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PROPOSED PADEL COURTS AT SHOLING FOOTBALL CLUB, SOUTHAMPTON

NOISE IMPACT ASSESSMENT

Technical Report: R11216-1 Rev 3

Date: 22 January 2026

For: Sholing Football Club
The Mortgage Decisions Stadium
Portsmouth Road
Southampton
SO19 9PW

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1.0 INTRODUCTION

1.1 24 Acoustics Ltd has been instructed by Sholing Football Club to undertake an assessment of the impact of noise from the proposed padel courts at the club at Portsmouth Road, in Sholing, Southampton.

1.2 This report presents the results of the assessment, following site visits and environmental noise measurements undertaken between 7th and 11th August 2025.

1.3 All sound pressure levels quoted in this report are in dB relative to 20 µPa. A glossary of the acoustic terminology used in this report is provided in Appendix A.

2.0 SITE DESCRIPTION

2.1 Planning permission is sought to construct six padel courts at Sholing Football Club. The courts will be built on land currently used for overflow car parking to the west of the site access road. It is proposed that the courts will operate between 7 am and 10 pm Monday to Friday and between 7 am and 8 pm at weekends.

2.2 There are houses to the east and west of the club as follows:

- Birch Dell Farm, Portsmouth Road, located approximately 55 m west of the proposed courts;
- Colbury, Portsmouth Road, located approximately 95 m east of the proposed courts.

2.3 Figure 1 provides an aerial image of the site, receptors and proposed location of the courts.

2.4 Padel is played with low pressure balls (similar to tennis balls) and solid, perforated racquets. The game permits rebounds from the glass/polycarbonate walls, and occasionally the ball is struck directly against the wall to rebound into play. The ball may also be unintentionally hit against the mesh fence, which is out of play. The game produces regular impulsive noise events, which must be considered in the noise assessment.

2.5 The proposed padel courts will be of standard design, as follows:

- 20m long and 10m wide;
- The short walls are fully glazed to a height of 3m with a 4m section of glass/polycarbonate returning towards the net;
- A metallic mesh fence (acoustically transparent) complete the court enclosure to the side wall and 1m above all glazed elements, with openings for access near the net.

2.6 The layout of the proposed courts is beneficial to the nearest noise sensitive premises since the short ends of the court provide acoustic screening to the majority of play.

2.7 It is proposed that the courts will be enclosed by a 3 m acoustic barrier fence and polycarbonate canopied roofs. An example of the canopy proposed is shown in Figure 2.

3.0 ASSESSMENT CRITERIA

National Planning Policy Framework and Noise Policy Statement for England

3.1 The National Planning Policy Framework (NPPF) [Reference 1] states that planning policies and decisions should aim to:

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

3.2 The NPPF also refers to the Noise Policy Statement for England (NPSE) [Reference 2] which is intended to apply to all forms of noise, including environmental noise, neighbour noise and neighbourhood noise. The NPSE sets out the Government's long-term vision to 'promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development' which is supported by the following aims:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life.

3.3 The NPSE defines the concept of a 'significant observed adverse effect level' (SOAEL) as 'the level above which significant adverse effects on health and quality of life occur'. The following guidance is provided within the NPSE:

"It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available."

3.4 The National Planning Practice Guidance (NPPG) [Reference 3] is written to support the NPPF with more specific planning guidance. The NPPG reflects the NPSE and states that noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment. It also states that opportunities should be taken, where practicable, to achieve improvements to the acoustic environment. The NPPG states that noise can over-ride other planning concerns but should not be considered in isolation from the other economic, social and environmental dimensions of the proposed development.

3.5 The NPPG expands upon the concept of SOAEL (together with Lowest Observable Adverse Effect Level, LOAEL and No Observed Effect Level, NOEL) as introduced in the NPSE and provides a table of noise exposure hierarchy for use in noise impact assessments in the planning system. Table 1 is reproduced from the NPPG and summarises the noise exposure hierarchy, based on the likely average response.

