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# MILTON ARMS, ELSECAR – PROPOSED EXTERNAL SEATING AREA EXTENSION NOISE IMPACT ASSESSMENT

**On behalf of:**

**True North Brew Co.**

Report No: P20-292-R01v1
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# MILTON ARMS, ELSECAR – PROPOSED EXTERNAL SEATING AREA EXTENSION

# NOISE IMPACT ASSESSMENT

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# 1.0 INTRODUCTION

1.1 Hepworth Acoustics Ltd was commissioned by True North Brew Co. to carry out a noise impact assessment in connection with proposals to expand the existing external customer seating area at the Milton Arms in Elsecar.

1.2 The noise assessment has included:

- An inspection of the site and surrounding area;
- Assessment of the potential change in noise levels from the proposed enlarged external area;
- Recommendation of appropriate noise control/mitigation measures.

1.3 The Milton Arms public house is located at the corner of Fitzwilliam Street (B6097) and Armroyd Lane in Elsecar. A site inspection on Monday 20th July 2020 confirmed the nearest dwellings are located to the north on Fitzwilliam Street and west on a small residential close off Armroyd Lane as shown on Figure 1.

1.4 The opening hours are between 11:30 and 23:00 Sunday to Thursdays and 11:30 and 01:00 Fridays and Saturdays which will remain. The outdoor seating area will close at 22:00 every day.

1.5 It is proposed to refurbish and expand the existing external customer seating at the rear of the premises, increasing the capacity from about 50 to 86. We understand as part of the refurbishment a new larger conservatory will be constructed for indoor seating. Furthermore, the existing outdoor building that provides covered seating outdoors will be demolished to provide the additional outdoor space. A 3m high fence is proposed around the boundary of the seating area as shown in Figure 2.

1.6 We understand the current license of the premises restricts outdoor noise levels to below 60 dB $L_{Aeq,5mins}$ during peak times. Compliance monitoring is carried out by the staff regularly during peak times (approximately every 30mins) as required by Barnsley Metropolitan Borough Council.

1.7 The nearest dwelling to the proposed enlarged external seating area is the dwelling to the rear of the premises on Armroyd Lane and the rear garden of 53 Fitzwilliam Street.

1.8 The various noise units and indices referred to in this report are described in Appendix I. All noise levels mentioned in the text have been rounded to the nearest decibel, as fractions of decibels are imperceptible.

## 2.0 NOISE ASSESSMENT

2.1 Calculation have been undertaken to determine the likely levels of noise outside the nearest dwellings resulting from use of the proposed expanded external seating area, compared with the 0existing current seating layout and existing background noise levels.

2.2 For the purposes of the calculations, as the outdoor area will primarily be for food covers, we have adopted a sound power level of 68 dBA for a normal conversation for every two patrons participating in a typical sociable conversation.

2.3 Table 2 below shows the sound power level for normal human vocal effort as set out in ANSI 3.5:1997 'Methods for calculation of the speech intelligibility index'.

**Table 2: Sound power level of normal voices (dB)**

| Description | Octave Band Centre Frequency (Hz) | | | | | | | A |
|---|---|---|---|---|---|---|---|---|
| | 63 | 125 | 250 | 500 | 1k | 2k | 4k | |
| Normal voice | 49 | 55 | 65 | 69 | 63 | 56 | 50 | 68 |

2.4 The existing layout allows for approximately 50 patrons in the outdoor seating area. It is proposed to increase the capacity to 86 patrons seated on a mix of two, four and six seat tables.

2.5 The resulting noise levels have been calculated with allowances for distance attenuation and the proposed 3.0m fence only. A comparison of the calculated noise levels from the existing situation without fence and the proposed external seating area including fence outside the dwelling on Armroyd Lane and the centre of the rear garden at 53 Fitzwilliam Street are shown in Table 3 below:

**Table 3:Calculated Noise Levels (LAeq,T) from External Seating Area Outside Nearest Dwellings (dB)**

| Location | Armroyd Lane | 53 Fitzwilliam Street |
|---|---|---|
| Existing Seating – 50 (no fencing) | 58 | 54 |
| Proposed Seating – 86 (with fencing) | 57 | 40 |

2.6 Table 3 shows that calculated external seating area noise levels would be below the 60 dB $L_{Aeq}$ licensing limit when fully occupied. Providing the acoustic fence is constructed at the location as shown in Figure 1.

