MZA ACOUSTICS

New Padel Courts @ Batley Bulldogs RLFC

Padel Noise Impact Assessment

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1. INTRODUCTION

MZA Acoustics has been appointed by Padel & Co Club Ltd. (the Client) to undertake a noise impact assessment relating to the external padel courts at Batley Bulldogs RLFC 7 Heritage Road Batley WF17 7NZ (the Site).

This report has been prepared to accompany a planning application for the proposal (planning ref. 2025/62/90448/E) which has been submitted to Kirklees Council.

The application, submitted in February 2025, is for two padel courts and associated lighting.

This report aims to assess the potential for noise impact from the outdoor padel courts.

Baseline environmental noise surveys have been undertaken at locations representative of the nearest noise-sensitive receptors (NSRs) of the proposed activities to establish the prevailing noise climate.

This report considers the operational aspects of the scheme only, and does not extend to an assessment of demolition, construction or other enabling works.

This report occasionally employs technical terminology. To assist the reader, a glossary of terms is presented in Appendix A.

2. SITE DESCRIPTION

2.1 Existing Site Location & Environment

Batley Bulldogs RLFC is located circa 1 mile to the south of Batley Town Centre.

The existing sports club features a dedicated car park, football pitches to the west, and clubhouse with a bar and outdoor seating area to the rear.

The Site is predominantly bordered by residential properties, with houses along Purlwell Hall Road, Mount Terrace also Hyrstmount Junior School.

Further afield, the nearest major road network includes the A653 (Leeds Road) approximately 1.1 miles to the east which provides access to M62 motorway.

The location of the existing site in context of the immediate surrounding area is shown in Figure 1.

Figure 1: Site location

2.2 Proposed Development

The planning application includes two padel courts to be installed on the former bowls lawn located near the south site boundary.

Figure 2 shows the location of the new padel courts and the nearest noise-sensitive receptors (NSRs) – the residential properties on Purlwell Hall Road, Mount Terrace and Hyrstmount Junior School.

Figure 2: Proposed padel court area and nearest noise-sensitive receptors

The area shown around the courts and residential receptors (in blue), the ground adjacent to Purlwell Hall Road is to remain grassed.

3. ASSESSMENT GUIDANCE

3.1 Introduction

This section details the guidance that will be used in the assessments undertaken in this report.

The adopted criteria for each element of the development will be included in the assessment section of the report.

3.2 National Planning Guidance

3.2.1 National Planning Policy Framework (NPPF) December 2023

The NPPF determines the government's planning policy for England. The document was first published in March 2012, revised in July 2018, updated in 2019, 2021 and 2023.

In response to the 'Levelling-up and Regeneration Bill: reforms to national planning policy consultation' the NPPF has been completely revised and the version published on 19 December 2023 completely replaces the previous NPPF document.

Planning policy, in relation to noise is considered in Chapter 15 – 'Conserving and enhancing the natural environment', specifically in terms of pollution.

Paragraph **191** 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 by 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.*

b) ***Identify and protect tranquil areas*** *which have remained relatively undisturbed by noise and are prized for their recreational amenity value for this reason; and*

c) Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

Furthermore, Paragraph **193** continues:

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.

The guidance contained within the NPPF reference the Noise Policy Statement for England (Department for Environment, Food & Rural Affairs, 2010).

3.2.2 Noise Policy Statement for England (NPSE, March 2010)

The NPSE attends to three types of noise;

- "Environmental noise" which includes noise from transportation sources;
- "Neighbour noise" which includes noise from inside and outside people's homes; and
- "Neighbourhood noise", which includes noise arising from within the community such as industrial and entertainment premises, trade and business premises, construction sites and noise in the street.

In line with the aims determined in the NPPF, the NPSE determines three aims;

- 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;
- 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; and,
- 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.

The guidance detailed within the NPSE relates a number of key phrases with regards to adverse effects which can be applied to noise impacts as used by the World Health Organisation.

- **NOEL – No Observed Effect Level** - The level below which no health effect or detrimental impact on the quality of life is observed.
- **LOAEL – Lowest Observed Adverse Effect Level** - The level at which adverse effects on health and quality of life can be detected
- **SOAEL – Significant Observed Adverse Effect Level** - The level above which significant adverse effects on health and quality of life occur.

The guidance indicates that it is not possible to have a single objective noise-based measure that defines SOAEL, and as such the SOAEL is likely to be different for different noise sources and receptors. The document indicates that further research is required to establish what may constitute a significant adverse impact on health and quality of life from noise.

While the NPSE determines the NOEL, LOAEL and SOAEL descriptions, the document indicates that, unlike other environmental disciplines, there are currently no European or national noise limits which have to be met although the NPSE states that "there can be specific local limits for specific developments" allowing for negotiation.

