dependent on any particular characteristics and the context of the noise, as discussed in BS4142. While a rating level below background is preferable, this can only be demonstrated by prediction.

In situations where schemes are shown to be exposed to rating levels of +5dB or more above the background where the specific noise is absent, it is likely that an objection would be lodged by Environmental Health.

10. Internal building design and layout

10.1 When considering the design of new residential buildings or conversions, the internal layout, and how the layout in neighbouring units correspond with each other is extremely important in the context of noise. This is advocated by the BRE's Sound Control for Homes document (Planning to control internal noise) and reiterated in section 5.4.1 of BS8233. Where rooms are arranged such that functional living spaces are positioned above, below or adjacent to bedrooms located in separate dwellings, there is significant scope for conflict to arise between two neighbouring properties. Compliance with Building Regulations does not provide any certainty that this would not be a problem for future occupiers, due to the limitations of the acoustic separation required by Approved Document E.

10.2 Conflicting room uses should be avoided as far as is reasonably practical. As a general rule:

1. Bedrooms should not be positioned above, below or next to kitchens or living rooms serving separate dwellings. Services should be kept away from bedrooms.
2. Where possible, the room layout of neighbouring dwellings should be stacked and mirror each other.
3. Avoid locating large family units above smaller units.
4. Use halls as buffer zones between noise sensitive rooms and noisy communal/service areas.
5. Avoid locating stairs of one dwelling next to bedrooms in adjacent dwellings.

Where stacking cannot be arranged such that layouts mirror each other, a higher degree of insulation between dwellings will be appropriate. Various robust details schemes state attenuation to greater levels than that stipulated by building regulations, however their effectiveness will be dependent on the workmanship.

Where there are unavoidable conflicting room uses and the scheme is desirable, there is an expectation that an enhanced scheme of sound insulation be submitted with a justification for the DnT, W + Ctr used, based on the likely noise sources.

11. Criteria for proposed residential accommodation affected by noise from existing sources of amplified music

11.1 Non adjoining buildings

Special attention should be given to the sound insulation of low frequency noise where living accommodation in non-adjoining buildings is likely to be affected by amplified or live music (for example from pubs and clubs). The expected design criteria are as follows:

i) Noise Rating Curve NR25 in bedrooms – 2300 to 0700
ii) Noise Rating Curve NR35 in all habitable rooms – 0700 to 2300

11.2 Adjoining buildings

For proposed residential accommodation in buildings that are, or would be adjoining, and affected by amplified or live music e.g. pubs and clubs, the expected design criteria for the dwellings is as follows:

i) Noise Rating Curve NR20 in bedrooms – 2300 to 0700
ii) Noise Rating Curve NR30 in all habitable rooms – 0700 to 2300

(Noise Rating Curves should be measured as a 15-minute linear Leq at the octave band centre frequencies)

Music should be inaudible inside noise sensitive property between the hours of 2300 and 0700. Noise is considered to be inaudible when it is at a sufficiently low level such that is not recognizable as emanating from the source in question and it does not alter the perception of the ambient noise environment that would prevail in the absence of the source in question.

12. Criteria for proposed licensed premises (night clubs and public houses) where there will be amplified music

12.1 Amplified music and speech – insulation of building envelope

In the case of amplified music and speech break-out from premises, the insulation of the premises and volume and bass setting inside must be adequate to avoid causing disturbance. This will also require an adequate mechanical ventilation system to supply sufficient fresh air for patrons in the warmest weather, thus ensuring that sound proofed doors and windows remain closed. The fitting of a limiter device to control the bass and overall noise levels at source may also be required.

12.2 Amplified music transmitted from a source not attached to sensitive premises – criteria

The noise control shall be designed so that the background noise level ($L_{90,15min}$ Linear for the one third octave band levels of 50 to 160 Hz and the overall linear noise level), as measured at one metre outside the nearest affected façade of the nearest affected premises with the amplified music and/or vocals switched off, shall not be increased when the music or vocals are played at the typically highest level and a measurement is repeated in L_{90} Linear at the same position over any 5 minute period, with the music, vocals and current background noise measured together.

12.3 Breakout of amplified music from a source attached to a sensitive premises – criteria

The noise control shall be designed so that the background noise level ($L_{90,15min}$ Linear for the one third octave band levels of 50 to 160 Hz and the overall linear noise level), as measured in the centre of a habitable room attached to the source, with the amplified music and/or vocals switched off, shall not be increased when the music or vocals are played at the typically highest level and a measurement is repeated in L_{90} Linear at the same position over any 5 minute period, with the music, vocals and current background noise measured together.

