

Aldi
Huddersfield Road
Mirfield
WF14 9DA

Noise Impact Assessment

On behalf of



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For and on behalf of Noise Solutions Ltd				

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Executive Summary

Noise Solutions Ltd (NSL) has been commissioned to provide a noise impact assessment for a proposed extension to the delivery hours at the existing Aldi store located on Huddersfield Road in Mirfield.

An environmental sound survey has been undertaken to establish the prevailing background sound pressure levels at a location representative of the sound levels outside the nearest noise sensitive receptors to the site.

The noise impact from deliveries during the proposed extended time period have been predicted at the nearest noise sensitive receptors and assessed against the local authority's usual requirements and recognised standards.

Delivery noise with the proposed extension to delivery hours (06.00-07.00 Mon – Sat) will be significantly below the level at which a low noise impact may be expected at the nearest noise sensitive receptors and should not be a reason for the refusal of planning permission.

1.0 Introduction

- 1.1. Noise Solutions Ltd (NSL) has been commissioned to provide a noise impact assessment for a proposed extension to the delivery hours at the existing Aldi store located on Huddersfield Road in Mirfield.
- 1.2. An environmental sound survey has been undertaken to establish the prevailing background sound pressure levels at a location representative of the sound levels outside the nearest noise sensitive receptors to the site.
- 1.3. The noise impact from deliveries during the proposed extended delivery time have been predicted at the nearest noise sensitive receptors and assessed against the local authority's usual requirements and recognised standards.
- 1.4. To assist with the understanding of this report a glossary of acoustic terms can be found in [Appendix A](#). An in-depth glossary of acoustic terms can be viewed online at www.acoustic-glossary.co.uk.

2.0 Site details

- 2.1. The Aldi store is located on the south side of Huddersfield Road in Mirfield. Deliveries currently occur between 07.00 - 23.00 hours Monday to Saturday and 08.00 – 22.00 on Sundays.
- 2.2. It is proposed to extend the delivery hours to 06.00 – 23.00 hours Monday to Saturday.
- 2.3. Delivery lorries enter the site from Huddersfield Road before manoeuvring in the southern end of the store car park before reversing into the dedicated delivery bay behind the store on the southern façade.
- 2.4. A site plan showing the site, the surrounding area and the noise monitoring location used in this assessment is presented in [Appendix B](#).

3.0 Nearest noise sensitive receptors

- 3.1. The area surrounding the site is a mix of commercial and residential property.
- 3.2. The nearest noise sensitive premises to the delivery bay are the residences to the south of the store on Bank Mews, (Receptor R1) whose front windows are approximately 140m away. These windows will have direct line of sight to the delivery bay.
- 3.3. Receptor R2 are the residences to the north of the store on Huddersfield Road. They are approximately 70m from the delivery bay. The facade of the store provides screening to these properties.

- 3.4. The receptors are shown in [Appendix B](#).

4.0 Existing noise climate

- 4.1. An environmental noise survey was undertaken to establish the typical background sound levels at a location representative of the noise climate outside the façades of the nearest noise sensitive receptors to the proposed plant area during the quietest times at which the plant will operate.
- 4.2. The results of the environmental sound survey are summarised in Table 1 below. The full set of measurement results and details of the survey methodology are presented in [Appendix C](#).

Table 1 Summary of survey results

Measurement period	Range of recorded sound pressure levels (dB)			
	L _{Aeq} (15mins)	L _{Amax} (15mins)	L _{A10} (15mins)	L _{A90} (15mins)
Daytime (07.00 – 23.00 hours)	42-56	49-82	43-58	39-48
Night-time (23.00 – 07.00 hours)	36-52	43-72	38-52	31-43
Current Deliveries Mon-Sat (0700-23.00)	42-56	49-82	43-58	39-48
Proposed additional time, Mon-Sat (06.00-07.00)	46-52	61-72	47-52	40-43

- 4.3. To provide a robust assessment, the lowest-measured background sound level during the proposed extended delivery period, 40dB L_{A90}, is used as the representative value.

5.0 Delivery noise assessment criterion

Kirklees Council noise criteria

- 5.1. Kirklees Noise Design advice document published in May of 2017 states the following in regards of noise emissions arising from new industrial or commercial uses near to residential premises:

This advice aims to protect the present and future occupiers of residential properties from your new industrial or commercial noise.

Developers should carry out an assessment in accordance with BS4142 to determine the rating level of the new development. It is recommended that during normal daytime hours (0700 to 2300 hours), the BS4142 rating level, measured over 1 hour, should be 5dB below the background (L_{A90}). During the night-time period (2300 to 0700 hours), the BS4142 rating level, measured over 5 minutes should be 5dB below the background (L_{A90}).