3.2.3 Planning Practice Guidance – Noise

The Planning Practice Guidance for noise (published in March 2014 and updated July 2019) broadly considers the same issues as demonstrated within both the NPPF and the NPSE with regards to noise within the planning realm.

The information detailed within the PPG indicates that noise should be considered when:

- New developments may create additional noise; and/ or,
- New developments would be sensitive to the prevailing acoustic environment.

The guidance indicates that Local Planning Authorities should 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.

The impact of noise is rated within the policy document in terms of the relative 'Observed Effect Level', defined in line with the guidance within the NPSE. Based upon this, the Planning Practice Guidance provides the following matrix of likely average response:

Table 1: PPG observed effect levels

Perception	Example of Outcomes	Increasing Effect Level	Action
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			
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			
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 character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/ or an ability 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

3.3 Technical Guidance

3.3.1 Sport England Design Guidance Note: 'Artificial Grass Pitch (AGP) Acoustics – Planning Implications' 2015

There is a lack of formal guidance in the assessment of noise impact of sports and recreational facilities. In the assessments of similar site applications, reference has been made to Sport England's own guidance document and whilst this is not adopted as a national impact assessment guidance, it provides the most relevant approach to the assessment of site suitability for planning applications for artificial sports surfaces.

In line with the NPPF and the NPSE, the Guidance Note recognises the value of good [acoustic] design in supporting the development of modern sporting facilities for all ages, and the importance of consideration of the potential disturbance to neighbours is considered at an early stage in the planning and design of the AGP and aims to:

- Increase awareness of good design in sports facilities
- Help key building professions, clients, user representatives and other stakeholders to follow best practice
- Encourage well designed sports facilities that meet the needs of sports and are a pleasure to use.

There is no previous guidance or assessment methodology in the UK specifically relating to noise from the proposed uses at the Site. This guidance considers the issues from first principles and proposes assessment criteria based upon researched noise levels in a variety of games scenarios. It is recommended that community noise such as that emitted from sports facilities is assessed in absolute terms against the guideline values presented in the World Health Organisation's 1999 publication 'Guidelines for Community Noise'. WHO guidelines broadly align to those criteria for external sensitive property identified in BS 8233, being **50 dB $L_{Aeq,16\ hours}$** rising to **55 dB $L_{Aeq,\ 16\ hours}$** where development is desirable.

It is further suggested that the $L_{Aeq\ 16\ hour}$ reference period in WHO for assessment of the outdoor sport/leisure activities is not truly representative as it would include periods of no use. A more appropriate assessment time is for $L_{Aeq\ 1\ hour}$ as this is typically the time period for a community sports session and is more likely to reflect the noise impact of use and the variable local ambient noise level depending on daily traffic conditions, seasonality and term time.

3.3.2 Netherlands Padel and Sound Guidance January 2023

This relatively new guidance document aims to provide a practical tool to help stakeholders and local government in the Netherlands carry out assessments of padel noise.

Whilst the assessment is based on Dutch planning frameworks and legislation, in absence of other specific technical guidance available in the UK, it provides a useful insight and background for padel impact assessments and technical guidance on modelling these noise sources. The guidance references the Dutch Environmental Law General Provisions Act, which requires a notification in accordance with the Activities Decree to be submitted for new sports facility and existing facilities, such as a tennis club, being expanded with padel courts.

The Dutch Activities Decree, referenced in the guidance, sets limiting values for average and maximum assessment levels. These are presented in Table 2. The document notes that they are set to allow sporting and recreation activities and living to coexist without excessive noise, but it does not mean that the sound of the activity will be inaudible. It also notes that deviations from these limit values are possible based on suitable justification.

Table 2: Dutch Activities Decree noise limits

Period [1]	Long-Term Average Rating Level (dB $L_{Aeq,T}$)	Maximum Noise Level (dB L_{AFmax})
Day (07:00 – 19:00)	50	70
Evening (19:00 – 23:00)	45	65
Night (23:00 – 07:00)	40	60

[1] In the United Kingdom, the daytime is 07:00 to 23:00 which includes the European 'evening' period

The guidance also recommends 3D noise modelling for padel courts, with an area source 1.5 m above ground and a sound power level between of up to 91 dBA.

3.3.3 IEMA Guidelines for Environmental Noise Impact Assessment 2014

As there are no specific guidelines or standards available regarding how to undertake a Noise Impact Assessment, the intention of this publication is to set good practice standards for all types of project, regardless of size. The document provides guidance on how to scope a noise assessment, defining the baseline noise environment, prediction of changes in noise levels as a result of the development proposals and evaluation the significance of the effect of changes in noise levels.

Effects of noise are divided into two categories:

- Behavioural indicators; and
- Physiological/medical indicators.

The guidelines provide a framework for a noise impact assessment to be undertaken but do not prescribe an assessment methodology. As such, professional judgement by experienced practitioners is required in order to identify appropriate assessment approaches.