13. Vibration

13.1 Vibration dose value ranges which might result in various probabilities of adverse comment within residential buildings:

Place and time	**Low probability of adverse comment** $m.s^{-1.75}$	**Adverse comment possible** $m.s^{-1.75}$	**Adverse comment probable** $m.s^{-1.75}$
Residential buildings 16h day	0.2 to 0.4	0.4 to 0.8	0.8 to 1.6
Residential buildings 8h night	0.1 to 0.2	0.2 to 0.4	0.4 to 0.8

Table 5 (BS6472-1:2008)

13.2 Certain developments, notably those near railway lines and heavy industry, will require additional assessments to assess the effects of vibration. On sites where vibration is a potential issue, the appropriate measurement methodology must be used, and findings presented. In most situations this will be the methodology described in BS 6472-1:2008 (Guidance to Evaluation of Human Exposure to Vibration in Buildings Part 1: Vibration sources other than Blasting).

13.3 While the methods for assessing vibration are different to noise, in reporting the findings and determining any impact, it is expected that the principles outlined in sections 4 & 5 of this document are followed. It is the expectation of the council that levels be no greater than the *'low probability of adverse comment'* as per the criteria given in BS6472.

13.4 Although measurements should normally be taken on a building's structural surface, where a building does not exist that would allow vibration to be measured, assessments would need to be 'free-field' in nature. Where this is the case the relevant multiplying factor and corrections should be used to establish whether vibration is likely to have an impact on the end user.

14. Air/Ground Source Heat Pumps

14.1 The installation of up to two ground or air source heat pumps on domestic premises is usually considered to be permitted development provided that certain conditions are met. These conditions have been set to ensure that any negative impacts such as visual impact and noise are kept to a minimum.

14.2 The Microgeneration Certification Scheme sets a permitted development noise limit of 37dB($L_{Aeq5min}$) at all sensitive receptors. As a general rule, all permitted and non-permitted installations should aim to achieve this limit, which can be demonstrated using the MCS Excel-based tool to assist in performing sound calculations. For installations which are unable to achieve the objective, or in very quiet areas where background noise levels are exceptionally low, a full noise assessment will be required prior to installation.

14.3 The noise assessment should provide details of the source noise 1m from the façade of any sensitive receptor in all third octave bands between 63Hz and 8KHz and be assessed against measured background levels when the source is most likely to cause a noise disturbance.

14.4 The IOA and CIEH **Professional Advice Note on Heat Pumps** gives further guidance on minimising the likelihood of noise complaints and recommends a maximum sound rating level of <35dB at any noise sensitive neighbouring premises. It is expected that <35dB at any noise sensitive neighbouring premises will be achieved wherever this is reasonably practicable.

15. Choosing a methodology

15.1 Where there is a relevant published methodology or available good practice for assessing a particular noise and determining its impact, it is expected that this be followed when conducting and submitting a noise impact assessment.

15.2 It is unavoidable that some developments and noise sources will fall outside of the scope of the published noise assessment methodologies. Some of these may be covered by examples of good practice that have emerged over time. These should be used where appropriate.

15.3 These situations may necessitate the use of parts of, or a combination of published assessment criteria to be utilised, and a more bespoke assessment methodology for measuring and assessing the noise utilised. Irrespective of how a methodology is put together, the impact of the noise in question must be fully understood. In these circumstances, early consultation with the Environmental Health team is essential to ensure the assessment methodology and criteria are agreed prior to any noise survey work being carried out.

15.4 This would usually mean agreement needing to be reached on the duration of the survey, the location, and the metrics to be reported on which could be used to accurately assess and convey noise impact.

16. Construction environmental management plans (CEMPs)

16.1 When a development proposal involves a significant period of construction, there may be short to medium term noise impact due to the construction phase. This has the potential to be significant in terms of disturbance to neighbouring premises, and as such should be considered as part of a noise impact assessment.

16.2 It is accepted that noise is an unavoidable feature of the construction process, the developer and contractor will be expected to take all reasonable steps to minimise disturbance.

Hours of work

16.3 Where there are noise sensitive receptors in the vicinity of the construction site, working hours on site should normally be confined to 0730 to 1800 on weekdays, and 0800 to 1300 Saturdays, with no noisy work on Sundays or Bank Holidays. These hours are likely to be specified in a planning condition.

16.4 Where construction noise is expected to be particularly significant, the council may add a planning condition requiring the developer to submit a CEMP. An applicant may wish to submit such a plan with the application, avoiding the need for a condition.

