

Noise Guidance Note for Planning applications.

Noise Assessments and Good Acoustic Design for Planning Applications

Bracknell Forest Council
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1. Aim

The purpose of this guidance note is to provide additional explanatory guidance to applicants and developers on how they should demonstrate compliance with the noise requirements established under Bracknell Forest Local Plan (BFLP) (2024). This includes:

- Identifying developments in which noise would be a significant consideration and a noise impact assessment will be required.
- How Bracknell Forest Council (the Local Planning Authority) will test and judge any noise assessment report submitted in support of an application.
- Noise advice, which if followed, should avoid situations which cause decisions on application to be delayed or refused, due to lack of information.

2. Introduction

Noise is unwanted sound. Environmental noise is an inevitable by-product of day-to-day activities in the places we live and work. How loud, 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 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. Chronic exposure to environmental noise significantly affects physical and mental health and well-being. It can lead to annoyance, stress reactions and sleep disturbance, cognitive impairment in children and can have negative effects on the cardiovascular and metabolic systems.

The most effective aspect of noise management is that which ensures that new developments are sited and designed in such a manner as to minimise the impact of noise that their introduction may cause, or the existing noise that they may be exposed to. Many potential noise problems can be resolved through the careful design of both noise-creating and noise sensitive premises.

Where noise is a potential issue, a noise impact assessment should be submitted at the application stage. It is good practice to explore noise constraints early in the design process to ensure all noise concerns are addressed and mitigation is central to the design.

The requirement for a noise impact assessment arises in three common scenarios:

- The proposed development may itself be noise sensitive development, e.g. residential, care home, schools, hospital developments, which could be affected by existing noise sources e.g. industry, commercial premises, fixed mechanical plant, road traffic, railway, or industrial site.
- The proposed development might generate noise which may affect existing nearby noise sensitive receptors e.g. a new industrial use, entertainment premises, air handling plant.

- New transport infrastructure near existing residential development.

3. Planning policy background

National planning policy is set out in the National Planning Policy Framework (NPPF) (2024)¹. Key references to noise are in paragraph 198. The text makes it clear that planning decisions should ensure that new development is appropriate for its location taking into consideration the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment. This document is supplemented by Planning Practice Guidance on Noise 2019².

The Bracknell Forest Local Plan (BFLP) was adopted in March 2024. It sets out the vision and strategy for the Borough until 2037. It is divided into two parts:

- Part 1 contains strategic policies and sets out where new jobs, homes and services will be located, and what matters need to be considered when developing allocated sites (including noise).
- Part 2 covers development management policies such as making sure we have high quality design, environmental sustainability and consider matters like pollution (including noise).

The BFLP is consistent with national policy requirements.

Noise is an issue linked to many different topics covered in the BFLP. It is specifically mentioned in several policies and/or the supporting text, as set out below.

Site allocation policies where noise is referenced:

- LP6 'Land at Beaufort Park, Nine Mile Ride, Bracknell (BRA4)' criterion xiv.
- LP7 'Land east of Wokingham Road and south of Dukes Ride (Derby Field), Crowthorne (SAND5)' criterion xiii
- LP8 'The Peel Centre and The Point, Skimped Hill Lane, Bracknell (BRA18)' criterion xiv
- LP9 'Eastern Gateway Development Area (Town Square), Bracknell (BRA7)' criterion xiii
- LP10 'Southern Gateway Development Area, Bracknell (BRA14, BRA15 and BRA17)' criterion xv.
- LP12 'Land previously reserved for Park and Ride, Peacock Farm, Binfield'.
- LP15 'Land south of London Road (Eastern Field), Binfield'

Policies covering specific geographic areas or topics that refer to noise:

- LP3 'Sustainable development principles' – the supporting text in para. 5.36 bullet 8 discusses pollution including noise.
- LP19 'Employment development outside designated Employment Areas in defined settlements' – criterion 1

¹ [National Planning Policy Framework](#)

² [Noise - GOV.UK](#)

- LP27 'Climate change' – criterion 1x
- LP43 'Development proposals in centres' – criterion 1ii
- LP45 'Play, open space and sports provision' – supporting text paragraph 14.26 refers to noise and traffic problems.
- LP49 'Equestrian uses' – criterion 1iv
- LP58 'Pollution and hazards'

Polices that refer to, or require consideration of, residential amenity (which could include noise):

- LP18 'Definition and protection of existing designated Employment Areas' - criterion 4v
- LP35 'Development in the countryside' –criterion 2iiiig
- LP39 'Specialist housing' – criterion 1ii
- LP41 'Gypsies, travellers and travelling showpeople' – criterion 1ii. amenity and criterion 1vi. good living conditions. Supporting text paragraph 12.32 refers to noise pollution.
- LP42 'Smaller businesses' – criterion 1ii
- LP50 'Design' – criterion 1vi
- LP56 'Renewable and low carbon energy' – criterion 1i

The references above demonstrate the Council's wish to take a comprehensive approach to the need to take noise into account in development that has the potential to create additional noise and development that may be sensitive to the prevailing acoustic environment. There is therefore a need to be clear about what information applicants are expected to provide and how noise-related matters will be considered during the planning process.