Response	Examples of Outcomes	Increasing Effect Level	Action
Not present	No Effect	No Observed Effect	No specific measures required
Present 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 Observable Adverse Effect Level (LOAEL)			
Present 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 (SOAEL)			
Present 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 acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extension and regular changes in behaviour and/ or an inability 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

Table 1: NPPG Noise Exposure Hierarchy

3.6 In general terms it is considered that a noise impact with an effect level which is lower than SOAEL is acceptable (providing the effect is mitigated to a minimum). There is currently, however, a discontinuity between the above guidance and objective technical criteria for use in planning noise impact assessments.

3.7 There is no published guidance in the UK relating to methods for assessing the noise impact associated with the use of padel courts. Several different methodologies, which are considered to have varying degrees of relevance, however, have been used. None in isolation are considered to be fully appropriate for this application but when used together provide a reasonable estimate of the level of noise impact. The various documents are summarised below.

Dutch Padel Guidance

3.8 Guidance published by a taskforce in Holland [Reference 4] is 'designed to create more clarity' relating to the assessment and acceptability of noise from the sport of padel.

3.9 The guidance (given the language barrier) has been interpreted as applying the following absolute noise guideline values (above which a degree of noise impact can be expected) in a quiet residential area.

- Daytime (07:00- 19:00 hours): 45 dB $L_{Aeq, 12\ hr}$
- Evening (19:00- 23:00 hours): 40 dB $L_{Aeq, 4\ hr}$
- Night (23:00- 07:00 hours): 35 dB $L_{Aeq, 8\ hr}$

3.10 The guidance also states that a 5 dB 'surcharge' to account for the impulsivity of the noise should also be applied.

British Standard 4142:2014+A1:2019

3.11 BS 4142:2014+A1:2019 [Reference 5] provides a method for rating the effects of industrial and commercial sound on residential receptors.

3.12 The standard advocates a comparison between the representative measured L_{A90} background noise level and L_{Aeq} noise level from the source being considered. For rating purposes if the noise source is tonal, intermittent or otherwise distinctive in character, a rating correction should be applied.

3.13 The standard states that a difference between the rating level and the background level of around +10 dBA is an indication of a significant adverse impact, depending on the context and a difference of around +5 dBA is likely to be an indication of an adverse impact, also depending on the context. Where the rating level does not exceed the background noise level, this is an indication of the specific sound source having a low impact (depending upon the context).

3.14 It is noteworthy that the standard states that it is not intended to be applied to the rating and assessment of sound from recreational activities. Regardless of this, however, experience dictates that the standard provides a reasonable means of assessing the level of noise impact from an activity on a residential receptor.

4.0 NOISE MEASUREMENTS

Background Noise Surveys

4.1 Noise measurements were undertaken between the 7th and 11th August 2025 to determine the existing noise levels in the area. The following instrumentation was used:

- 2* Rion precision sound level meters Type NL52;
- Brüel & Kjær acoustic calibrator Type 4231.

4.2 Measurements were carried at locations considered acoustically representative of the nearest residential properties to the proposed courts, as shown in Figure 1.

4.3 Measurements were undertaken in samples of 15 minutes in terms of the overall free-field octave-band and A-weighted L_{eq}, L_{90} and $L_{max,f}$ noise levels. Measurements were made in accordance with BS 7445:2003 "Description and measurement of environmental noise Part 2 – Acquisition of data pertinent to land use" [Reference 6].

4.4 The instrumentation calibration was checked before and after the survey in accordance with the manufacturer's instructions. No significant drift in calibration was recorded. Calibration of 24 Acoustics' equipment is traceable to National Standards.

4.5 All instruments were fitted with environmental weather shields during the measurements. Weather conditions during the measurements were dry with wind speeds not typically exceeding 5m/s.