The assessment should be carried out at the site boundary or at the nearest noise sensitive premises depending on the circumstances. These noise levels are intended to ensure that existing noise sensitive premises and land which may be used for noise sensitive development in future does not become blighted by noise. It is also intended that the levels will not place too onerous a noise requirement on premises located in the middle of an industrial estate.

To aid regeneration, in certain circumstances a higher rating level may be accepted provided the need is justified.

In addition, the levels specified in Appendix 1 should not be exceeded. These should be calculated assuming windows in noise sensitive premises are open for ventilation.

- 5.2. Kirklees Noise Design advice document also includes a table of the noise levels which should not be exceeded in different spaces within residential premises. The table is presented herein:

Table 2 Table of noise levels that should not be exceeded within different spaces in residential premises according to the advice document by Kirklees Council

Room/Area	L _{Aeq,16h} (07:00-23:00)	L _{Aeq, 8h} (23:00-07:00)	L _{A1, 15min} (23:00 – 07:00)	L _{Amax} (23:00 – 07:00)
Living rooms/studies	35dB	---	---	---
Gardens	55dB	---	---	---
Bedroom	---	30dB	45dB	55dB

- 5.3. The following notes are also included:

- *Where windows are to remain closed to ensure good internal noise levels and an alternative means of ventilation is provided, ventilation that complies with the performance specification given in Part 6 of Schedule 1 of the Noise Insulation Regulations 1975 will be accepted. Alternatively four air changes per hour will be accepted.*
- *We will accept that an open window will provide a sound reduction of 12dB(A) unless the developer has a good reason why a higher reduction is acceptable.*
- *When calculating/predicting attenuation of noise levels we will accept single figure Sound Reduction Indexes provided they are suitable for that particular source, for example Pilkington's R_{tra} for Road traffic. However if the Sound Reduction Index is not specifically for the sound source under consideration then a frequency analysis of the noise, and attenuation in that octave band and recalculation of a single "A" weighted level will be required.*

- *It will be acceptable to use the shortened method for calculating the daytime NEC for road traffic noise.*
- *It will be acceptable to use 1 hours monitoring at night to determine NEC provided the method can be justified (for example if the busiest predicted hour is measured).*
- *If your development doesn't fit into any of the five scenarios, then please contact the Pollution and Noise Control Team.*

BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound.

- 5.4. BS 4142:2014 +A1:2019 is intended to be used to assess the likely effects of sound on people residing in nearby dwellings. The scope of BS 4142:2014¹ includes “*sound from fixed plant installations which comprise mechanical and electrical plant and equipment*” .
- 5.5. The procedure contained in BS 4142:2014 is to quantify the “*specific sound level*”, which is the measured or predicted level of sound from the source in question over a one hour period for the daytime and a 15 minute period for the night-time. Daytime is defined in the standard as 07:00 to 23:00 hours, and night-time as 23:00 to 07:00 hours.
- 5.6. The specific sound level is converted to a rating level by adding penalties on a sliding scale to account for either potentially tonal or impulsive elements. The standard sets out objective methods for determining the presence of tones or impulsive elements, but notes that it is acceptable to subjectively determine these effects.
- 5.7. The penalty for tonal elements is between 0dB and 6dB, and the standard notes: “*Subjectively, this can be converted to a penalty of 2 dB for a tone which is just perceptible at the noise receptor, 4 dB where it is clearly perceptible, and 6 dB where it is highly perceptible.*”
- 5.8. The penalty for impulsive elements is between 0dB and 9dB, and the standard notes: “*Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor, 6 dB where it is clearly perceptible, and 9 dB where it is highly perceptible.*”
- 5.9. The assessment outcome results from a comparison of the rating level with the background sound level. The standard states:
- *Typically, the greater this difference, the greater the magnitude of the impact.*
 - *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;*

¹ For brevity, references to BS 4142 and BS 4142:2014 should be read as BS 4142:2014 + A1:2019

- *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on 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 have an adverse impact or a significant adverse 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.*
- 5.10. The standard does state that *“adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.”*
- 5.11. The standard goes on to note that: *“Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.”*
- 5.12. In addition to the margin by which the Rating Level of the specific sound source exceeds the Background Sound Level, the 2014 edition places emphasis upon an appreciation of the context, as follows:
- “An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.”*
- 5.13. BS 4142:2014 requires uncertainties in the assessment to be considered, and where the uncertainty is likely to affect the outcome of the assessment, steps should be taken to reduce the uncertainty.

Summary of applicable emissions criteria

- 5.14. In accordance with the local authority's usual requirements, the cumulative noise rating level of proposed deliveries should be controlled to a level at least 5dB below the representative LA90 background sound level at the nearest residential property. This would result in, at worst, a 'low impact' according to BS4142:2014 (depending on the context) and therefore avoid any adverse impact.
- 5.15. The cumulative noise level for the proposed plant at the nearest residential windows should not therefore exceed the limits shown in the table below:

Table 3 Noise emission limits at the nearest noise sensitive receptor

Period	Cumulative Rating level, dB L _{Ar,15min}
Daytime (06.00 – 07.00 hours)	35

- 5.16. The above limits have not been approved by the local authority at this stage.