4. Noise Impact Assessment

Purpose

The purpose of the noise impact assessment is to determine how and if the proposed development is likely to be affected by noise, or whether it may cause noise which could affect existing development. This will inform the decision-making process for proposed development but should be used as a tool by the design stage. If a noise impact assessment highlights noise as an issue, mitigation will need 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.

Is a noise impact assessment required?

The developer / applicant should consider if a proposal is likely to cause a noise impact, or be adversely affected by noise, and carry out a noise impact assessment for their proposed development.

Advice can be sought from the Environmental Health Team at the Council, to discuss the proposed development and identify noise concerns, whether they are known to the developer or ones which the Council may identify.

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 that planning application. Where this is the case, often the design of a scheme or a proposal could offer the solution.

Where a noise impact assessment is necessary and is not submitted, Environmental Health will object to the proposal in its consultation response.

Refer to **Appendix 2** (regarding new noise sensitive development) and **Appendix 3** (regarding new noise sources) for situations when a noise impact assessment will be required to support a planning application.

Scope, content, and competency

A Noise Impact Assessment 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.

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

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 will be needed on the methodology and criteria to be used with the Environmental Health team, prior to commencement of the work.

If a developer engages someone who is not appropriately qualified or a member of the above organisations, the Environmental Health team will not accept the work as competent and will advise the LPA.

The report submitted should be set out in a format which is logical and understandable. It should provide the Council with the information it requires about the consultant, instrumentation used, methodology, relevant criteria, survey undertaken, noise source(s), receptors, the judged impact, and mitigation proposed. See **Appendix 4** for the expected noise measurement survey and report format.

Assessing and determining the impact of noise

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

National planning policy and guidance (NPPF 2024, Planning Practice Guidance – Noise 2019 and the Noise Policy Statement for England 2010) does not set out specific noise level criteria for assessing the impact of noise. Reliance is therefore placed on other published guidance (see **Appendix 5**), to judge the significance of noise for any proposed scheme.

Transportation and environmental noise

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 2017. This places a clear emphasis on encouraging good acoustic design for 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.

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.

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.

Good acoustic design will ensure that internal noise levels can be achieved with windows open as far as reasonably practicable, whilst mitigating the impact of noise on external amenity areas such as gardens.

Keeping windows closed to achieve acoustic standards is not ideal as passive ventilation via open windows is the preferred and most energy efficient approach to mitigate overheating. The Acoustics, Ventilation and Overheating Residential Design Guide (2019, IOA & ANC) and in Approved Document O (2021) establishes a hierarchy of approaches to mitigating overheating, which may include active ventilation and cooling where internal acoustic standards cannot be met with open windows.

Noise generating developments

For proposed development where commercial, industrial noise, is proposed, an assessment using the BS 4142:2014+A1:2019 – Method for rating and assessing industrial and commercial sound, will be required.

As per published national planning policy and in accordance with Policy LP58 ‘Pollution and hazards’ of the BFLP, development should minimise and reduce pollution and hazards, mitigate any adverse impacts and where possible provide improvements. Policy LP58 requires consideration of both individual and cumulative effects, both when completed and during construction. It seeks to avoid locating sensitive uses in areas with existing pollution or hazards, and/or to avoid locating them in areas likely to have them in future.

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 human health, wellbeing, safety, and

- residential amenity. Where possible, development should contribute to the improvement of quality of life. A precautionary approach should be taken to ensure they will not be subject to harm.
- II. Development proposals should not have an adverse impact on the natural environment. Care should be taken near to sites protected for their biodiversity or in ecologically sensitive areas.
 - III. It may not always be possible to achieve 'i)' or 'ii)' due to land use pressures and the development of land in urban environments, where environmental noise often cannot be avoided. 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 any adverse impacts.

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. Developments which are considered to have significant adverse impacts will not be supported.

