

# Acoustic assessment of the change of use to speculative B2, B8, and E(g) classes

Pitchkettle Farm, Goodboy's Lane, Grazeley Green, Reading, RG7 1ND



Client: Pegasus Planning Group Limited

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## 0. SUMMARY

- 0.1. ACA Acoustics has been commissioned by the client to provide an acoustic assessment of Pitchkettle Farm, Grazeley Green, Reading. The assessment is to be submitted as part of an appeal against the refusal of application 21/02710/FUL, for change of use to speculative B2, B8, and E(g) classes. This report presents results of the assessment.
- 0.2. A sound level survey was carried out at the site between the 25<sup>th</sup> and 27<sup>th</sup> April 2023. Whilst on site ACA Acoustics' consultant considered the sound climate to predominantly comprise of road traffic on nearby routes, along with industrial and commercial noise from the non-associated paper recycling unit nearby.
- 0.3. Assessment of operational noise from the unit allowing for B2 and B8 use has been carried out. The assessment confirms that noise emissions from use of the site as B2 or B8 will not be detrimental to the amenity of the closest noise-sensitive occupants.
- 0.4. To control the potential for external activity beyond loading/unloading which could result in higher noise levels and greater potential for adverse impact, it is recommended that a planning condition is included requiring a noise impact assessment to be submitted and approved prior to any external activity, other than loading/unloading, being carried out.
- 0.5. Assessment of the site as E(g) use to the nearest residential properties is not required, as, by definition, E(g) use can be carried out in a residential area without detriment to its amenity.
- 0.6. It is the author's opinion that, allowing for the recommendations in this report, the change of use of the site to B2, B8, and E(g) use will not adversely impact nearby residential occupants.

## 1. INTRODUCTION

Pegasus Planning Group Limited are preparing an appeal on behalf of the applicant against the refusal of planning application reference 21/02710/FUL for change of use to speculative B2, B8, and E(g) classes at Pitchkettle Farm, Grazeley Green, Reading.

ACA Acoustics Limited has been commissioned to carry out a background sound level survey outside the nearest residential units and provide assessment of noise emissions from the proposed use classes to ensure there is no loss of amenity to nearby residents.

This report presents results of the sound level surveys and assessment.

## 2. ACOUSTIC CRITERIA

West Berkshire District Council have issued a refusal to application reference 21/02710/FUL.

Reason 3 of the decision notice states that:

*“A noise assessment has not been received as part of this application and this means there is insufficient information to conclude that noise generated from the proposed flexible Class B2/B8/E(g) use will not have a harmful impact on residential amenity of occupier who live in the dwelling granted under 20/01304/CERTE. The proposal does not comply with OVS5 or OVS6 the West Berkshire District Local Plan 1991-2006 (Saved Policies 2007) or policy CS14 of the West Berkshire Core Strategy 2006-2026.”*

Policies OVS5 and OVS6 incorporate criteria based on now withdrawn guidance within PPG 23 and PPG 24, which were drafted around 30 years ago. It is considered appropriate to consider equivalent, up to date guidance which will ensure the protection of the amenity of nearby residents within this acoustic assessment.

In addition, Policy CS14 does not provide discussion on the acoustic impact of developments, and as such it is appropriate to explore other relevant standards and guidance.

### 2.1. National Planning Policy Framework (NPPF) and Noise Policy Statement for England (NPSE)

The National Planning Policy Framework (referred to as NPPF) sets out the Government’s planning policies for England and provides guidance on how these are expected to be applied, providing a framework within which Local Authorities can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

Paragraph 174 of the NPPF states that,

*“Planning policies and decisions should contribute to and enhance the natural and local environment by ... e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability”.*

Paragraph 185 also talks specifically about noise and advises,

*“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

- *Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and quality of life.*
- *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.”*

The Government’s long-term policy aims relating to noise are contained in the Noise Policy Statement for England (referred to as NPSE). Stated aims of the NPSE are:

*“Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy of sustainable development:*

- *Avoid significant adverse impacts on health and quality of life,*
- *Mitigate and minimise adverse impacts on health and quality of life, and*
- *Where possible, contribute to the improvement of health and quality of life.”*

