PENINSULAR
ACOUSTICS

St Helens School

Proposed Padel Courts

Acoustic Assessment

Public

PENINSULAR
ACOUSTICS

St Helens School

Proposed Padel Courts

Acoustic Assessment

Type of Document (Version) Public

Project No. PA1820

Date: May 2026

Peninsular Acoustics

Liverpool: 402 Cotton Exchange, Bixteth Street, Liverpool, L3 9LQ

Birmingham: Studio 214, Custard Factory, Gibb Street, Birmingham, B9 4AA

London: 16 Upper Woburn Place, London, WC1H 0AF

ANC ACOUSTICS & NOISE CONSULTANTS ACOUSTIC AWARDS 2024
AWARD WINNER

ANC ACOUSTICS & NOISE CONSULTANTS ACOUSTIC AWARDS 2025
HIGHLY COMMENDED

Website: www.peninsularacoustics.co.uk

Quality Control

Issue/revision	P01	P02	P03
Remarks	First Issue		
Date	May 2026		
Prepared by	George Moore		
Authorised by	Adam Walker		
Project number	PA1820		
Report number	R01		
File reference	PA1820-R01-P01 St Helens School Padel		

PENINSULAR
ACOUSTICS

Contents

Appendices

Appendix A

Technical Terminology

Appendix B

Appendix C

Sound Level Contours

Appendix D

Report Limitations

1. Introduction

Peninsular Acoustics Limited has been commissioned by St Helen's School ('the Client') to undertake an acoustic assessment for the proposed construction of four padel courts at St Helen's School, Eastbury Road, Northwood, HA6 3AS ('the Site')

This report is necessarily technical in nature and therefore, to assist the reader, an acoustics glossary is provided in Appendix A.

1.1. Site Description

Existing Site

The Site is situated within the St Helen's School grounds, situated in amongst the school's existing sporting facilities. It is bounded to all directions by the remainder of the school grounds, and beyond the school grounds to the north by Carew Road with residential amenity beyond; to the east by residential amenity, with Sentis Court beyond; and to the south and west by the remainder of the school's sporting facilities, including a number of lawn tennis courts.

Noise Sensitive Receptors

The nearest Noise Sensitive Receptors (NSRs) are:

- NSR 1: Dwelling group off Carew Road, circa. 65m north from the Site; and
- NSR 2: Detached group situated off Sentis Court, circa. 110m east from the Site

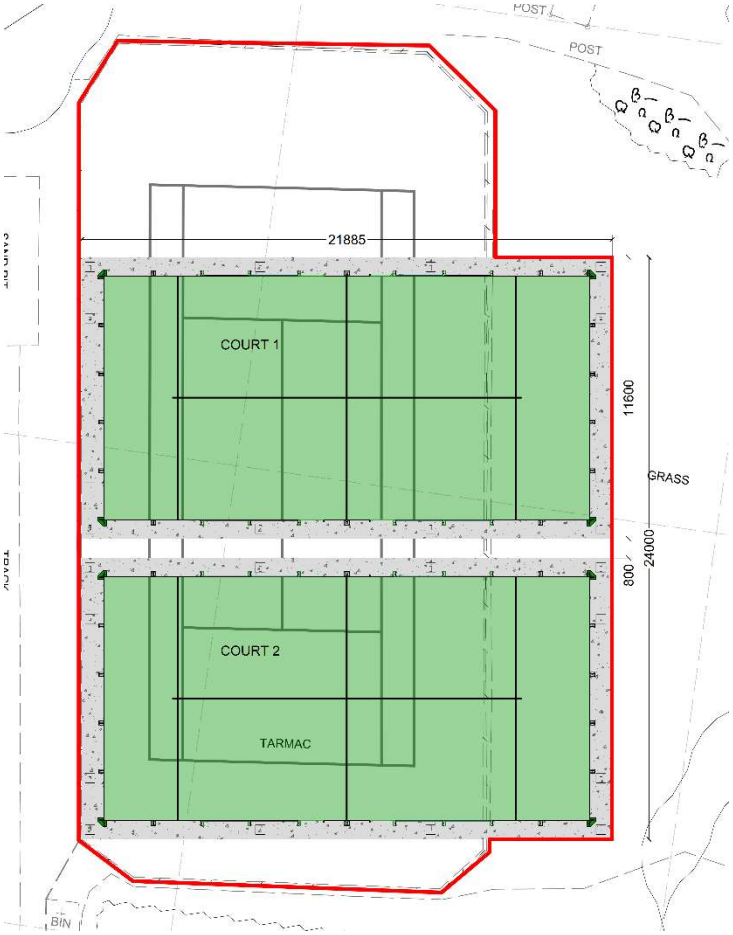
It should be noted that whilst there are a select few dwellings within the school grounds, that these are used only by members of staff, and have thus not been considered receptors herein.

Figure 1 Site Location Plan

Development Proposals

Development proposals comprise the installation of two padel courts within the redline boundary shown in Figure 1, with the site plan shown in Figure 2.

Figure 2: Plan of Development Proposals



The courts are scheduled to replace a currently in-situ basketball court.

During school hours (Monday – Friday, 08:00 – 17:30), the courts will be used only by students at St Helens School. Outside of these hours, and during weekends, the courts will be available for public hire, with the following proposed opening hours:

Monday – Friday: 17:30 – 21:00; and

Saturday/Sunday: 08:00 – 21:00.

1.2. Scope of Works

The following scope of works has been undertaken:

- An environmental sound survey has been undertaken to determine existing sound levels at a location representative of the nearest NSRs;
- A 3D acoustic model of the Site and local environs has been created to inform noise predictions at all receptors from Padel; and
- Considerations have been given to the likely effects arising from this noise at all nearby receptors.

2. Application Context

2.1. National Planning Policy Framework

The NPPF sets out the Government's planning policies for England and how these are expected to be applied; the NPPF must be a material consideration in planning decisions. For conciseness, the NPPF 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 or being affected by noise pollution (Para 187);
- Should ensure that new development is appropriate for its location considering effects on health and living conditions (Para 198); and
- Should, with respects to noise, mitigation and reduce to a minimum potential adverse impacts resulting from noise from new developments (Para 198).