4.6 The results of the noise measurements are shown graphically in Appendix B and summarised in Tables 2 and 3 below.

Date	Time of Day and Representative Background Noise Level, dB $L_{A90, 1 hr}$	
	Day 10:00- 19:00	**Evening 19:00- 22:00**
Thursday 7 August	48	41
Friday 8 August	45	45
Saturday 9 August	46	
Sunday 10 August	45	
Monday 11 August	45	
Representative	45	41

Table 2: Summary of Background Noise Levels, Birch Dell Farm

Date	Time of Day and Representative Background Noise Level, dB $L_{A90, 1 hr}$	
	Day 10:00- 19:00	**Evening 19:00- 22:00**
Thursday 7 August	46	42
Friday 8 August	44	48
Saturday 9 August	45	
Sunday 10 August	41	
Monday 11 August	42	
Representative	44	42

Table 3: Summary of Background Noise Levels, Colbury

4.7 Noise sources in the area include vehicles on the local road network, rail movements and aircraft.

Source Noise Measurements

4.8 Noise monitoring of padel activities has been undertaken at Winchester Racquets and Fitness at Bereweeke Road in Winchester. Measurements were obtained while all three courts were in use by informal but competitive doubles matches. Measurements were undertaken at a range of distances (from 2 to 7m) from the sides and ends of the courts. The measurements were undertaken over a 1.5hr period, during which play was continuous, with the exception of 2 to 3 minute changeovers between matches.

4.9 The courts are similar in scale to the proposed development and the measurements are representative for the purposes of this assessment.

4.10 The padel source noise measurement results are summarised in Table 4.

Location	Noise Level, dB	
	$L_{Aeq,\ 1\ hour}$	$L_{Amax,f\ (highest)}$
Side of court (unscreened), approx. 7m to nearest centre of court	59 to 62	75 to 81
End of court (screened by glazed court enclosure), approx. 17m to nearest centre of court	50 to 53	65 o 68

Table 4: Padel Source Noise Levels

4.11 The values in Table 4 are consistent with publicly available noise measurements from other padel courts.

5.0 NOISE IMPACT ASSESSMENT

Padel Noise Levels at Receptors

5.1 The source noise data described in Section 4 below has been used to estimate the likely noise level from the proposed padel activities at Sholing Football Club. Standard acoustic theory has been used taking into account geometric divergence, acoustic screening where appropriate and the difference in court numbers. The assessment has also used a conservative 5 dB for the likely acoustic attenuation that the proposed court canopies will offer. The following noise levels are estimated.

Receptor Location	Noise Level, dB	
	$L_{Aeq,\ 1\ hour}$	$L_{Amax,f}$
Birch Dell Farm	31	51
Colbury	25	41

Table 5: Calculated Padel Noise Levels at Receptors

Noise Impact Assessment- Dutch Padel Guidance

5.2 Table 6 below shows the assessment under the Dutch Padel Guidance and indicates compliance with the same at all times.

Receptor Location	Time of Day and Noise Level, dB $L_{Aeq,\ 1\ hr}$	
	Daytime	Evening
Dutch Padel Guidance Levels	45	40
Birch Dell Farm	31	31
Colbury	25	25

Table 6: Assessment of Noise Impact Relative to Dutch Padel Guidance

British Standard 4142

5.3 Tables 7 and 8 show the level of noise impact determined in accordance with BS 4142:2014+A1:2019 at Birch Dell Farm and Colbury respectively. It is considered that the impulsive noise from padel activities offers the potential to be clearly perceptible at Birch Dell Farm and a rating correction of +6 dB has been applied in accordance with the Standard. At Colbury the noise is more likely to be 'just perceptible' and a correction of + 3 dB used.

