

NEW PADEL COURTS – POWERLEAGUE, NICHOLLS COMMUNITY SPORTS GROUND, MANCHESTER
NOISE IMPACT ASSESSMENT

On behalf of:
Powerleague Fives Ltd

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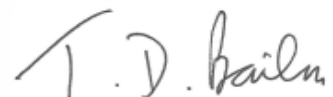
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CONTENTS

1.0	INTRODUCTION	1
2.0	GUIDANCE	2
3.0	NOISE ASSESSMENT	4
4.0	SUMMARY	6
FIGURE 1 – SITE LOCATION		7
FIGURE 2 – PROPOSED PADEL COURTS		8
APPENDIX I: NOISE UNITS & INDICES		9

1.0 INTRODUCTION

- 1.1 Hepworth Acoustics Ltd was commissioned by Carter Jonas on behalf of Powerleague Fives Ltd to carry out a noise impact in connection with a proposed development of six new padel courts at Nicholls Community Sports Ground, Manchester.
- 1.2 The location of the proposed padel courts, which is currently unused land, is shown in Figure 1. The site is surrounded by industrial/commercial with a number intervening buildings between the proposed padel courts and the nearest dwellings.
- 1.3 The nearest dwellings are on Palfrey Place to the west and Hyde Road to the south.
- 1.4 The dwellings are approximately 155 metres (Palfrey Place) and 160 metres (Hyde Road) from the proposed padel courts. Therefore, the noise assessment has included desktop calculations of the potential impact at these distant dwellings. Recommending any mitigation measures if appropriate.
- 1.5 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 GUIDANCE

NPPF:2023

- 2.1 Paragraph 191 of the National Planning Policy Framework (NPPF), December 2023, states 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: a) 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;”*

NPSE:2010

- 2.2 The Noise Policy Statement for England (NPSE) 2010, which is referred to in NPPF, includes three aims:
- i. Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
 - ii. Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
 - iii. Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

Local Policy

- 2.3 Manchester’s Local Development Framework, Core Strategy, Development Plan was adopted in July 2012, where Policy DM1 Development Management, states that *“all development should have regard to the following specific issues... effects on amenity, including... noise”*.

Sport England ‘Artificial Grass Pitch (AGP) Acoustics – Planning Implications’

- 2.4 The Sport England Design Guidance Note provides guidance on the acoustics related planning implications of AGPs. The Guidance Note refers to both NPPF and NPSE documents but also draws attention to the fact that there is “no specific noise criteria for an AGP” or sports pitch. The guidance

refers to World Health Organisation (WHO) 1999 'Guidelines for Community Noise' and from this derives an appropriate daytime noise level outside a dwelling of 50 dB $L_{Aeq,1hr}$. Similarly, 50 dB is also recommended to avoid moderate annoyance in outdoor living spaces/external amenity areas. The assessment period has been reduced from 16 hours to 1 hour reflecting a *"typical time period for a community sports session"* and a robust assessment. These noise levels are also in line with the criteria of set out in BS8233.

BS 8233:2014

- 2.5 No specific guidance is given in the NPPF on acoustic design criteria, therefore, the guidance discussed below has been used for acoustic design purposes.
- 2.6 Guidance on acceptable noise levels in habitable rooms and private gardens is set out in British Standard 8233: 2014, 'Guidance on sound insulation and noise reduction for buildings', which carries the full weight of an adopted British Standard. BS 8233 recommends that it is desirable that noise from external sources does not exceed the guidelines values that are shown in Table 1 inside habitable rooms for daytime (07:00 – 23:00 hours) and night-time (23:00 – 07:00 hours) periods.

Table 1: BS 8233:2014 recommended acoustic design criteria (dB $L_{Aeq,T}$)

Activity	Location	Daytime 07:00 – 23:00 hours	Night-time 23:00 – 07:00 hours
Resting	Living room	35	-
Dining	Dining room/area	40	-
Sleeping (daytime resting)	Bedroom	35	30

Acoustic Design Criteria

- 2.7 Therefore considering the above guidance the following noise criteria has been adopted in respect of controlling noise from the new padel courts:
- Daytime noise 50 dB $L_{Aeq,1hr}$ outside a dwelling;
 - Daytime noise below 35 dB $L_{Aeq,1hr}$ inside a dwelling within a habitable room.
- 2.8 Our noise assessment is described in Section 3.0.

3.0 NOISE ASSESSMENT

Potential Padel Court Noise

- 3.1 Hepworth Acoustics has carried out noise assessments in connection with similar padel court developments and therefore have measured appropriate noise levels associated with a match. The measurements were undertaken during a high intensity match, lasting approximately 1 hour, including enthusiastic vocal noise from the players such as shouting/laughing/talking.
- 3.2 The measured octave band $L_{eq,T}$ values are shown in Table 1 below, which have been standardised to a distance of 10 metres.

Table 2: Adopted padel court match noise levels at 10 metres (dB)

Description	Octave Band Centre Frequency (Hz)							A
	63	125	250	500	1k	2k	4k	
Padel Court Match (L_{eq})	56	54	57	58	58	52	47	61

- 3.3 Tables 3 and 4 below shows the calculated noise levels outside the nearest dwellings on Palfrey Court and Hyde Road over a 1 hour period, assuming six games of padel are occurring concurrently to consider a worst-case scenario. The calculation considers any screening from the intervening buildings and corrections for distance attenuation.