2.2. Noise Policy Statement for England

The guidance of the Noise Policy Statement for England (NPSE) introduces the concepts of 'Effect Levels' which provide guidance on the impact noise might have on the quality of health life.

To assist with recognising when noise could be a concern, the NPSE summarises the noise exposure hierarchy as follows, based on the likely average response.

Table 1 Noise Exposure Hierarchy Based on Likely Average Response

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable but not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. No perceived change in quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable but intrusive	Noise can be heard and causes minor changes in behaviour. 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. 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
Significant Observed Adverse Effect Level			
Noticeable and disruptive	The noise causes a material change in behaviour 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. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid

2.3. National Standards and Guidance

The above qualitative documents are useful for placing noise assessments into context and the following documents discuss quantitative criteria for potential onset of 'annoyance'.

- BS 8233 and WHO Guidelines;
- SEDGN; and
- Dutch National Guidance 'Padel and Sound, January 2023'.

BS 8233[1] and the WHO Guidelines provide values that are deemed to be classified as "health effects" which means the levels are the lowest that would result in any potential psychological, physiological or sociological effect. The sound level criteria for external levels is suggested to be 50 – 55 dB $L_{Aeq, 16hr}$ externally and 35 dB internally during the daytime.

The levels can therefore be classified as LOAEL in accordance with the NPSE and whilst the time base for the values are given in 16 hour for common assessment daytime limits (07:00 – 23:00); when assessing the impact from sports, a 16-hour value is **not appropriate** and therefore, a time base of 1-hour is considered to be a more stringent assessment criteria, this is referenced in SEDGN.

SEDGN similarly advises a limit of 50 dB $L_{Aeq, 1hr}$ from the façade of a residential receptor, and whilst SEDGN was designed to assess the impact from an Artificial Grass Pitch (AGP), it correlates well to the potential onset of annoyance as referenced in the WHO guidelines.

The Dutch National Guidance document 'Padel and Sound' was produced in the Netherlands as a response to the growing nature of the sport and the noise constraints around it. The document suggests ways of modelling Padel noise, which, in Peninsular Acoustics' experience has been found to not be as accurate as the modelling methodology presented herein.

With respects to criteria and assessment methods, the guidance, and subsequent appendix, suggests the following:

- A fixed $L_{Aeq, 1hr}$ criteria of 50 dB during the daytime, 45 dB during the evening and 40 dB during the night-time for urban environments; and
- A fixed L_{AFmax} criteria of 70/65/60 dB during the daytime, evening and night-time.

However, the idea of a fixed criteria is not considered to be appropriate in the UK due to the relative sound levels already experienced by residential receptors. For example, a proposed Padel court in a city centre environment is likely exposed to higher existing noise level than a rural existing tennis club.

As such, a relative change in comparison to the existing sound level is considered more appropriate as an assessment metric.

[1] BS 8233:2014 *'Guidance on sound insulation and noise reduction for buildings.'*

3. Assessment Methodology

3.1. Source Sound Levels

Peninsular Acoustics has previously measured sound levels from a variety of existing Padel courts. Measurements were taken over hour-long matches with four players which is considered to be typical of Padel Tennis games.

Source levels have been informed from a single court in operation with the following sound sources typical during the measurement period:

- Ball hitting the rackets (most dominant);
- Player's shouting;
- Ball hitting the metal fence along the side of the court;
- Ball hitting the glass at the end of the court.

Sound Level Meters (SLMs) were installed at a distance of 5m from the side and end boundary of the court at a height of 1.5m above local ground levels. Due to the glass elements, which are installed at either end of the court, acoustic screening is afforded at either end of the court, whereas the sides of the court are open with a metal cage construction allowing sound to propagate more freely. The maximum, or peak, sound levels measured were at all times from the ball hitting the racket rather than the ball hitting the cage or glass.

These have been found to correlate well during both verification surveys, and when comparing library data with other acoustic consultants. Maximum sound levels predominantly arise from racket hits, although lower measured maximum noise levels including shouting, balls hitting the metal fence and glazed rebound walls etc all form part of the Padel soundscape.

The representative sound levels of a single Padel tennis court are presented in Table 2.

Table 2 Peninsular Acoustics Library Data

Parameter	Value
Ambient Sound Level (Sides)	60 dB $L_{Aeq,\ 1hr}$ @ 5m
Ambient Sound Level (Ends)	57 dB $L_{Aeq,\ 1hr}$ @ 5m
Maximum Sound Level (Ends and Sides)	72 dB $L_{Afmax,\ 1sec}$ @ 5m

3.1.1. Assessment Approach

The nature of Padel, as with all sports, is that the game does not produce the same sound level each time. There is invariably a change in sound level based upon players ability, age, sex and other factors.

As such, this assessment seeks to determine what sound level will be experienced every time a match is played but as there is a degree of variability in sports noise, will also provide an overview of how the sports being introduced to the local area will potentially impact the nearby NSRs.

Subjectively, the sound characteristics which cause most annoyance are the balls hitting the rackets and people shouting. Objectively, this manifests itself as individual sound events which are more audible where ambient sound levels are lower (this can be seen in Table 2).

However, annoyance comes from a range of factors including sound level, occurrence but also includes psychoacoustic features such as the knowledge that new facilities are there; preconceived ideas of the noise impact from Padel; and the fact that the sports are new and different.

Whilst the documents referenced in Section 2 are relevant to artificial grass pitches and anonymous sources, Padel has a large number of discrete racket strikes occurring during the game and thus, the overall L_{Aeq} impact may show no impact in accordance with traditional assessment methods, but this does not truly reflect the L_{AFmax} impacts from individual racket hits.

Notwithstanding the above, for the purposes of being able to objectively assess the noise impact, this report has opts for two assessment scenarios; an assessment of the worst-case, cumulative ambient sound dB $L_{Aeq,1hr}$ generated by the proposed courts compared to the existing ambient environment, as well as consideration of the L_{AFmax} from individual events against the existing ambient environment. It should be noted that the L_{AFmax} is the highest measured sound level from the activity and in this assessment, it has been compared against the “average” underlying existing sound level over a defined period. These scenarios thereby assess the relative change in the overarching ambient environment (if the introduction of Padel will result in a change at all), and also represents that individuals tend to perceive sound from Padel as dominated by individual discrete noise events.