	Time of Day and Noise Level	
	Daytime	**Evening**
Background Noise Level, dB $L_{A90, 1 hour}$	45	41
Specific Source Noise Level, dB $L_{Aeq, 1 hour}$	31	31
Rating Correction, dB	+6	+6
Rating Level, dBA	37	37
Difference between background and source noise level, dB	-8	-4

Table 7: BS 4142 Noise Impact Assessment, Birch Dell Farm

	Time of Day and Noise Level	
	Daytime	**Evening**
Background Noise Level, dB $L_{A90, 1 hour}$	44	42
Specific Source Noise Level, dB $L_{Aeq, 1 hour}$	25	25
Rating Correction, dB	+3	+3
Rating Level, dBA	27	27
Difference between background and source noise level, dB	-17	-15

Table 8: BS 4142 Noise Impact Assessment, Colbury

5.4 The assessment indicates a low/ negligible noise impact at both properties at all times. This would create a noise impact below LOAEL as defined in the PPG in which the sound might be audible but not cause any changes in behaviour. This is acceptable in planning terms.

6.0 CONCLUSIONS

6.1 24 Acoustics Ltd has been instructed by Sholing Football Club to undertake an assessment of noise from the proposed padel courts at the club at Portsmouth Road, in Sholing, Southampton.

6.2 Environmental noise measurements have been undertaken to determine the existing noise background levels in the area, which are determined by vehicles on the local road network, and aircraft.

6.3 Source noise measurements have been obtained at a similar padel court to provide suitable activity noise levels. As there is no directly applicable standard for the assessment of noise from such facilities, several different assessments have been undertaken.

6.4 The assessment demonstrates that noise levels associated with the proposed courts would be acceptable at the nearest noise sensitive premises and there are considered to be no reasons, on noise grounds, why planning consent should not be granted.

REFERENCES

1. Department for Communities and Local Government. National Planning Policy Framework, 2025.

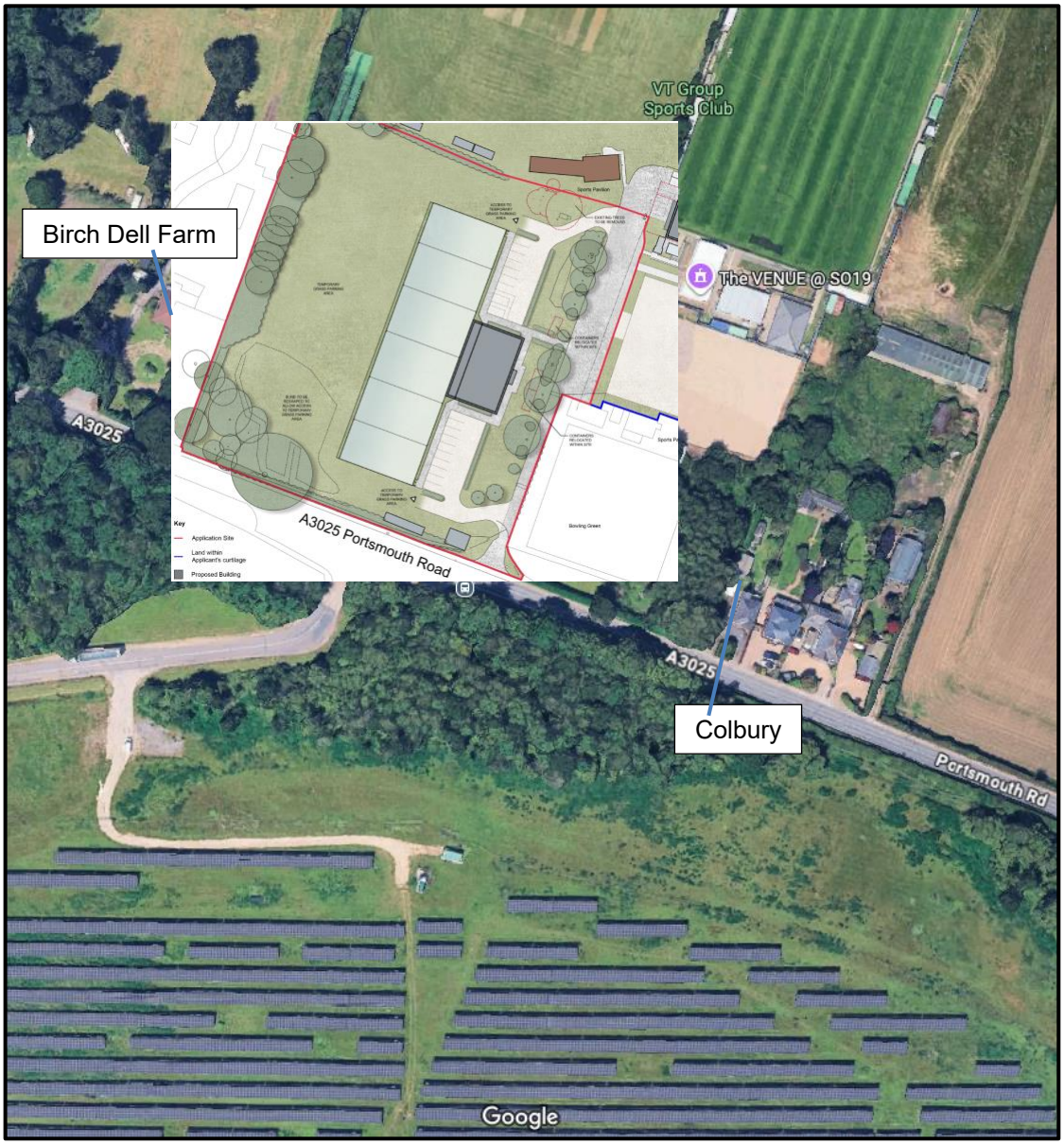
2. DEFRA. Noise Policy Statement for England, 2010.

