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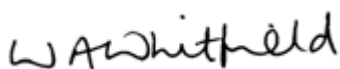
Environmental Noise Assessment

Prepared: 7th November 2023

Report No	22698-1
Client	JHA Architecture Ltd
Site	Nifty Lift Ltd Mason Way Platts Common Industrial Estate Hoyland South Yorkshire S74 9TG

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1. Quality Management

Report Number	22698 - 1
Issue	Issue 1
Prepared	7 th November 2023
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3. Executive Summary

3.1.1. An environmental noise assessment has been carried out for a proposed extension to the existing industrial premises at Nifty Lift Ltd, Mason Way, Platts Common Industrial Estate, Hoyland, South Yorkshire, S74 9TG (“Proposed Development”).

3.2. Measurement, Assessment and Evaluation

3.2.1. The survey was carried out to BS7445-1:2003,¹ BS7445-2:1991² and BS4142:2014³.

3.3. Scope

3.3.1. This report covers all aspects of the noise survey, including:

- the identification of acoustic design criteria;
- the identification of specific sound sources;
- an objective sound pressure level survey of the existing site;
- assessment of the specific sound sources based on guidance contained in BS4142:2014.

3.4. Conclusions Summary

3.4.1. A numerical BS4142 assessment indicates that the proposed specific sound will have a low impact on existing residential receivers.

3.4.2. In this context the industrial premises is existing, located on an industrial estate surrounded by other industrial activity and industrial/commercial sources.

3.4.3. The proposed extension is predicted to increase the specific sound level at the nearest sensitive receiver by 1dB(A), however the rating level is not predicted to exceed the background sound level at the nearest sensitive receiver, indicating the sound generated by the proposed extension will have a low Impact.

¹ BS7445-1:2003 “Description and measurement of environmental noise – Part 1: Description of quantities and procedures”

² BS7445-2:1991 “Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use”

³ BS4142:2014 “Methods for rating and assessing industrial and commercial sound”

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5. Background

5.1. Noise Policy Statement for England

5.1.1. The Noise Policy Statement for England (NPSE), published in March 2010, states the long-term vision of Government noise policy is to “*promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development*”.

5.1.2. This long-term vision is supported by the following aims; through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

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

5.1.3. The intention is that the NPSE should apply to all types of noise apart from noise in the workplace (occupational noise).

5.2. National Planning Policy Framework

5.2.1. The National Planning Policy Framework (NPPF) was published on the 27th of March 2012 and was most recently updated on the 5th September 2023; it sets out the Government’s planning policies for England and how these are expected to be applied. The framework states that the planning system should contribute to and enhance the natural and local environment by:

“preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability”.

5.2.2. The NPPF requires that new developments be appropriate to their locations such that the effects of pollution on health have been taken into account. Planning policies and decisions should aim to:

1. avoid noise giving rise to significant adverse impacts on health and the quality of life;
2. mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development; and,
3. identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value.

5.2.3. Existing businesses near to proposed development 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.

5.3. National Planning Practice Guidance

5.3.1. The National Planning Practice Guidance (PPG) is a web-based resource, launched by the Department for Communities and Local Government (DCLG) which was published on the 29th November 2016 and is regularly updated to reflect the changes made to the NPPF and make it more accessible.⁴

⁴ <http://planningguidance.communities.gov.uk/>

5.3.2. There are a number of factors that determine whether a noise could be a concern to a receptor. These include: the absolute level of the noise and when it occurs, whether it is existing or new to the area, temporal characteristics, spectral content and the acoustic absorption in the area.

Perception	Examples of outcomes	Effect level	Action
Not noticeable	No effect	No observed effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect (NOAEL)	No specific measures required
Lowest Observed Adverse Effect Level (LOAEL)			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level (SOAEL)			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very intrusive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Table 1 – Noise exposure hierarchy

5.3.3. It is emphasised in the PPG that the planning process should be used to mitigate and minimise the impact of noise. This could include: engineering the noise sources to be quiet, minimising the impact of noise through layout, using conditions/obligations to restrict activities, mitigating the impact in places where noise is likely to be experienced (e.g. using facade sound insulation).