16.5 This document must detail the activities that are likely to give rise to noise, an assessment of how loud they are likely to be at the receptor(s), and where they exceed levels detailed in British Standards, the scheme of mitigation that will be put in place.

16.6 The plan should represent a set of commitments by the developer to minimise the creation of noise throughout the demolition and construction phases. Whilst the developer has the primary responsibility, they will also ensure that the requirements are included in contracts, agreements and orders with contractors, sub-contractors, and suppliers.

16.7 The key elements in a CEMP should include:

- Procedures for maintaining good public relations including complaint management, public consultation and liaison;
- Arrangements for liaison with the Council's Environmental Protection Team;
- An undertaking that all works and ancillary operations which are audible at the site boundary, or at such other place as may be agreed with the Local Planning Authority, shall be carried out only between the following hours: 0730 Hours and 18 00 Hours on Mondays to Fridays and 08 00 and 13 00 Hours on Saturdays and; at no time on Sundays and Bank Holidays;

- An undertaking that deliveries to and removal of plant, equipment, machinery and waste from the site must only take place within the permitted hours detailed above.
- Mitigation measures as defined in BS 5528: Parts 1 and 2 : 2009 Noise and Vibration Control on Construction and Open Sites to be used to minimise noise disturbance from construction works.
- Procedures for emergency deviation of the agreed working hours;
- An undertaking to require all contractors to be ‘Considerate Contractors’ when working in the Borough by being aware of the needs of neighbours and the environment;
- Control measures for dust and other air-borne pollutants;
- Measures for controlling the use of site lighting whether required for safe working or for security purposes;

Appendix 1 – Contact details for acoustics organisations

Institute of Acoustics

Silbury Court
406 Silbury Boulevard
Milton Keynes
MK9 2AF
United Kingdom

Telephone: 0300 999 9675

Email: ioa@ioa.org.uk

IOA web site link to assist in finding a suitable noise consultant:

https://www.ioa.org.uk/find-acoustics-specialist-or-supplier

The Association of Noise Consultants (ANC)

The Association of Noise Consultants
19 Omega Business Village
Thurston Road
Northallerton
DL6 2NJ

Telephone: 020 8253 4518
Webform https://www.association-of-noise-consultants.co.uk/contact-us/

ANC web site link to assist in finding a suitable noise consultant

https://www.association-of-noise-consultants.co.uk/members-search/

Building Research Establishment (BRE)

BRE
Bucknalls Lane
Watford
Herts
WD25 9XX

Telephone: 0370 218 6970

https://bregroup.com/

Appendix 2 – Noise measurement survey & report format

Each assessment is expected to detail the following:

1. Weather conditions

   Noise surveys must be carried out in suitable conditions i.e., in the absence of strong winds, rain, snow etc. Where road traffic noise is concerned, road surfaces should be dry, and not commenced until at least 1 hour after the cessation of any rainfall, or until roads are visibly dry. The microphone of the sound level meter shall be fitted with an appropriate environmental windshield when taking measurements outdoors, and details of weather conditions during the survey shall be given in the report. The report shall include a location plan showing measurement position in relation to the development site.

2. Attendance at survey

   Generally, it is preferred that surveys should be attended by the noise consultant. There can then be certainty as to the origins of noise which has been measured and recorded. On occasions when long term unattended measurements are needed, these should be supplemented at certain times with attended measurements so that variations seen in the record for the longer term measurement can be accounted for.

3. Baseline situation

   Before any judgement can be made on the likely impact of a development, it will usually be necessary to have a full understanding of the existing noise climate in the vicinity of the receptor.

   This is achieved by carrying out a survey of background and ambient noise levels over periods of time which are representative of the times and days when the noise source will be operational.

4. Noise sources and times of operation

   A detailed knowledge of the noise source (or in the case of a proposed development, the likely noise source) is essential.

   Where the noise source already exists, the data from the noise survey should give information on noise levels, duration, frequency content and variability during and between days. Levels may be measured at the proposed receptor location or calculated later, based on data from the same noise at a different location or the technical specification and sound power levels.

If the noise source arises from transport, it will be appropriate to consider projected noise levels from the mode of transport in question, fifteen years forward of the noise assessment, taking into account future growth for that transport mode.

5. Report format & content

The noise impact assessment report should set out all of the required information in a format which is logical and understandable. It will provide the Council with the information it requires about the proposal, its location, the agreed criteria, surveys undertaken, the instrumentation used, the noise source(s), the receptors, mitigation measures and the impact with respect to acceptability criteria.