3. Department of Communities and Local Government. National Planning Practice Guidance, July 2019.

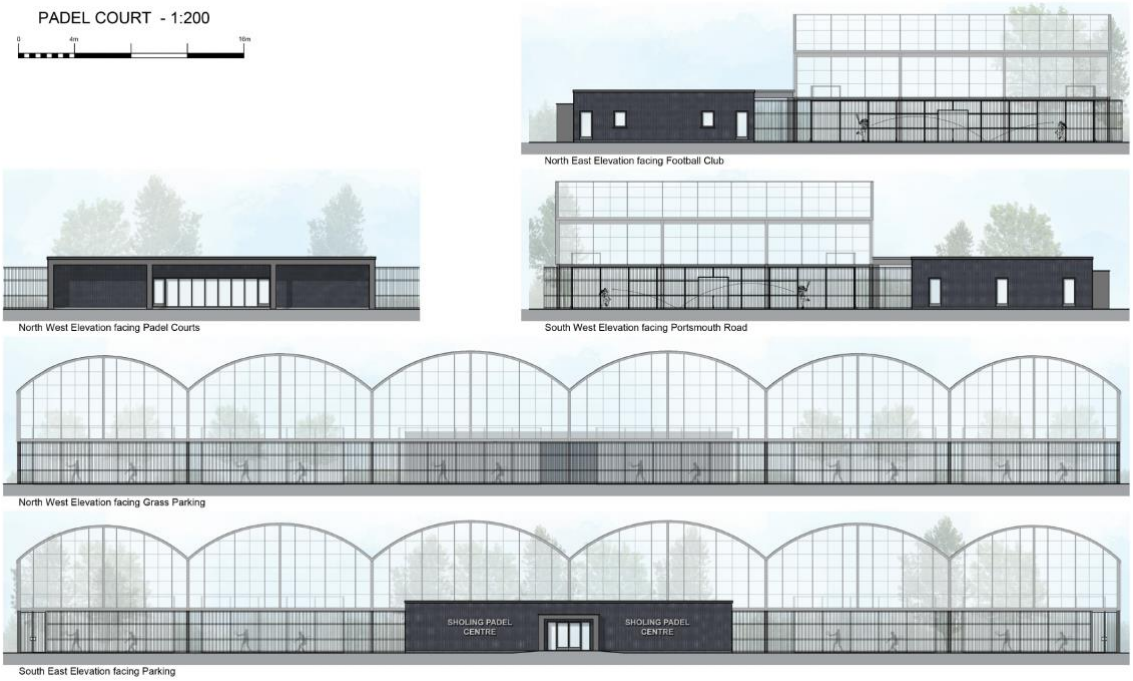
4. Dutch Tennis Association. Padel and Noise, February 2023.