2.7 In order to be effective, the acoustic fencing must be constructed using boards of at least 20mm thickness and with a density of at least 10kg/$m^2$ with double rebated edges or cover strips over the joints to ensure that there are no holes or gaps. Gates in the fencing, if/where required, are acceptable as long as they are built to the same specification as the fence.

2.8 Purpose made acoustic fencing is available from a number of suppliers including Jacksons Fencing (www.jacksons-fencing.co.uk), Ransfords (www.ransfords.co.uk), and Gramm Barrier Systems (www.grammbarriers.com).

2.9 We however recommend that the following noise control/mitigation measures are carried out;

- Access to the external seating area should be restricted after 22:00 hours.
- There should be no loudspeakers in use anywhere within the external area.
- Noise from the external area can also be controlled by an appropriate noise management plan (i.e. supervision of the area by pub staff; signage requesting patrons to respect the neighbours; and that pub staff will promptly clear the area of patrons at the end of use, etc).

## 3.0 SUMMARY AND CONCLUSION

3.1 Hepworth Acoustics was commissioned to assess the potential impact of noise from the proposed expansion of the outdoor seating area at the Milton Arms in Elsecar.

3.2 The assessment has included an inspection of the premises and surroundings.

3.3 It has been demonstrated that the licensing limit of 60 dB $L_{Aeq}$ will be achieved, providing the seating area is enclosed by a 3m acoustic barrier and that the seating area is closed at 22:00.

3.4 We therefore conclude that there will be no unacceptable noise impact associated with the proposed refurbishment.

**Key:** Not to scale

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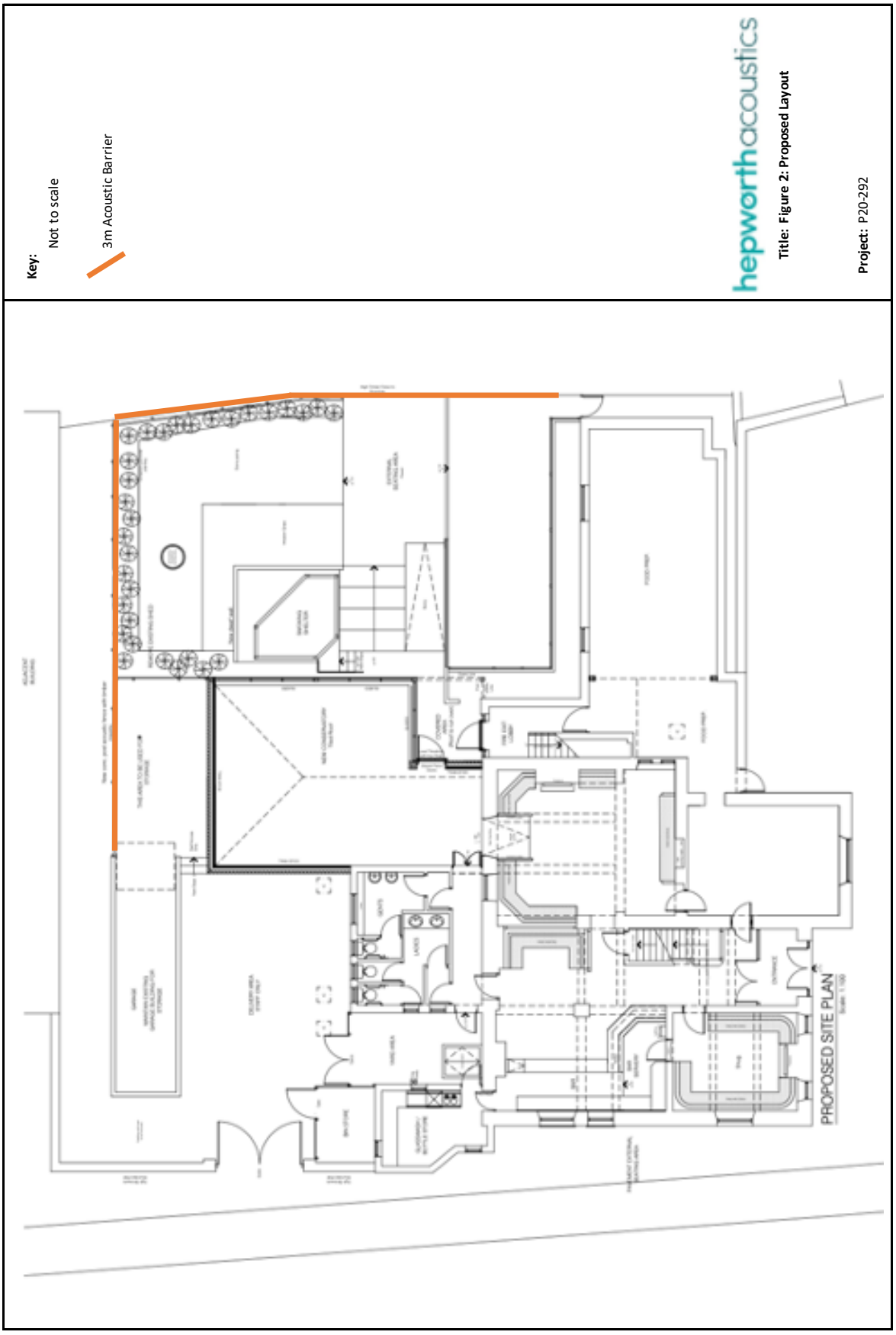
**Title: Figure 1: Existing Site Layout**

