Dice Environmental
Acoustics

Roebridge Foods
Noise Impact Assessment

November 2025
Ref: 102225-ACr01
Version 1

Distribution List

Issued To	Title / Company	Telephone No
Amy Sign	Architectural Technologist/ Knight Consulting	01489 660194

Quality Assurance

Issue/Revision	Version 1	Version 2	Version 3
Project Number	102225-ACr01		
Remarks	Draft report for review		
Date	November 2025		
Prepared By	Izzy Samphier		
Job Title	Associate Consultant		
Signature	[redacted]		
Checked By	Jonathan Riley		
Job Title	Head of Acoustics		
Signature	[redacted]		
Authorised By	Izzy Samphier		
Job Title	Associate Consultant		
Signature	[redacted]		

Contents

EXECUTIVE SUMMARY 4

Noise Surveys 4
Change in Noise Impact Assessment 4

1. INTRODUCTION 5

1.1. Background 5
1.2. Limitations 5
1.3. Confidentiality 5

2. ASSESSMENT METHODOLOGY 6

2.1. National Planning Policy Framework 6
2.2. IEMA/IOA Guidelines for Noise Impact Assessment 8

3. SURVEY 10

3.1. Background and Ambient Noise Survey 10
3.2. Noise Survey Conditions 11

4. NOISE IMPACT ASSESSMENT 13

4.1. Change in Ambient Assessment – Change of operating hours 13

5. CONCLUSION 15

APPENDIX I – LIMITATIONS 16

APPENDIX II – GLOSSARY OF ACOUSTIC TERMINOLOGY 17

APPENDIX III – NOISE SURVEY RESULTS 19

APPENDIX IV – BIBLIOGRAPHY 20

Executive Summary

Dice Environmental were commissioned by Knight Consulting to undertake a Noise Impact Assessment to assist with the discharge of condition 6 of the planning permission (ref: 15/01453/VAR) at Roebridge Foods, Brickworth Road, Whiteparish.

Noise Surveys

A series of environmental noise surveys have been completed to quantify the prevailing soundscape at the nearest noise sensitive dwellings to the site. The noise surveys were undertaken over a full weekday and weekend period at locations representative of the 2No. adjacent residential dwellings.

Change in Noise Impact Assessment

The change in ambient noise impact assessment has shown the changes in noise level due to the proposed increase in operating hours will largely result in a 'none/not significant' impact. However, a moderate impact has been identified during the nighttime hours of 23:00-07:00 at receptor 2. Accordingly, operations on the eastern side of the site, closest to the receptor, should be limited to the hours of 0700-23:00. The remainder of the site is suitable for operation 24-hours per day.

1. Introduction

1.1. Background

Dice Environmental has been commissioned by Knight Consulting, to provide a Noise Impact Assessment to assist with the discharge of condition 6 of the planning permission (ref: 15/01453/VAR) at Roebridge Foods, Brickworth Road, Whiteparish, to be referred to hereafter as "the site".

Condition 6 states:

> *The use hereby permitted shall not take place except between the hours of 7.00am - 7.00pm Monday to Saturday, no use Sundays and Public Holidays.*
>
> *Reason: To avoid the risk of disturbance to neighbouring dwellings/the amenities of the locality during unsocial hours.*

The purpose of this assessment is to determine the magnitude of the change in noise levels due to the extension of operating hours.

The site is located within Whiteparish which is to the south of Salisbury Town Centre. It is situated off of the A36 and accessed from Brickworth Road, (A27).

1.2. Limitations

All limitations of this report are presented in Appendix I.

1.3. Confidentiality

Dice Environmental has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Dice Environmental; a charge may be levied against such approval.

2. Assessment Methodology

2.1. National Planning Policy Framework

National Planning Policy Framework [1] 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. When preparing local or neighbourhood plans, or taking decisions about new development, there may also be opportunities to consider improvements to the acoustic environment.

Local planning authorities' plan-making and decision-taking should take account of the acoustic environment and in doing so consider:

- Whether or not significant adverse effect is occurring or is likely to occur;
- Whether or not adverse effect is occurring or is likely to occur; and
- Whether or not a good standard of amenity can be achieved.