These will be supplemented by a description of likely impact in respect of existing conditions.

3.2. Baseline Acoustic Conditions

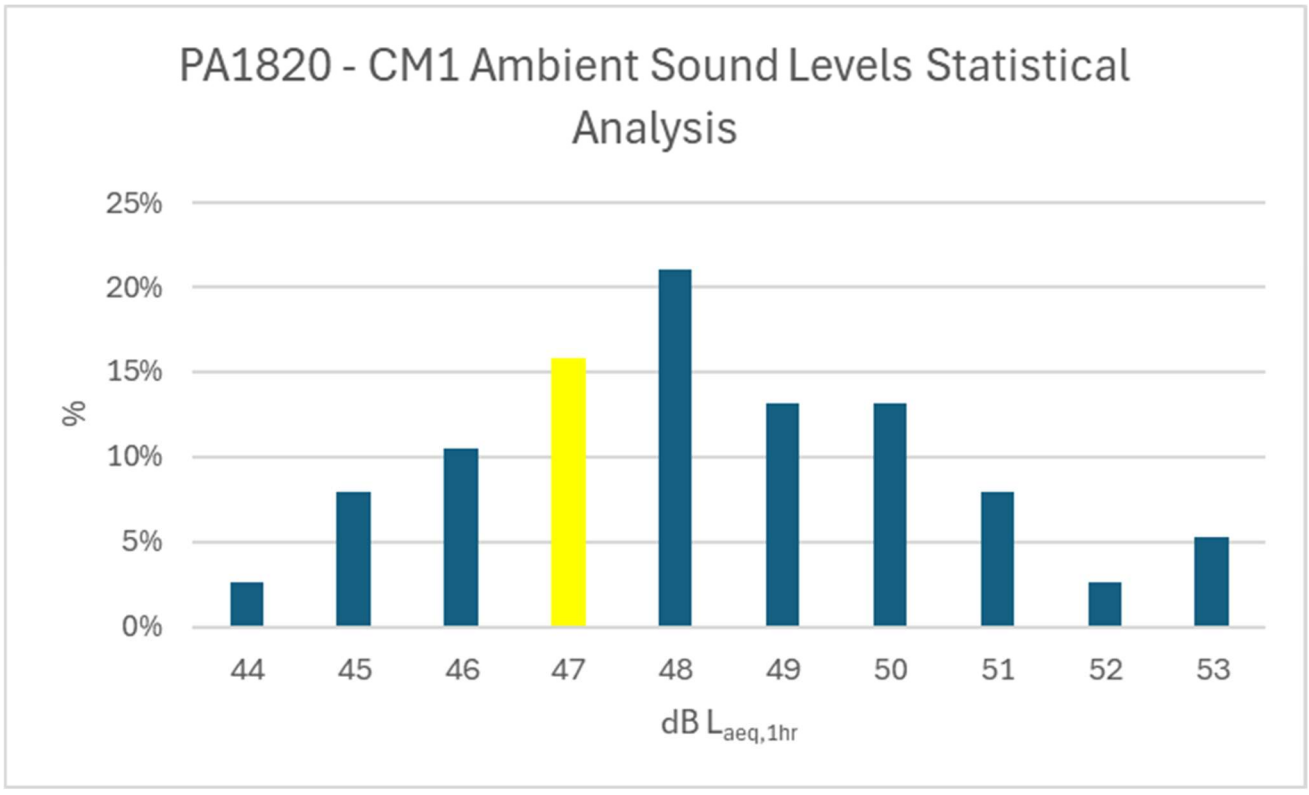
Existing sound levels were monitored at a location within the Site between Friday 27th and Monday 30th March 2026. The survey location can be seen in Figure 1, and is equidistant from the nearest road source as the nearest receptors (those making up NSR 1).

The acoustic environment was subjectively quiet, dominated largely by sparse road traffic and community noise. Whilst a railway line is situated circa. 250m away from the measurement position, railway movements were not audible during Site attendance. The survey took place over half-term, and so no pupils were present at any time; consequently, sound levels presented herein are likely to be significantly reduced from those when pupils are present, and can be considered robust.

Weather conditions were monitored during attendance and over the survey. No precipitation was witnessed during attendance. Examination of the time history indicates during periods of the survey, windspeeds rose above 5m/s. Examination of the time history however did not show an impact from weather for any period of the survey. Consequently, data presented herein has been assumed not to have been impacted by weather conditions, and considered representative of conditions at the Site.

Padel matches last one hour and therefore, this data has been analysed on an hour-by-hour basis. Statistical analysis has been used to derive assessment criteria from the survey results, through the graph shown in Figure 3.

Figure 3 CM1 Ambient Sound Levels Statistical Analysis



In order to inform a robust assessment, the lowest commonly occurring value has been chosen as an assessment metric. This value is 47 dB $L_{Aeq,1hr}$.

A time history of survey results is shown in Appendix B.