One of the primary methods for assessment of the significance of noise related to a new development is to review the relationship between a measure of noise and the consequent community response. This can be considered by making a judgement on whether or not the change in noise level as a result of the development will result in an effect in terms of human response, and whether or not that effect is significant.

In addition to the simple numerical change in level, however, the document states that other factors should be considered, including the type of noise source, the nature of the change and other pertinent factors.

Table 3: IOA/IEMA subjective response to changes in noise level

Sound Level Change, dB	Subjective Response	Impact Description
0.0	No change	None
0.1 – 2.9	Imperceptible change in loudness	Slight
3.0 – 4.9	Perceptible change in loudness	Moderate
5.0 – 9.9	Up to a doubling or halving of loudness	Substantial
10.0 or more	More than doubling or halving in loudness	Severe

4. BASELINE ENVIRONMENTAL NOISE SURVEY

4.1 Introduction

An environmental noise survey has been undertaken at the site by MZA Acoustics to establish the prevailing acoustic conditions against which the proposed noise generating activities will be assessed.

The survey was undertaken in March 2025 to obtain noise data at the noise-sensitive receptors, and to determine the noise levels at the existing sports club. Additional surveting to take measurements to determine source noise levels of padel courts in use.

A long-term, unattended, measurement was undertaken at a fixed position (LT1) over a period of 5 days between 16:00 on Wednesday 12th and 14:30 on Monday 17th March 2025. The microphone was attached to a pole related to NSRs to the west of The Site and as such, at a distance to reflect the relationship to other receptors NSRs. The Purlwell Hall Road is open facing the others are screened by dense trees and shrubbery, this was decide to be the most obvious solution to take a balance reading.

4.2 Measurement Location

The noise monitoring location is illustrated in Figure 3 described as follows:

- **LT1:** Long-term, unattended monitoring position over ~5 days. Microphone positioned 2.5 m above local ground height west of the site boundary on the outside of the new padel courts. The microphone was in a free-field position representative of the most vunerable NSR along Purlwell Hall Road.

Figure 3: Monitoring locations

4.3 Equipment

The equipment used to undertake the noise surveys is listed in Appendix B.

The microphones and sound level meters have been calibrated at a UKAS accredited laboratory within the preceding two years, while field calibrators have been laboratory calibrated within the preceding 12 months.

The equipment was field calibrated prior to, and on completion of, each set of measurements and no significant drift (< 0.5 dB) in calibration was detected.

4.4 Weather Conditions

Weather conditions measured and observed on-site were appropriate for the measurement of environmental noise, i.e. dry with wind speeds generally below 5 m/s.

During collection of the long-term monitoring equipment, windspeeds were measured as 2 m/s.

Weather conditions remained appropriate for measurements for most of the long-term monitoring however, it is noted that there was some rain at the Site during the night-time on the evening of Sunday 16th March to the morning of Monday 17th March. The rain was outside of the club opening hours and therefore did not affect the assessment period.

Other Considerations.

The clubhouse has a bar which is open throughout the day for patrons to use before/after sports sessions. The bar also provides outdoor seating, located to the rear away from the proposed padel courts The clubhouse also provides a function room for one off functions such as wedding receptions and parties.

Activity across the Site is generally minimal during the daytime on weekdays, with bookings for all facilities increasing from circa 17:00. On weekends, bookings are more common during the daytime.

4.5 Noise Survey Measurement Results

4.5.1 Long-Term Monitoring Results

A summary of the results of the unattended noise survey measurements at LT1 are presented in Table 4.

The daytime and night-time periods are taken to be 07:00 to 23:00 and 23:00 to 07:00, respectively from 12th March to 17th March 2025.

Table 4: Results of long-term monitoring at LT1 (free-field levels)

Date	Period	Equivalent Continuous Sound Level dB $L_{Aeq,T}$	Maximum Noise Level dB L_{AFmax} [1]	Lowest Typical Background Sound Level dB $L_{AF90,T}$ [2]
Wednesday 12th March	Daytime 17:00 – 23:00 [3]	51	72	44
	Night-Time 23:00 – 07:00	43	62	34
Thursday 13th March	Daytime 07:00 – 23:00	58	78	43
	Night-Time 23:00 – 07:00	42	60	32
Friday 14th March	Daytime 07:00 – 23:00	49	71	39
	Night-Time 23:00 – 07:00	41	59	34
Saturday 15th March	Daytime 07:00 – 23:00	52	76	41
	Night-Time 23:00 – 07:00	42	64	33
Sunday 16th March	Daytime 07:00 – 23:00	49	72	40
	Night-Time 23:00 – 07:00	43	62	32
Monday 17th March	Daytime 07:00 – 14:30 [3]	49	67	40

[1] The maximum event noise levels are the 90th percentile of the $L_{AFmax,5\text{-}min}$ for the measurement period.