In line with the Explanatory Note of the Noise Policy Statement for England [2], this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

The Observed Effect Levels are as follows:

- Significant Observed Adverse Effect Level (SOAEL): This is the level of noise exposure above which significant adverse effects on health and quality of life occur;
- Lowest Observed Adverse Effect Level (LOAEL): This is the level of noise exposure above which adverse effects on health and quality of life can be detected;
- No Observed Adverse Effect Level (NOAEL): This is the level of noise exposure at which the noise is noticeable but has no effect at all on health or quality of life.
- No Observed Effect Level (NOEL): This is the level of noise exposure below which noise is not audible.

Table 1 summarises the noise exposure hierarchy, based on the likely average response.

Table 1: Noise exposure hierarchy

Perception	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No effect	No observed effect	No specific measures required
No Observed Adverse Effect Level			
Present and 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 and 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 and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and 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 adverse effect	Avoid
Present and 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, e.g., regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable adverse effect	Prevent

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.

These factors include:

- The source and absolute level of the noise together with the time of day it occurs. Some types and level of noise will cause a greater adverse effect at night than if they occurred during the day – this is because people tend to be more sensitive to noise at night as they are trying to sleep. The adverse effect can also be greater simply because there is less background noise at night;
- For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise; and
- The spectral content and general character of the noise. The local topology and topography should also be taken into account along with the existing and, where appropriate, the planned character of the area.

More specific factors to consider when relevant:

- Where applicable, the cumulative impacts of more than one source should be taken into account, along with the extent to which the source of noise is intermittent and of limited duration.
- Consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations.
- If external amenity spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.

2.2. IEMA/IOA Guidelines for Noise Impact Assessment

The Institute of Acoustics and Institute of Environment Management and Assessment has produced a guidance document of Noise Impact Assessment which provides examples of how change in ambient noise levels can be assessed.

The guidelines address the key principles of noise impact assessment and are applicable to all development proposals where noise effects are likely to occur. The guidelines provide specific support on how noise impact assessment fits within the Environmental Impact Assessment (EIA) process. They cover:

- How to scope a Noise Assessment;
- Issues to be considered when defining the baseline noise environment;
- Prediction of changes in noise levels as a result of implementing development proposals; and,

- Definition and evaluation of the significance of the effect of changes in noise levels (for use only where the assessment is undertaken within an EIA).

Although the guidance states that it is only applicable for use in an Environmental Impact Assessment (EIA), in the absence of any other relevant guidance for assessing changes in ambient noise levels, it is the most appropriate document for establishing significance of effect.

Table 2 categorises the change in noise level for a noise sensitive receptor such as a residential dwelling.

Table 2: Noise exposure hierarchy

Effect	Change in Ambient sound level, $L_{Aeq,T}$, dB
Very substantial	>15dB
Substantial Increase	10.0dB-15.0dB
Moderate Increase	5.0dB – 9.9dB
Slight Increase	3.0dB – 4.9dB
None / not significant	<2.9dB

3. SURVEY

3.1. Background and Ambient Noise Survey

Dice has conducted a background and ambient noise survey at the each of the adjacent residential dwellings. The noise surveys took place over the following period:

- 15:00 Friday 31st October 2025 to 15:30 Monday 3rd November 2025.

The following noise measurement positions were chosen:

- Noise Measurement Position 1 (NMP1): A background and ambient noise survey was undertaken to the west of the development at a representative location of the dwelling situated off the A27. The microphone was situated approximately 1.5m from the ground and in free field conditions; and
- Noise Measurement Position 2 (NMP2): A background and ambient noise survey was undertaken to the east of the development at a representative location of the dwelling situated off the A27. The microphone was situated approximately 1.5m from the ground and in free field conditions.

The measurement locations have been used to determine the existing background noise level at the nearest noise sensitive facades as well as the resultant noise level from the existing operations of the site.