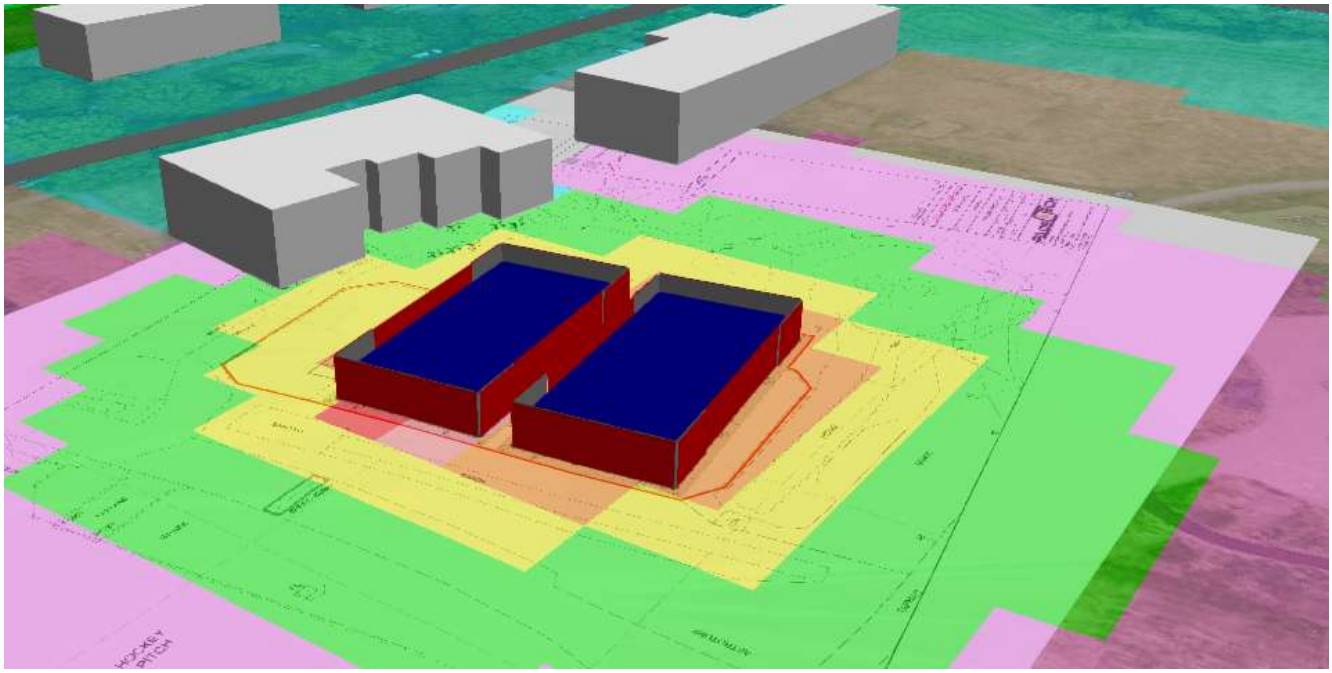
3.3. Acoustic Modelling

A 3D acoustic model of the Site and environs has been created using CadnaA® modelling software. CadnaA® considers various inputs, including topography, buildings and road noise sources, and calculates sound levels in accordance with national and international standards; in this case, the relevant UK standards are the procedures set out within ISO 9613-2[2].

The modelling assumptions pertinent to the assessment are ground absorption set to 0.5 (mixed ground), with large areas of hard ground set to ground absorption 0, and large grassed areas set to ground absorption 1; second order reflections included in the modelling and topography included from DEFRA.

The model has been created using area sources (for ambient sound levels) and point sources (for maximum sound levels) which have been calibrated such that the values presented in Table 2 are accurate.

Figure 4: Acoustic Model – area sources shown in red and blue



[2] ISO 9613-2:2024 *'Acoustics — Attenuation of sound during propagation outdoors, Part 2: Engineering method for the prediction of sound pressure levels outdoors'*

4. Assessment

4.1. Methodology

When considering ambient sound levels, the assessment is to consider the cumulative impact of each court playing simultaneously for a full hour duration at each receptor, and to compare this impact against the existing ambient sound level in order to assess any relative change to the existing acoustic environment.

When considering maximum sound levels, as the assessment is to consider noise impact from individual racket hits (from an event lasting milliseconds), each court has been modelled separately and the results shown at each receptor accordingly. As such, if all courts are operational simultaneously, the frequency of noise events might increase, but the highest individual absolute sound level at the receptor will not be any greater when operating simultaneously. An example is provided in section 4.2.2.1 below.

The modelling and subsequent assessment assumes operating hours between 08:00 – 21:00 (the proposed opening hours at weekends). The predicted sound levels for each metric assessed are shown in Table 3 and Table 4

4.2. Predicted Sound Levels

4.2.1. Ambient Sound Levels

Table 3 dB $L_{Aeq,1hr}$ Impact from Padel

NSR	Modelled Sound Level $L_{Aeq,\ 1hr}$ dB	Comparison Against Baseline, dB	Beneath Baseline?	Beneath Fixed Criteria?
1	34	-13	Yes	Yes
2	33	-14	Yes	Yes

Ambient sound levels from the proposed courts are predicted to be significantly beneath the existing ambient sound level. This is an indication that there will be no relative change to the existing acoustic environment, and could be in itself taken as an indication of an effect level of NOAEL. However, as discussed, consideration has also been given to discrete, impulsive noise events such as racket hits.

4.2.2. Maximum Sound Levels

Table 4 dB $L_{Afmax,1sec}$ Predicted Impact from Padel

NSR	Court	Modelled Sound Level $L_{AFmax,\ 1sec}$ dB	Comparison Against Baseline, dB	Beneath Baseline?	Beneath Fixed Criteria?
1	1	47	+/- 0	Yes	Yes
	2	46	-1	Yes	Yes
2	1	43	-4	Yes	Yes
	2	43	-4	Yes	Yes

No discrete noise events from any court assessed are predicted to exceed the prevailing ambient sound level. This is due to the fact the Site follows a good acoustic design process whereby the Courts' solid glass walls provide screening to the easterly receptors, as well as each court being afforded a reasonable (60m or greater) setback distance to each NSR.

On this basis, it is considered unlikely that sound from the courts will be noticeable or intrusive above the existing acoustic environment, and will often be unlikely to be audible at all.

4.2.2.1. Simultaneous Court Operations

The assessment of impact has been undertaken using the L_{AFmax} parameter, which represents the maximum instantaneous sound pressure level arising from a discrete event (i.e., ball-racket impact, or ball-glass impact etc). By definition, the L_{AFmax} describes the highest level occurring at a given receptor at any moment in time and is therefore not subject to logarithmic summation across multiple courts.

While simultaneous use of several courts would increase the occurrence of maximum noise events experienced at the receptor, it would not materially increase the absolute maximum level, which would remain governed by the closest and acoustically dominant court. Impacts from more distant courts would either fall below or be masked by the higher-level events from the nearer courts

For example, at NSR 1 if Padel Court 1 was in play, the maximum levels predicted are 47 dB which would be in line with the existing ambient and likely occur circa every 3-5 seconds based on a typical Padel match, with breaks throughout the 1-hour game. If the other court was also in play these levels would be below the ambient sound level by an even greater margin, and thus not be as noticeable, but events would occur closer to every 1 second.