[2] The background sound levels are the lowest typically measured $L_{AF90,T}$ during the measurement period using a 1-hour and 15-minute reference period for daytime and night-time respectively.

[3] Not a full daytime period.

4.6 Site Observations and Results Discussion

The noise climate at LT1 primarily consisted of noise from other sports facilities from the surrounding site (e.g. football), events at the clubhouse and bar (e.g. music TV), also car movements in the car park.

Secondary sources included road traffic from the surrounding road network, also use of It was noted that road traffic noise was relatively low at this position due to the significant screening and distance between the measurement position and main roads.

During the equipment installation and collection, as well as visits to the club during for attended measurement periods, it was noted that the clubhouse and bar facilities, including outdoor seating area, were often in use. A slight rise in the background niose was noted from bar area at LT1, during busier periods.

There were no club games over the monitoring period, there was some exercise training and circuit training taking place, but their impact was fairly low. The stadium in full use, as on a match day would overwhelm the background assessment, as the generated levels would outway all other factors. It is deemed that it during a non fixture week a better sample could be assumed from the monitored reading.

5. SOURCE NOISE MEASUREMENTS TAKEN FROM AN PAIR OF EXISTING PADEL COURTS FOR READINGS

In order to undertake an objective assessment of the noise from padel courts, noise measurements have been undertaken at a nearby Site to determine the source noise levels of padel courts in use. Also library data of measurements undertaken at other similar existing courts has been used as a reference for typical noise levels.

5.1 Measurement Methodology

The measurements were made at a nearby site on 12th and 17th March 2025 and were undertaken at a distance of 10 metres from the centre line of Court 1.

Padel courts featured glass back walls, which wrap partially around the side of the courts, as is the case in the proposed site. As such, noise propagation can be different at positions around the courts. Due to the layout of the courts, it was difficult to measure noise levels of the padel courts behind the glass without noise interference from the other areas of the site. As such, library data is used to assess this element of the noise. Nonetheless, with the receptors located to the side of the courts, the measurement data at ST1 should be valid for the impact assessment.

The measurement location ST1 is presented in Figure 4.

Figure 4: Padel measurement location

5.2 Padel Activity Observations

Based on site observations and general research, the noise level from padel activity is mostly determined by various degrees of the following:

- The racket construction
- The experience level of the players
- Whether training or playing competitive matches
- The orientation of the court (e.g. inherent screening provided by the glass walls)
- Human voice (cheering, shouting, etc.)

Generally, the noise emissions from padel activity are predominantly caused by hitting the ball with the racket and by ball contact with the glass walls and chain-link fencing. Racket strikes were observed to be louder and significantly more frequent than contact with the court boundary.

The padel racket is made of a hard material, typically fiberglass, in contrast to tennis rackets that comprise a synthetic string pattern.

Whilst in tennis racket strikes are considered to be harder, they occur much less frequently than in a typical padel game (assuming matched player skill level) and have a different noise profile compared to padel. The 'grunting' noise typically associated with tennis was not observed in the padel activities.

It was noted that noise levels varied significantly depending on the skill level of the players. For example, more experienced players would typically strike the ball harder, and rallies would continue for longer, whereas less experienced players would have very short rallies that did not produce much noise. All players would typically have rallies interspersed with short breaks (e.g. discussing scores, sipping water, etc.).

Most of the gameplay during attended measurements was by relatively inexperienced players, and the players that appeared to have more experience still had relatively short rallies.

5.3 Padel Source Noise Measurements

The measured data has been processed to obtain the following activity levels:

- Average (L_{eq}) levels at the centre-line of the padel courts.
- Noise maxima (L_{Fmax}) of racket strikes.

5.3.1 Data Processing Methodology

Measurements were taken externally, therefore, data has been carefully selected and processed to exclude the influence of extraneous noise (e.g. from other activities taking place within the Club). Audio recordings during the measurement period have been used to verify the noise source.

The L_{eq} and maximum (L_{max}) levels from racket strikes have been determined from centre-line position that had a direct line of sight to the activity.

From analysing the data, the noise profile from padel activity (including noise from players) is considered to sit predominantly between the 500 Hz and 4 kHz octave band frequencies.

The average L_{eq} level established at the centre-line position is based on the arithmetic average of 'long-term' measurements from 3 periods of game play that lasted a cumulative 16 minutes.

The chosen source data includes a range of player ability, ball racket strikes, glass rebounds, human voice, and in some cases, multiple matches occurring simultaneously at Court 1 and Court 2.

The L_{max} data includes a sample of 13 racket strikes. The highest typically measured racket strikes have been selected based on the 90th percentile of the L_{AFmax} events due to racket strikes over a representative measurement period and manually extracting spectral data of individual racket strikes of this magnitude and arithmetically averaging them.

