

NOISE IMPACT ASSESSMENT

REPORT REFERENCE: **NCSL1312**

THE OUT BARN WEDDING VENUE.
CROSS LANE, WADDINGTON, BB7 3JH.
15TH OCTOBER 2024.

Issue 1

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1 INTRODUCTION

Noise Control Solutions Limited (NCSL) have been commissioned by The Out Barn wedding venue to undertake a noise impact assessment relating to the existing noise levels generated during events at the venue. The venue (reference 'D1') is located at Cross Lane, Waddington, Clitheroe, Lancashire, BB7 3JH.

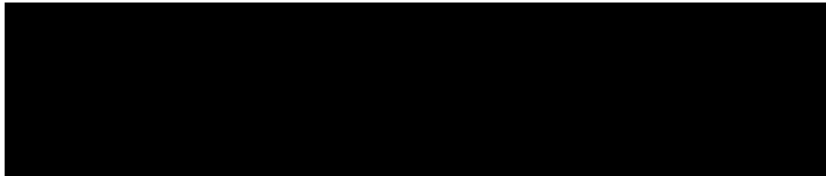
This assessment is required in order to accompany the relevant planning application, relating to a revision of the venue license, proposing an increase from the current limit of 40 events per year to an unlimited number of events. This application is to be considered by Ribble Valley Borough Council.

The most significant sources of noise are considered by NCSL to be;

1. Amplified music, live music and patron noise from the venue (source reference 'S1').

In order to assess the noise impact at the nearest noise sensitive receptors, an environmental noise impact assessment has been conducted, details of which are shown within this report.

Report prepared



2 COMPETENCE

This report has been prepared by Mr Andrew Todd, a corporate member of the Institute of Acoustics, a holder of a MSc in Acoustics and a Chartered Engineer registered with the United Kingdom Engineering Council. Andrew has over 17 years of experience as an acoustic consultant/engineer working in various aspects of acoustics.

3 SUMMARY OF TERMS, DESCRIPTORS & QUANTITIES

Within this report, several acoustic descriptors and quantities are referred to. Due to their specialised nature, the following summary is provided.

DECIBELS (dB): Ten times the logarithm (base 10) of the ratio between a measured quantity and a reference quantity. For sound pressure levels defined within this report, the reference quantity is 20 Micropascals (μPa).

A-WEIGHTING: The filtering of acoustic signals in order to provide a closer approximation to the human hearing response. Measurements with this weighting applied are denoted with "(A)", for example, "dB(A)".

NTH PERCENTILE NOISE LEVEL ($L_{AN,T}$): The A-weighted sound pressure level, in decibels, exceeded for N% of the measurement duration (T). This metric is generally used to assess background noise levels (L_{A90}) as it allows for the removal of non-constant noise sources, for example, passing vehicles. The subscript 'T' defines the measurement duration.

EQUIVALENT CONTINUOUS NOISE LEVEL ($L_{AEQ,T}$): The logarithmically averaged sound pressure level, in decibels, over the measurement duration (T) with A-weighting applied. The subscript 'T' defines the measurement duration.

FAST TIME WEIGHTING: The integration time constant of the measurement. Fast time weighting, denoted by the subscript 'F', integrates sound pressure levels over 0.125 seconds.

MAX LEVEL ($L_{AF\ MAX}$): The maximum reported RMS sound pressure level during a measurement period. The level is A-weighted and is calculated with a Fast time weighting.

DAY-TIME AND NIGHT-TIME PERIODS: Following guidance contained within BS4142:2014, the day-time period is defined as 07:00 to 23:00 and the night-time period is defined as 23:00 to 07:00.

NOISE SENSITIVE RECEPTOR (NSR): A premises or area which is sensitive to noise disturbance. This is generally an existing, or future residential premises close to a proposed development.

SOUND POWER LEVEL (L_w): The sound energy radiated per unit time by a sound source, measured in Watts (W) on a decibel scale with a reference value of 10^{-12}W .

4 APPLICABLE LITERATURE

4.1 NATIONAL PLANNING POLICY FRAMEWORK

The National Planning Policy Framework (NPPF), updated in 2023, outlines the Government's planning policies for England and how they are expected to be applied. In respect of noise, the document states that:

Planning policies and decisions should also ensure that new development is appropriate for its location, taking into account the effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so, they should:

- *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.*

Additionally, the policy states that:

- *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.*
- *Planning conditions should be kept to a minimum and only imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects. Agreeing conditions early is beneficial to all parties involved in the process and can speed up decision-making. Conditions that are required to be discharged before development commences should be avoided, unless there is a clear justification*

4.2 NOISE POLICY STATEMENT FOR ENGLAND (NPSE)

Published in March 2010 by DEFRA, this document defines the Government's policy on noise. It incorporates the long-term vision of promoting good health and quality of life through the effective management of noise in the context of Government policy on sustainable development. The long-term vision of the NPSE is supported by the following aims:

- *Avoid significant adverse impacts on health and quality of life.*
- *Mitigate and minimise adverse impacts of health and quality of life.*
- *Where possible, contribute to the improvement of health and quality of life.*

This document also defines three categories relating to noise impact:

- **NOEL – NO OBSERVED EFFECT LEVEL.** This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
- **LOAEL – LOWEST OBSERVED EFFECT LEVEL.** This is the level above which adverse effects on health and quality of life can be detected.
- **SOAEL – SIGNIFICANT OBSERVED ADVERSE EFFECT LEVEL.** This is the level above which significant adverse effects on health and quality of life occur.

4.3 PLANNING PRACTICE GUIDANCE

Further detail is provided within the Planning Practice Guidance (PPG) regarding how the effect levels, set out within NPSE, can be recognised and the associated concern arising from each.

At the lowest extreme, when noise is not perceived to be present, there is by definition no effect. As the noise exposure increases, it will cross the 'no observed effect' level. However, the noise has no adverse effect so long as the exposure does not cause any change in behavior, attitude or other physiological responses of those affected by it. The noise may slightly affect the acoustic character of an area but not to the extent

there is a change in quality of life. If the noise exposure is at this level no specific measures are required to manage the acoustic environment.

As the exposure increases further, it crosses the 'lowest observed adverse effect' level boundary above which the noise starts to cause small changes in behavior and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard. The noise therefore starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).

Increasing noise exposure will at some point cause the 'significant observed adverse effect' level boundary to be crossed. Above this level the noise causes a material change in behavior such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is predicted to be above this level the planning process should be used to avoid this effect occurring, for example through the choice of sites at the plan-making stage, or by use of appropriate mitigation such as by altering the design and layout. While such decisions must be made taking account of the economic and social benefit of the activity causing or affected by the noise, it is undesirable for such exposure to be caused.

At the highest extreme, noise exposure would cause extensive and sustained adverse changes in behavior and / or health without an ability to mitigate the effect of the noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be avoided.

Table 1 summarises the noise exposure hierarchy.