Consequently, the noise climate in terms of maximum level is controlled by the closest source, with more distant courts contributing primarily to event occurrence rate rather than peak magnitude.

4.3. Summary

For each NSR, individual racket hits will be in-line with or beneath the existing ambient sound level, and the ambient sound generated by each court over a 1 hour period will be significantly beneath the existing ambient sound level – this is an indication that there will be no relative change to the prevailing ambient sound levels in the local environment.

It is likely that, for the majority of the courts' operating hours, noise from Padel will not be audible at all. It is possible (i.e., during particularly intense games, during lulls in traffic, etc.) that at times, noise from Padel could be audible, however, as these discrete noise events do not in any circumstance exceed the prevailing ambient sound level, it is considered unlikely that this potential audibility will be intrusive for any nearby residents, and will not result in a material change in behaviour.

The most likely outcome therefore is that the **No Observed Adverse Effect** will be applicable, on the basis that sound from Padel is unlikely to be noticeable at receptors based upon the fact individual racket hits do not exceed the prevailing ambient sound level. If Padel is audible on occasion, it will be non-intrusive.

Therefore, no additional mitigation measures should be required for the purpose of noise.

5. Conclusions

Peninsular Acoustics Limited has been commissioned by St Helen's School to undertake an acoustic assessment for the proposed construction of two Padel courts at St Helen's School, Eastbury Road, Northwood, HA6 3AS

Using in-house library data and baseline environmental sound survey data, an assessment against baseline sound levels, BS 8233, WHO Guidelines, SEDGN and the Dutch National Guidance Document on Padel Noise has been undertaken to provide considerations of sound from the proposed Padel Courts against a variety of different guidelines.

The results of the modelling have demonstrated that noise impact from the proposed development is predicted to be below the existing ambient sound levels at the nearest residential receptors.

Therefore, the proposed development is unlikely to result in any material change in behaviour or attitude at nearby residential receptors, and so an effect level of NOAEL is predicted in accordance with the NPSE.

In summary, based upon the findings of this study, it can be concluded that the Site is suitable for the intended use and that adverse noise impact is not a valid reason for refusing planning permission.

Limitations applicable to this report are contained in Appendix D.