6.0 Assessment of delivery noise

Sound pressure levels of activities associated with store deliveries

- 6.1. The sound pressure levels associated with refrigerated lorry deliveries were established by measurement of a delivery at similar stores already in operation. The measurements included all aspects of the delivery including, but not limited to, the arrival, unloading, movement of cages and the departure of the lorry. The sound pressure levels were normalised to a distance of 10 m from the delivery area and have been converted to Sound Exposure Levels (SEL) for ease of comparison/calculation. Typical L_{Amax} levels were also established.
- 6.2. Table 4 details typical source noise levels, used within the assessment, with the data presented in terms of SEL and maximum individual noise event levels (L_{AFmax}), and the applicable BS 4142:2014 feature correction.

Table 4 Reference noise data for delivery activities (at 10 m)

Noise Source	SEL, dB(A)	L _{AFmax} , dB(A)	BS4142:2014 feature correction, dB
Lorry arrival	69	61	+3 (intermittency)
Lorry reversing & manoeuvring into loading bay	65	58	+3 (intermittency)
Door open/close	60	68	+6 (impulsivity)
Cage and pallet movement	51	59	+6 (impulsivity)
Engine starts and lorry departs	74	71	+3 (intermittency)

Delivery noise impact assessment

- 6.3. The information contained in Table 7 is based on measurements taken during deliveries at existing stores and, as such, includes all activities which occur during a delivery. Any crashes and bangs are accounted for in the SEL and L_{eq} data used in the assessment. This was used to 'build-up' a source noise level based on the number of activity events over the required assessment period using the following equation:

$$L_{Aeq,T} = SEL + 10 \cdot \log\left(\frac{1}{T}\right) + 10 \cdot \log(N) \quad (\text{Equation 1})$$

Where:

SEL is the L_{Aeq} over a one second period, and represents the noise energy from an event (e.g. cage movement) compressed into one second;

T is the reference time period in seconds; and

N is the number of movements in the time period, T.

- 6.4. The assessment assumes a direct line of site between the receptors and all delivery activity.
- 6.5. It is understood that reversing warning signals are disabled when headlights are switched on, so there are no audible warnings at night; vehicles are fitted with "traditional" beepers (rather than white noise or voice alarms). To ensure a robust assessment, a typical daytime delivery (and all that entails) was used as the basis for reference data for both daytime and night-time assessments.
- 6.6. Table 5 presents the calculated cumulative L_{Aeq} and 'maximum' L_{Amax} noise levels at the receptors.
- 6.7. A typical delivery is assumed to take an hour. Each 15min period of the delivery has been assessed as it is possible for any section or all of a delivery to fall within the proposed 06.00 – 07.00 hour delivery window.
- 6.8. The delivery activities within each 15min period are defined as
- Period 1. 0 – 15mins Lorry arrives and reverses/manoeuvres into the loading bay. Doors open. Cage / pallet movement.
 - Period 2. 15-30 mins. Cage / pallet movement
 - Period 3. 30 – 45 mins. Cage / pallet movement
 - Period 4. 45 – 60mins. Cage / pallet movement. Doors close Engine starts and driver leaves.
- 6.9. The activities in the second and third 15min periods are identical so both periods can be covered by a single calculation.
- 6.10. Detailed BS4142 calculations have been included for the assessment period. Full calculations are included within [Appendix D](#).

Table 5 Predicted delivery noise levels

Receptor	Period	Predicted noise levels at most affected residential dwellings		
		L _{Aeq,T} dB	L _{ArTr} dB	Range of L _{Afmax} (dB)
R1	Period 1	18	21	35-45
	Periods 2 and 3 (each)	6	12	36
	Period 4	22	25	36-48
R2	Period 1	24	27	31-44
	Periods 2 and 3 (each)	2	8	32
	Period 4	18	21	32-44

BS 4142:2014 delivery noise assessment

- 6.11. Table 6 presents the likely impact for the worst-case combination of assessment period and receptor. As shown in Table 5 this is "Period 1" – the initial fifteen-minute period including the arrival of the lorry – at Receptor R2; the noise impact will be lower at both receptors during all other time periods.