A summary of the measured sound pressure levels at the respective Noise Measurement Positions is presented in Table 3 and Table 4. The L_{Aeq} data has been processed to calculate the source-only contribution using the following formula:

$$L_{source} = 10 \log 10^{\left(10^{\frac{L_{tot}}{10}} - 10^{\frac{L_{bg}}{10}}\right)}$$

In addition, the source data has been further analysed to account for noise associated with road traffic along Brick Kiln Road. This assessment was based on the average daily traffic flow, converted to an hourly rate. Road and weather conditions were considered, along with a vehicle fleet composition of 95% light vehicles and 5% heavy goods vehicles traveling at a speed of 30 mph.

- Total daily traffic: 73,593 vehicle movements over 24 h.
- Average hourly flow: 3,066 vehicles per hour.
- Evening and night assumption: 20% reduction in traffic, resulting in 2,453 vehicles per hour.

The methodology outlined within Calculation of Road Traffic Noise (CRTN) was used to determine the resultant noise level at each noise measurement location. The road traffic contribution at the nearest receptor was calculated as 36.8 dB L_{Aeq}.

To accurately characterise the contributions of road traffic and commercial activities to the measured ambient noise, logarithmic source separation was applied. Decibels represent a logarithmic scale of sound energy; therefore, source contributions cannot be subtracted linearly. Instead, the linear energy corresponding to each measured level is calculated, the contribution of one source is subtracted, and the result is converted back to decibels.

The calculations are as follows:

1. Convert dB to linear energy: $E = 10^{\frac{L_{dB}}{10}}$
2. Subtract road traffic energy to obtain commercial energy: $E_{commercial} = E_{total} - E_{road}$
3. Convert back to decibels: $L_{commerial} = 10\log(E_{commercial})$

Where:

L_{dB} = sound level in decibels

E = linear sound energy

$L_{commercial}$ = commercial noise contribution

Table 3: Summary of measured background sound levels – NMP1

Date Range	Period	Calculated Source sound level, $L_{Aeq,T}$, dB	Background sound level dB $L_{A90,T}$	
			Range	Typical*
31 Oct. 25-03 Nov. 25	Daytime (07:00-19:00)	33.5	34-48	40
			31-44	40
			25-48	34
*Based on modal values occurring within each stated time period				

Table 4: Summary of measured background sound levels – NMP2

Date Range	Period	Ambient sound level, $L_{Aeq,T}$, dB	Background sound level dB $L_{A90,T}$	
			Range	Typical*
31 Oct. 25-03 Nov. 25	Daytime (07:00 to 19:00)	37.6	39-51	48
			33-48	45
			23-45	30
*Based on modal values occurring within each stated time period				

3.2. Noise Survey Conditions

The weather conditions during the noise survey were conducive towards the measurement of environmental noise being fine and dry with wind speeds below 5 m/s.

The noise surveys were completed using the following noise measurement equipment.

Table 5: Noise Measurement Equipment

Position	Description	Manufacturer & Type	Serial No.	Calibration Expiry
NMP1	Sound Level Meter	01dB Solo	65947	6 Dec. 25
	Pre-amplifier	01dB-Metravib Pre21S	16255	
	Microphone	01dB MCE 212	175280	
	Calibrator	01dB-Stell Cal21	34744600 (2014)	6 Jan. 26
NMP2	Sound Level Meter	01dB Solo	65771	29 May. 26
	Pre-amplifier	01dB-Metravib Pre21S	17100	
	Microphone	01dB MCE 212	447457	
	Calibrator	01dB-Stell Cal21	34975432 (2017)	17 Jun. 26

The sound level meter was field-calibrated on site prior to and after the measurements were taken. No significant drift was witnessed.

4. Noise Impact Assessment

4.1. Change in Ambient Assessment – Change of operating hours

The discharge of Condition 6 seeks to extend the operating hours outside of the currently granted 07:00-19:00.

The proposal is understood to include for the extension of the current operation of the premises which the client has confirmed is predominantly vehicular movements.

The noise measurements have determined that, as a result of the existing operations, the resultant noise level at the respective noise sensitive properties are L_{Aeq} 33.5 dB at Receptor 1 and L_{Aeq} 37.6 dB at Receptor 2 during the current hours of operation.