Paragraphs 2.19 to 2.24 clarify the above aims, referring to established concepts from toxicology; NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level). It also introduces a new concept relating to “significant adverse” of SOAEL (Significant Observed Adverse Effect Level), however noting,

*“It is not possible to have a single objective noise-based measure that describes SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times”.*

The first aim of NPPF Paragraph 185 and the second underlying aim of the NPSE refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also considering the guiding principles of sustainable development, as set out in the NPPF. As neither the NPPF nor NPSE includes any numerical criteria, it is necessary to consider guidance

provided in other documents to determine suitable limits that would define the LOAEL on an individual basis.

Finally, it is also of benefit to consider Paragraph 2.7, which advises that,

*“... the application of the NPSE should enable noise to be considered alongside other relevant issues and not to be considered in isolation. In the past, the wider benefits of a particular policy, development or other activity may not have been given adequate weight when assessing the noise implications”.*

This provides clear guidance that noise must not be considered in isolation but as part of the overall scheme taking into account the overall sustainability and associated impacts of the proposed development; there is no benefit in reducing noise to an excessively low level if this creates or increases some other adverse impact. Similarly, it may be appropriate in some cases for noise to have an adverse impact if this is outweighed by the reduction or removal of some other adverse impact that is of greater significance to the development.

## 2.2. Planning Practice Guidance - Noise (PPG-N)

Related to the NPPF and NPSE, The Department for Communities and Local Government has published additional guidance and clarifications within the Planning Practice Guidance – Noise (PPG-N), available at <https://www.gov.uk/guidance/noise--2>.

Paragraph 003 of the PPG advises that:

*“Plan-making and decision making need to take account of the acoustic environment and in doing so consider:*

- *Whether or not a significant adverse effect is occurring or likely to occur;*
- *Whether or not an adverse effect is occurring or likely to occur; and*
- *Whether or not a good standard of amenity can be achieved.*

*In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure ... is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.”*

This guidance is like that set out in the NPPF and NPSE, however, Paragraph 005 of the PPG-N provides outline guidance of the definition of “significant adverse” and “adverse” effects. A copy of the table appended to Paragraph 005 is repeated below.

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

Figure 1: Noise exposure hierarchy, taken from Planning Practice Guidance - Noise

Although this table provides descriptions of definitions for the NOEL, LOAEL, and SOAEL, as with the NPPF and NPSE there are no numerical values provided.

### 2.3. Guidelines for Environmental Noise Impact Assessment

A general principle that is widely used in many situations of potential noise disturbance where there is no formal assessment methodology is that of considering whether a new noise source



would likely cause a significant increase in the level of noise or change of character compared to the existing ambient noise climate.

The basis for this form of assessment is discussed in the *Guidelines for Environmental Noise Impact Assessment*, written by the Institute of Environmental Management and Assessment (IEMA). Having established the likely change in noise levels due to the new activity, an initial indication of the significance of the change can be determined from the table below, taken from Table 7-12 of the Guidelines.

<b>Effect Description</b>	<b>Definition</b>
None / Not significant	Less than LAeq 2.9dB change in sound level and/or all receptors are of negligible sensitivity to noise.
Slight	A LAeq 3dB to 4.9dB change in sound level at a receptor of some sensitivity.
Moderate	A LAeq 3dB to 4.9dB change in sound level at a sensitive or highly sensitive receptor, or a greater than LAeq 5dB change in sound level at a receptor of some sensitivity.
Substantial	Greater than LAeq 5B change in sound level at a noise-sensitive receptor, or a LAeq 5dB to 9.9dB change in sound level at a receptor of high sensitivity to noise.
Severe	Greater than LAeq 10dB change in sound level at a receptor of high sensitivity to noise.

*Table 1: Effect descriptors for change in sound level taken from Table 7-12 of the Guidelines for Environmental Noise Impact Assessment*

Note that defining the change of loudness to one decimal place is not a reflection of the accuracy of any assessment undertaken but rather to provide a clear threshold between adjacent effect descriptions.