New noise sensitive receptors

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 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 the later 'Reserved Matters' stage. Any changes in acoustically critical issues following grant of outline consent should be fully assessed in an Acoustic Design Statement.

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

Agent of change

The agent of change principle came in the 2018 NPPF. This made the party introducing a new land use or development (considered the "agent of change") responsible for mitigating any negative impacts on existing neighbouring uses. If a new development is built near an established business that generates noise, such as existing commercial / industrial business activities, schools, entertainment, leisure and community facilities, the new development must take steps to manage that noise, not the existing business having to change its operations due to the new residents.

In these circumstances, the applicant (or 'agent of change') will need to identify the effects of existing businesses that may cause a nuisance (including noise, but also dust, odours, vibration and other sources of pollution) and the likelihood that they might have a significant adverse effect on new residents/users. In doing so, the

agent of change will need to understand not only the current activities that may cause a nuisance but also those activities that businesses or other facilities are already permitted to carry out, even if they are not occurring at the time of the application.

The agent of change must define the mitigation being proposed to address any potential significant adverse effects that are identified.

Prospective purchasers or occupants should be informed of noise mitigation measures in use (i.e. keeping windows closed and using alternative ventilation systems), to raise awareness and reduce the risk of post-purchase/occupancy complaints.

Note, the 'agent of change' principle works both ways so that if a new venue or noise generating development is built near to an existing residential development, the onus will be on the new development to put in place noise mitigating measures.

5. Noise criteria and assessment methodology

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 will be followed when conducting and submitting a noise impact assessment.

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 so these should be used where appropriate.

These situations may also necessitate the use of parts, or a combination of, published assessment criteria, so a more bespoke assessment methodology for measuring and assessing the noise is used.

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 (Environmental Quality) Team is essential to ensure the assessment methodology and criteria are agreed prior to a noise survey being carried out. This would mean agreement being reached on the duration of the survey, the location, and the metrics to be reported in, to accurately assess and convey noise impact.

Assessment and design criteria

Noise exposure hierarchy

At the lowest extreme, when noise is not perceived to be present, there is, *no effect*. As the noise exposure increases, it will cross to the '*no observed effect*' level. However, the noise has no adverse effect for as long as the exposure does not cause any change in behaviour, attitude, or other physiological responses of those

affected by it. There may also be adverse health impacts at this level. For example, WHO night-noise guidance 2009 identifies physiological impacts due to sleep disturbance as a consequence of noise even where the noise is not sufficient to trigger conscious awakening events. The noise may slightly affect the acoustic character of an area but not to the extent there is a change in quality of life. If the noise exposure is at this level, no specific measures are required to manage the acoustic environment.

As the exposure increases further, it crosses the '*lowest observed adverse effect*' boundary above which, the noise starts to cause small changes in behaviour and attitude, i.e. having to turn up the television volume or needing to speak louder to be heard. Consequently, the noise begins to have an *adverse effect* so consideration must be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the noise causing activity).

Increasing noise exposure will at some point cause the '*significant observed adverse effect*' boundary to be crossed. Above this level the noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is predicted to be above this level, the planning process should be used to avoid this effect occurring, for example through the choice of sites at the plan-making stage, or by use of appropriate mitigation such as by altering the design and layout. While such decisions must be made taking account of the economic and social benefit of the activity causing or affected by the noise, it is undesirable for such exposure to be caused.

At the greatest extreme, noise exposure would cause extensive and sustained adverse changes in behaviour and/or health, without the ability to mitigate effects of the noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be avoided.

Table 1 summarises the noise exposure hierarchy, based on the likely average response of those affected.

Table 1 - Noise exposure hierarchy table

Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude, or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			

Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, 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 small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude, or other physiological response, 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
Present and very disruptive.	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

New residential

British Standard 8233:2014 and ProPG: Planning & Noise 2017, sets the internal target noise criteria for residential premises exposed to external noise sources which will often be anonymous in nature e.g. transport noise sources. These criteria are summarised in Table 2 below. A BS8233 noise impact assessment can be used to determine noise reduction and sound insulations requirements for buildings.

Table 2 - Indoor ambient noise level limits for dwellings

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 and not exceeding 45 dB

			L _{Amax,F} more than 10 times
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BS 8233:2014

At the time of writing this noise guidance note in early 2025 it is known that BS 8233 is currently under development and the draft is expected to be published for public consultation imminently. The proposed changes to BS 8233 will include significant new guidance on noise impact assessment for new residential developments. Therefore, any new development needs to be assessed in accordance with the version in effect at the time.

