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Sent by email only: rhinopubs@yahoo.co.uk

Dear Sirs

NOISE IMPACT ASSESSMENT FOR PROPOSED RESIDENTIAL DEVELOPMENT IN PART OF GREAT HOUGHTON WORKING MENS CLUB, 20 HIGH STREET, GREAT HOUGHTON, BARNSELEY, S72 0AB

1.00 INTRODUCTION

- 1.01 Environmental Noise Solutions Ltd (ENS) have been commissioned by Rhino Pubs to carry out a noise impact assessment for the proposed residential development in part of Great Houghton Working Men's Club, 20 High Street, Great Houghton, Barnsley, S72 0AB (hereafter referred to as the application site).
- 1.02 For reference the proposed residential development consists of 5 no. studios, with each studio being single person occupancy.
- 1.03 The objectives of the noise impact assessment were to:
- Determine the ambient noise climate at the application site
 - Provide recommendations for a scheme of sound insulation works, as necessary, to ensure that the future occupants of the proposed residential 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 sound insulation works required to the wall which (in the event that the proposed residential development is granted planning permission) will provide a separating function between the retained part of Great Houghton Working Men's Club and the residential development (studios).
- 1.05 This report has been prepared to accompany a planning application to be submitted to Barnsley Metropolitan Borough Council (BMBC) for the proposed residential development.
- 1.06 This report has been prepared for Rhino Pubs 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 Rhino Pubs and ENS as to the extent to which the findings may be appropriate for their use.
- 1.07 A glossary of acoustic terms used in the main body of the text is contained in Appendix 1.

2.00 APPLICATION SITE SETTING AND PROPOSED RESIDENTIAL DEVELOPMENT

- 2.01 For reference, the application site is located in a residential setting. It is bound by:
- The B6273 High Street (a moderately-trafficked road) to the south
 - Residential dwellings on Woodlands View to the west and north
 - Residential dwelling on High Street to the east

- 2.02 The proposed residential development consists of the conversion of the concert room of the Working Men's Club into 5 no. studios (a layout plan is shown in Appendix 2 for reference).
- 2.03 It is understood that the existing wall between the lounge of the Working Men's Club and proposed Studio 1 is single leaf (100 mm) masonry. This is to be upgraded for enhanced sound insulation.

3.00 BASELINE NOISE SURVEY

- 3.01 In order to establish the ambient noise levels at the application site, a baseline noise survey was undertaken on Monday 20th June 2016.
- 3.02 For the purpose of the assessment, a single noise monitoring position was adopted in a free field position at the south eastern façade of the existing club hall approximately 35 metres from the nearside kerb of the B6273 High Street (see Appendix 2 for reference).
- 3.03 Noise measurements were undertaken using a Bruel & Kjaer 2250 Type 1 integrating sound level meter. A windshield was fitted for all measurements. Measurements were made in a free field environment at 1.5 metres above local ground level. The measurement system calibration was verified immediately before the commencement of the measurement sessions and again at the end, using a Bruel & Kjaer Type 4231 calibrator.
- 3.04 The following table contains a summary of the measurement data for each measurement session, rounded to the nearest decibel.

Table 3.1 – Noise Measurement Data

Position	Time	L _{Aeq} (dB)	L _{A90} (dB)	L _{A10} (dB)	L _{A1} (dB)	Comments
MP1	1119–1142	53	46	57	62	B6273 High Street traffic
MP1	1225–1300	54	45	57	61	
MP1	1300–1345	53	45	57	61	
Daytime ambient noise level circa 53–54 dB L _{Aeq, T}						

- 3.05 The daytime ambient noise climate at the application site included road traffic on the B6273 High Street and noise levels are not significant. Although Planning Policy Guidance 24 (PPG 24) has been superseded by the National Planning Policy Framework, it is noteworthy that the proposed residential development falls within PPG 24 Noise Exposure Category A with the (then) associated guidance being '*noise need not be considered as a determining factor in granting planning permission*'.
- 3.06 It is noted that Studio 1 of the proposed residential development is adjacent to the lounge of the Working Men's Club. It is recommended that this wall be upgraded on one side as follows (note: ensure masonry wall continues to roof; due to high ceilings it is understood that Studio 1 (and all other studios) will have new plasterboard ceilings at circa 2400 mm height):
- 50 mm (minimum) gap to masonry wall
 - 50 mm (minimum) timber (or metal) stud
 - 50 mm mineral wool insulation (45 kg/m³ density) between studs
 - 2 x 15 mm sound bloc plasterboard
- 3.07 The provision of the independent wall lining will increase the airborne sound insulation of the separating wall to at least 60 dB D_{n,Tw} (a standard commonly adopted for residential use adjacent to commercial premises with non-discotheque music). This represents a significant betterment over the standards set out in Building Regulations Approved Document E 'Resistance to the Passage of Sound', ADE 2003.

- 3.08 Based on internal noise levels within the Working Men's Club of up to 90 dB L_{Aeq} (which is very robust given the relatively small size of the club lounge), good internal noise levels (as defined by British Standard 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings) will be maintained within the proposed residential development.

4.00 CONCLUSIONS

- 4.01 A noise impact assessment has been undertaken for the proposed residential development in part of Great Houghton Working Men's Club, 20 High Street, Great Houghton, Barnsley, S72 0AB.
- 4.02 A scheme of sound insulation has been developed in order to achieve good internal ambient noise levels in keeping with the National Planning Policy Framework and associated guidance.
- 4.03 On this basis, noise is not considered a constraint to the proposed residential development.

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



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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 μ Pa 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 μ Pa).

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 LOCATION AND NOISE MONITORING POSITIONS