The assessment has assumed that the current level of activity will remain the same for the proposed evening and nighttime periods. Accordingly, the following table demonstrates the change in ambient noise level during these periods, at each of the nearby residential dwellings.

Table 6: Change in Ambient Noise Assessment

Receptor	Period	Measured Noise Level at Receptor* L_{Aeq}, dB	Existing Background sound level $L_{A90,T}$, dB	Combined Noise Level L_{Aeq},dB	Predicted Change in Ambient Noise Level dB
Receptor 1	Evening 19:00-23:00	33.5	40	40.9	+0.9
	Nighttime 23:00-07:00		34	36.8	+2.8
Receptor 2	Evening 19:00-23:00	37.6	45	45.7	+0.7
	Nighttime 23:00-07:00		30	38.3	+8.3

* As measured during operating hours

The above assessment has determined the predicted change in ambient noise levels result in a 'None/Not Significant' impact at Receptor 1 during both the evening (19:00-23:00) and nighttime (23:00-07:00) periods. The assessment has further determined that the change in ambient noise level would result in a 'None/Not Significant' impact at Receptor 2 during the evening period (19:00-23:00) and a 'Moderate' impact during the night time period (23:00-07:00).

The majority of the findings have determined that the change in operating hours will not have a detrimental impact upon the nearest noise sensitive residents. However, due to the moderate increase calculated for the night time period at Receptor 2, mitigation measures will be required to reduce the noise levels accordingly.

It would be recommended that the hard standing yard area within close proximity to receptor 2 should cease operations during the hours of 23:00-07:00. This allows the premises to operate for an additional 4 hours within this area with no restriction of use on the remainder of the site.

Figure 1 below depicts the areas as discussed above. The area within the dashed line should cease operations at 23:00.