There is no good reason development in appropriate locations should not be able to achieve these criteria provided appropriate acoustic design is implemented. This can be achieved through site layout incorporating good acoustic design principles and allowing the criteria to be met with windows open and where practicable, using passive ventilation solutions such as building orientation, room orientation, acoustic/plenum windows, acoustic balconies, and façade treatments.

Site layout and room orientation should be the first consideration in achieving 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 2020 provides information on passive solutions providing noise attenuation.

The Building Regulations 2010 Approved Document O (Overheating) favours passive ventilation wherever possible, but sealed facades with active cooling measures may be acceptable in locations acoustic criteria otherwise cannot be achieved.

Where the internal noise levels shown in Table 2 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 (ventilation) and Part O (overheating) of The Building Regulations 2010. Any supplementary mechanical ventilation must:

- 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.
- Not compromise the façade insulation or the resulting internal noise level.

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

British Standard 4142 is the governing guidance where noise of an industrial 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 4142:2014+A1:2019 (or as updated), for further information. Where BS 4142 assessments are carried out, the Council's advice is detailed below.

New noise sensitive development near existing industrial/commercial sources

Generally, for new noise sensitive development the concern is internal noise levels (except for external amenity areas). However, if external noise levels are high, it is likely that there will be need for alternative ventilation. Use of active ventilation to mitigate should be a last resort with implement Good Acoustic Design principles from the outset.

External amenity space

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.

In higher noise areas, such as town 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 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.

Some developments e.g. flats and apartment blocks may be built with small balconies or terraces. Where this is the case, and provision has been 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.

New noise sources

Noise from new mechanical sources should be no higher than the existing background noise level assessed in accordance with BS 4142:2014+A1:2019.

Plant noise should be assessed in accordance with BS 4142:2014+A1:2019 and plant selection, orientation, layout, and mitigation should ensure the noise rating level is no higher than the existing background noise level. Noise limits and mitigation, such as acoustic barrier / enclosure provision and specifications, and maintenance of mitigation may be conditioned as part of consent.

Deliveries

Where any new retail, commercial or industrial premises are proposed, numbers and hours of deliveries are often a relevant noise consideration. Where delivery and associated activities (such as use of fork-lift trucks) is likely to be regular and significant (i.e., for supermarkets and warehouses) a noise assessment will be required. Noise associated with deliveries (e.g. manoeuvring vehicles, engines, unloading, loading, reverse alarms, etc) should be assessed in accordance with BS 4142:2014+A1:2019 and delivery hours and mitigation should ensure the noise rating level is no higher than the existing background noise level. Noise limits, hours, and mitigation (acoustic barrier) and maintenance of mitigation may be conditioned as part of consent.

Proposed licensed premises – amplified music, etc.

Planning and licensing are separate legal frameworks, but there is overlap, particularly on noise nuisance, where both planning and licensing authorities will need to assess potential impacts of the proposals on the local community for development.

Structural design details such as orientation, layout, sound insulation, kitchen extraction and air handling plant should be provided for consideration at the 'Planning' stage, supported by noise assessment. There may be scenarios where applications / operators may also be required by planning condition to submit a noise management plan.

Whilst 'softer' operational management controls, for example, to keep doors / windows closed, signage, timings for music (indoors / outdoors), etc would usually be dealt with through Licensing Act 2003 regime rather than Planning.

Domestic air source heat pumps

The installation of a single air source heat pump 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 appearance, siting, and noise, are kept to a minimum. More information about when an air source heat pump does not require planning permission can be found on the Council's website.

The Microgeneration Certification Scheme (MCS020) sets a permitted development noise limit of 42dB at all sensitive receptors. Generally, all domestic heat pumps (permitted development and those not meeting permitted development) should aim to achieve this limit, which can be demonstrated by calculation.

For installations which do not meet the noise limit, it is not permitted development, and a full application is required to be submitted. Applicants should consider their options such as quieter alternative heat pump models, relocation/reorientation, enhanced boundary treatment (solid wall / close-boarded fence) or acoustic

enclosure for their proposed ASHP in order to meet the 42dB limit so Environmental Health can recommend it to Planning for approval.

For installations which after attempts to reduce the noise level to meet the MCS020 limit are still over the 42dB limit, the application would be recommended for refusal.

6. Noise mitigation recommendations

Receptor

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 BS8233.

Where rooms are arranged such that functional living spaces are positioned above, below, or adjacent to bedrooms located in separate dwellings, there is potential 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.