The resulting derived source noise levels are presented in Table 5 and graphically in the following two figures.

Table 5: WSC padel source noise levels

Source	Location	Arithmetic Average Noise Level
Long-Term Playing	Centre Line	57 dB $L_{Aeq,T}$ at 10 m [1]
Racket Strike	Centre Line	74 dB L_{AFmax} at 10 m [1]

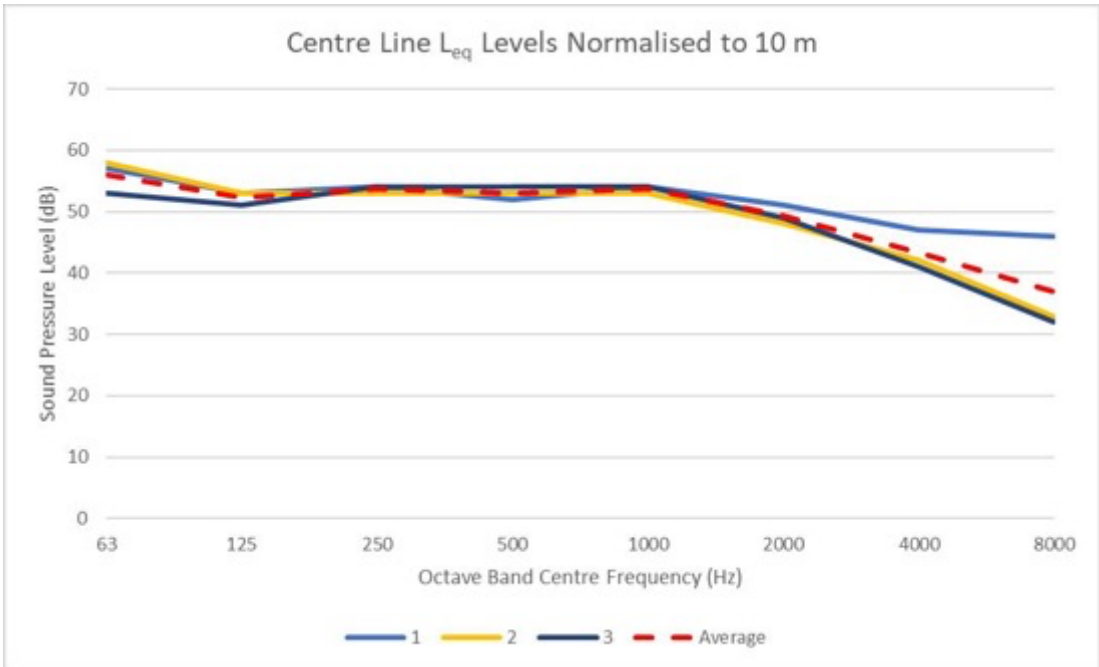

Figure 5: WSC padel centre line L_{eq} results normalised to 10 m

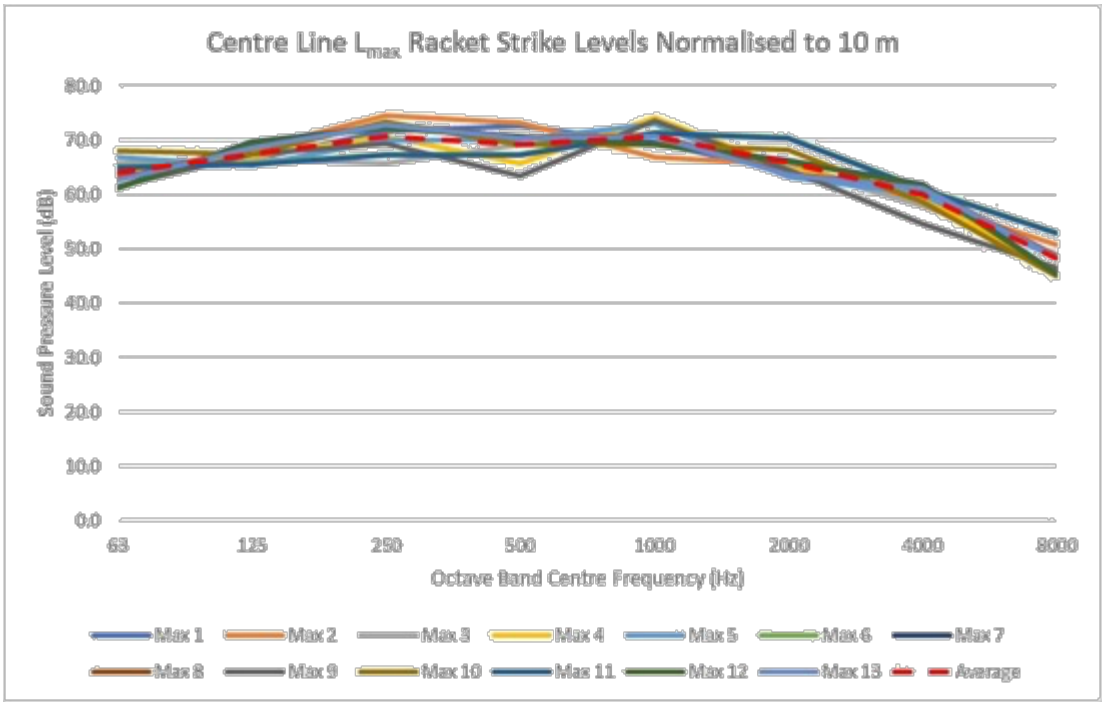

Figure 6: WSC padel centre line racket strike L_{max} results normalised to 10 m

5.3.2 Library Data Comparison

The source noise levels measured at the Site have been compared to padel noise measurements from a similar sports club site.

The average L_{eq} level established at the centre-line position is based on the arithmetic average of 'long-term' measurements from 4 periods of game play that lasted a cumulative 21 minutes.

The chosen source data includes a range of player ability, ball racket strikes, glass rebounds, human voice, and in some cases, multiple matches occurring simultaneously each side of the measurement position.

The L_{max} data includes a sample of 15 racket strikes and 7 glass contact hits. The highest typically measured racket strikes have been selected based on the 90th percentile of the $L_{AFmax,1\text{-second}}$, and manually extracting spectral data of individual racket strikes of this magnitude and arithmetically averaging them.

The resulting derived source noise levels, normalised to 10 m for ease of comparison, are presented in Table 6 and graphically in the following three figures. Note, the results table presents the dB(A) level excluding the some octave band frequencies to account for traffic noise. This information is retained in the graphs for transparency.

Table 6: Library data padel source noise levels

Source	Location	Arithmetic Average Noise Level
Long-Term Playing	Centre Line	63 dB $L_{Aeq,T}$ at 10 m [1]
Racket Strike	Centre Line	76 dB L_{AFmax} at 10 m [1]
Ball Glass Contact	Behind Baseline	57 dB L_{AFmax} at 10 m [2]

[1] Excludes 63 Hz and 125 Hz
[2] Excludes 63 Hz

6. NOISE IMPACT ASSESSMENT

6.1 Introduction

This section presents the noise impact assessment of the new padel courts.

The assessment considers padel court average and maximum noise levels.

The courts are understood to be bookable at the opening times of the club, which are:

- Weekdays: 09:00 to 22:00
- Weekends: 09:00 to 21:00

It is understood from discussions with club management staff and review of booking history, the courts are used infrequently on weekdays before 18:00 and more regularly between 18:00 and 22:00. On weekends, courts are typically booked out during the day and less frequently used during the evening period. This aligns with the measured data and site observations made during the survey.