Table 6 Assessment of predicted external (06.00 – 07.00) delivery noise levels using BS 4142:2014 at R2. Delivery Period 1

Results		Relevant Clauses of BS4142:2014	Commentary
Background Sound level	L _{A90} = 40dB	8.1, 8.2	Representative background sound level determined from a range of measurements
Assessment made during the daytime, so the reference interval is one hour		7.2	
Specific Sound Level	L _{Aeq,T} = 24 dB	7.3.6	Calculations presented in Appendix D
Rating Level	L _{Aeq,Tr} = 27dB		Calculations presented in Appendix D
Excess of Rating Level over background sound level	(40-27) dB = -13 dB		
Assessment of impact: no impact		11	

Results		Relevant Clauses of BS4142:2014	Commentary
Local Authority Criterion	35dB		
Difference	-8dB		Meets criterion

- 6.12. As the standard advises, the estimated impact must be considered within the context of the site and the surrounding acoustic environment.
- 6.13. The assessments are undertaken at the most affected residential windows. The impact on all other residential windows will be lower due to distance losses and noise screening provided by the building structure.
- 6.14. Where possible, uncertainty in this assessment has been minimised by taking the following steps:
- The measurement of the background sound levels was undertaken over a period including the quietest times of the day.
 - The sound level meter and calibrator used have a traceable laboratory calibration and were field calibrated before and after the measurements;
 - Uncertainty in the calculated impact has been reduced by the use of a well-established calculation method;
 - Care was taken to ensure that the measurement position was not at a location where higher noise levels are present than those at the receptors.

BS 8233:2014 and WHO delivery noise assessment

- 6.15. A BS 4142:2014 assessment considers only external noise levels at the location of sensitive receptors and does not consider the attenuation offered by the building envelope.

L_{Aeq} assessment

- 6.16. The sound attenuation offered by a building will be governed by its weakest element, acoustically speaking. This is invariably the glazing and any natural ventilation provision. BS8233:2014 and WHO both reference that with windows open for ventilation, a 12dB attenuation below external levels is found.

- 6.17. The following table shows internal noise levels based upon the loudest 15 minute period from the delivery activity at a noise sensitive receptor. The results from [Appendix E](#). Resultant levels are compared for the L_{Aeq} criterion in BS 8233:2014 and WHO.

Table 7 Internal noise levels due to deliveries at R1

Period	Predicted noise levels at window of most affected residential dwelling (dB)			Criterion (dB)	Difference (dB)
	External, per delivery	External, per period	Internal, per period		
Night-time	24 $L_{Aeq,15min}$	24 $L_{Aeq,15min}$	12 $L_{Aeq,15min}$	30	-19

- 6.18. It can be seen that all BS 8233:2014 and WHO internal criteria for noise levels in bedrooms and living spaces are met with windows open.

L_{Amax} assessment

- 6.19. Table 8 shows the results of the L_{Amax} assessment from deliveries at receptors R1 and R2.

Table 8 External L_{Amax} noise levels at the Receptors due to deliveries between 06.00 – 07.00

Receptor	External L_{Amax} Deliveries	Environmental Noise Survey L_{Amax}
R1	up to 48	61- 72
R2	up to 44	61-72

- 6.20. The predicted internal L_{Amax} levels resulting from delivery activities are lower than those measured during the course of the environmental noise survey. Therefore, the anticipated L_{Amax} levels resulting from delivery activities would be of negligible significance.

7.0 Discussion

Delivery Noise

- 7.1. The BS 4142 assessment indicates that noise from deliveries during the period 06.00 to 07.00 Monday to Saturday will be significantly below the level at which a "low impact" might be expected.
- 7.2. The interior noise levels inside the closest residences from the proposed deliveries would also be below the guidance outlined by WHO for the proposed delivery hours.