Response	Example of Outcomes	Increasing Effect Level	Action
No Observed Effect Level			
Not Noticeable	No Effect	No Observed Effect	No Specific Measures Required

Response	Example of Outcomes	Increasing Effect Level	Action
No Observed Adverse Effect Level			
Present & Not Intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life	No Observed Adverse Effect	No Specific Measures Required
Lowest Observed Adverse Effect Level			
Present & Intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, 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 small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate & Reduce to a Minimum
Significant Observed Adverse Effect Level			
Present & Disruptive	The noise causes a material change in behaviour, attitude or other physiological response, 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 Effect Level	Avoid
Present & Very Disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, 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 – NOISE EXPOSURE HIERARCHY

4.4 BS4142:2014:2014+A1:2019 METHODS FOR RATING AND ASSESSING INDUSTRIAL AND COMMERCIAL SOUND

British Standard 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound (BS4142:2014) sets out a methodology to determine the potential impact of proposed industrial and commercial sound sources upon nearby dwellings or premises used for residential purposes. Furthermore, BS4142:2014 is appropriate to consider the impact of existing sources of industrial and commercial sound on proposed receptors.

The methodology prescribes the measurement of the existing acoustic environment at noise sensitive receptor locations, termed the 'background sound level'.

A measurement or calculation of the noise generated by the proposed noise source at the receptor location is also required and is termed the 'specific sound level'. This value is then adjusted to reflect any acoustic characteristics which may increase audibility or annoyance to define the 'rating level'.

Once these values have been attained, an analysis can be conducted in order to assess the estimated noise impact that will occur with the introduction of the proposed source into the existing environment.

- In instances where the rating level exceeds background noise level by +10dB, this is an indication of a significant adverse impact, depending upon the context.
- In instances where the rating level exceeds background noise level by +5dB, this is an indication of an adverse impact, depending upon the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will cause an adverse noise impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

The assessment of a noise impact at a receptor should consider the context in which the sound occurs. BS4142:2014 states that the following factors be included in the context assessment;

- The absolute level of sound
- The character and level of residual sound

- The sensitivity of the receptor.

As BS4142:2014 is not applicable to the assessment of noise from people or entertainment, this standard is included within the literature review for information only.

4.5 BS8233:2014:2014 GUIDANCE ON SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS

BS8233:2014:2014 Guidance on Sound Insulation and Noise Reduction for Buildings (BS8233:2014) provides guidance on internal noise levels within dwellings allowing for sufficient resting and sleeping conditions, as shown in Table 2. However, it is also noted that these values may be relaxed by 5dB where a development is considered necessary or desirable with reasonable internal conditions still achieved.

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35dB $L_{Aeq,16hour}$	N/A
Dining	Dining room	40dB $L_{Aeq,16hour}$	N/A
Sleeping	Bedroom	35dB $L_{Aeq,16hour}$	30dB $L_{Aeq,8hour}$ 45dB L_{Amax}

TABLE 2 - BS8233:2014:2014: RECOMMENDATIONS FOR INDOOR NOISE LEVELS

BS8233:2014 also provides guidance as to acceptable external noise levels, as shown in Table 3.

Activity	Location	Desirable Noise Level	Upper Guideline Level
Relaxation	External Amenity Space	50dB $L_{Aeq,T}$	55dB $L_{Aeq,T}$

TABLE 3 - BS8233:2014:2014: RECOMMENDATIONS FOR EXTERNAL NOISE LEVELS

BS8233:2014, however, does recognise that these external guideline values are not achievable in all circumstances where development may be desirable. The standard also provides guidance on estimated noise reduction levels of commonly used building materials and constructions.

4.6 CODE OF PRACTICE ON ENVIRONMENTAL NOISE CONTROL AT CONCERTS (1995)

This document, published by the Noise Council in 1995, sets out methods for setting reasonable Music Noise Level (MNL) targets at residential premises and best practice methods for minimising disturbance caused by music events.

The guidance noise levels defined within the document for events held between 09:00 and 23:00 are shown in Table 4.

Concert days per calendar year, per venue	Venue category	Guideline
1 to 3	Urban stadia or arenas	The MNL should not exceed 75dB(A) over a 15-minute period
1 to 3	Other urban and rural venues	The MNL should not exceed 65dB(A) over a 15-minute period
4 to 12	All venues	The MNL should not exceed the background noise level by more than 15dB(A) in any 15-minute period.
Over 12	All venues	The MNL should not exceed the background noise level by more than 5dB(A) in any 15-minute period.

TABLE 4 – GUIDELINE MNL VALUES

The MNL is defined as the Equivalent, A-weighted noise level ($L_{Aeq,15minutes}$) measured 1m from the Noise Sensitive Receptor (NSR) façade.

The background noise level is derived from the arithmetic average of the hourly L_{A90} values measured over the last four hours of the proposed music event or over the entire period of the proposed event if it is scheduled to last less than four hours.

Furthermore, the document also provides a limit on the acceptable levels of low frequency noise generated by the event. The document states that a level of up to 70dB(Z) in either of the 63Hz or 125Hz octave frequency bands is satisfactory.

The document recommends that for any events continuing beyond 23:00, the MNL should not be audible within the NSR with windows open in a typical manner for ventilation.

In addition, the document also sets out best practice methods to minimise disruption within the local environment, this includes:

- Giving sufficient notice to local authorities when events are planned.
- Advertise and operate a complaint telephone number through which noise complaints can be channelled, allowing for an immediate response if necessary.
- Carrying out of a sound test prior to each event to ascertain the maximum level that can be reached to allow guideline noise levels to be met. This effectively 'calibrates' the system taking in to account prevailing weather conditions and the sound insulation of the venue.
- Carry out noise monitoring outside the venue throughout the event.

4.7 LITERATURE REVIEW SUMMARY

Based upon the literature review, it is suggested that the methodology below is used as a basis for this assessment:

1. The overall A-weighted noise level at receptors due to S1 should not exceed:
 - a. 43dB(A), based upon the BS8233:2014 indoor night-time noise level guidance plus an attenuation of 13dB corresponding to an open window for the purposes of ventilation.

or

-
- b. 5dB above the measured background sound level as per the Code of Practice on Environmental Noise Control at Concerts.

Whichever value is lowest.

2. The sound pressure level in the 63Hz and 125Hz octave bands due to S1 should not exceed 70dB(Z) at any receptor, as per the Code of Practice on Environmental Noise Control at Concerts.

5 LOCATION

5.1 SITE LOCATION

The development in question is located at The Out Barn, Waddington, Clitheroe, Lancashire, BB7 3JH, (reference 'D1'). This is a wedding venue located within a rural area. The area surrounding the site is comprised of open grassland, with several residential premises and farms within the local area.

5.2 NOISE SENSITIVE RECEPTOR LOCATION

Three noise sensitive receptors have been identified in reference to this noise impact assessment, these are detailed in Table 5.