6.2 Padel Noise Impact Assessment

6.2.1 Comparative Assessment using Long-term Measured Data

The survey measurements at LT1 (along the garden fence of NSR 1) cover periods both with and without padel activity. This allows a direct comparison of the noise levels at the respective times to assess whether there is an objective change in the measured noise levels.

The results of the measured levels at LT1, presented in Table 5 and Table 6, should be referred to for this section. The average (L_{eq}) levels of padel gameplay at the NSR garden boundary were found to typically range from 51 – 53 dB $L_{Aeq,T}$.

The existing noise levels at the club vary significantly depending on the time of day and day of the week. As the club is typically quiet during the daytime midweek, existing noise levels are low, and the use of padel courts during these periods would result in an increase in noise level of circa 5 dB, which would indicate a perceptible change in loudness and potential for a moderate impact, in accordance with IEMA guidelines. It should be noted that this assessment does not include noise from former bowling green that has been redundant for more than 2 years.

During the evening and weekend periods, the sports club is much busier as other facilities are in use, and the baseline (non-padel) noise levels increase as a result. During these periods, the worst-case increase in noise level due to use of the padel courts would be circa 1 – 3 dB, which would indicate an imperceptible change in loudness and potential for a slight impact, in accordance with IEMA guidelines.

As such, this initial assessment of the measured data on-site indicates that padel activity are likely to cause a small change in the average and maximum noise levels. In accordance with PPG, **this would indicate a ‘ Lowest Observed Adverse Effect Level’**, whereby the noise may be noticeable however, the noise impact should be viewed in context of other activities at the sports club.

7. UNCERTAINTY

Uncertainty is an unavoidable feature of measurements in the field, which can be subject to many factors; the weather typically being the most significant of which with respect to the measurement of sound.

Uncertainty is also unavoidable in the prediction of sound levels, where naturally, before the scenario being considered becomes a reality, a number of assumptions need to be relied upon. There is also the uncertainty of people's reactions, which can be influenced by several factors, not just the magnitude or character of the sound in question.