We recommend consideration of good practice design principles to reduce potential for adjacent room use noise conflicts which include:

- Positioning bedrooms so they are not above, below, or next to kitchens or living rooms serving separate dwellings. Services (lifts, plant rooms etc) should be kept away from bedrooms.
- Room layout of neighbouring dwellings be stacked and mirror each other and ideally stairs located away from bedrooms in an adjacent dwelling.
- Using hallways as buffer zones between noise sensitive rooms and noisy communal/service areas.

Source

For developments that are likely to generate noise, there are 4 broad types of mitigation:

- **engineering:** reducing the noise generated at source and/or containing that noise.
- **layout:** where possible, optimising the distance between the source and noise-sensitive receptors and/or incorporating good design to minimise noise transmission by screening with natural or purpose-built barriers, or other buildings
- **restricting activities** allowed on the site at certain times and/or specify permissible noise levels differentiating as appropriate between different times of day, such as evenings and late at night.
- **insulation of buildings** can mitigate the impact on areas likely to be affected by noise.

Construction and demolition phase

The developer of a development proposal may involve an extended period of construction. As a result, there may be short to medium term impacts during the construction phase. This has the potential to be significant in terms of disturbance on neighbouring premises and should be considered as part of a noise impact assessment (including vibration from demolition and construction activities).

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.

Where there are noise sensitive receptors in the vicinity of the construction site, working hours on site should normally be confined to 08:00 to 18:00hrs on weekdays and 08:00 to 13:00 on Saturdays with no noisy work on Sundays or Bank Holidays. These hours are likely to be specified in a planning condition.

Where a construction works are expected to be significant, for example large scale and extended duration, the Council may add a planning condition requiring the developer to submit a Construction Environmental Management Plan (CEMP). Applicants may wish to submit such a plan with the application up-front, avoiding the need for a condition.

The CEMP must detail the activities that are likely to give rise to noise and vibration and the measures that will be put in place to minimise noise / vibration levels as far as practicable.

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.

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 Environmental Health (Environmental Quality Team, Public Protection Partnership),
- An undertaking that all works and ancillary operations which are audible at the site boundary, or at any such other place to be agreed with the Local Planning Authority shall be carried out only between the following hours 08:00 to 18:00hrs on weekdays and 08:00 to 13:00hrs on Saturdays and at no time on Sundays and Bank Holidays.
- An undertaking that deliveries and removal of plant, equipment, machinery, and waste from the site will only take place within the permitted hours detailed above.

- Mitigation measures as defined in BS552: 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 any 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

Environmental Health (Environmental Quality Team)

Public Protection Partnership
Theale Library
Church Street
Theale
Berkshire RG7 5BZ
Tel: 01635 503242
Email: EHAdvice@westberks.gov.uk
Web: <https://publicprotectionpartnership.org.uk/>

Planning Development Control

Time Square
Market Street
Bracknell
Berkshire
RG12 1JD
Email: development.control@bracknell-forest.gov.uk
Tel: 01344 352000

Institute of Acoustics (IOA)

Silbury Court
406 Silbury Boulevard
Milton Keynes
MK9 2AF
United Kingdom
Register : <https://www.ioa.org.uk/find-acoustics-specialist-or-supplier>
Tel: 0300 999 9675
Email: ioa@ioa.org.uk

The Association of Noise Consultants (ANC)

19 Omega Business Village
Thurston Road
Northallerton
DL6 2NJ
Register: <https://www.association-of-noise-consultants.co.uk/members-search/>
Tel: 020 8253 4518
Webform <https://www.association-of-noise-consultants.co.uk/contact-us/>

Building Research Establishment (BRE)

BRE
Bucknalls Lane
Watford
Herts
WD25 9XX
Tel: 0370 218 6970
Web: <https://bregroup.com>

Appendix 2 - New noise sensitive development – Is a NIA required?

Type of Development	Noise source and is an NIA required?				
	Near 'A' road or major 'B' road (≥50mph limit)	Near 'A' road or major 'B' road (≤40mph limit)	Close to a railway	Close to a motorway	Close to Industry / 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	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.

Appendix 3 – New noise source – Is a NIA required?