NSR Reference	NSR Address	Distance to Development
NSR1	Sandy Ford	~450m
NSR2	Cow Hey	~550m
NSR3	Rugglesmere	~260m

TABLE 5 - NOISE SENSITIVE RECEPTOR DETAILS

Other receptors may be affected by noise from the proposed development. However, these other receptors would be expected to be affected equally, or less than those receptors which have been identified above.

5.3 MEASUREMENT LOCATIONS

All outdoor acoustic measurements detailed within this report were taken using outdoor microphones positioned at several Measurement Locations (MLs). All MLs were located at a distance of >3.5m from any reflective surfaces (other than the ground) and at a height of 1.5m. Details of each ML are shown below in Table 6.

Location Reference	Location Description	Measured Values
ML1	Boundary between D1 and NSR1	Ambient sound level representative of NSR1 during wedding event (5/10/2024).
ML2	Boundary between D1 and NSR2	Ambient sound level representative of NSR2 during wedding event (5/10/2024).
ML3	Boundary between D1 and NSR3	Ambient sound level representative of NSR3 during wedding event (5/10/2024). Background sound level representative of NSR3 (9/10/2024).
ML4	Eastern boundary of D1 adjacent field.	Background sound level representative of NSR1 & NSR2 (9/10/24).
ML5	Reference microphone, 22.5m from venue	Specific sound level from S1 during wedding event (5/10/2024).

TABLE 6 - MEASUREMENT LOCATIONS

5.4 LOCAL AREA MAP



FIGURE 1 - LOCAL AREA MAP

5.5 SUBJECTIVE APPRAISAL OF THE EXISTING ACOUSTIC ENVIRONMENT

During a site visit on Saturday 5th October 2024, with a wedding event in progress, a subjective assessment of the existing acoustic environment, in conjunction with a review of logged audio recordings during survey measurements, was conducted by NCSL.

At the measurement locations, during a typical wedding event at the venue, it was observed that noise from S1 is effectively inaudible. The residual sound is made up of noise from local wildlife and, at NSR3, a small stream which runs past the premises.

6 PROPOSED NOISE SOURCES

The existing wedding venue (reference 'D1') comprises a converted masonry barn structure with a timber extension which is used to facilitate live music during wedding events.

It is understood that the venue has been operating since 2015, with no noise complaints from local residents. This is a positive indication of a low noise impact from the venue.

The main operational times for events at the venue are understood to be 0800hrs to 0100hrs, however it is understood that music generally does not start until around 1900hrs, ceasing at 0030hrs. Further details of the noise sources relating to this planning application are defined below.

6.1 MUSIC & PATRON NOISE (S1).

It is understood that the venue hosts a combination of live music and DJs during wedding events at the venue. PA systems are provided by the artists themselves and a noise limiting system is installed within D1.

In our experience, live bands tend to produce higher noise levels than DJs, due to the lack of control which can be exercised over instruments which do not run via the PA system (such as acoustic drum kits). It is noted that the venue does encourage the use of electronic drum kits as much as possible, which enables further control over the emitted noise levels.

Bands and DJs are located within a timber extension to the main venue building, which is of solid masonry construction. The timber structure exhibits a double-glazed façade to the South-East elevation, allowing for views into the rural surroundings for guests. This glazed façade also incorporates doors, which are used by guests wishing to sit outdoors.

It was observed during a site visit on Saturday 5th October 2024 that some guests used the outdoor space surrounding the venue for smoking and to sit and have conversations.



FIGURE 2 - TIMBER EXTENSION HOUSING LIVE MUSIC DURING EVENTS

7 EQUIPMENT & MEASUREMENT CONDITIONS

7.1 EQUIPMENT DETAILS

All measurements detailed within this report relating to the assessment of environmental noise levels were made using two Class 1 NTi Audio XL2 sound level meters (serial number A2A-15792-E0 & A2A-19038-E0). Field calibration of the meters was conducted using a Class 1 Norsonic Type 1251 114dB acoustic calibrator (serial number 33421). Pre and post measurement sensitivity checks were conducted and showed no significant deviation to the nominal sound level meter sensitivities of 41.3mV/Pa and 40.2mV/Pa respectively or reference signal levels. Details of these tests are documented in Tables 7 & 8.

Test Reference	dB Level	Sensitivity	Comments
Pre-test calibration	114.0dB	41.3 mV/Pa	NA
Post-test check	114.0dB	41.3 mV/Pa	No significant variance

TABLE 7 - FIELD CALIBRATION DETAILS (S/N A2A-15792-E0)

Test Reference	dB Level	Sensitivity	Comments
Pre-test calibration	114.0dB	40.2 mV/Pa	NA
Post-test check	114.0dB	40.2 mV/Pa	No significant variance

TABLE 8 - FIELD CALIBRATION DETAILS (S/N A2A-19038-E0)

All equipment is calibrated in accordance with IEC 61672-3, IEC 61260 and BSEN 60942:2003 where applicable. Calibration certificates are available upon request.

7.2 GROUND CONDITIONS

Ground conditions between D1 and NSRs consist of open grassland with minor undulations. The ground was dry throughout the survey period.

7.3 WEATHER CONDITIONS

Weather conditions during survey measurements were clement and dry. Further details of the environmental conditions during the ambient sound level and background sound level surveys are shown in the tables below.

Parameter	Survey Start	Survey End
Barometric Pressure	1007 mbar	1007 mbar
Temperature	14° Celsius	12° Celsius
Wind Velocity	0.2 ms ⁻¹	0 ms ⁻¹
Cloud Cover	0%	0%

TABLE 9 - ENVIRONMENTAL CONDITIONS (AMBIENT SOUND SURVEY 5/10/2024)

Parameter	Survey Start	Survey End
Barometric Pressure	1012 mbar	1012 mbar
Temperature	15° Celsius	4° Celsius
Wind Velocity	0.0 ms ⁻¹	0.0 ms ⁻¹
Cloud Cover	0%	0%

TABLE 10 - ENVIRONMENTAL CONDITIONS (BACKGROUND SOUND SURVEY 10/10/2024)

8 ACOUSTIC MEASUREMENTS & DEFINED SOUND LEVELS

8.1 BACKGROUND SOUND LEVELS

The background sound level characterises the existing acoustic environment at a specific location without the influence of the noise source under assessment.

Measurements have been taken in order to define the existing background sound level at the noise sensitive receptor locations (NSRs). An 11-hour acoustic survey was selected to reflect the operating times of S1. The survey commenced at 1300hrs Thursday 10th October 2024 and was completed at 0000hrs Friday 11th October 2024.

These measurements were taken at ML3 & ML4.