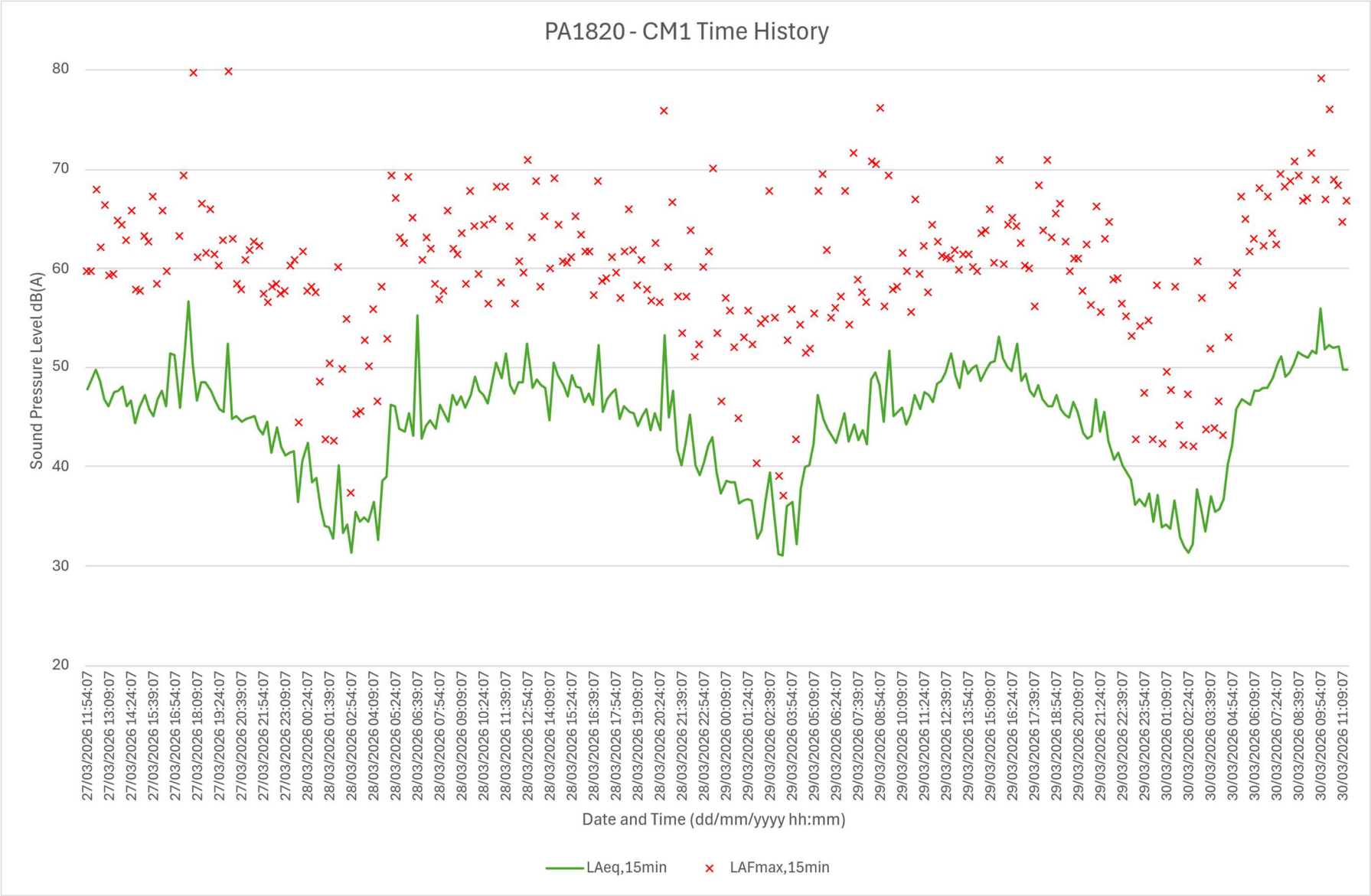
Appendix A

Technical Terminology

Noise	Typically defined as unwanted, unpleasant or disturbing sound
Frequency (Hz)	The number of oscillations in acoustic pressure per second. It represents the 'tone' of the sound. Often determined in octave bands
Maximum sound pressure level (L_{Fmax})	The maximum or highest sound pressure level measured with a 'fast' time weighting
Equivalent continuous sound pressure level ($L_{eq, T}$)	The average of the total sound energy over a specified time period (T). L_{eq} represents the equivalent sound level that a fluctuating source would have compared to a steady source with the same total sound energy over a specific time period. Commonly used as a descriptor of human perception of sound over time.
'A' weighting	Frequency-dependent weighting based on the response of the human auditory system which has been found to correlate well with the subjective response to sound. Denoted by the use of the letter 'A'. For example, dBA denotes an 'A' weighted sound level in decibels, or L_{Amax} denotes an 'A' weighted maximum sound pressure level. N.B., an A shown in a noise unit is an indication of A-weighting, i.e., L_{Afmax} = A-weighted maximum sound pressure level
Discrete Noise Events	Individual, non-continuous noise events, occurring in discrete, discernible intervals, as opposed to an overage over a continuous period.
Ambient Sound Level	Sound level in a given situation at a given time, usually composed of sound from many sources near and far. Typically given as $L_{Aeq,T,}$ A-weighted equivalent continuous sound pressure level over a given time period.
Ground Absorption	The process by which sound energy is taken in by the ground, leading to the transformation of part of the energy into heat and consequent attenuation of sound. The material properties of the ground, such as its porosity and roughness, significantly influence how much sound is attenuated. For instance, soft, porous ground materials like grass absorb more sound.