Discussion within Section 7 of the Guidelines advises that the change in sound level provides an initial estimate of the impact, which should then be examined considering the context of the development, the type of noise source, nature of the change, and other factors. Paragraph 7.6 summarises that:

*“In some situations, the conclusions about the degree of the impact will be clear and straightforward; but in others it is likely that, ultimately, a professional judgement will have to be made by the assessor. It must be remembered that the effects of noise are primarily subjective, and while it is desirable to include as much objectivity as possible into the assessment process in order to obtain consistency, there should be no concern in allowing professional judgement to come into the final analysis. However, the basis for the judgement made must be clearly set out so that it is clear how the conclusion has been reached.”*

Once the initial estimate of the impact has been corrected to account for the context of the assessment, the magnitude of the impact and significance of the effects can be reviewed against Table 2, taken from Table 7-7 of the Guidelines.

<b>Magnitude of Impact</b>	<b>Description of Effect</b>
Negligible	No discernible effect on the receptor.
Slight	<b>Receptor perception = Non-intrusive</b> Noise impact can be heard but does not cause any change in behaviour or attitude. Can slightly affect the character of the area but not such that there is a perceived change in the quality of life.
Moderate	<b>Receptor perception = Intrusive</b> Noise impact can be heard and causes small changes in behaviour and/or attitude. Potential for non-awakening sleep disturbance. Affects the character of the area such that there is a perceived change in the quality of life.
Substantial	<b>Receptor perception = Disruptive</b> Causes a material change in behaviour and/or attitude. Potential for sleep disturbance. Quality of life diminished due to change in character of the area.
Severe	<b>Receptor perception = Physically harmful</b> Significant changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects.

*Table 2: Relationship between noise impact and noise effects*

It is of benefit to notice the similarity between the description of effects in Table 2, with the examples of outcome in Figure 1, taken from the PPG-N. From this, achieving a magnitude of impact of “*Slight*” or below in Table 2 corresponds to designing noise to below the LOAEL. Therefore, to ensure there is no adverse impact to the amenity of nearby residential occupants, ACA Acoustics recommends where practical sound emissions from the external seating area are designed to achieve an impact of “*Negligible*” or “*Slight*” when assessed to outside nearest noise-sensitive receptors.

#### 2.4. British Standard 4142:2014+A1:2019

The scope of BS 4142:2014+A1:2019 advises that;

*“This British Standard describes methods for rating and assessing sound of an industrial and/or commercial nature ... to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident”.*

BS 4142:2014+A1:2019 is considered appropriate for this application, to consider the acoustic impacts where any industrial or commercial noise sources contribute to the acoustic climate in the area.

The assessment method of BS 4142:2014+A1:2019 corrects the specific sound level from the source under investigation (workshop) to account for characteristics that could make the sound more obtrusive to obtain a rating level. This rating level is compared against the prevailing background noise outside the noise-sensitive property. Section 11 of BS 4142:2014 provides a commentary of the assessment result and advises that:

- a) Typically the greater this difference [between the rating level and the background sound level], the greater the magnitude of the impact;*
- b) A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;*
- c) A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context;*
- d) 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 the context.*

It is important to note however, that as noted in the Standard, this initial assessment conclusion is dependent on the context of the development, which may materially alter the assessment result.

### 3. REVIEW OF SITE LOCATION & DEVELOPMENT PROPOSALS

Pitchkettle Farm is located within a rural area at Grazeley Green, Reading, and is situated adjacent to an existing paper recycling centre. The development unit has two new buildings which have been erected for office/administration purposes, a workshop, and an external yard to the western end of the site. The site is proposed for use during daytime hours.

A site location plan showing the site layout and sound level survey measurement position is found in Figure 2 below.