The background sound level has been measured as a 90th percentile sound pressure level ($L_{A90,T}$) logged at 15-minute measurement intervals. Following the methodology described in BS4142:2014, the statistical mode of the night-time measurement values has been taken as the night-time background sound level between 2300hrs Thursday 10th October 2024 and 0000hrs Friday 11th October 2024. The statistical mode of the day-time measurement values has been taken as the day-time background sound level between 1300hrs Thursday 10th October 2024 and 2300hrs Thursday 10th October 2024.

The results of this acoustic survey are shown in Figures 3 & 4 and the results are summarised in Table 11.

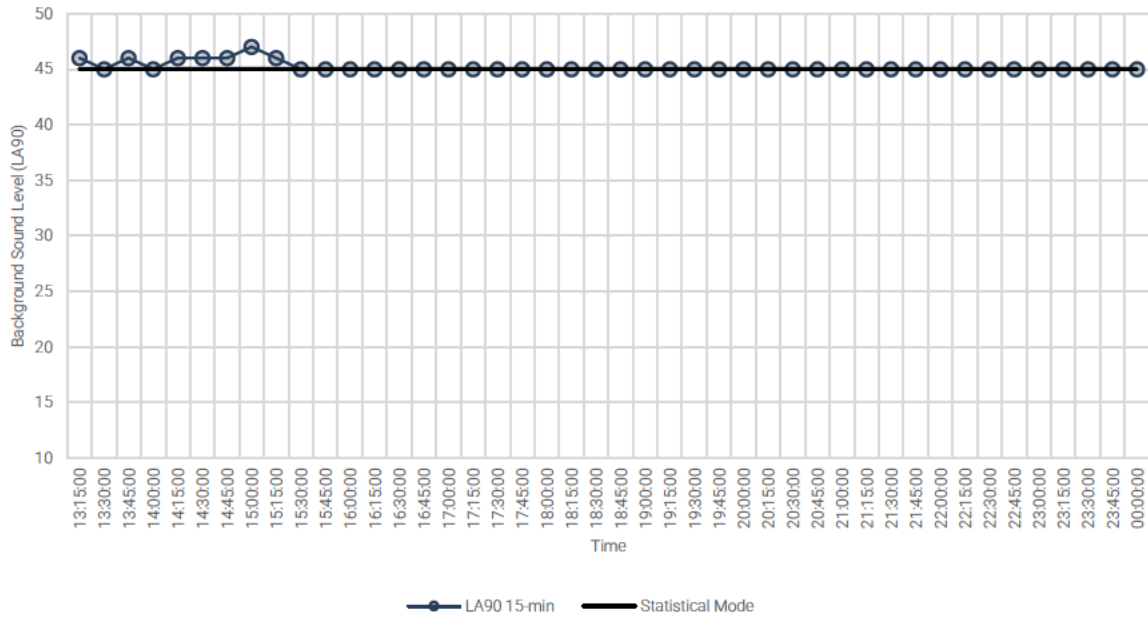


FIGURE 3 – BACKGROUND SOUND LEVEL VALUES – ML3 (LA_{90,15MIN})

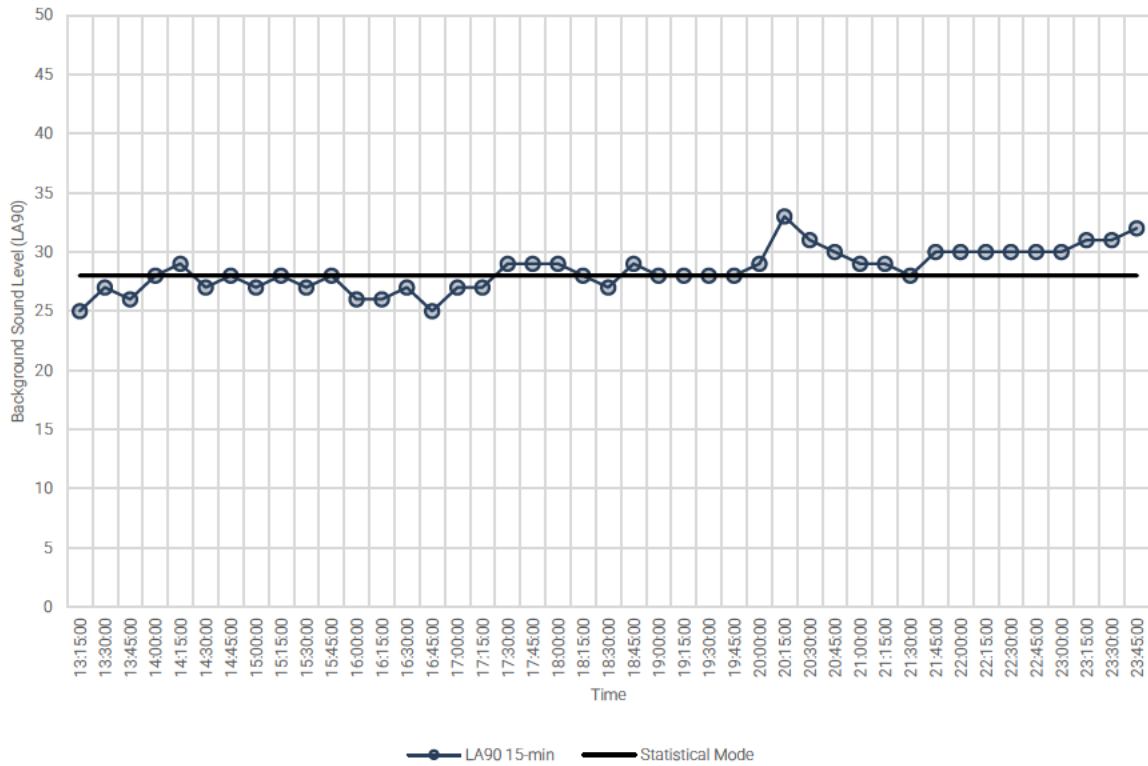


FIGURE 4 - BACKGROUND SOUND LEVEL VALUES – ML4 (LA_{90,15MIN})

Measurement Location	Representative Receptor	Day Background Sound Level (1300 – 2300) (dB L _{A90,T})	Night Background Sound Level (2300 – 0000) (dB L _{A90,T})
ML4	NSR1	28dB(A)	31dB(A)
ML4	NSR2	28dB(A)	31dB(A)
ML3	NSR3	45dB(A)	45dB(A)

TABLE 11 - BACKGROUND SOUND LEVEL

These background sound levels are considered to be representative of the background sound level at NSRs and have been used within this report.

Further details are shown in Appendix A.

8.2 AMBIENT SOUND LEVEL

The ambient sound level defines the total sound pressure level in a specific location at a specific time, generally composed of acoustic radiation from several sources. Measurements of ambient sound level take the form of an A-weighted equivalent continuous sound pressure level (L_{Aeq,T}). This metric logarithmically averages the observed sound level over the measurement period.

In the case of this noise assessment, the ambient sound level has been measured with a wedding event occurring at D1, allowing the quantification of the sound level likely to be generated as a result of noise from S1 and all other sources contributing to the acoustic environment at NSRs.