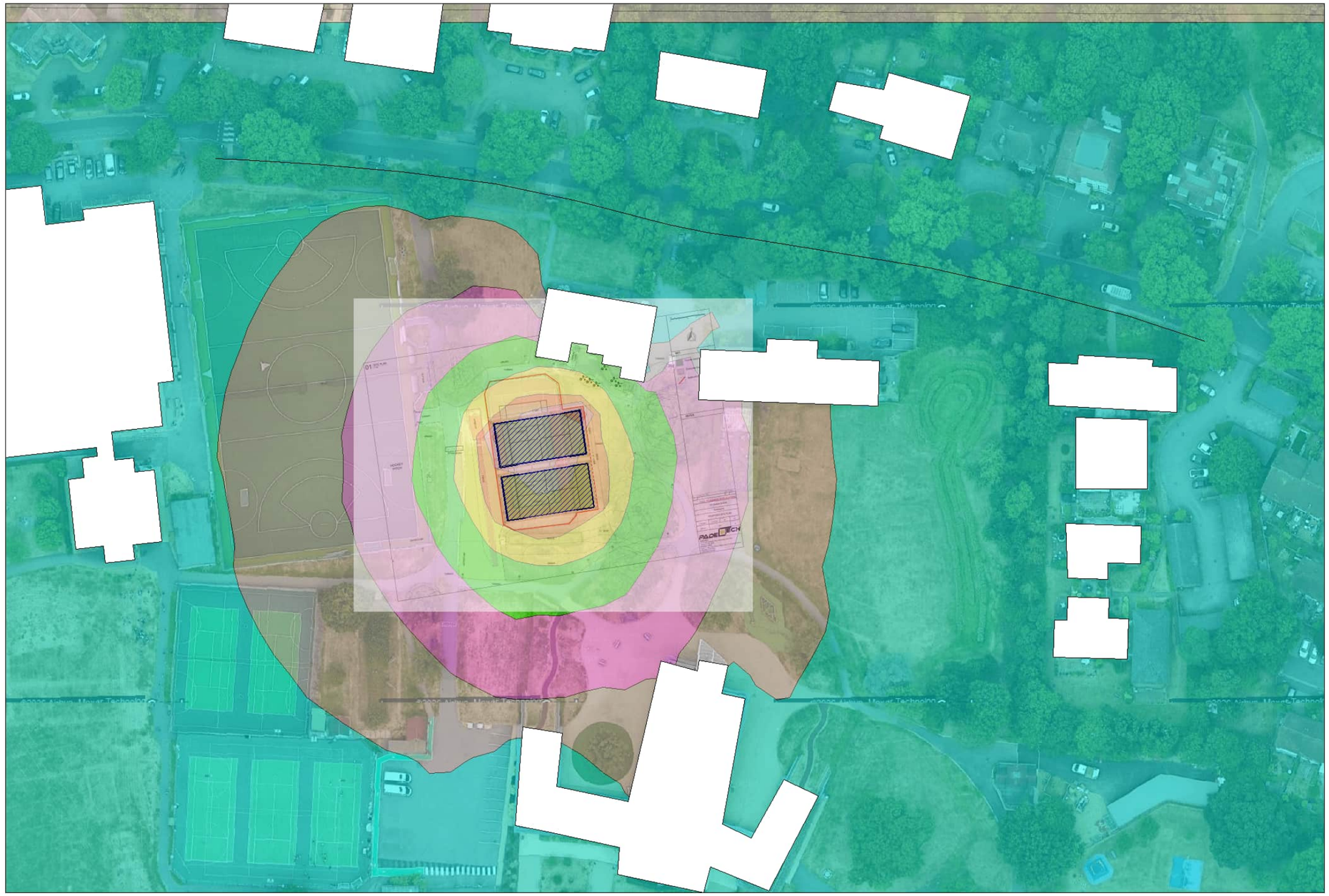
Appendix B

Time History Graph


PA1820 - CM1 Time History
Sound Pressure Level dB(A)
80
70
60
50
40
30
20
27/03/2026 11:54:07
27/03/2026 13:09:07
27/03/2026 14:24:07
27/03/2026 15:39:07
27/03/2026 16:54:07
27/03/2026 18:09:07
27/03/2026 19:24:07
27/03/2026 20:39:07
27/03/2026 21:54:07
27/03/2026 23:09:07
28/03/2026 00:24:07
28/03/2026 01:39:07
28/03/2026 02:54:07
28/03/2026 04:09:07
28/03/2026 05:24:07
28/03/2026 06:39:07
28/03/2026 07:54:07
28/03/2026 09:09:07
28/03/2026 10:24:07
28/03/2026 11:39:07
28/03/2026 12:54:07
28/03/2026 14:09:07
28/03/2026 15:24:07
28/03/2026 16:39:07
28/03/2026 17:54:07
28/03/2026 19:09:07
28/03/2026 20:24:07
28/03/2026 21:39:07
28/03/2026 22:54:07
29/03/2026 00:09:07
29/03/2026 01:24:07
29/03/2026 02:39:07
29/03/2026 03:54:07
29/03/2026 05:09:07
29/03/2026 06:24:07
29/03/2026 07:39:07
29/03/2026 08:54:07
29/03/2026 10:09:07
29/03/2026 11:24:07
29/03/2026 12:39:07
29/03/2026 13:54:07
29/03/2026 15:09:07
29/03/2026 16:24:07
29/03/2026 17:39:07
29/03/2026 18:54:07
29/03/2026 20:09:07
29/03/2026 21:24:07
29/03/2026 22:39:07
29/03/2026 23:54:07
30/03/2026 01:09:07
30/03/2026 02:24:07
30/03/2026 03:39:07
30/03/2026 04:54:07
30/03/2026 06:09:07
30/03/2026 07:24:07
30/03/2026 08:39:07
30/03/2026 09:54:07
30/03/2026 11:09:07
Date and Time (dd/mm/yyyy hh:mm)
LAeq,15min
LAFmax,15min

Appendix C

Sound Level Contours



Sound Level Contour Maps

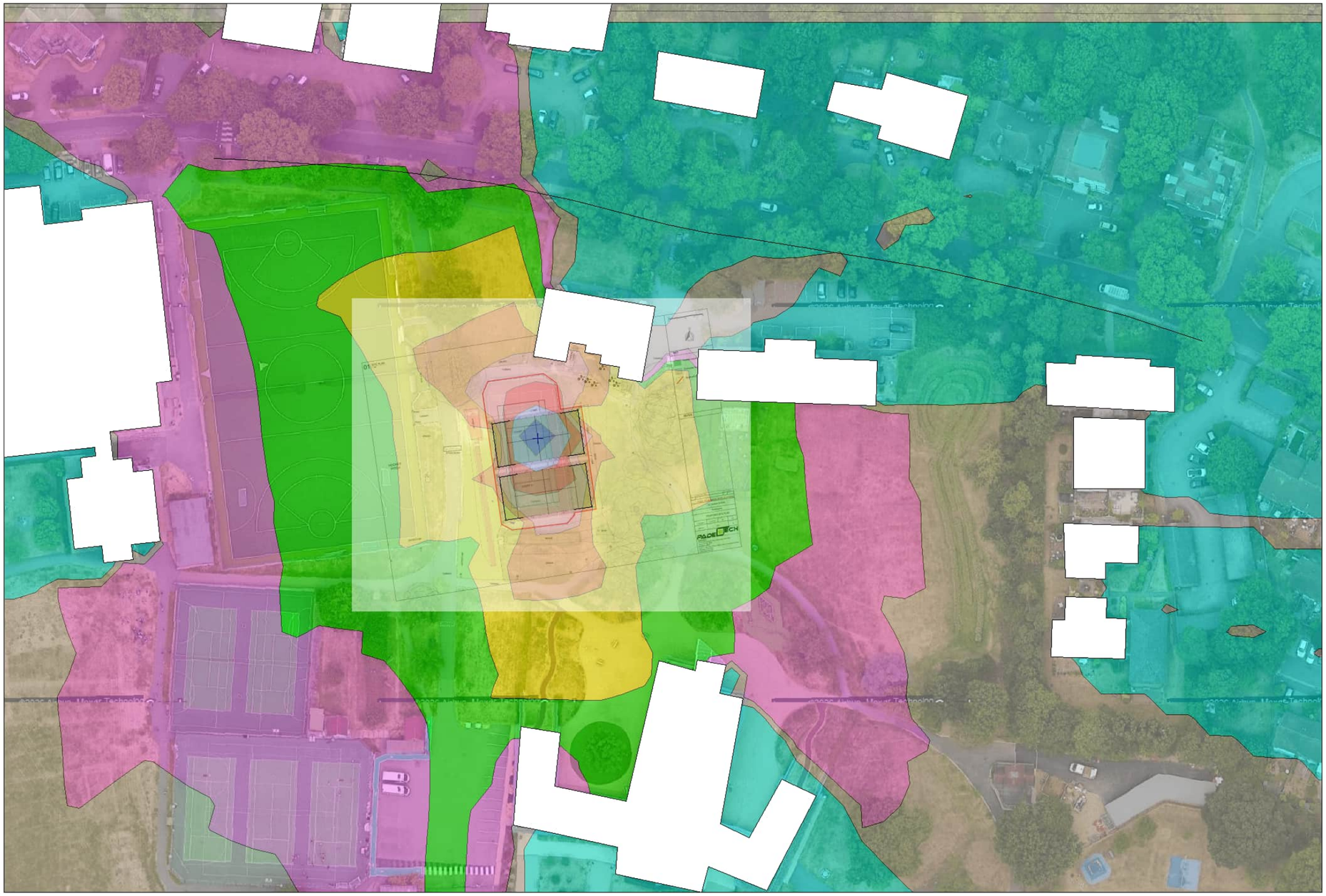
- < 40 dB(A)
- 40 - 45 dB(A)
- 45 - 50 dB(A)
- 50 - 55 dB(A)
- 55 - 60 dB(A)
- 60 - 65 dB(A)
- 65 - 70 dB(A)
- 70 - 75 dB(A)
- 75 - 80 dB(A)
- > 80 dB(A)

06/05/26	P01	For Planning	GM
DATE	REV	COMMENTS	BY

Project: St Helens School Padel
Ref: Proposed Court Ambient Sound Levels
DWG: PA1820-ACO-001-P01

PENINSULAR ACOUSTICS

Notes
1. Do not scale this drawing.
2. Sound levels presented as $L_{Aeq,\ 1hr}$ values.



