Our ref: NIA/12403/25/12587/v1/Bower Hill

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NOISE IMPACT ASSESSMENT FOR A PROPOSED RESIDENTIAL DEVELOPMENT BOWER HILL, OXSPRING

1.00 INTRODUCTION

1.01 Environmental Noise Solutions has been commissioned by Yorkshire Land Limited to carry out a noise impact assessment for a proposed residential development at Bower Hill, Oxspring (hereafter referred to as 'the site').

1.02 The following comments relating to noise at the site were received from the Environmental Health Department at Barnsley Metropolitan Borough Council (BMBC) in November 2025:

'There is a micro bar and beer garden next to the application site and when we determined the application for the new house to the south of your site, we required a noise survey to demonstrate an acceptable relationship with the proposed dwelling and its garden. I must request a noise survey in support of this application on which I will seek pollution control advice.'

1.03 The objectives of the noise impact assessment were therefore to:

- Assess the potential noise impact of the licensed premises on the proposed development with reference to relevant guidelines
- Provide recommendations for a scheme of sound attenuation works, as necessary, to ensure that the future occupants of the proposed development do not experience any unacceptable loss of amenity due to noise

1.04 This report details the methodology and results of the assessment and provides recommendations for the building envelope (fenestration and ventilation) and boundary treatments. It has been prepared to accompany a planning application to be submitted to BMBC.

1.05 This report has been prepared for Yorkshire Land Limited for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties making reference to the report should consult the aforementioned and ENS as to the extent to which the findings may be appropriate for their use.

1.06 A glossary of acoustic terms used in the main body of the text is contained in Appendix 1.

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2.00 SITE SETTING AND PROPOSED RESIDENTIAL DEVELOPMENT

2.01 The site is located within a predominantly residential setting in the village of Oxspring, near Penistone (see Figure 2.1 for site location marked in red).

Figure 2.1 – Site Location

2.02 Development proposals are for 4 no. residential dwellings with associated driveway, garden and landscaping, See Appendix 2 for a proposed site layout.

2.03 The licensed premises referred to in the consultation response is The Smithy Arms, a micropub with a small external seating area, which is located immediately to the south of the site and Plot 1.

2.04 Planning permission (ref: 2017/0225) for the micropub was granted by BMBC in August 2017, subject to conditions. Condition 3 restricts the operational hours of the micro pub as follows:

> *'3 The use hereby permitted shall be carried on only between the hours of 6.30pm to 11pm Monday to Saturday and between the hours of 12 noon to 6pm Sundays and Bank Holidays'*

2.05 Planning permission (ref: 2018/0608) to vary the operating hours to 1100–2300 hours Monday to Thursday, 1100–2330 hours Friday and Saturday and 1100–2230 hours on Sundays was granted by BMBC in July 2018, subject to the implementation of a Noise Management Plan as required by Condition 2:

> *'2 The development hereby approved shall be carried out strictly in accordance with the Noise Management Plan submitted on the 2nd July 2018 and specifications as approved unless required by any other conditions in this permission.*

2.06 The noise management plan states:

- *Clear and legible signage is being prominently displayed both inside and outside making customers aware of leaving the premises quietly and showing consideration to nearby residents.*

- *24 hour CCTV is in operation already recording the coming and goings of customers which then enables me to address any disturbance that may occur and also enables me to monitor customers parking.*

- *The beer garden is to the rear of the premises and cannot either been seen or heard by nearby residents.*

- *Music may be played on occasions but this is not a regular feature of Smithy Arms however when music is played this will be restricted to a low volume so as not to disturb the neighbours.*

- *A representative of Smithy Arms will be in regular contact with the Parish Council to discuss any concerns arising*.

2.07 The noise management plan restricts waste collections to 1000–1500 hours and deliveries to 0900–1600 hours.

2.08 Whilst the beer garden faces the proposed dwelling at the site, it is noted that the area is modest in scale (circa 6 metres by 4 metres), and it is expected that it would accommodate circa 20 no. patrons.

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3.00 ASSESSMENT GUIDANCE

3.01 Environmental Health at BMBC have previously requested that noise from the Smithy Arms micropub is assessed in accordance with British Standard 4142:2014 'Methods for rating and assessing industrial and commercial sound' (BS 4142). However, Paragraph 1.3 (Scope) of BS 4142 states that:

'Sound of an industrial and/or commercial nature does not include sound from the passage of vehicles on public roads and railway systems.