New/additional noise sources close to existing noise sensitive development		
Type of development	NIA?	Advice
Industrial type uses. B2 General Industrial B8 Storage or Distribution E(g)(iii) Industrial processes.	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 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 F2(c) Areas or places for outdoor sport or recreation (not involving motorised vehicles or firearms), F2(d) Indoor or outdoor swimming pools or skating rinks.	Yes	Any premises preparing food and where a kitchen is served by air extraction units, will require an NIA. Further, if premises are to hold entertainment/play music, then an NIA will be needed.
F2b (Halls or meeting places for the principal use of the local community')	Maybe	Where entertainment or amplification of music / voice is likely, a NIA is expected.
Outdoor sports & recreation F2(c) & Sui Generis (see above)	Yes	Facilities such as skate parks, multi-use game areas, motor sports, clay pigeon shooting and motor sports of any kind, will require NIAs.
Commercial uses Class E (a) Shops. Display or retail sale of goods, other than hot food.	Maybe	Class E covers commercial, businesses and service. This includes shops, financial services, offices for businesses and light industry.

<p>Class E(b) Sale of food and drink for consumption (mostly) on the premises.</p> <p>Class E</p> <p>(c)(i) Financial Services</p> <p>(c)(ii) Professional services (other than health or medical services)</p> <p>(c)(iii) other appropriate services in a commercial, business or service locality.</p> <p>Class E(g) (Business).</p> <p>(g)(i) Offices to carry out any operational or administrative functions,</p> <p>(g)(ii) Research and development of products or processes,</p> <p>F2(a) shops selling essential goods, including food, where the shop's premises do not exceed 280 square metres and there is no other such facility within 1000 metres.</p>		<p>F1 broadly covers buildings with a community/public use such as education, libraries, public halls etc.</p> <p>Often these types of uses will introduce air handling units, chillers, refrigeration units. It may also involve activities at un-social hours. Where either or both are part of a development, an NIA will be required.</p>
<p>Non-residential institutions</p> <p>Class E(e) Provision of medical or health services (except the use of premises attached to the residence of the consultant or practitioner).</p> <p>Class E(f) Creche, day nursery or day centre (not including a residential use) and</p> <p>Class F1 (a-g) – Learning and non-residential institutions.</p>	Maybe	
Other (Sui Generis)	Yes	This covers many uses but usually large developments of some sort. Based on the proposed use, it is more likely that an NIA would be required.
Transport schemes	Yes	Early engagement with EH would be expected
Wind turbines	Yes	Early engagement with EH would be expected
Solar Farms	Yes	Inverter is a potential noise source NIA likely to be expected.

Domestic air source heat pump	Yes	MCS 020 assessment required, if fail then review proposals. Likely to fail BS4142 assessment if failed MCS 020
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Appendix 4 – Noise measurement survey and report format

Each assessment should detail the following:

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 survey 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 must be fitted with an appropriate 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 the measurement position in relation to the development site.

Attendance at survey

It is preferable for the noise consultant to attend during the survey. Then there can be certainty about the origins of any noise that has been measured and recorded. On occasions when long term attended measurements are needed, these should be supplemented with unattended measurements, then variations seen on the record for the longer-term measurements can be accounted for.

Baseline survey

Before any judgement can be made on the likely impact of a development, it is necessary to have 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 source will be operational.

Expected noise survey duration is 72 hours for most situations, to include weekdays and weekend periods.

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. Measurements should be made at the receptor, but calculations from alternative positions may be acceptable where this is not possible. Alternative measurement locations must be representative of conditions at the receptor.

If the noise source arises from transport, it will be necessary to consider projected noise levels from that mode of transport fifteen years after the noise assessment, by considering the future growth for that method of transport.

Report format and content.

The noise impact assessment report should set out all the required information in a format which is logical and understandable. It will provide the Council with the information 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 the site and proposal including the noise source and associated detail.
- Identification of the receptor, proximity to source and their sensitivity.
- Acceptability criteria.
- Details of the 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 the results against acceptability criteria.
- Noise mitigation measures - discussion of any need for, options available to mitigate observed noise levels, and the improvements various options might provide.
- Conclusions.
- Recommendation.
- Appendices, for raw measurement data, calibration certificates, calculations, additional maps, plans, details, and specifications for mitigation measures.

Appendix 5 – Useful references

Where formal guidance and protocols have been produced, either from Central Government or other authoritative sources, acoustic investigations shall be carried out having regard to that relevant British Standard legislation and other guidelines.