6. Introduction

6.1.1. An environmental noise assessment has been carried out for a proposed extension to the existing industrial premises at Nifty Lift Ltd, Mason Way, Platts Common Industrial Estate, Hoyland, South Yorkshire, S74 9TG.

6.2. Proposed Development

6.2.1. An extension to existing industrial buildings is proposed. It is understood that the proposed building is likely to contain both an area for warehousing and an area for assembly and paint operations.

6.2.2. An image showing the proposed location and layout of the Proposed Development are given in Figure 1.

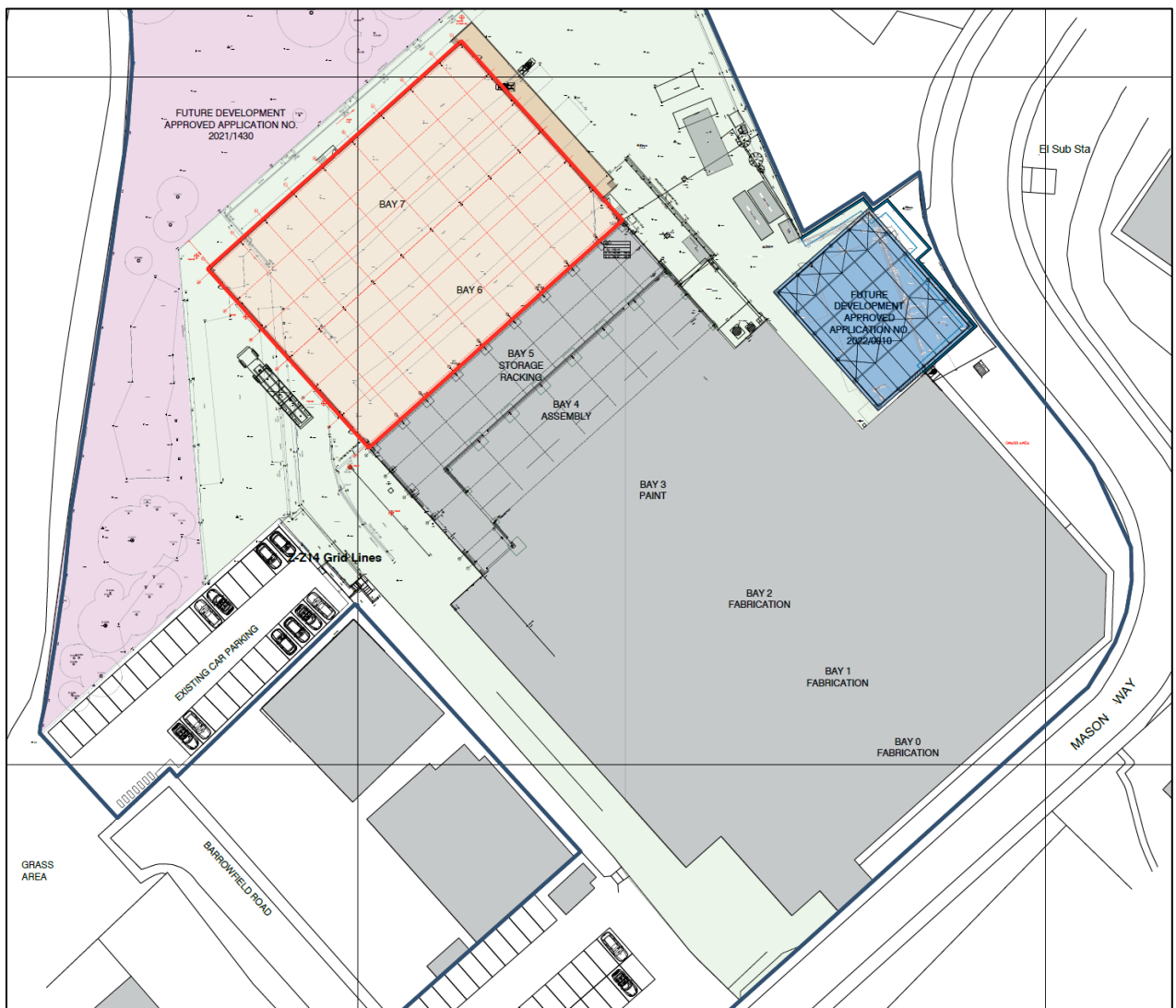


Figure 1 - Plan showing the location and layout of the Proposed Development

6.3. Noise Climate

6.3.1. The noise climate at the nearest sensitive receiver was noted by the technician at the time(s) of the survey site visits. The dominant noise source was continuous road traffic noise on Barnsley Road, with significant contribution from traffic at the junction with Mason Way. Contribution from the industrial estate activity was noted, which was more transient in nature, but was not significant compared to the road traffic noise.

6.4. Specific Sound Sources

6.4.1. During the survey visits it was noted that there were a number of specific sound sources associated with existing operations at Nifty Lift Ltd, at the location of the Proposed Development. The specific sound sources have been summarised in Table 2.



Business	Illustration	Specific Sound Source
		Paint Booth Extract Duct
Nifty Lift Ltd		Air Compressors

Table 2 – Description of the specific sound sources local to the proposed development