Table 3: Calculated Noise Level at dwellings on Palfrey Place (dB)

Description	Octave Band Centre Frequency (Hz)							A
	63	125	250	500	1k	2k	4k	
Six games of padel (L_{eq})	64	62	64	66	66	59	54	69
Outside dwelling	35	32	33	32	30	21	13	35

Table 4: Calculated Noise Level at dwellings on Hyde Road (dB)

Description	Octave Band Centre Frequency (Hz)							A
	63	125	250	500	1k	2k	4k	
Six games of padel (L_{eq})	64	62	64	66	66	59	54	69
Outside dwelling	31	27	27	26	23	13	6	27

- 3.4 The calculated noise levels outside the nearest dwellings during six concurrent games of padel are 27 to 35 dB $L_{Aeq,1hr}$. These are low levels of noise and below the adopted external noise criterion. Furthermore, the predicted noise levels are below the internal adopted noise criterion without considering the likely 10 dB reduction provided by a building façade with an open window.

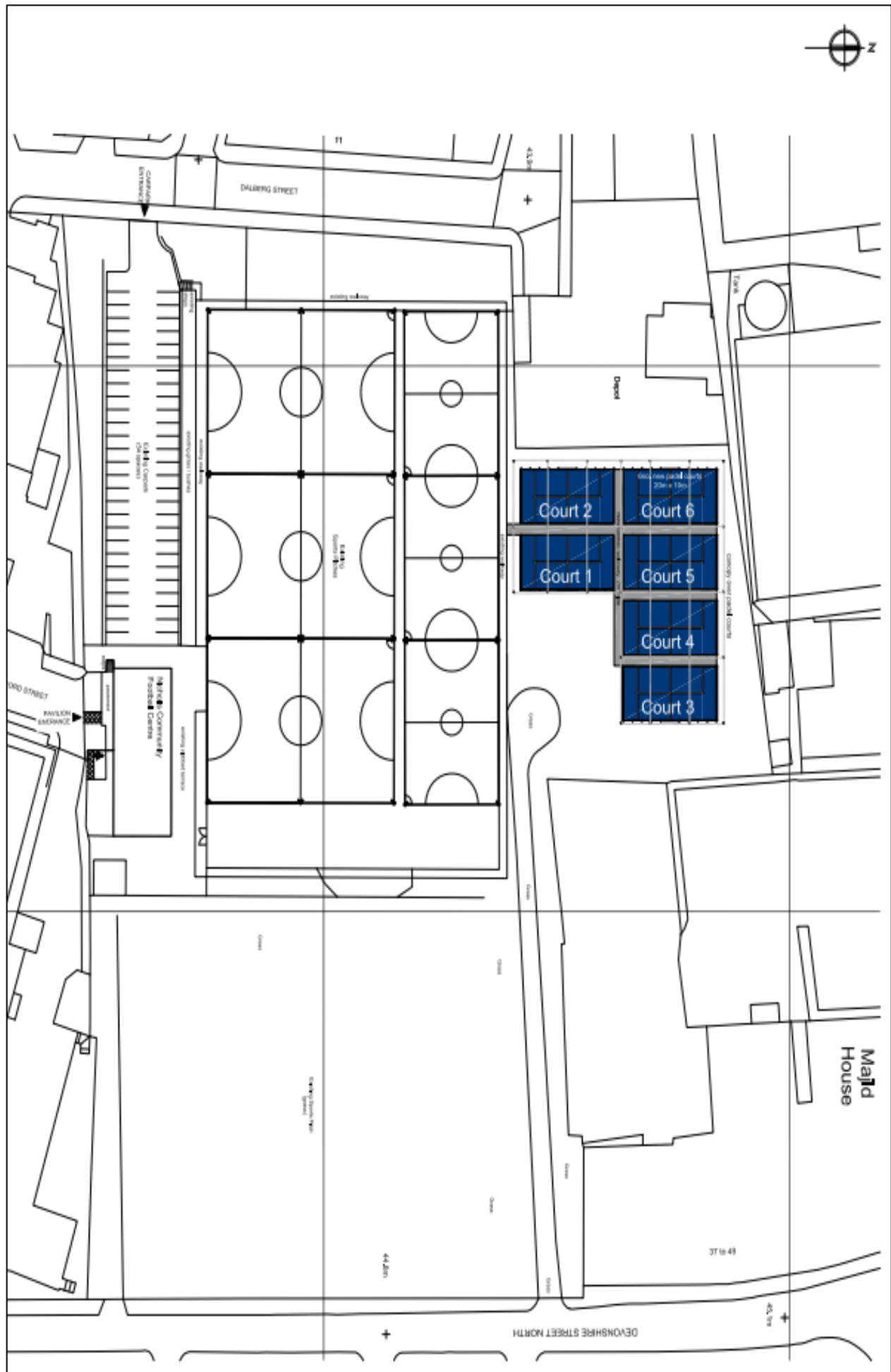
Conclusion

- 3.5 We conclude that the proposed development of six padel courts would not result in any unacceptable harm to residential amenity by reason of noise disturbance.
- 3.6 Furthermore, 'significant adverse impacts' would be avoided and any 'adverse impacts' would be mitigated/minimised, bringing the development in line with the aims of the Noise Policy Statement for England (NPSE) 2010.
- 3.7 On this basis, no specific noise mitigation measures are considered necessary.

4.0 SUMMARY

- 4.1 The impact of noise has been assessed for six new padel courts at Nicholls Community Sports Ground, Manchester.
- 4.2 Taking all factors into account, we consider that the proposed six new padel courts would not result in a noise impact of the nearest dwellings, and therefore would not result in any demonstrable harm to residential amenity.
- 4.3 No specific noise mitigation measures are necessary.





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 120 dB (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.

$L_{Aeq,T}$ 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, $L_{Aeq,T}$ 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.