As a minimum the report should include:

- An introduction.
- Statement of qualifications, competency, professional memberships and experience.
- Description of site and proposal including the noise source and associated detail.
- Identification of the receptor, proximity to source and their sensitivity
- Acceptability criteria (see sections 6-14).
- Details of noise measurement survey to include (but not limited to) details of the device(s) used, the chosen methodology, location, duration, meteorological conditions interpretation of results, data summary, and any additional calculations.
- Impact assessment – analysis of results against acceptability criteria.
- Noise mitigation measures – discussion of any need for, the options available to mitigate observed noise levels, and the improvement various options might provide.
- Conclusions.
- Recommendation.
- Appendices, for raw measurement data, calibration certificates, calculations, additional maps and plans, details and specifications for mitigation measures.

Appendix 3 – Useful references

Where formal guidance and protocols have been produced, either from central Government or other authoritative sources acoustic investigations shall be carried out with regard to the relevant British Standards, legislation and other guidelines.

Some of the more commonly used Standards and Guidance which may be applicable are listed below. In the event these documents are updated by the relevant publishing body, for the purposes of conducting a noise impact assessment the most current document and best practice shall be the authoritative document:

1. Basingstoke and Deane Local Plan 2011-2029
2. National Planning Policy Framework – Communities and Local Government
3. National Planning Practice Guidance – Noise
4. Noise Policy Statement for England (NPSE) – DEFRA
5. ProPG: Planning & Noise - Professional Practice and Guidance on Planning & Noise
6. BS 8233:2014 – Guidance on sound insulation and noise reduction for buildings
7. Acoustics, Ventilation and Overheating (AVO) Guide 2020
8. IoA/CIEH/ANC Joint Statement on ProPG and AVO Guide
9. BS 4142:2014+A1:2019 – Method for rating and assessing industrial and commercial sound
10. Institute of Environmental Management & Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment 2014.
11. BS 5228:2009 – Noise and vibration control on construction and open sites – Part 1: Noise
12. BS 5228:2009 – Noise and vibration control on construction and open sites – Part 2: Vibration
13. BS 5228:1992 – Noise control on construction and open sites – Part 4: Piling Operations
14. BS 5228:1997 – Noise and vibration on construction and open sites – Part 5: Surface mineral extraction
15. BS 6472-1:2008 – Guide to the evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than blasting
16. BS 6841:1987 – Guide to measurement and evaluation of human exposure to whole-body mechanical vibration and repeated shock
17. ISO 4866:2010 – Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects of structures.
18. BS 7445:2003 – Description and measurement of environmental noise – Part 1: Guide to quantities and procedures
19. BS 7445:2003 – Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use
20. BS 7445:2003 – Description and measurement of environmental noise – Part 3: Guide to application to noise limits

21. ISO 9613-1:1993 – Attenuation of sound propagation outdoors – Part 1: Calculation of the absorption of sound by the atmosphere
22. ISO 9613-2:1996 – Attenuation of sound propagation outdoors – Part 2: General method of calculation
23. World Health Organisation – Guidelines for Community Noise, 1999
24. World Health Organisation – Night Noise Guidelines for Europe, 2009
25. World Health Organisation – Environmental Noise Guidelines, 2018
26. ETSU-R-97 – The assessment and rating of noise from wind farms
27. IOA – Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise
28. IEC 61672-1:2002 Electroacoustics – Sound level meters - Part 1: Specifications
29. The Building Regulations 2010 Approved Document E – Resistance to the passage of sound (2015 or later version)
30. The Building Regulations 2010 Approved Document F – Ventilation (2021 or later version)
31. The Building Regulations 2010 Approved Document O – Overheating (2021 or later version)
32. Building Research Establishment – Sound control for Homes 1993
33. Chartered Institute of Building Engineers (CIBSE) Environmental Design Guide 2021
34. Microgeneration Certification Scheme (MCS) Planning Standards
35. CIEH/IOA Heat Pumps Professional Advice Note 2022
36. ProPG : Gym Acoustics Guidance (GAG) 2023

For further advice or information see

www.basingstoke.gov.uk/go/noise-pollution

email ehteam@basingstoke.gov.uk or call 01256 844844. | 01256 844844

Follow us: 𝕏@BasingstokeGov

facebook.com/BasingstokeGov

If you need this information in a different format, for example large print, please contact communications@basingstoke.

Sign up
for email updates on council services, news and events.
www.basingstoke.gov.uk/signup

56058_1025