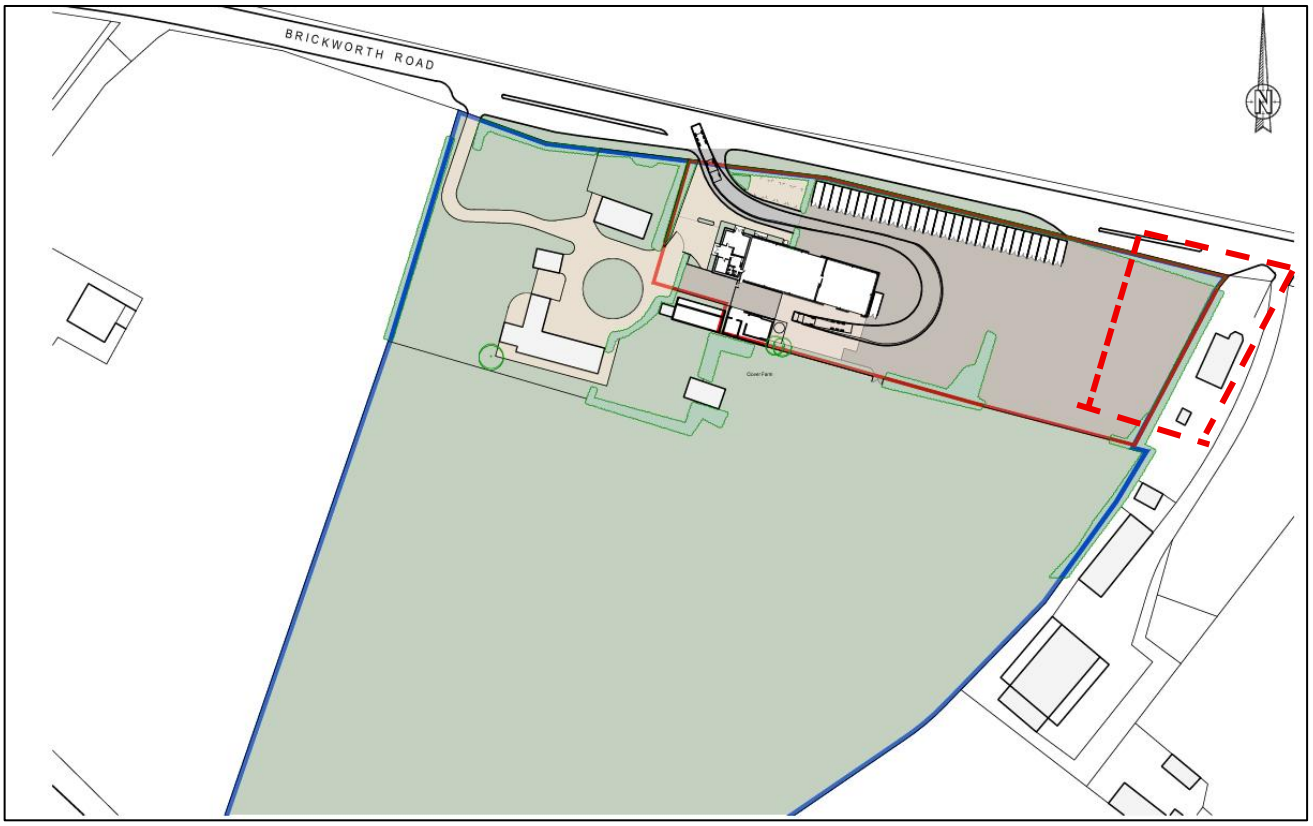


Figure 1 Site layout and operation restrictions.

5. CONCLUSION

Dice Environmental were commissioned by Knight Consulting to undertake a Noise Impact Assessment to assist with the discharge of condition 6 of the planning permission (ref: 15/01453/VAR) at Roebridge Foods, Brickworth Road, Whiteparish.

A series of environmental noise surveys have been completed to quantify the prevailing soundscape at the nearest noise sensitive dwellings to the site. The noise surveys were undertaken over a full weekday and weekend period at locations representative of the 2 no. adjacent residential dwellings.

The change in ambient noise impact assessment has shown the changes in noise level due to the proposed increase in operating hours will largely result in a 'none/not significant' impact. However, a moderate impact has been identified during the nighttime hours of 23:00 to 07:00 at receptor 2. Accordingly, operations on the eastern side of the site, closest to the receptor, should be limited to the hours of 0700 to 23:00. The remainder of the site is suitable for operation 24-hours per day.

Appendix I – Limitations

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between Dice Environmental and the Client as indicated in Section 1.2.
2. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
3. Dice Environmental cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by Dice Environmental is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by Dice Environmental in this connection without their explicit written agreement there to by Dice Environmental.
4. Where a noise survey is required to inform the assessment, Dice Environmental will endeavour to ensure that all noise measurements taken are robust, representative and reliable in order to inform an accurate noise impact assessment. Where limitations or constraints exist which prevent a suitable noise survey being completed, Dice Environmental will take all reasonable steps to make the client fully aware of any such limitations or constraints with a view to achieving the best possible outcome for the client. Where additional sound surveys are required, over and above those specified in our scope of works, then Dice Environmental reserves the right to charge additional fees.
5. Where mitigation measures are specified in our report, it should be noted that these measures are relative to a specific sound source, both in terms of the measured sound pressure level and the character of the source. Where either the sound pressure level or the character of the sound varies following completion of the sound survey, Dice Environmental cannot be held responsible for any subsequent variations in the proposed mitigation performance.

Appendix II – Glossary of Acoustic Terminology

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character, and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsivity may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or L_{Aeq}, L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

An indication of the range of sound levels commonly found in the environment is given in the Table A1.