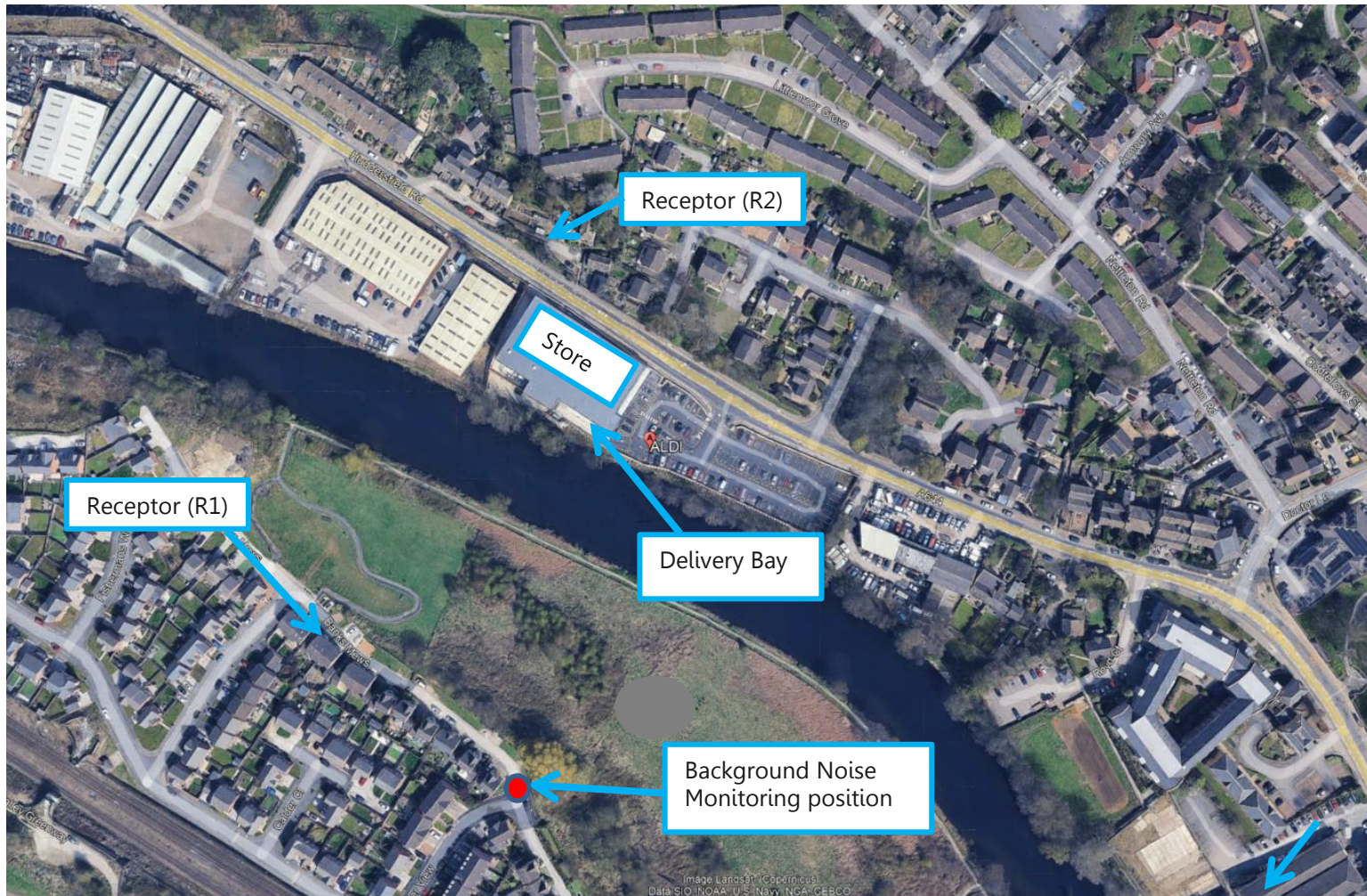
8.0 Summary

- 8.1. Noise Solutions Ltd (NSL) has been commissioned to provide a noise impact assessment for a proposed extension to the delivery hours at the existing Aldi store located on Huddersfield Road in Mirfield.
- 8.2. The noise impact from deliveries during the proposed extended time period have been predicted at the nearest noise sensitive receptors and assessed against the local authority's usual requirements and recognised standards
- 8.3. Delivery noise with the proposed extension to delivery hours (06.00-23.00 Mon – Sat) will be of significantly below the level at which a low noise impact would be expected. potential low impact at the nearest noise sensitive receptors and should not be a reason for the refusal of planning permission.

Appendix A Acoustic terminology

Parameter	Description
Ambient Noise Level	The totally encompassing sound in a given situation at a given time, usually composed of a sound from many sources both distant and near ($L_{Aeq,T}$).
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s_1 and s_2 is given by $20 \log_{10} (s_1/s_2)$. The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is $20\mu\text{Pa}$. The threshold of normal hearing is in the region of 0 dB and 140 dB is the threshold of pain. A change of 1 dB is only perceptible under controlled conditions.
dB(A), L_{Ax}	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions, and a change of 10 dB(A) corresponds roughly to halving or doubling the loudness of a sound. The background noise in a living room may be about 30 dB(A); normal conversation about 60 dB(A) at 1 metre; heavy road traffic about 80 dB(A) at 10 metres; the level near a pneumatic drill about 100 dB(A).
Fast Time Weighting	Setting on sound level meter, denoted by a subscript F, that determines the speed at which the instrument responds to changes in the amplitude of any measured signal. The fast time weighting can lead to higher values than the slow time weighting when rapidly changing signals are measured. The average time constant for the fast response setting is 0.125 (1/8) seconds.
Free-field	Sound pressure level measured outside, far away from reflecting surfaces (except the ground), usually taken to mean at least 3.5 metres
Façade	Sound pressure level measured at a distance of 1 metre in front of a large sound reflecting object such as a building façade.
$L_{Aeq,T}$	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,T}$	A noise level index defined as the maximum noise level recorded during a noise event with a period T. L_{max} is sometimes used for the assessment of occasional loud noises, 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' sound level meter response.
$L_{10,T}$	A noise level index. The noise level exceeded for 10% of the time over the period T. L_{10} can be considered to be the "average maximum" noise level. Generally used to describe road traffic noise. $L_{A10,18h}$ is the A-weighted arithmetic average of the 18 hourly $L_{A10,1h}$ values from 06:00-24:00.
$L_{90,T}$	A noise level index. The noise level that is exceeded for 90% of the measurement time interval, T. It gives an indication of the lower levels of fluctuating noise. It is often used to describe the background noise level and can be considered to be the "average minimum" noise level and is a term used to describe the level to which non-specific noise falls during quiet spells, when there is lull in passing traffic for example.