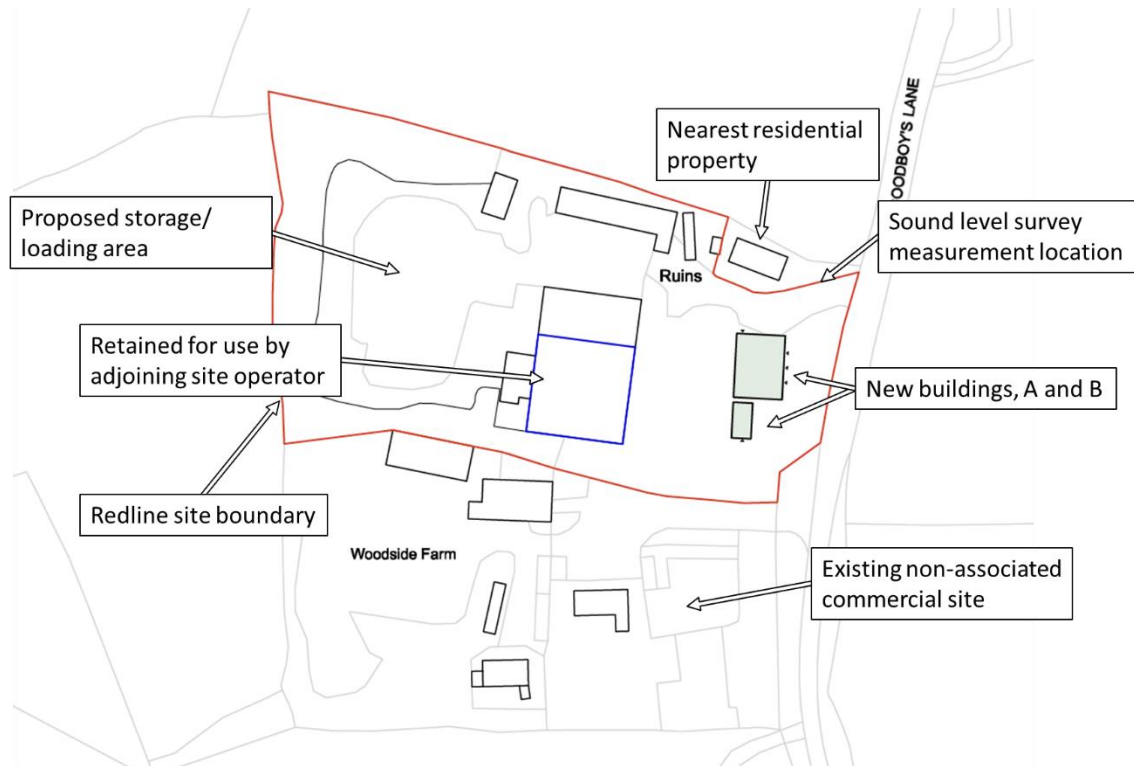


Figure 2: Site location plan

The nearest potentially affected residential dwelling is a mobile home which has been granted a certificate of lawfulness under case number 20/01304/CERTE by West Berkshire Council. This dwelling is nominally 20 meters from the new Buildings A and B and 85 meters from the external yard.

#### 4. SOUND LEVEL SURVEY

To assess the impact of the proposed site use on nearby residential premises, a sound level survey has been conducted.

The survey included an unmanned 48-hour sound level survey carried out between the 25<sup>th</sup> and 27<sup>th</sup> April 2023. Sound level measurements were recorded in consecutive 15-minute samples of overall LAeq, LAfmax, and LA90 values along with other statistical indices and octave band spectra.

The sound level survey measurement position is shown in Figure 2.

The following equipment was used during the survey; the sound level meter was calibrated before the survey and checked after with no deviation noted.

Equipment	Serial Number
Svantek Class 1 sound level meter type SVAN971, complete with MOLES weatherproof and lockable outdoor environmental kit	84045
Svantek calibrator type SV33B. Compliant to IEC 60942-1:2003	83826

Table 3: Equipment used

Weather conditions during the survey were dry, cool, and calm. Meteorological conditions are not considered to have had an adverse impact on measurement results.

Results of the 24-hour survey are shown in graphical form below.