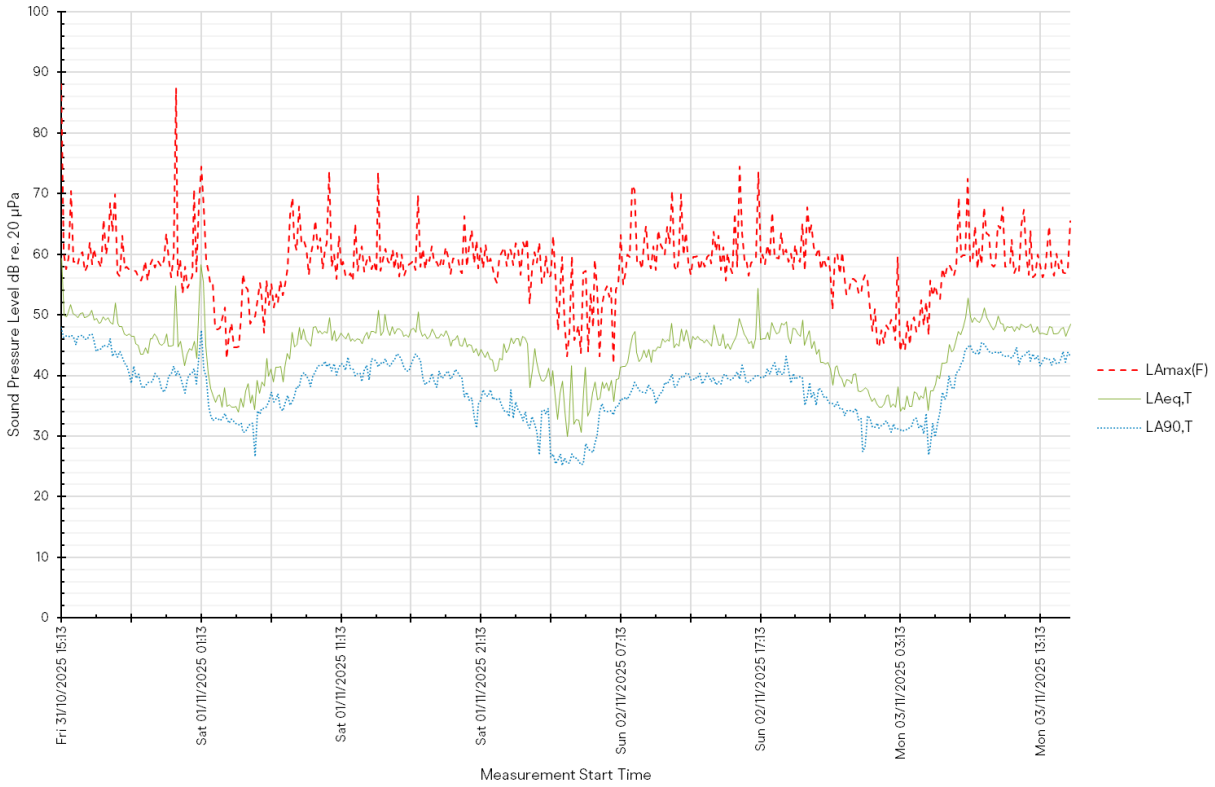
Table A1: Typical Sound Pressure Levels

Sound Pressure Level dB(A)	Location/Example
0	Threshold of hearing
20-30	Quiet bedroom at night
30-40	Living room during the day
40-50	Typical office
50-60	Inside a car
60-70	Typical high street
70-90	Inside factory
100-110	Burglar alarm at 1m away
110-130	Jet aircraft on take off
140	Threshold of pain