The list below contains the main noise standards and guidance which may be applicable. If relevant publishing body have updated documents, for the purposes of conducting a noise impact assessment, the current document and best practice shall be the authoritative document:

- Bracknell Forest Local Plan 2020-2037(adopted 2024)
[About the Bracknell Forest Local Plan | Bracknell Forest Council](#)
- National Planning Policy Framework – Housing Communities and Local Government
https://assets.publishing.service.gov.uk/media/67aaf8f3b41f783cca46251/NPPF_December_2024.pdf
- National Planning Practice Guidance – Noise – Housing Communities and Local Government.
<https://www.gov.uk/guidance/noise--2>
- Noise Policy Statement for England (NPSE) – DEFRA
<https://assets.publishing.service.gov.uk/media/5a7956e0ed915d0422067947/pb13750-noise-policy.pdf>
- ProPG: Planning and Noise – Professional Practice and Guidance on Planning and Noise
<https://www.ioa.org.uk/sites/default/files/14720%20ProPG%20Main%20Document.pdf>
- BS8233:2014 – Guidance on Sound Insulation and Noise Reduction for Buildings
<https://knowledge.bsigroup.com/products/guidance-on-sound-insulation-and-noise-reduction-for-buildings?version=standard>
- Acoustics, Ventilation and Overheating (AVO) Guide 2020
https://www.ioa.org.uk/sites/default/files/anc_-_ioa_avo_residential_design_guide_january_2020_v1.1_12_feb_2020_2.pdf
- IOA/CIEH/ANC Joint Statement on ProPG and AVO Guide
https://www.ioa.org.uk/sites/default/files/joint_statement_on_propg_avo_guide.pdf
- BS 4142:2014+A1:2019 Method for Rating and Assessing Industrial and Commercial Sound
<https://knowledge.bsigroup.com/products/methods-for-rating-and-assessing-industrial-and-commercial-sound?version=standard>
- BS 4142:2014+A1:2019 Technical Note - Association of Noise Consultants, March 2020
<https://www.association-of-noise-consultants.co.uk/wp-content/uploads/2020/05/ANC-BS-4142-Guide-March-2020.pdf>
- Institute of Environmental Management & Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment 2014
https://www.ioa.org.uk/system/files/proceedings/s_turner_iema-ioa_noise_impact_assessment_guidelines.pdf
- BS 5228:2009 +A1:2014 – Noise and Vibration Control on Construction and Open Sites - Part 1: Noise

<https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-noise?version=standard>

- BS 5228:2009 +A1:2014 – Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration
<https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration?version=standard>
- BS 6472-1:2008 – Guide to the Evaluation of Human Exposure to Vibration in Buildings
<https://knowledge.bsigroup.com/products/guide-to-evaluation-of-human-exposure-to-vibration-in-buildings-vibration-sources-other-than-blasting?version=standard>
- BS 6841:1987 – Guide to measurement and evaluation of human exposure to whole-body mechanical vibration and repeated shock
<https://knowledge.bsigroup.com/products/guide-to-measurement-and-evaluation-of-human-exposure-to-whole-body-mechanical-vibration-and-repeated-shock?version=standard>
- ISO 4866:2010 – Mechanical vibration and shock – vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.
<https://www.iso.org/standard/38967.html>
- BS 7445-1:2003 – Description and measurement of environmental noise – Part 1: Guide to quantities and procedures
[BS 7445-1:2003 | 12 Dec 2003 | BSI Knowledge](#)
- BS 7445-2:1991 - Description and measurement of environmental noise – Part 2: guide to the acquisition of data pertinent to land use
[BS 7445-2:1991 | 28 Jun 1991 | BSI Knowledge](#)
- BS 7445-3:2003 - Description and measurement of environmental noise – Part 3: guide to application of noise limits
[BS 7445-3:1991 | 28 Jun 1991 | BSI Knowledge](#)
- ISO 9613-1:1993 – Attenuation of sound propagation outdoors – Part 1: Calculation of the absorption of sound by the atmosphere.
[ISO 9613-1:1993 - Acoustics — Attenuation of sound during propagation outdoors — Part 1: Calculation of the absorption of sound by the atmosphere](#)
- ISO 9613-2:2024- Acoustics — Attenuation of sound during propagation outdoors - Part 2: Engineering method for the prediction of sound pressure levels outdoors
[ISO 9613-2:2024 - Acoustics — Attenuation of sound during propagation outdoors — Part 2: Engineering method for the prediction of sound pressure levels outdoors](#)
- World Health Organisation – Guidelines for Community Noise, 1999
[Guidelines for community noise](#)
- World Health Organisation – Night Noise Guidelines for Europe, 2009
<https://iris.who.int/bitstream/handle/10665/326486/9789289041737-eng.pdf>
- World Health Organisation – Environmental Noise Guidelines, 2018
<https://www.who.int/europe/publications/i/item/9789289053563>
- ETSU-R-97 – Assessment and rating of noise from wind farms
[ETSU Full copy Searchable .pdf](#)
- IOA – Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise
[Discussion Document](#)