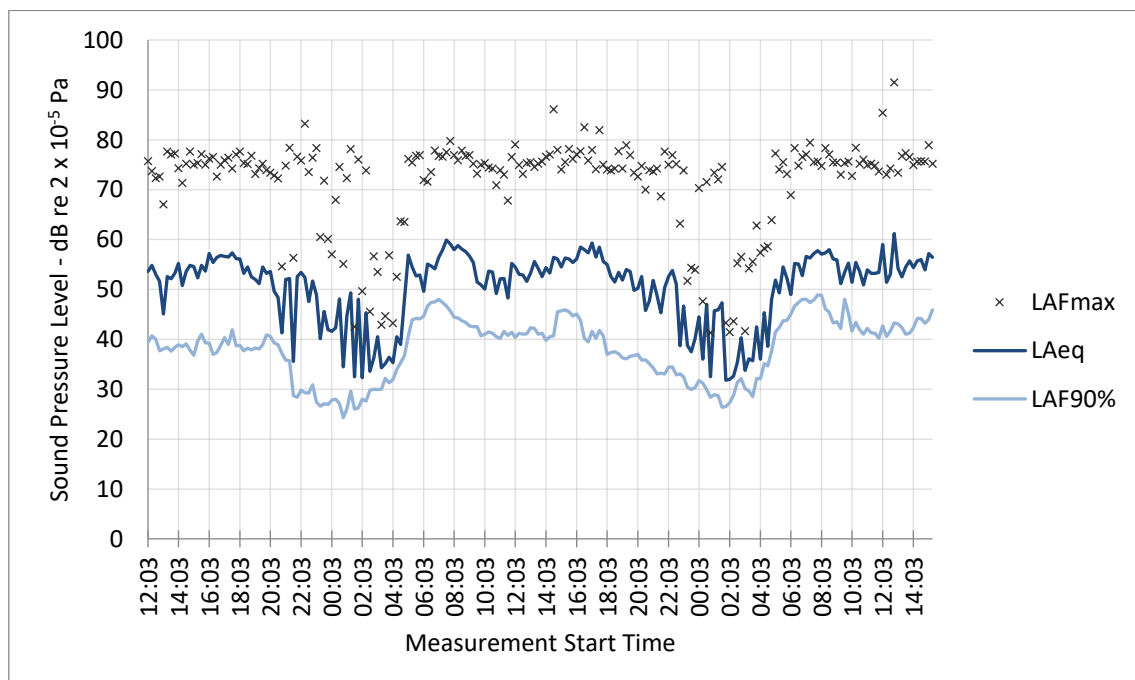


Figure 3: 24-hour sound level survey results

Measured sound levels indicate peaks of activity into the early nighttime period. This is believed to be caused by periods of sporadic traffic activity on the nearby road.

In accordance with BS 4142:2014+A1:2019, the prevailing background sound level is not necessarily taken to be the lowest recorded values, but rather the level that best represents the typical background sound level in the area over a defined period. A statistical analysis of the measured background sound levels has been carried out, generally following suggested guidance contained in Section 8 of the Standard. Distribution of the measured LA90 sound levels during the daytime operating hours of the proposed B2 and B8 use are shown in Figure 4 below.