5. British Standards Institution. British Standard 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound, 2019.

6. British Standards Institution. British Standard 7445:1991 Description and measurement of environmental noise Part 2 - Acquisition of data pertinent to land use, 1991.



Project: Sholing Football Club	**Title:** Location plan and measurement location	
DWG No: Figure 1	**Scale:** N.T.S.	**Rev: -**
Date: January 2026	**Drawn By:** RP	**Job No:** 11216



Project: Sholing Football Club	**Title:** Proposed Padel Court Canopies	
DWG No: Figure 2	**Scale:** N.T.S.	**Rev: -**
Date: January 2026	**Drawn By:** RP	**Job No:** 11216

APPENDIX A – SOUND INSULATION TERMINOLOGY

The Decibel, dB

The unit used to describe the magnitude of sound is the decibel (dB) and the quantity measured is the sound pressure level. The decibel scale is logarithmic and, as such, it ascribes equal values to proportional changes in sound pressure, which is a characteristic of the ear. Use of a logarithmic scale has the added advantage that it compresses the very wide range of sound pressures to which the ear may typically be exposed (0.0002Pa to 20Pa) to a more manageable range of numbers. The threshold of hearing occurs at approximately 0dB and the threshold of pain is around 120dB.

Airborne Sound Insulation

Voices, hi-fi systems, television and radio sound and musical instruments are all sources of airborne sound. They excite the air around them and the vibration in the air is transmitted to surrounding surfaces, such as walls, ceilings and floors. This sets these constructions into vibration and this vibration is re-radiated in neighbouring rooms as sound. Energy is lost in the transmission path and this is referred to as transmission loss or more generally, airborne sound insulation. The most simple measure of sound insulation between two rooms is the sound level difference, D, which is the arithmetic difference between the sound level, in dB, in the source room and the sound level in the receiving room.

Other measures of sound insulation include the sound reduction index (R, obtained by laboratory test), the apparent sound reduction index (R′, obtained in field tests) and the standardised level difference (D_{nT}, used mainly in the sound insulation of rooms in dwellings and other cellular rooms). The relevant test procedures are laid down in BS EN ISO 140. The results are obtained over a range of frequencies. A single-figure "weighted" result can be obtained from one-third octave band results measured over the frequency range 100 - 3150Hz by using a curve-fitting procedure laid down in BS EN ISO 717. The subscript "w" is added to the descriptors above, for example; $D_{nT,w}$. The C_{tr} value is a correction factor (normally negative) which takes additional account of low frequency performance of the structure tested.

Impact Sound Isolation

In the case of impact sound, the building construction is caused to vibrate as a result of a physical impact. Footsteps on floors are the most obvious example. The vibration is radiated as sound in neighbouring rooms. Impact insulation is measured using a standard tapping machine, which drops weights cyclically onto a floor. The sound pressure level is measured in the receiving room below and the result is known as the impact level, L_i. This test is used in the evaluation of domestic separating floors. As with airborne sound, the test procedures are set out in BS EN ISO 140 and the single-figure weighting of the results is described in BS EN ISO 717. The descriptor for the final result of a field test is $L'_{nT,w}$.

Reverberation time

The reverberation time is a measure of the rate of decay of sound in a room and this influences the sound pressure level of noise in that room. It is defined as the time taken, in seconds, for the level of sound in a room to decrease by 60 dB (a millionth of its original energy value) after the discontinuation of a sound. A reverberation time of 0.5s is used to standardise sound insulation test results in dwellings. Reverberation time is measured in accordance with the requirements of BS EN ISO 140.