**Project:** P20-292


Key:
Not to scale
3m Acoustic Barrier
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Title: Figure 2: Proposed Layout
Project: P20-292
PROPOSED SITE PLAN

## Appendix I: Noise Units & Indices

### Sound and the decibel

A sound wave is a small fluctuation of atmospheric pressure. The human ear responds to these variations in pressure, producing the sensation of hearing. The ear can detect a very wide range of pressure variations. In order to cope with this wide range of pressure variations, a logarithmic scale is used to convert the values into manageable numbers. Although it might seem unusual to use a logarithmic scale to measure a physical phenomenon, it has been found that human hearing also responds to sound in an approximately logarithmic fashion. The dB (decibel) is the logarithmic unit used to describe sound (or noise) levels. The usual range of sound pressure levels is from 0 dB (threshold of hearing) to 120dB (threshold of pain).

Due to the logarithmic nature of decibels, when two noises of the same level are combined together, the total noise level is (under normal circumstances) 3 dB(A) higher than each of the individual noise levels e.g. 60 dB(A) plus 60 dB(A) = 63 dB(A). In terms of perceived 'loudness', a 3 dB(A) variation in noise level is a relatively small (but nevertheless just noticeable) change. An increase in noise level of 10 dB(A) generally corresponds to a doubling of perceived loudness. Likewise, a reduction in noise level of 10 dB(A) generally corresponds to a halving of perceived loudness.

The ear is not equally sensitive to sound at all frequencies. It is less sensitive to sound at low and very high frequencies, compared with the frequencies in between. Therefore, when measuring a sound made up of different frequencies, it is often useful to 'weight' each frequency appropriately, so that the measurement correlates better with what a person would actually hear. This is usually achieved by using an electronic filter called the 'A' weighting, which is built into sound level meters. Noise levels measured using the 'A' weighting are denoted dB(A) or dBA.

### Frequency and Hertz (Hz)

As well as the loudness of a sound, the frequency content of a sound is also very important. Frequency is a measure of the rate of fluctuation of a sound wave. The unit used is cycles per second, or hertz (Hz). Sometimes large frequency values are written as kiloHertz (kHz), where 1 kHz = 1000 Hz.

Young people with normal hearing can hear frequencies in the range 20 Hz to 20 kHz. However, the upper frequency limit gradually reduces as a person gets older.

## Glossary of Terms

When a noise level is constant and does not fluctuate, it can be described adequately by measuring the dB(A) level. However, when the noise level varies with time, the measured dB(A) level will vary as well. In this case it is therefore not possible to represent the noise climate with a simple dB(A) value. In order to describe noise where the level is continuously varying, a number of other indices can be used. The indices used in this report are described below.

$L_{Aeq}$ This is the A–weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified time period. In other words, LAeq is the level of a continuous noise which has the same total (A–weighted) energy as the real fluctuating noise, measured over the same time period. It is increasingly being used as the preferred parameter for all forms of environmental noise.

$L_{Amax}$ This is the maximum A–weighted noise level that was recorded during the monitoring period.

$L_{A90}$ This is the A–weighted noise level exceeded for 90% of the time period. $L_{A90}$ is used as a measure of background noise.