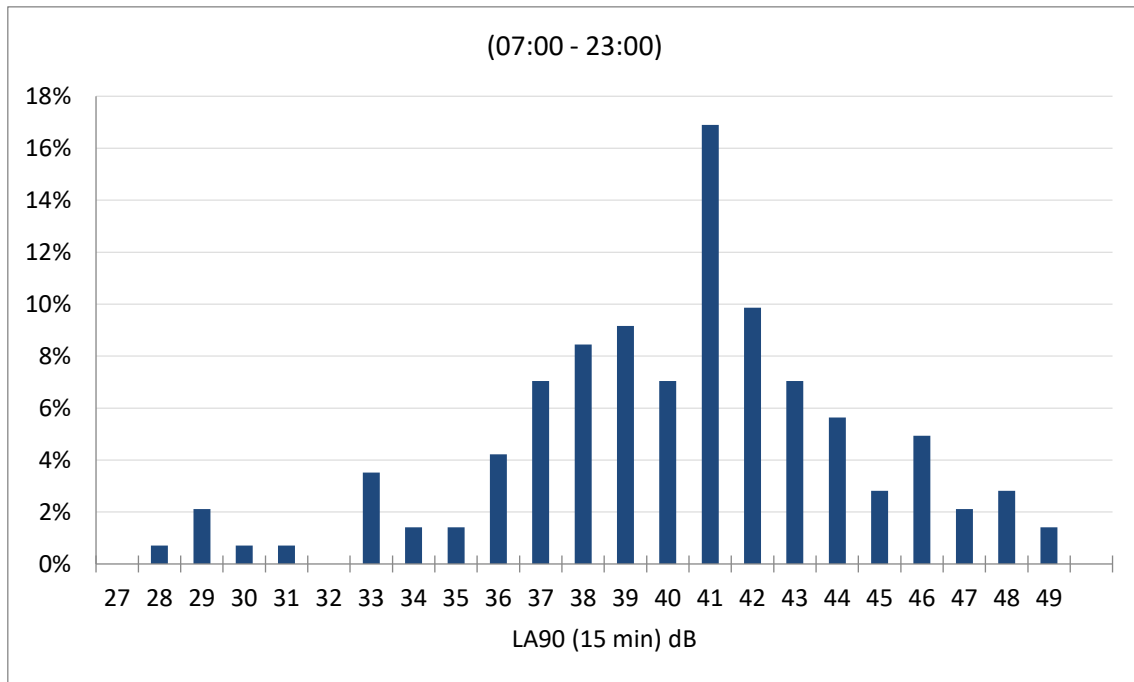


Figure 4: Statistical analysis of measured LA90 sound levels over daytime period

Summary of the sound level survey results are shown in tabular form in Table 4 below.

Survey date	Assessment Period	L <sub>Aeq, 15 min</sub>	Typical LA90
25 <sup>th</sup> – 27 <sup>th</sup> June 2023	Daytime (07:00 – 23:00)	55	41

Table 4: Summary sound level survey results

## 5. ACOUSTIC ASSESSMENT

### 5.1. Internal Operational Noise

#### 5.1.1. Use Class E(g)

Building use classes are defined by the Department for Communities and Local Government. Building use class E(g) is defined as “uses which can be carried out in a residential area without detriment to its amenity”. As such, building use class E(g) will not cause detriment to the amenity of a residential area, and assessment is not required.

## 5.2. External Operational Noise

### 5.2.1. Use Class B2

There is no intended operator of the site at this stage. Some operators may not require any external activity while others may wish to install external equipment or propose to undertake work externally.

At this stage, where the operator and activities are not known, it is not practical to carry out an assessment of external noise emissions from use class B2, as the type of work could vary hugely with different operators at different locations around the site.

It is recommended that a suitable planning condition relating to external activity is included should the appeal be granted. This condition should include a requirement for an acoustic assessment to be conducted in accordance with BS 4142:2014+A1:2019 for any external equipment or any proposed external activities, other than loading/unloading. The assessment should be submitted to and approved by the local planning authority prior to the commencement of the external activity.

### 5.2.2. Use Class B8

Use Class B8 is defined as Storage and Distribution. Activity pertaining to this is likely to include delivery and loading operations. The site currently has Sui-Generis use, which includes use of the “yard for storage of items ancillary to the primary use”. This allows for use of the site as a paper recycling centre, and this will include deliveries using vehicles and loading/unloading activities with a forklift.

In accordance with The IEMA Guidelines for Environmental Noise Impact Assessment, where there is no change in the activity or associated noise source, then this equates to an effect description of “*none/not significant*”, when considered in accordance with The Institute of Environmental Management and Assessments Guidelines for Noise Impact Assessment.

As there will be no change from the approved use of deliveries and loading activities then no further assessment is required for Class B8 use.

## 6. CONCLUSION

A planning application is to be submitted for the change of use to class E(g) use for two new buildings, along with class B2 and class B8 use for the rest of the site at Pitchkettle Farm, Grazeley Green, Reading.

ACA Acoustics have undertaken sound level surveys in the vicinity along with subjective listening and clarification of the existing acoustic environment. Assessment has been carried out in accordance with BS 4142:2014+A1:2019 and IEMA Guidelines for Environmental Noise Impact Assessment, and determines that potential new operational noise emissions from the proposed change of use will be low, and should not be disturbing or detrimental to the amenity of nearby residential occupants.

It is the author's opinion that the site is suitable for the change of use application, and noise emissions should not be an adverse determining factor of the planning permission.