APPENDIX B – BACKGROUND NOISE SURVEY RESULTS

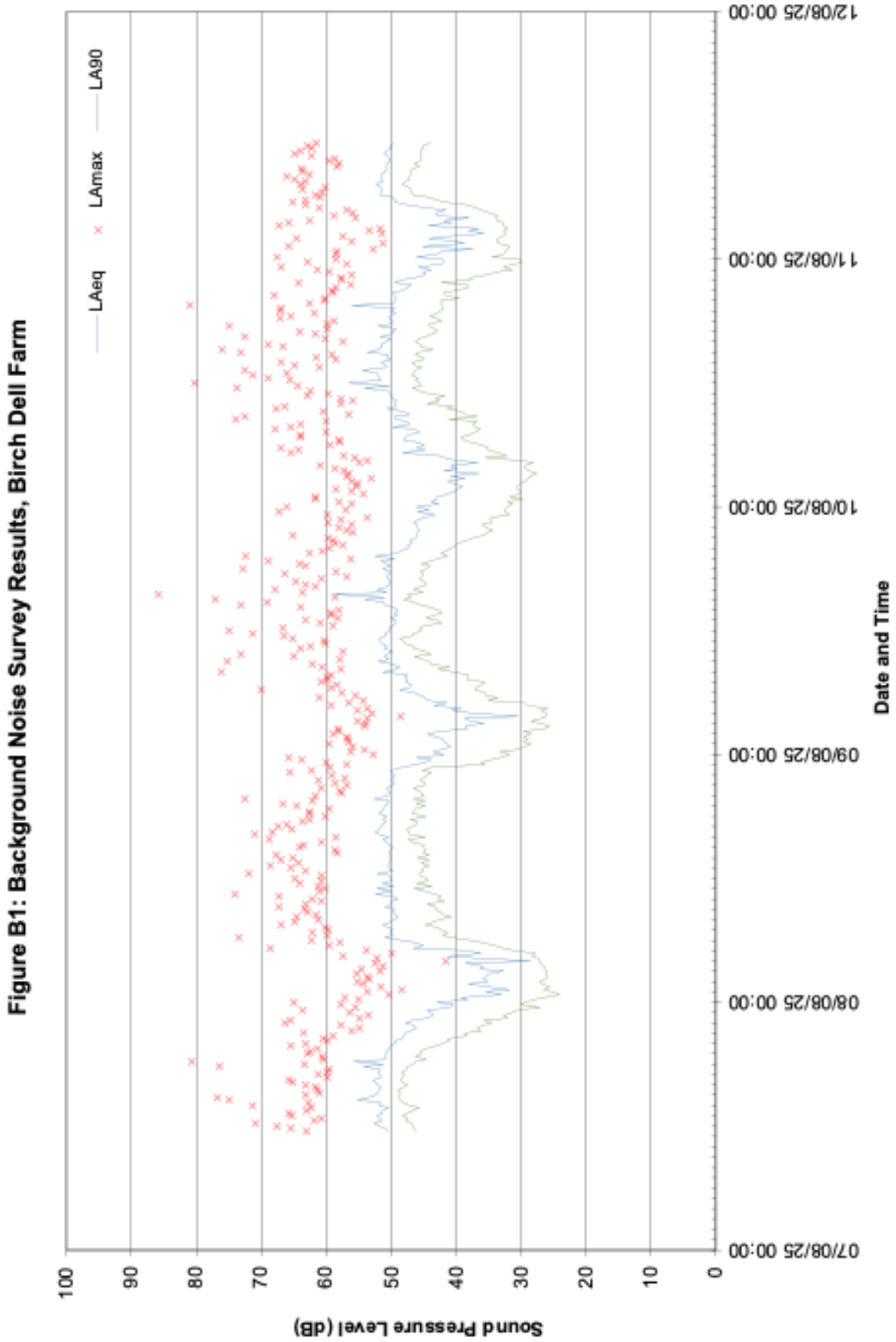


Figure B1: Background Noise Survey