Appendix B Photograph of site showing areas of interest



Appendix C Details of the environmental sound survey

- C.1 Measurements of the existing background sound levels were undertaken between 12.30 hours on Friday 18th September and 11.00 hours on Monday 21st September 2026.
- C.2 The sound level meter was programmed to record the A-weighted L_{eq} , L_{90} , L_{10} and L_{max} noise indices for consecutive fifteen-minute sample periods for the duration of the survey.

Measurement position

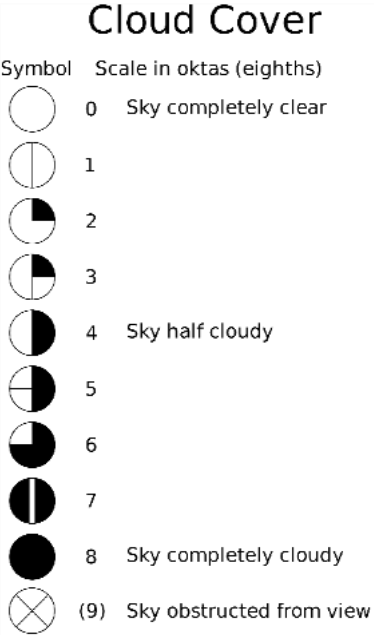
- C.3 The representative measurement position was located on a lamp-post on Banks Mews, (location indicated on the site plan in [Appendix B](#)). In accordance with BS 7445-2:21991 '*Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use*', the measurements were undertaken under free-field conditions.

Equipment

- C.4 Details of the equipment used during the survey are provided in the table below. The sound level meter was calibrated before and after the survey; no significant change (+/-0.2 dB) in the calibration level was noted.

Description	Model / serial no.	Calibration date	Calibration certificate no.
Class 1 Sound level meter	Svantek 977D / 99470	12/02/2026	1516610-1
Condenser microphone	Microtech MK255 / 26247		
Preamplifier	Svantek SV12L / 144643		
Calibrator	Svantek SV33B / 125706	08/09/2025	1513255-2