Sound Level Contour Maps

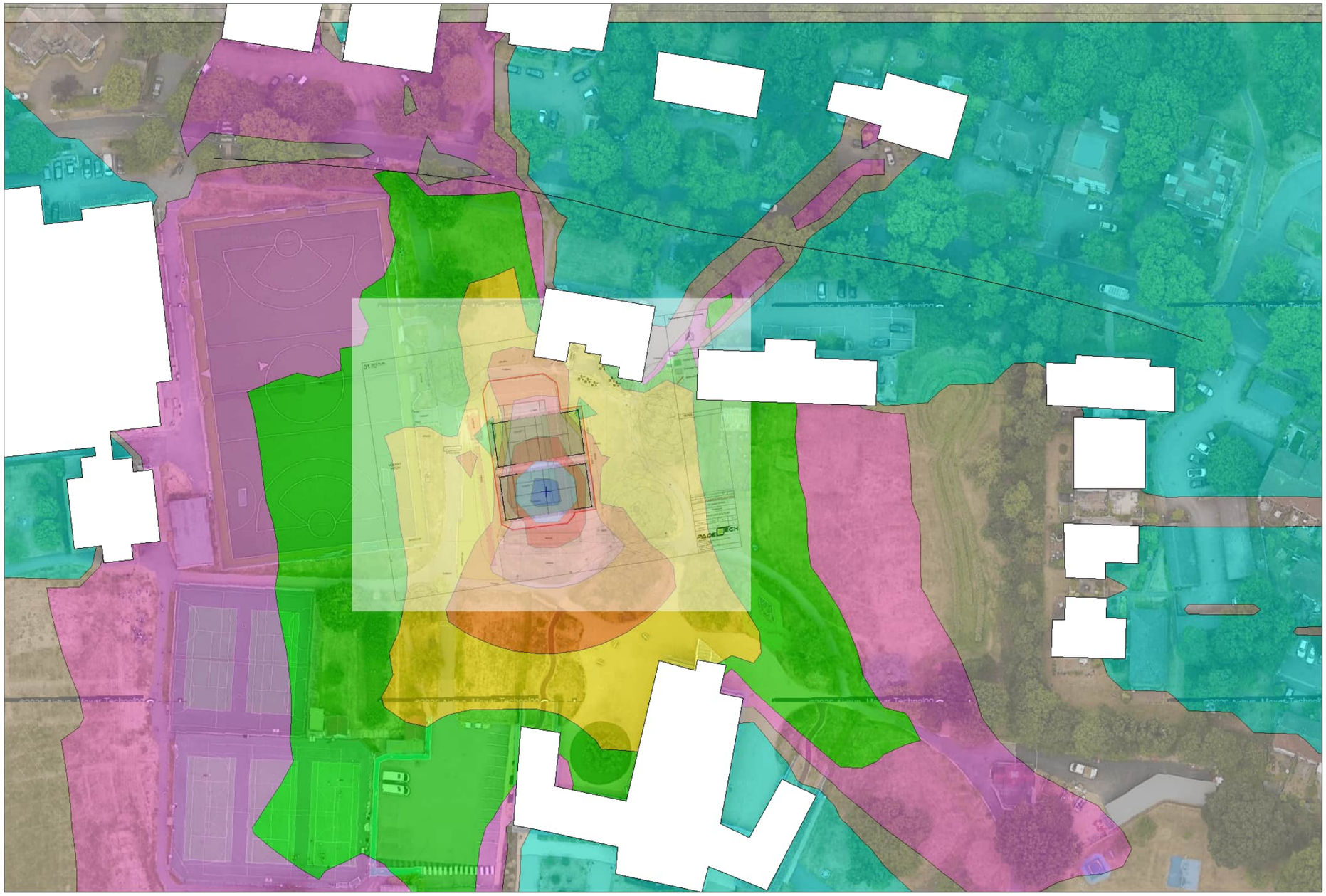
- < 40 dB(A)
- 40 - 45 dB(A)
- 45 - 50 dB(A)
- 50 - 55 dB(A)
- 55 - 60 dB(A)
- 60 - 65 dB(A)
- 65 - 70 dB(A)
- 70 - 75 dB(A)
- 75 - 80 dB(A)
- > 80 dB(A)

06/05/26	P01	For Planning	GM
DATE	REV	COMMENTS	BY

Project: St Helens School Padel
Ref: Court 1 Maximum Sound Levels
DWG: PA1820-ACO-002-P01

PENINSULAR ACOUSTICS

Notes
1. Do not scale this drawing.
2. Sound levels presented as $L_{AFmax,1sec}$ values.



Sound Level Contour Maps

- < 40 dB(A)
- 40 - 45 dB(A)
- 45 - 50 dB(A)
- 50 - 55 dB(A)
- 55 - 60 dB(A)
- 60 - 65 dB(A)
- 65 - 70 dB(A)
- 70 - 75 dB(A)
- 75 - 80 dB(A)
- > 80 dB(A)

06/05/26	P01	For Planning	GM
DATE	REV	COMMENTS	BY

Project: St Helens School Padel
Ref: Court 2 Maximum Sound Levels
DWG: PA1820-ACO-003-P01

PENINSULAR ACOUSTICS

Notes
1. Do not scale this drawing.
2. Sound levels presented as $L_{AFmax,1sec}$ values.

Appendix D

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 Peninsular Acoustics Limited. Peninsular Acoustics Limited accept 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 Peninsular Acoustics Limited and agree to indemnify Peninsular Acoustics Limited for any and all loss or damage resulting therefrom. Peninsular 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 design drawings/specifications 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 Peninsular Acoustics Limited reserve the right to review the information, reassess any new potential concerns and modify our opinions accordingly.

Peninsular Acoustics

Liverpool: 402 Cotton Exchange, Bixteth Street, Liverpool, L3 9LQ

Birmingham: Studio 214, Custard Factory, Gibb Street, Birmingham, B9 4AA

London: 16 Upper Woburn Place, London, WC1H 0AF

Website: www.peninsularacoustics.co.uk