The standard is not intended to be applied to the rating and assessment of sound from:

a) recreational activities, including all forms of motorsport;
b) music and other entertainment;
c) shooting grounds;
d) construction and demolition;
e) domestic animals;
f) people;
g) public address systems for speech; and
h) other sources falling within the scopes of other standards or guidance.'

3.02 Therefore, potential noise from the micropub beer garden is outside the scope of BS 4142. ENS instead makes reference to the following pertinent guidance.

National Planning Policy Framework

3.03 The National Planning Policy Framework (NPPF) was updated in February 2025 and sets out the Government's planning policies for England and how these are expected to be applied.

3.04 Where issues of noise impact are concerned the NPPF provides brief guidance in paragraph 187 where it states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of…..noise pollution'.

3.05 Paragraph 198 advises that:

'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 the quality of life'.

3.06 With regard to extant community noise sources and the potential to affect proposed new developments, Paragraph 200 states that:

'Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.'

3.07 The NPPF also refers to the 2010 DEFRA publication, the Noise Policy Statement for England (NPSE) which reinforces and supplements the NPPF

Noise Policy Statement for England

3.08 The Noise Policy Statement for England (NPSE) sets out the long-term vision of promoting good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development. This long-term vision is supported by the following aims:

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

3.09 NPSE describes the following levels at which noise impacts may be identified:

- NOEL – No Observed Effect Level. This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
- LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected.
- SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur.

Planning Practice Guidance – Noise

3.10 Planning Practice Guidance on Noise (PPG) is an online resource (as updated October 2019) which provides additional guidance and elaboration on the NPPF. It advises that the Local Planning Authority should consider the acoustic environment in relation to:

- 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.
- Whether or not a good standard of amenity can be achieved.

3.11 In line with the Explanatory Note of the NPSE, the PPG references the LOAEL and SOAEL in relation to noise impact. It also presents a table of noise exposure hierarchy, which relates the NOAEL, LOAEL and SOAEL levels to the subjective perception of noise and examples of outcomes (reproduced in Table 4.1 below).

3.12 Table 3.1 summarises the noise exposure hierarchy, based on likely average response.

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Table 3.1 – Noise Exposure Hierarchy

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

British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings'

3.13 Useful contextual guidance is contained in British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings' (BS 8233), which sets indoor ambient noise levels for residential dwellings (see table below).

Table 3.2 – Indoor Ambient Noise Levels in Dwellings

Activity	Location	Good Indoor Ambient Noise Levels	
Resting	Living Room	35 dB $L_{Aeq\ (0700–2300)}$	-
Dining	Dining Room/Area	40 dB $L_{Aeq\ (0700–2300)}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ (0700–2300)}$	30 dB $L_{Aeq\ (2300–0700)}$

3.14 Note 5 to the above table states:

'If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level. If applicable, any room should have adequate ventilation (e.g. trickle ventilators should be open) during assessment.'

3.15 This is consistent with the guidance contained within the PPG, which states that:

'… consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations'.

3.16 With respect to external amenity, BS 8233 states:

'For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. 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. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.'

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4.00 SOUND ATTENUATION SCHEME PROPOSALS

4.01 The predominant potential noise source associated with the adjacent Smithy Arms micro pub is considered to be raised voices from the external area to the east of the premises.

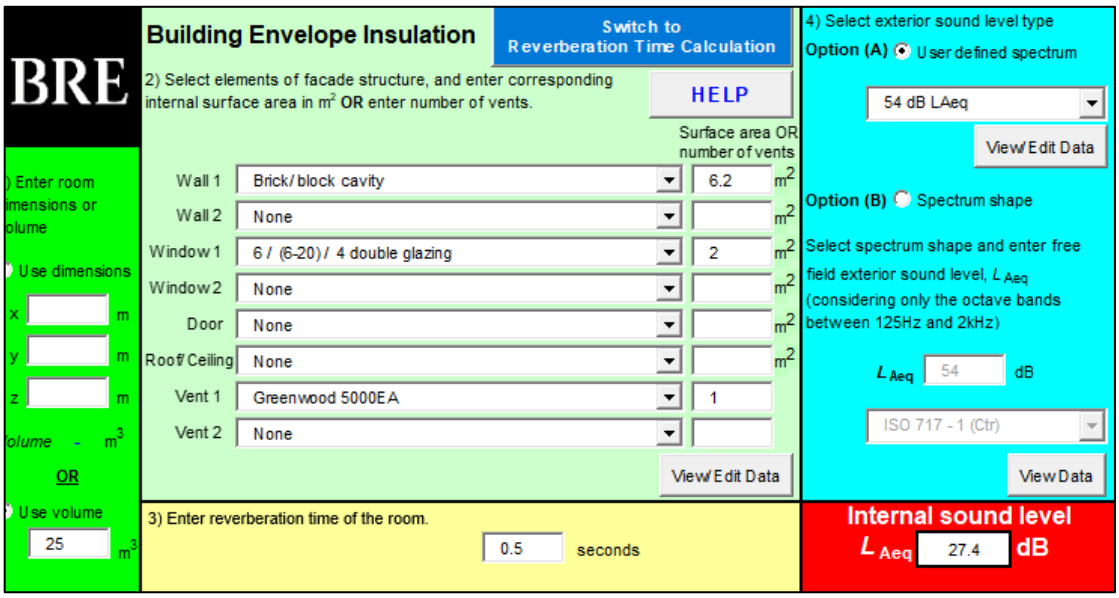
4.02 Measurements of a much larger external area have previously been undertaken by ENS, in a first-floor position directly adjacent to and overlooking the external area. The noise levels associated with raised voices measured at up to **54 dB $L_{Aeq\ (30\ min)}$** with circa 30 patrons in the area. This level is robustly adopted for assessment purposes.