In keeping with the scale of each project, therefore, it is the aim of MZA Acoustics to minimise uncertainty as far as reasonably practicable. With this is mind, and where it is within the control of MZA Acoustics, control measures have been followed, which have been derived from relevant industry good practice guidance and the experience of MZA Acoustics.

Crucially, it has been determined that environmental noise measurements have been undertaken by suitably qualified staff, using in calibration equipment at suitable and representative locations as far as practicably possible over key periods and avoiding adverse weather conditions.

The predictions have also been undertaken by suitably qualified staff, whilst using the best available information, industry standard calculation methods, and the most applicable calculation procedures.

Notwithstanding this, naturally some uncertainty remains. Given the sheer number of factors involved, however, it is not feasible to place a value on the level of uncertainty, without resulting in an unhelpful range of possible outcomes.

It is the professional position of MZA Acoustics that uncertainty has been kept to a realistic minimum and that the outcome of this assessment is sufficiently representative.

8. CONCLUSION

MZA Acoustics has been appointed by Padel & Co Cliub Ltd to undertake a noise impact assessment relating to the external padel courts at the existing Batley Bulldogs RLFC.

This report has been prepared to support the planning application (planning ref. 2025/62/90448/E) which was submitted to Kirklees Council in February 2024.

Baseline environmental noise surveys have been undertaken at locations representative of the nearest noise-sensitive receptors (NSRs) to the proposed padel courts to establish the prevailing noise climate.

The measured levels have been used to compare the levels from padel related activities at the identified receptors.

The average noise (L_{eq}) assessment of the padel courts shows that based on the worst-case periods, noise emissions at the NSRs are equal to the recommended guideline levels provided by the Sport England AGP guidance and WHO Community Noise Guidelines. As such, the average noise levels are not expected to be intrusive.

Considering the relatively low absolute noise level predicted and the context in which the level is received, no significant noise impact is expected. It is noted that this assessment is worst-case and noise levels are likely to be lower for much of the time.

The L_{max} events due to padel are expected to exceed the existing L_{max} levels at the receptor during the daytime on weekdays, when other sports activities are not typically being undertaken. However, it is noted that padel courts are booked infrequently during these periods and are therefore less likely to cause an impact. During the evening and weekends, L_{max} events due to other existing uses at the club are generally higher and more frequent and, therefore, the impact of the padel noise is likely to be reduced – although the noise events due to racket strikes are more likely to be noticeable against the existing noise climate due to the character of the noise. This may be mitigated by the surrounding mound and dense planting that exists around the site, this would act as a muffle.

In line with PPG, padel noise may at times be noticeable and would therefore correspond with PPG's **Lowest Observed Adverse Effect Level.** As such, noise levels should be reduced to a minimum where possible however, noise from the padel courts should be considered in context of other activities at the club.

The limitations to this report are presented in Appendix C.

Appendices

Appendix A – Glossary of Acoustic Terminology

Acoustics is the branch of physics concerned with the properties of sound, including ultrasound, infrasound and vibration. A scientist or engineer who works in the field of acoustics is an acoustician or acoustic engineer.

Sound can be measured by a sound level meter or other measuring system. Noise is related to a human response, and is routinely described as unwanted sound, or sound that is considered undesirable or disruptive. Care has been taken in this document to use the most relevant of these terms (whereby 'sound' is used predominantly); however, in most reference documents, and, indeed, generally, 'sound' and 'noise' are used interchangeably. Consequently, just because the term 'noise' is used doesn't necessary mean a negative effect exits or will occur, and the context of the accompanying text should be taken into account.

Human hearing is able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble), and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain).

The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify sound in a manner that approximates the response of the human ear, a weighting mechanism is used, which reduces the importance of lower and higher frequencies in a similar manner to human hearing.

The weighting mechanism that best corresponds to the response of the human ear (though not necessarily perfectly) is the 'A'-weighting scale. This is widely used for environmental sound measurement, and the levels are denoted as dBA, dB(A) or LAeq, LA90 etc. according to the metric being measured or determined (see the Definitions over leaf).

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB is generally regarded as the minimum difference needed to perceive a change under normal listening conditions. Where other changes occur (associated with the change in sound level), such as additional vehicle movements on a road, which can be seen, then these may result in changes in sound level being more noticeable than they might otherwise be.

Further to such visual clues, and any other non-acoustical factors that affect people's response (such personal characteristics, and social, residential, or environmental factors), the subjective response to a sound is dependent not only upon the sound pressure level and component frequencies, but also its intermittency. Consequently, various metrics have been developed to try and correlate people's attitudes to different sounds with the sound level and its fluctuations. The metrics used in this document, as per the relevant guidance, are defined overleaf.