These measurements were taken at MLs 1, 2, 3 & 5.

The ambient sound level has been measured as an equivalent continuous A-weighted sound pressure level (L_{Aeq,T}) logged at 1-minute and 1-second intervals between 1900hrs 2230hrs on Saturday 5th October 2024.

The results of this ambient sound level survey are shown below in Figure 5.

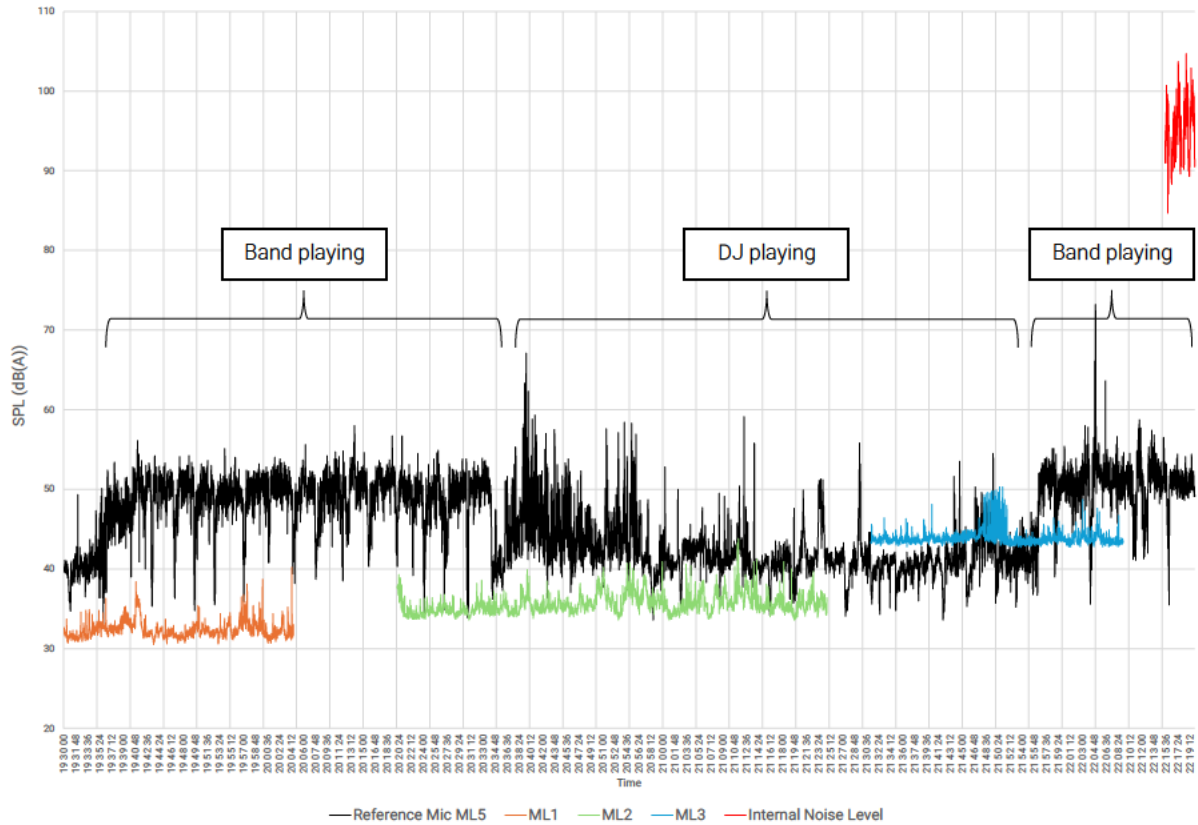


FIGURE 5 - AMBIENT SOUND LEVELS

Several observations can be made from this measurement data:

1. The measurement data at MLs 1-3 do not follow the characteristics of the reference microphone at ML5. For example, between 1930hrs to 2030hrs and 2200hrs to 2230hrs, the reference microphone plot clearly shows significant drops in the MNL (Music Noise Level) between songs from the live band. This is not replicated at MLs 1-3 and suggests that the MNL is not dominant at these locations.
2. The ambient noise level at ML3 is generally higher than the measured noise level at the reference microphone between 2130hrs and 2155hrs. This is due to the ambient sound at this location being dominated by water flow noise from the small stream nearby.
3. MNL within the venue itself is between 90dB(A) – 100dB(A) during the live music performance, as measured on the dancefloor area.

It is also noted that these measurements, although dominated by music noise from the venue, also contain contribution of noise from patrons within the venue and typical operations within D1.

8.3 SPECIFIC SOUND LEVEL

The specific sound level is the calculated noise level generated at a NSRs due exclusively to the noise source under investigation.

In this case, the specific sound level of S1 at NSRs has been defined with the use of a computer noise model, generated within the sound propagation simulation software SoundPLAN Essentials 5.1.

A point source has been incorporated into the noise model to represent the acoustic output of S1. The octave-band sound power level of this point source has been informed by the acoustic measurements taken at the reference microphone location during a wedding event on 5th October 2024.

Receptors have been included within the computer noise model to represent the NSRs defined within this noise impact assessment. The resulting specific sound levels are shown in Table 12 below, including the 63Hz and 125Hz octave band sound levels.

These specific sound levels are considered to be representative of the specific sound level at NSRs and has been used within this report.

Further details of the computer noise model are shown in Appendix B.

8.4 DEFINED SOUND LEVEL SUMMARY

The defined sound levels are summarised in Table 12.

NSR	Background Sound Level (dB, L _{A90}) Worst-Case	Specific Sound Level (dB, L _{Aeq})	Specific Sound Level (dB, 63Hz)	Specific Sound Level (dB, 125Hz)
NSR1	28dB(A)	20dB(A)	17dB(Z)	25dB(Z)
NSR2	28dB(A)	19dB(A)	16dB(Z)	24dB(Z)
NSR3	45dB(A)	25dB(A)	17dB(Z)	25dB(Z)

TABLE 12 - DEFINED SOUND LEVEL SUMMARY

9 NOISE IMPACT ASSESSMENT

As discussed within Section 4.7 of this report, it is proposed that the following is used as a basis for this noise assessment:

1. The overall A-weighted noise level at receptors due to S1 should not exceed 5dB above the measured background sound level as per the Code of Practice on Environmental Noise Control at Concerts.
2. The sound pressure level in the 63Hz and 125Hz octave bands due to S1 should not exceed 70dB(Z) at any receptor, as per the Code of Practice on Environmental Noise Control at Concerts.

The results of this noise impact assessment shows that these criteria are expected to be met by the venue, as shown in Table 13 below. In addition, the low frequency requirement, as set out by The Code of Practice on Environmental Noise Control at Concerts is also expected to be achieved, as shown in Table 14.