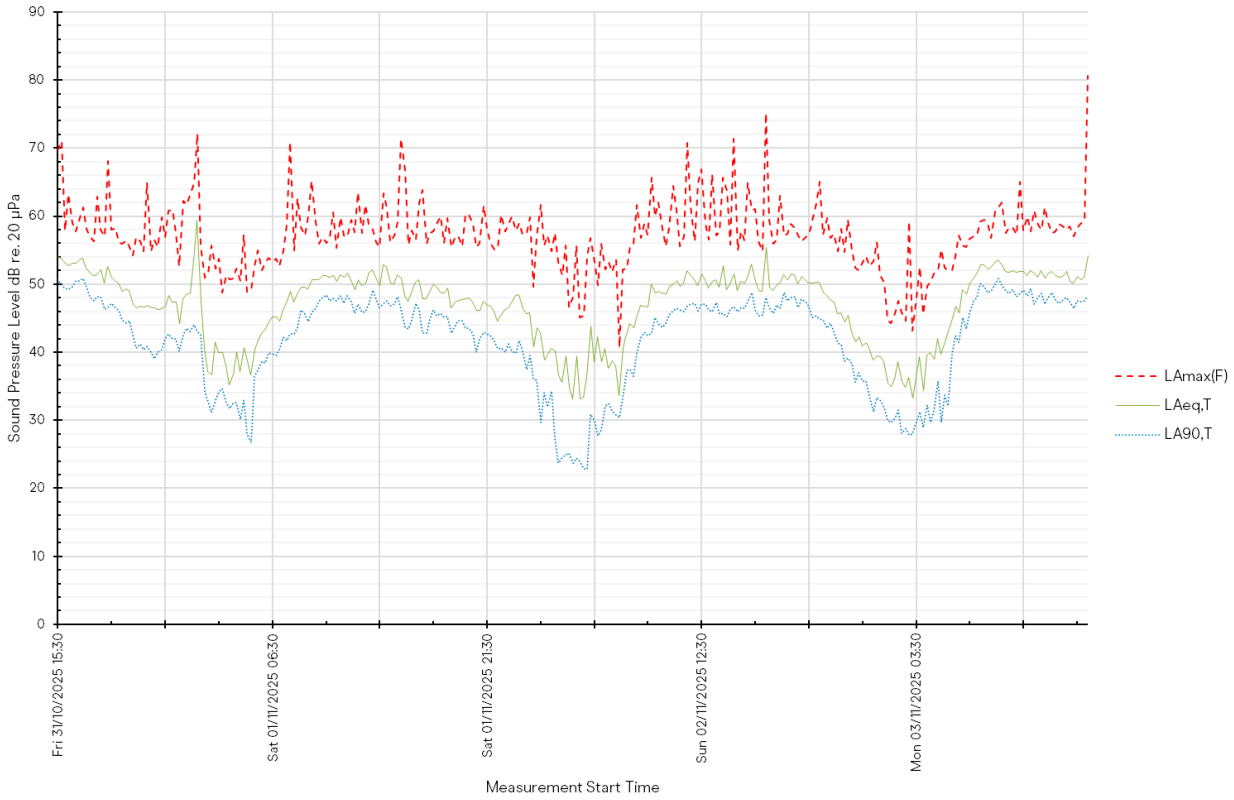
Table A2: Terminology

Descriptor	Explanation
Ambient Noise	Encompassing sound, at a given place, being usually a composite of sounds from many sources near and far.
C_{tr}	Sound insulation performance spectrum adaptation term that accounts for the A-weighted urban traffic noise spectrum.
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (20 µPa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with the 'A' frequency weighting to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$D_{n,e,w}$	Weighted element normalized level difference. A single-number quantity that describes the sound insulation of ventilators.
$L_{Aeq, T}$	A-weighted, equivalent continuous sound pressure level. L_{Aeq} is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.
L_{Amax}	L_{Amax} is the maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' time-weighting response.
$L_{Ar,Tr}$	Sound rating level. The A-weighted L_{eq} sound level of an industrial noise during a specified time period, adjusted for tonal character and impulsivity.
L_{10} & L_{90}	If a non-steady noise is to be described, it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.
Free-Field Level	A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally, this is measured outside and away from buildings.
Fast	A time-weighting used in the root mean square section of a sound level meter with a 125-millisecond time constant.
Pink Noise Spectrum	Noise whose power spectral density is inversely proportional to frequency.
Residual Noise	The ambient sound remaining when the specific sound is suppressed.
R_w	Weighted Sound Reduction Index. A single number quantity which characterises the airborne sound insulation of a material or building element over a range of frequencies, based on laboratory measurements.
Slow	A time-weighting used in the root mean square section of a sound level meter with a 1000-millisecond time constant.
Specific Noise	Noise from the sound source under investigation as defined in BS4142, method for rating industrial noise affecting mixed residential and industrial areas.

Appendix III – Noise survey results



Noise Measurement Position 1



Noise Measurement Position 2

Appendix IV – Bibliography

[1] Ministry of Housing, Communities & Local Government, *National Planning Policy Framework*, London: UK Government, 2021.

[2] Noise and Nuisance Team, *Noise Policy Statement for England*, London: Department for Environment, Food and Rural Affairs, 2010.