4.03 The sound insulation requirements of habitable rooms at the development have been calculated using the methodology advocated in BS 8233, based on the external noise levels, typical room/glazing dimensions and reverberation time, together with parameters for the various elements of the building envelope.

4.04 Due to sensitivity to noise from the external area at The Smithy Arms, it is recommended that the development is provided with a mechanical extract ventilation (MEV) system.

4.05 Where the designed air permeability is tighter than (<) 5 $m^3/(h.m^2)$, 5000 mm^2 EA background ventilators may be required where MEV systems are proposed (1 no. vent per habitable room – to be confirmed with the developer). In order to maintain the sound insulation properties of the façade, any trickle vents should be rated at least **32 dB $D_{n,e,w}$** per 5000 mm^2 EA (vent open), such as the Greenwood 5000EA, or equivalent.

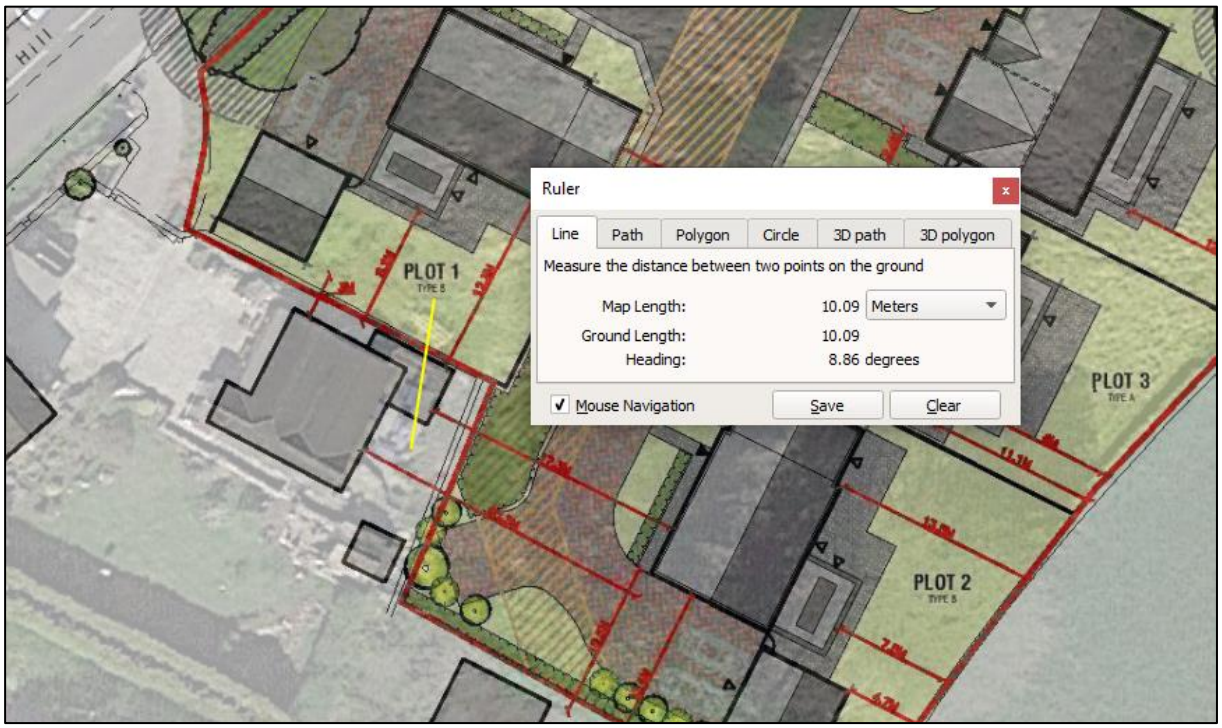
4.06 As evidenced in the BRE calculation spreadsheet below, based on typical dimensions, internal ambient noise levels in habitable rooms at the development are predicted at **≤ 27 dB $L_{Aeq\ (30\ min)}$** during worst-case use of the external area. Such levels are below both the daytime and night time criteria detailed in Table 3.2.