- IEC 61672-1:2002 Electroacoustics – Sound Level Meters – Part 1: Specifications
<https://webstore.iec.ch/en/publication/19902>
- The Building Regulations 2010 Approved Document E – resistance to the passage of sound (2015 or later version)
[Resistance to sound: Approved Document E - GOV.UK](#)
- The Building Regulations 2010 Approved Document F – Ventilation (2021 or later version)
<https://assets.publishing.service.gov.uk/media/61deba42d3bf7f054fcc243d/ADF1.pdf>
- The Building Regulations 2010 Approved Document O – Overheating (2021 or later version)
<https://assets.publishing.service.gov.uk/media/6218c5aad3bf7f4f0b29b624/ADO.pdf>
- Building Research Establishment - Sound Control for Homes, 1993
<https://bregroup.com/store/bookshop/sound-control-for-homes>
- Chartered Institute of Building Engineers (CIBSE) Environmental Design Guide 2015
<https://www.cibse.org/knowledge-research/knowledge-portal/guide-a-environmental-design-2015/>
- Microgeneration Certification Scheme (MCS) Planning Standards <https://mcscertified.com/wp-content/uploads/2021/10/MCS-020.pdf>
- CIEH/IOA Heat Pumps Professional Advice Note 2022
[briefing note - heat pumps - professional advice note - publication 8.pdf](#)
- ProPG: Gym Acoustics Guidance (GAG) 2023 <https://www.association-of-noise-consultants.co.uk/wp-content/uploads/2023/03/ProPG-Gym-Acoustic-Guidance-Document.pdf>

Appendix 6 - Glossary of Terms

Agent of Change	A developer who introduces a new land use is responsible for managing the impact of that new land use.
ASHP	Air source heat pump
Ambient Noise	Noise in a given situation at a given time composed of all sound from all sources, near and far.
Background Noise	Ambient noise without the source noise. Typically measured as the LA90, T.
dB(A)	"A" weighted sound level, measured in Decibels. "A" weighted sound levels approximate to human responses to the loudness of sound.
DnT, W + Ctr	DnT,w - <i>Weighted Standardised Field Level Difference</i> The difference, in decibels, between the level of noise either side of an object, tested in the field. DnT,w + Ctr - <i>Weighted Standardised Field Level Difference Adjusted for Control</i> The difference, in decibels, between the level of noise either side of an object, tested in the field, and adjusted to include how well it stops low frequency noise. Rw - <i>Weighted Sound Reduction Index</i> The difference, in decibels, between the level of noise either side of an object, tested in a lab. Rw + Ctr - <i>Weighted Sound Reduction Index Adjusted for Control</i> The difference, in decibels, between the level of noise either side of an object, tested in a lab, and adjusted to include how well it stops low frequency noise.
Environmental Health	Environmental Health are consulted by Planning on applications, where human health impacts such as noise need consideration. The Environmental Health service for Bracknell is carried out under a shared service with West Berkshire Council, referred to as the Public Protection Partnership.
Habitable Room	A room used for dwelling purposes, which is not solely a kitchen, utility room, bathroom, cellar, or sanitary accommodation.
LA90, T	The sound pressure level exceeded for 90% of the measurement period. Often referred to as the background noise level.
LAMAX, T	The maximum recorded sound pressure level with the measurement period.
LAeq, T	The equivalent continuous "A" weighted sound pressure level. It is a single figure value that has the same acoustic energy as a fluctuating sound level over a given measurement period. Often used as a measurement of environmental noise.
LA10, T	The sound pressure level exceeded for 10% of the measurement period. Often used over an 18-hour measurement period (06:00 – 00:00) as a measure of road traffic noise.
Local Planning Authority (LPA)	The local governing body that, in accordance with the law, has the power to exercise planning functions within its boundary. Bracknell Forest Council is the LPA for Bracknell Forest.
Noise	Unwanted sound.
Noise Climate	General description of existing noise levels in respect to a particular area.
Noise Generating Development	A development that has the potential to create a negative noise impact upon noise sensitive receptors/premises.
Noise Sensitive Receptor / Noise Sensitive Dwelling	Any dwelling, hotel, 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.
Noise Source	Any item or activity that causes noise.
Rating Level	A noise level that includes a correction for the character of the noise when assessed by BS 4142:2014+A1:2019

Soundscape	The acoustic environment as perceived or experienced and/or understood by a person or people, in context. (ISO Definition)
Tonality	Tonality is a feature of noise that has a particular tone. It is typically heard as a whine, screech, or a whistle.