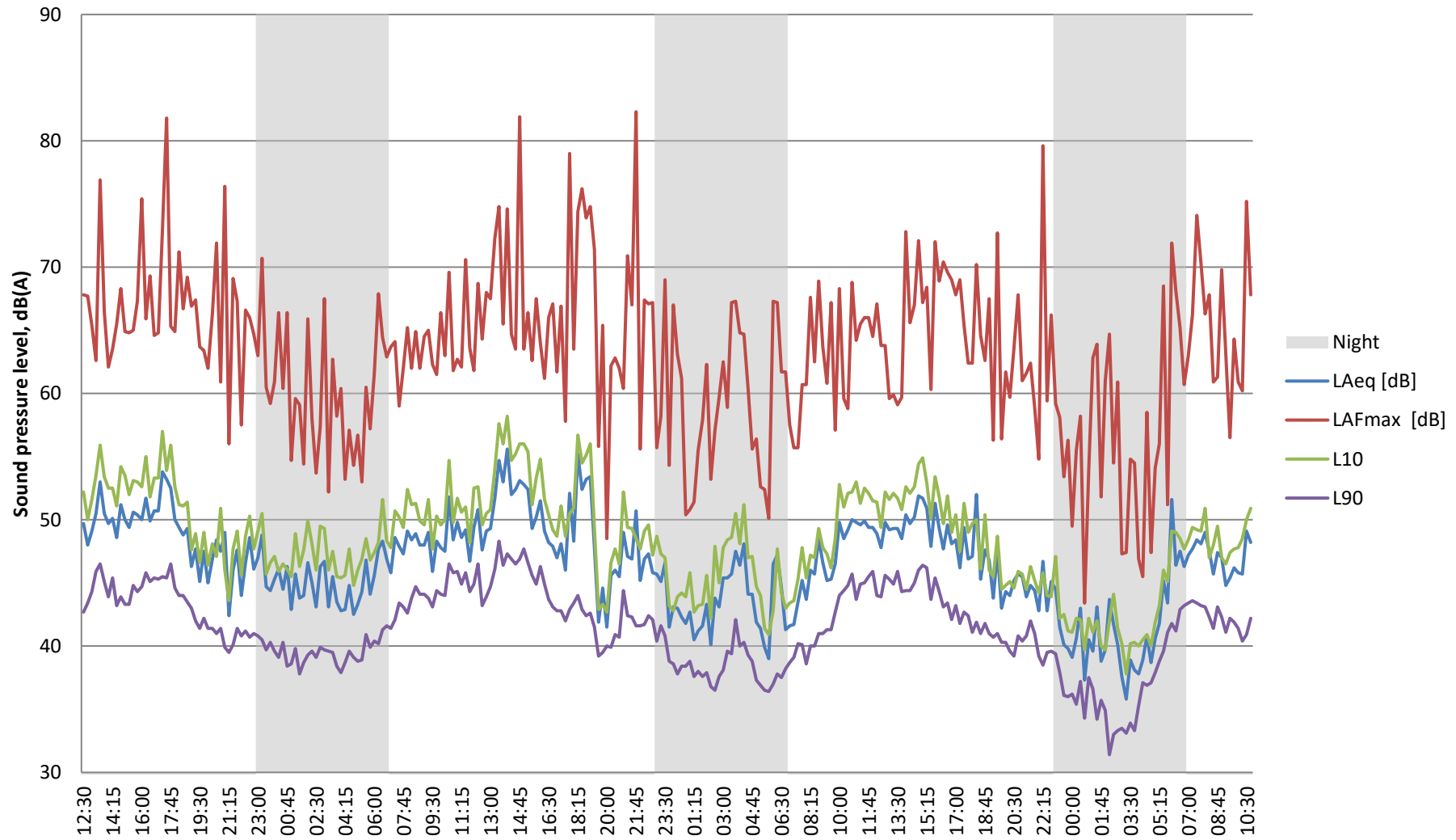
- C.5 Weather conditions were determined both at the start and on completion of the survey. It is considered that the meteorological conditions were appropriate for environmental noise measurements. The table below presents the weather conditions recorded on site at the beginning and end of the survey.

Weather Conditions				
Measurement Location	Time/Date	Description	Beginning of Survey	End of Survey
As indicated on Appendix B	12.30 18/09/26- 11.00 21/09/26	Temperature (°C)	15	19
Cloud Cover  Symbol Scale in oktas (eighths) 0 Sky completely clear 1 2 3 4 Sky half cloudy 5 6 7 8 Sky completely cloudy (9) Sky obstructed from view		Precipitation:	no	no
		Cloud cover (oktas – see guide)	7	6
		Presence of fog/snow/ice	no	no
		Presence of damp roads/wet ground	no	no
		Wind Speed (m/s)	3.2	2
		Wind Direction	SW	SSW
		Conditions that may cause temperature inversion (i.e. calm nights with no cloud)	no	no

Results

- C.6 The results of the survey are representative of the background sound pressure levels at the façades of the most affected noise sensitive receptors to the plant area during the quietest times at which the plant will operate.
- C.7 The noise climate at the measurement position consisted of distant traffic and bird song with intermittent train noise.
- C.8 The results of the survey are presented in a time history graph overleaf.

Aldi, Huddersfield Rd. Mirfield Friday 18 - Monday 21 Sep 2026



Appendix D Delivery noise impact calculations

Receptor R1 - Delivery period 1 (first 15 minutes)

Activity	Measured noise levels		Correction for no. of occurrences		Distance correction		Screening correction (dB)	Resultant SEL at receptor (dB)	Resultant L _{Amax} at receptor (dB)	Feature corr'n, dB	SEL + feature corr'n
	SEL @ 10m	L _{Amax} @ 10m	No.	Corr'n (dB)	Distance (m)	Corr'n (dB)					
Lorry Arrives and turns, all forwards	69	61	1	0	140	-23	0	46	38	3	49
Lorry reverses and manoeuvres into loading bay	65	58	1	0	140	-23	0	42	35	3	45
Door open	60	68	1	0	140	-23	0	37	45	6	43
Cage/pallet movement	51	59	3	5	140	-23	0	33	36	6	39
Engine starts and lorry leaves	74	71	0	0	-	-	-	-	-	-	-
Combined								48			51
Overall feature correction											+3
L_{Aeq} (15mins)								18			
Range of L_{Amax}									35-45		

Receptor R1 - Delivery periods 2 and 3 (middle 15-minute periods)