Airborne Sound	Sound that reaches the point of interest by propagation through air.
Ambient Sound:	Sound from all sources at any given time, form both near and far. Usually measured in terms of L_{Aeq}.
A-Weighting	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Background Sound Level	The A-weighted sound pressure level that can be considered the baseline in the absence of any noise from a specific source of sound under assessment. Measured in terms of $L_{A90,\,T}$.
Calibration	The measurement system/ chain should be periodically calibrated, within a laboratory, against traceable calibration instrumentation, to either National Standards or as UKAS-Accredited, as required. The calibration of the system should also be checked in the field using a portable calibrator before and after each short-term measurements, and periodically for longer term monitoring.
Class 1	The Class of a sound level meter describes its accuracy as defined by the relevant international standards – Class 1 is more accurate than Class 2. The older standard IEC 60651 referred to the grade as "Type", whereas the new standard IEC 61672 refers to it as the "Class". The most accurate meters used in the field (as opposed to a laboratory) are Class 1. Class 2 meters can be used in some instances; however, MZA Acoustics use Class 1 (or Type 1) meters by default, as required by BS 4142:2014, for example.
Decibel	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds (s1 and s2) is given by 20 log10 (s_1/s_2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20 Pa.
Fast time Weighting (F)	Averaging time used in sound level meters. Defined in BS EN 61672-2:2013 Electroacoustics. Sound level meters. Pattern evaluation tests.
Free-field / Façade	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5 m away.
$L_{AF90,\,T}$	The A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time fast time-weighting (F). Generally used to describe the 'background' sound conditions.
LAFmax	The maximum A-weighted sound pressure level during a given time period. Lmax is sometimes used for the assessment of occasional loud sounds, which may have little effect on the overall L_{eq} noise level, but could still affect the sound environment. Unless described otherwise, it is measured using the fast time-weighting (F).
Leq, T	A sound level index called the equivalent continuous sound level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded. Where the value is A-weighted, is will be presented '$L_{Aeq,T}$' or 'dBA $L_{eq,T}$', otherwise is should be an un-weighted (or linear) value.
Lp	See Sound Pressure Level.
Noise	Related to human response to sound. Unwanted sound, or sound that is considered undesirable or disruptive.

Octave Band	Frequency ranges in which the upper limit of each band is twice the lower limit. Octave bands are identified by their geometric mean frequency, or centre frequency.
Sound Absorption Coefficient	A measure of how effective a material is at absorbing sound incident to its surface. The index range is between 0 and 1, where 1 indicates a perfectly absorbent material and 0 indicates a perfectly reflective one.
Sound Power	In a specified frequency band, the rate at which acoustic energy is radiated from a source. In general, the rate of flow of sound energy, whether from a source, through an area, or into an absorber.
Sound Power Level	Of airborne sound, ten times the common logarithm of the ratio of the sound power under consideration of the standard reference power of 1 pW. Expressed in decibels.
Sound Pressure	Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure.
Sound Pressure Level	The sound level is the sound pressure relative to a standard reference pressure of 20 Pa ($20x10^{-6}$ Pascals) on a decibel scale.
Weighted Sound Reduction Index (R_w)	A single-figure quantity which characterises the airborne sound insulating properties of a material or element over a range of frequencies.

Appendix B – Noise Survey Equipment

Equipment	Type	Serial Number	Calibration Due Date
Measurement Position LT1			
Sound Level Meter	01dB CUBE	14240	29/05/2025
Pre-amplifier	01dB Metravib PRE22	2138129	
Microphone	GRAS 40CD 1/2" Pre-polarised free-field	367230	
Calibrator	Cirrus CR:515	100874	01/04/2026
Measurement Position ST1			
Sound Level Meter	01dB FUSION	11703	23/06/2025
Pre-amplifier	01dB Metravib PRE22	2138123	
Microphone	GRAS 40CD 1/2" Pre-polarised free-field	470866	
Calibrator	01dB CAL31	82793	20/06/2026

Appendix C – Report Limitations

This report has been prepared for the titled project or named part thereof and should not be used in whole or part and relied upon for any other project without the written authorisation of MZA Acoustics Limited. MZA Acoustics Limited accepts no responsibility or liability for the consequences of this document if it is used for a purpose other than that for which it was commissioned. Persons wishing to use or rely upon this report for other purposes must seek written authority to do so from the owner of this report and/ or MZA Acoustics Limited and agree to indemnify MZA Acoustics Limited for any and all loss or damage resulting therefrom. MZA Acoustics Limited accepts no responsibility or liability for this document to any other party other than the person by whom it was commissioned.

The findings and opinions expressed are relevant to the dates of the site works and should not be relied upon to represent conditions at substantially later dates. Opinions included therein are based on information gathered during the study and from our experience. If additional information becomes available which may affect our comments, conclusions or recommendations MZA Acoustics Limited reserve the right to review the information, reassess any new potential concerns and modify our opinions accordingly.

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