4.07 It is considered that, with the provision of glazing and ventilation as specified, the proposed residential development will not place any unreasonable constraints on The Smithy Arms, and is therefore in keeping with the aims of Paragraph 187 of the NPPF.

4.08 In relation to external amenity (gardens), it is noted that the proposed garden of plot 1 is located circa 10 metres from the outdoor seating area of The Smithy Arms as shown in Figure 4.1 below.

Figure 4.1 – Plot 1 Garden



4.09 Garden noise levels associated with The Smithy Arms are calculated for plot 1 at circa **48 dB L_{Aeq}** as follows:

The Smithy Arms = 54 dB L_{Aeq} at a distance of 5 metres
The outdoor seating is circa 10 metres from the garden of plot 1.
20log (5/10) = -6 dB for distance attenuation
= 48 dB L_{Aeq} (54 – 6 = 48 dB L_{Aeq})

4.10 The calculated level of 48 dB L_{Aeq} satisfies the guideline value for external amenity areas of 50 dB L_{Aeq}, as recommended by BS8233 / ProPG.

4.11 It should be considered that the above calculations do not include screening attenuation. Noise levels within the garden of plot 1 are expected to reduce further through the installation of a solid timber fence located along with the southern boundary of plot 1. Where a fence is proposed for plot 1, the following specification and location is recommended (see figures 4.2 and 4.3).

4.12 The acoustic fence should be built from close-boarded timber fencing (mass per unit area ≥10kg/m^2). The fence should have no gaps or holes and should be fully sealed at the ground (i.e. include a gravel board) as follows:

Figure 4.2: Acoustic Fence Build-up

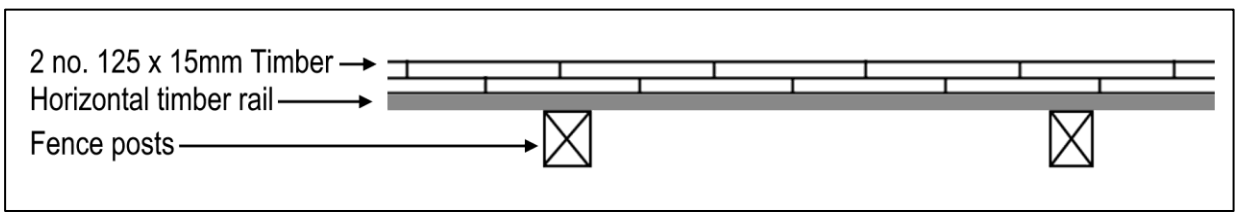


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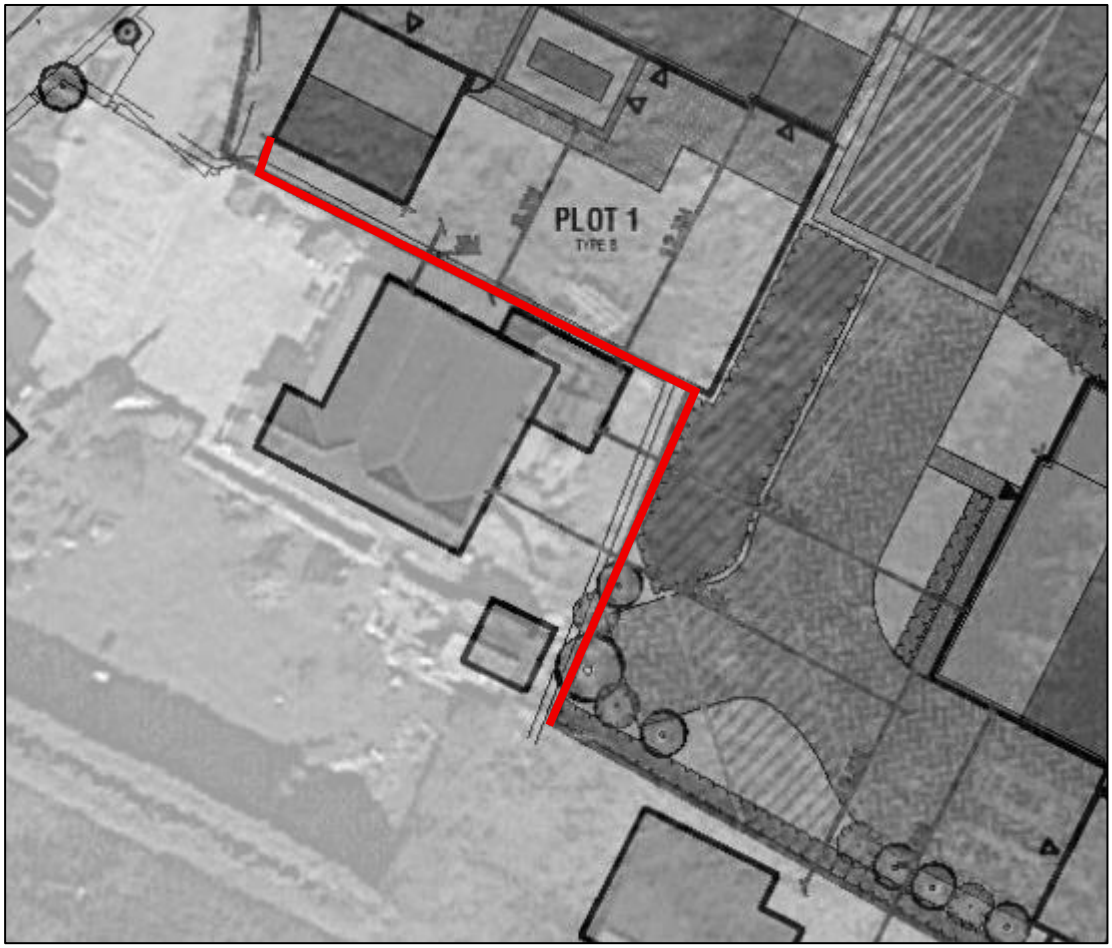
Figure 4.3: Acoustic Fence Location



4.13 On the basis of the above, there is no issue with respect to external amenity.

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5.00 CONCLUSIONS

5.01 A noise impact assessment has been undertaken for a proposed residential development at land adjacent to Smithy House, Sheffield Road, Oxspring.

5.02 The site borders an external seating area associated with the adjacent Smithy Arms public house. The predominant potential noise source associated with this area is considered to be raised voices.

5.03 A scheme of sound insulation works has been developed to mitigate to a minimum any potential noise associated with The Smithy Arms.

5.04 It is considered that the proposed development will not place any unreasonable constraints on the adjacent Smithy Arms public house. Proposals are therefore in keeping with Paragraph 187 of the NPPF.

I trust the foregoing is sufficient for your needs. Should you have any queries regarding the above, please do not hesitate to contact me.

Yours sincerely

Richard Whitaker
Environmental Noise Solutions Limited

cc File

Appendix 1
Glossary of Acoustic Terms

Sound Pressure Level (L_p)

The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 µPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$$L_p = 20 \log_{10}(p/p_0)$$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_0 = reference sound pressure (20 µPa).

A-weighting Network

A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$

The value of the A-weighted sound pressure level in decibels of continuous steady sound that within a specified time interval, T, has the same mean-square sound pressure as a sound that varies with time. $L_{Aeq, 16h}$ (07:00 to 23:00 hours) and $L_{Aeq, 8h}$ (23:00 to 07:00 hours) are used to qualify daytime and night time noise levels.

$L_{A10, T}$

The A-weighted sound pressure level in decibels exceeded for 10% of the measurement period, T. $L_{A10, 18h}$ is the arithmetic mean of the 18 hourly values from 06:00 to 24:00 hours.

$L_{A90, T}$

The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{AF\ max}$

The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

Sound Exposure Level (SEL or L_{AE})

The energy produced by a discrete noise event averaged over one second, no matter how long the event actually took. This allows for comparison between different noise events which occur over different lengths of time.

Weighted Sound Reduction Index (R_W)

Single number quantity which characterises the airborne sound insulation properties of a material or building element over a defined range of frequencies (R_W is used to characterise the insulation of a material or product that has been measured in a laboratory).

Appendix 2
Site Layout Plan