Activity	Measured noise levels		Correction for no. of occurrences		Distance correction		Screening correction (dB)	Resultant SEL at receptor (dB)	Resultant L _{Amax} at receptor (dB)	Feature corr'n, dB	SEL + feature corr'n
	SEL @ 10m	L _{Amax} @ 10m	No.	Corr'n (dB)	Distance (m)	Corr'n (dB)					
Lorry Arrives and turns, all forwards	69	61	0	0	-	-	-	-	-	-	-
Lorry reverses and manoeuvres into loading bay	65	58	0	0	-	-	-	-	-	-	-
Door open close	60	68	0	3	-	-	-	-	-	-	-
Cage/pallet movement	51	59	6	8	140	-23	0	36	36	6	42
Engine starts and lorry leaves	74	71	0	0	-	-	-	-	-	-	-
Combined								36			42
Overall feature correction											+6
L_{Aeq} (15mins)								6			
Range of L_{Amax}									36		

Receptor R1 - delivery period 4 (last 15 minutes, including departure)

Activity	Measured noise levels		Correction for no. of occurrences		Distance correction		Screening correction (dB)	Resultant SEL at receptor (dB)	Resultant L _{Amax} at receptor (dB)	Feature corr'n, dB	SEL + feature corr'n
	SEL @ 10m	L _{Amax} @ 10m	No.	Corr'n (dB)	Distance (m)	Corr'n (dB)					
Lorry Arrives and turns, all forwards	69	61	0	0	-	-	-	-	-	-	-
Lorry reverses and manoeuvres into loading bay	65	58	0	0	-	-	-	-	-	-	-
Door close	60	68	1	0	140	-23	0	37	45	6	43
Cage/pallet movement	51	59	1	0	140	-23	0	28	36	6	34
Engine starts and lorry leaves	74	71	1	0	140	-23	0	51	48	3	54
Combined								51			54
Overall feature correction											+3
L_{Aeq} (15mins)								22			
Range of L_{Amax}									36-48		

Receptor R2 - Delivery period 1 (first 15 minutes)

Activity	Measured noise levels		Correction for no. of occurrences		Distance correction		Screening correction (dB)	Resultant SEL at receptor (dB)	Resultant L _{Amax} at receptor (dB)	Feature corr'n, dB	SEL + feature corr'n
	SEL @ 10m	L _{Amax} @ 10m	No.	Corr'n (dB)	Distance (m)	Corr'n (dB)					
Lorry Arrives and turns, all forwards	69	61	1	0	70	-17	0	53	44	3	56
Lorry reverses and manoeuvres into loading bay	65	58	1	0	70	-17	-10	38	31	3	41
Door open close	60	68	1	0	70	-17	-10	33	41	6	39
Cage/pallet movement	51	59	3	5	70	-17	-10	29	32	6	35
Engine starts and lorry leaves	74	71	0	0	-	-	-	-	-	-	-
Combined								53			56
Overall feature correction											+3
L_{Aeq} (15mins)								24			
Range of L_{Amax}									31-44		

Receptor R2 - Delivery periods 2 and 3 (middle 15-minute periods)

Activity	Measured noise levels		Correction for no. of occurrences		Distance correction		Screening correction (dB)	Resultant SEL at receptor (dB)	Resultant L _{Amax} at receptor (dB)	Feature corr'n, dB	SEL + feature corr'n
	SEL @ 10m	L _{Amax} @ 10m	No.	Corr'n (dB)	Distance (m)	Corr'n (dB)					
Lorry Arrives and turns, all forwards	69	61	0	0	-	-	-	-	-	-	-
Lorry reverses and manoeuvres into loading bay	65	58	0	0	-	-	-	-	-	-	-
Door open close	60	68	0	3	-	-	-	-	-	-	-
Cage/pallet movement	51	59	6	8	70	-17	-10	32	32	6	38
Engine starts and lorry leaves	74	71	0	0	-	-	-	-	-	-	-
Combined								32			38
Overall feature correction											+6
L_{Aeq} (15mins)								2			
Range of L_{Amax}									32-32		

Receptor R2 - Delivery period 4 (last 15 minutes, including departure)

Activity	Measured noise levels		Correction for no. of occurrences		Distance correction		Screening correction (dB)	Resultant SEL at receptor (dB)	Resultant L _{Amax} at receptor (dB)	Feature corr'n, dB	SEL + feature corr'n
	SEL @ 10m	L _{Amax} @ 10m	No.	Corr'n (dB)	Distance (m)	Corr'n (dB)					
Lorry Arrives and turns, all forwards	69	61	0	0	-	-	-	-	-	-	-
Lorry reverses and manoeuvres into loading bay	65	58	0	0	-	-	-	-	-	-	-
Door close	60	68	1	0	70	-17	-10	33	41	6	39
Cage/pallet movement	51	59	1	0	70	-17	-10	24	32	6	30
Engine starts and lorry leaves	74	71	1	0	70	-17	-10	47	44	3	50
Combined								47			50
Overall feature correction											+3
L_{Aeq} (15mins)								17			
Range of L_{Amax}									32-44		