Results, Birch Dell Farm

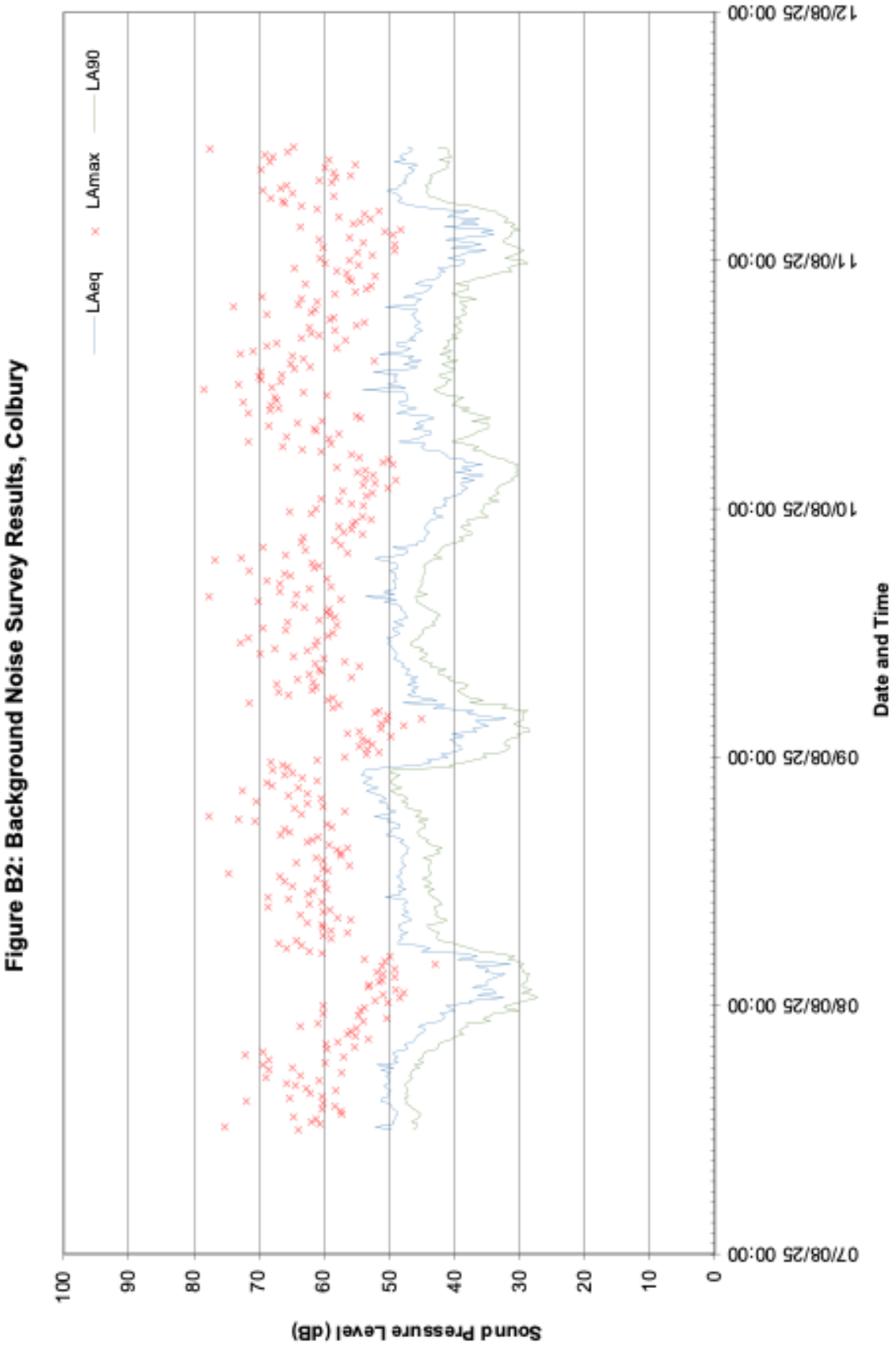


Figure B2: Background Noise Survey Results, Colbury