NSR	Background Sound	Specific Sound Level (dB, L _{Aeq})	Difference
	Level + 5dB (dB, L _{A90}) Worst-Case		
NSR1	33dB(A)	20dB(A)	-13dB
NSR2	33dB(A)	19dB(A)	-14dB
NSR3	48dB(A)	25dB(A)	-23dB

TABLE 13 - SPECIFIC SOUND LEVEL VS BACKGROUND SOUND LEVEL

	63Hz			125Hz		
	Limit Value	Predicted	Difference	Limit Value	Predicted	Difference
		Level at NSR			Level at NSR	
NSR1	70dB(Z)	17dB(Z)	-53dB	70dB(Z)	25dB(Z)	-45dB
NSR2	70dB(Z)	16dB(Z)	-54dB	70dB(Z)	24dB(Z)	-46dB
NSR3	70dB(Z)	17dB(Z)	-53dB	70dB(Z)	25dB(Z)	-45dB

TABLE 14 - LOW FREQUENCY NOISE VS LIMIT VALUE

In addition, the specific sound level at each NSR premises is expected to be within the indoor and outdoor, day-time and night-time, noise level guidance values contained within BS8233:2014, even with windows open for the purposes of ventilation. This is based upon an attenuation of 13dB, simulating an open window, as per the AVO guidelines.

It is also important to mention that during a typical wedding event at the venue, including a live band and DJ, noise from S1 was effectively inaudible at all measurement locations representative of NSRs.

Based upon the findings of this assessment, noise due to the increase in the number of events which can be held at the venue per year is expected to result in a low noise impact at NSRs.

In order to further minimise noise impact from D1, a Noise Management Plan has been prepared, as shown in Section 10 of this report.

10 NOISE MANAGEMENT PLAN

The following noise control measures have been identified and should be implemented to reduce the potential impact of noise from D1. The noise control measures are not considered to be exhaustive, and NCSL would encourage the operator to carry out all works with a view towards minimising the noise emissions as received at the surrounding residential dwellings.

- Music acts should be encouraged to use low frequency cautiously, especially in the 63Hz and 125Hz octave bands.
- The operator should continue to promote the use of electronic drum kits where possible.
- Introduction of signage in outdoor areas to remind guests that residential neighbouring premises may be affected by noise.
- Introduction of signage requesting that doors are kept closed whilst music events are on-going.
- Staff to check that doors are closed during live music events and/or introduction of closing mechanisms, where possible.
- Windows and doors of the building should be kept closed as much as is practicably possible.

10.1 DEALING WITH COMPLAINTS & NEIGHBOUR RELATIONS

Noise complaints are often a result of uncertainty, and miscommunication. It is therefore recommended that the operator opens dialogue with all local residents which could be affected by noise from of the venue, with a positive relationship encouraged.

The local residents could be provided with the name and telephone number of the venue operator so that complaints regarding noise could be dealt with easily and promptly without the need to involve third parties. Further, the operator could discuss the operations of the venue with the local residents, and further noise control measures could be identified. In addition, local residents could be notified in advance of any events which are expected to be particularly noisy.

11 CONCLUSIONS & RECOMMENDATIONS

Noise Control Solutions Limited (NCSL) have been commissioned by The Out Barn wedding venue to undertake a noise impact assessment relating to the existing noise levels generated during events at the venue located at Cross Lane, Waddington, Clitheroe, Lancashire, BB7 3JH.

This assessment is required in order to accompany the relevant planning application, relating to a revision of the venue license, proposing an increase from the current limit of 40 events per year to an unlimited number of events. This application is to be considered by Ribble Valley Borough Council.

The most significant sources of noise are considered by NCSL to be;

1. Amplified music, live music and patron noise from the venue (source reference 'S1').

The noise impact assessment includes data from a background sound level survey which was conducted between 1300hrs Thursday 10th October 2024 and 0000hrs Friday 11th October 2024.

A suitable assessment methodology has been proposed by NCSL, incorporating the guidance contained within The Code of Practice on Environmental Noise Control at Concerts. This methodology considers both the overall sound level produced by S1 and the low frequency content in the 63Hz and 125Hz octave bands.

A computer noise model, informed by acoustic measurements taken during a typical wedding event at D1, has been used in order to predict the specific sound level at each NSR premises. The results of this noise model show that the specific sound level is within the proposed noise limits set out by NCSL.

In addition, the specific sound level at each NSR premises is expected to be within the indoor and outdoor, day-time and night-time, noise level guidance values contained within BS8233:2014, even with windows open for the purposes of ventilation. This is based upon an attenuation of 13dB, simulating an open window, as per the AVO guidelines.

These results indicate that the proposed increase in events which can be held at the venue per year is expected to result in a low noise impact at NSRs. Based upon the findings of this assessment, it is the recommendation of NCSL that the planning application is approved regarding noise impact.

12 UNCERTAINTY

All measurements within this report have been taken under repeatable conditions and therefore any uncertainty in the result will be low.

To reduce measurement uncertainty, the following steps have been taken.

- The background noise measurements were undertaken during dry weather and with wind speeds of less than 5m/s.
- The results of each measurement period were reported to the nearest 0.1dB.
- Noise measurements were made using one Class 1, integrating sound level meter.

All noise impact assessments and similar acoustic assessments inherently rely upon estimations and assumptions. This report should therefore be considered within this context.

APPENDIX A: ACOUSTIC SURVEY DATA

ML3:

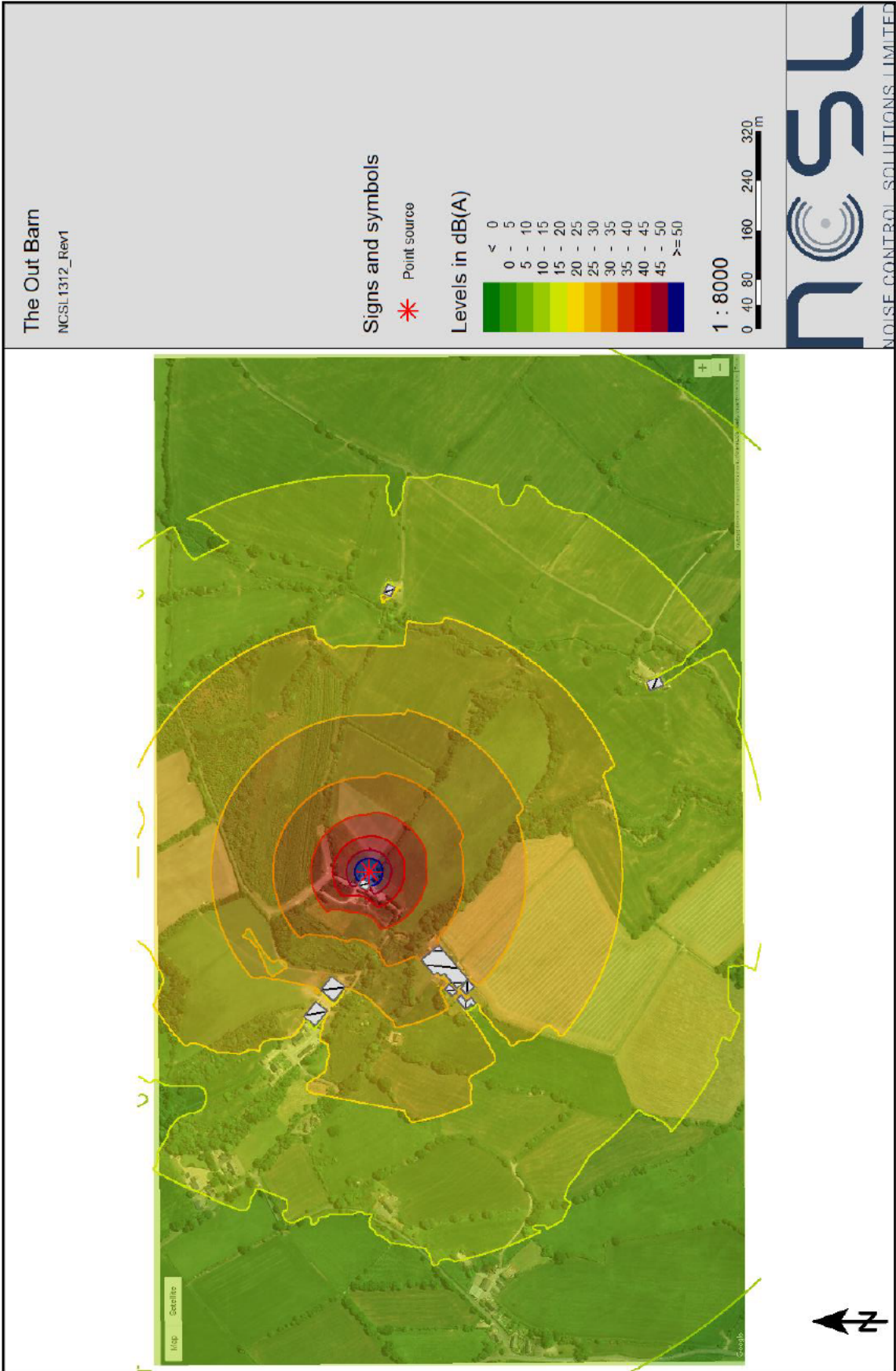
Time	LAeq	LAF90.0%	LAF10.0%	LAFmax	LAFmin	LZeq	LCeq
13:15:00	48	45.5	49.5	60	44.7	59.6	57.8
13:30:00	57.4	45.4	49.9	88.2	44.7	63.2	61.9
13:45:00	47.6	45.9	49.2	54.7	44.4	66.1	54.4
14:00:00	47.7	45.4	49.8	62.2	44.6	60.7	55.2
14:15:00	48.9	45.6	48.9	80	44.6	57.5	51.2
14:30:00	46.7	45.5	47.8	56.4	44.7	57.8	51.3
14:45:00	51.4	46	53.8	73.1	44.5	57.3	53.7
15:00:00	53.7	46.8	56.3	72.5	45.1	60	56.9
15:15:00	52.5	45.9	55.2	75.3	44.6	58.5	54.9
15:30:00	52.9	45.3	50	77.1	44.5	60.9	58.5
15:45:00	46.1	45.2	46.4	61.3	44.4	52.7	49.9
16:00:00	61.1	45.4	51.9	92.7	44.6	64.1	61.5
16:15:00	46.8	45.1	47.7	61.6	44.4	53.5	49.3
16:30:00	45.5	45	45.8	48.7	44.3	53.4	49.4
16:45:00	46.6	45.1	47.6	58	44.3	55.1	52.8
17:00:00	46.1	45	46.9	58.9	44	51.4	48.9
17:15:00	46.6	45.1	47	57.8	44.3	54	52.8
17:30:00	45.7	45	46.1	56.3	44.3	49.7	48.1
17:45:00	47.3	45.2	47.1	65.3	44.4	55.6	53
18:00:00	47.7	45.1	50.2	64.7	44.1	57	54.6
18:15:00	46.3	45.1	46.8	58.6	44.3	67.6	55.1
18:30:00	45.8	44.9	46.2	56.6	44.3	65	51.8
18:45:00	45.6	44.8	45.9	56.3	44.1	53.6	47.5
19:00:00	45.9	45	46.2	63.5	44.3	58.6	50.7
19:15:00	46.1	44.9	46.2	58.9	44.1	57.3	55.9
19:30:00	45.5	44.9	45.7	61.6	44	50.7	48.1
19:45:00	45.5	44.9	45.9	53.5	44.2	49.9	47.8
20:00:00	45.4	44.9	45.8	52.5	44.3	48.9	46.9
20:15:00	45.7	44.8	46.2	53.9	44.2	49.1	46.8
20:30:00	46	45	46.7	59.5	44.2	54.4	52.6
20:45:00	46.2	44.9	46.1	65	44.2	53.6	51.2
21:00:00	45.3	44.8	45.6	46.9	44.1	53.4	51.1
21:15:00	45.3	44.8	45.6	49.4	44.1	50.4	47.9
21:30:00	45.2	44.7	45.5	48.5	44.1	48.3	46.4
21:45:00	45.2	44.7	45.5	49	44	48.7	46.4
22:00:00	45.1	44.7	45.4	47	44	48.5	46.3
22:15:00	45.2	44.7	45.5	49.7	44	49	47.4

22:30:00	45.2	44.8	45.5	46.9	44.1	49.6	47.4
22:45:00	45.2	44.7	45.5	49.7	44	49.9	47.2
23:00:00	45.1	44.6	45.4	46.8	44	48.4	45.8
23:15:00	45.2	44.6	45.4	49.7	44.1	49	46.2
23:30:00	45.1	44.7	45.5	47.3	44	49.5	46.9
23:45:00	45.1	44.6	45.4	49.8	44.1	49.1	46.2
00:00:00	45	44.6	45.3	46.6	44	49.4	46.5

ML4:

Time	LAeq	LAF90.0%	LAF10.0%	LAFmax	LAFmin	LZeq	LCeq
13:15:00	35.6	25.4	34.7	60.1	24.3	59.4	47.6
13:30:00	34.6	26.9	36.7	58.9	25.2	57.8	47
13:45:00	35.2	26.4	32.8	64.1	24.9	57.8	45.5
14:00:00	34.5	28.3	37.7	51.4	26.6	58	47.2
14:15:00	38.1	29.1	41.2	60.9	26.3	58.2	49
14:30:00	35.2	27	36.6	58.4	24.6	55.6	45
14:45:00	40.2	28.4	41.4	61.3	25.1	56.5	50.8
15:00:00	36.7	27.3	37.7	58.7	25.6	55.9	46.5
15:15:00	33.6	28.3	34.8	53.3	26.6	56.2	46.8
15:30:00	32.3	26.8	34.8	54.1	25.2	51.7	47.2
15:45:00	47.2	27.9	38.8	73.6	25	58.3	54.6
16:00:00	35	26	36.1	62.7	24.1	51.5	46
16:15:00	32.7	26.2	35.9	52.5	23.9	52.9	48.5
16:30:00	40.4	27.4	42.4	62.1	24.6	54.9	52.2
16:45:00	36.6	25.4	36.7	59.3	23.8	52.4	46.7
17:00:00	40.3	26.9	42	60.4	24.9	52.6	50
17:15:00	33.8	27.3	35.5	56.2	26	59.8	50.1
17:30:00	38.3	28.6	39.5	56.6	27.2	60.2	52.8
17:45:00	35.2	28.6	38	55.6	26.9	59.6	51.5
18:00:00	35.7	28.9	37.2	61.3	27.3	61.6	51
18:15:00	31.5	28.2	34	42.8	26.5	57.5	46
18:30:00	31.1	27.3	33.4	48.2	26.1	56.5	44.7
18:45:00	34.5	29.4	37.5	50	26.9	56.3	49.6
19:00:00	34.1	28.2	35.8	52.8	26.7	53.6	48.6
19:15:00	30.2	27.6	31.8	49	26.5	48.8	45.2
19:30:00	32.6	28	35	47	26.7	47.7	44.2
19:45:00	30.4	27.5	32.5	42.8	26.4	46.7	42.6
20:00:00	37.2	29.3	40.5	57.5	27.9	47.3	43.9
20:15:00	38.2	33.1	40.5	60.6	29.5	53.3	51.6
20:30:00	34.6	30.9	36.5	50	29.1	52.9	50.5

20:45:00	31.6	29.6	32.9	45.4	28.5	50.1	47.8
21:00:00	32.2	29.2	35.2	42.8	28.2	47.6	44.6
21:15:00	30.4	28.8	31.8	41.7	27.4	45	40.4
21:30:00	30	28.4	31.1	43.2	27.5	46.2	41.4
21:45:00	30.8	29.8	31.7	36.4	28.8	46.7	41.6
22:00:00	32	30	34	41.1	29.1	46.9	42.7
22:15:00	32.8	29.6	35.5	48.2	28.8	48.3	44.7
22:30:00	31.7	29.8	33.7	38.7	28.6	49.3	43.2
22:45:00	31.7	30.3	32.3	50.2	29.5	45.2	39.5
23:00:00	31.1	29.9	32	42.4	28.9	46.4	40.7
23:15:00	32.7	30.9	34.5	43.9	29.8	47.2	42.9
23:30:00	32.6	30.8	32.9	55.3	29.7	46.5	41.6
23:45:00	32.7	31.5	33.8	50	30.6	47	42.5



TERMS AND CONDITIONS OF BUSINESS

1. GENERAL

Work done or services undertaken are subject to the terms and conditions detailed below and all other conditions, warranties and representations, expressed or implied are hereby excluded.

2. PRICES

Prices are based on current costs, exchange rates, duty and freight and are subject to change without notice. The quoted price does not cover the cost of attending meetings, telephone calls or email exchanges. This is charged separately at a pro rata hourly rate of £75 per hour.

3. TIMING ESTIMATES

Timing estimates are made in good faith and date from receipt of a written order and full information to enable us to proceed. While NCSL makes every effort to fulfil them, such estimates are subject to unforeseen events and if not maintained, cannot give rise to any claim.

4. CANCELLATION AND RETURNS

Cancellation of orders for services, training or consultancy is only acceptable by prior agreement of NCSL and a charge will normally be made. NCSL reserve the right to cancel any work at any time.

5. CLAIMS

Claims for errors etc should be notified within 10 days of date of receipt.

6. PAYMENT TERMS

Full payment is required before any work is undertaken by NCSL. Failure to comply with the terms of payment may result in delayed delivery of services and a review of the Customer's credit account (if applicable). Should the customer become subject to an administration order, or becomes bankrupt or goes into liquidation, NCSL has a right to cancel any contract and discontinue any work.

7. RETENTION OF TITLE

All reports & data remain the property of NCSL. Under no circumstances will a customer's purchase order override our Retention of Title clause. In the case of software and data, the ownership remains with NCSL. Payment of invoices in full will entitle the customer to use reports or other services under licence until (a) a set expiry date is passed (b) they cease trading. In both instances, the licence shall then revert to NCSL. All measurement data and reports are the sole property of NCSL and shall not be reproduced or distributed without written consent from NCSL.

8. TEST REPORTS

NCSL shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in a test report. Any specifications or targets supplied by NCSL are to be considered as guidance only. No guarantee is offered by NCSL that the meeting of any supplied targets or specifications will solve the relevant issue or prevent future issues.

9. RESPONSIBILITY

Every effort is made to ensure accuracy in description, drawings and other information in correspondence etc but no warranty is given in this respect and NCSL shall not be liable for any error therein. NCSL carries out all tests and/or advises only on the basis that the same are carried out, made or given without any responsibility whether for negligence or otherwise. NCSL and its servants or agents will not be liable for any damage or loss direct or indirect of whatsoever kind, whether or not the same results directly or indirectly from negligence on the part of NCSL or its servants or agents.

10. CONFIDENTIALITY

Unless specifically excluded in the terms of an individual contract between NCSL and its Customer, the following shall apply to all reports, advice, drawings, photographs, specifications or data:

- i. The above shall not be disclosed to third parties or used in litigation without the consent of NCSL.
- ii. Where NCSL has given consent to disclosure, the Customer shall draw the attention of the third party to these terms of business and the basis on which NCSL undertakes test, reporting and advising. The Customer shall indemnify NCSL for any failure to do so.
- iii. The above items are submitted to the Customer as confidential documents. Confidentiality shall continue to apply after completion of the business but shall cease to apply to information or knowledge which may come into the public domain.

11. CONSTRUCTION AND ARBITRATION

The laws of England shall govern all contracts and the parties submit to exclusive jurisdiction of the courts of England, unless otherwise agreed.

12. JOB SPECIFIC TERMS

NCSL will not be held responsible for any adverse impact arising from the introduction of proposed palliative measures. Furthermore, no guarantee is given regarding the effectiveness of any proposed palliative and/or mitigation measures. The client is responsible for any palliative measures, including, but not limited to, the sourcing of suppliers, the quality of installation, the cost of all materials / installation, maintenance and safety. All advice given should be taken as guidance only. It is the responsibility of the client to ensure the safe operation of any mitigation measures, including but not limited to, adequate fire safety and ventilation requirements. NCSL provide no guarantee that adherence to provided specifications will result in no further noise and/or vibration complaints and/or the elimination of noise and/or vibration issues. NCSL do not supply, procure, install or maintain any materials. We reserve the right to publicise the work conducted by NCSL, including, where appropriate, client logos etc. On occasion, work may be conducted by sub-contract partners.