6.4.2. It is understood that, typically, the business is operational 24hours/day during the week, with no weekend work, starting at 6:00 on Monday and finishing at 14:00 on Friday. It is understood that the roller shutter doors are only open during daytime hours and are closed overnight. Working hours and associated work activity is split into different shifts, with some hours of reduced activity between shifts.

7. Assessment Criteria

7.1. BS4142:2014

- 7.1.1. BS4142 provides methods for rating and assessing **specific sound sources** of an industrial and/or commercial nature, which includes: industrial and manufacturing processes, fixed services plant, sound generated by the loading/unloading of goods and sound from mobile plant/vehicles associated with industrial/commercial premises (e.g. fork-lift trucks). The **assessment location** is outside a residential receptor.
- 7.1.2. The standard is specifically precluded from being used to assess the likely impact inside a building or from the assessment of various sound sources for which other (more relevant) guidance exists, including: music/entertainment noise, noise from people and construction noise.
- 7.1.3. The foundation of the assessment is to establish the following quantities, either by measurement or prediction:
- **Ambient sound:** The overall sound at the assessment location
 - **Residual sound:** The ambient sound without the specific sound source operating
 - **Specific sound:** The ambient sound with the specific sound source operating, corrected for residual sound
 - **Background sound:** Residual sound present for 90% of the time
- 7.1.4. How these quantities relate to the sound that would be measured during a survey has been illustrated in Figure 2.

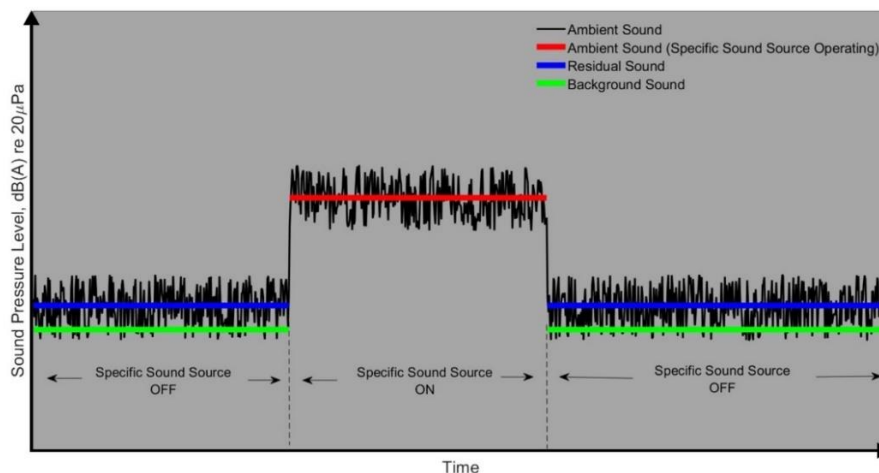


Figure 2 –
Diagrammatic
illustration of the
definitions of ambient,
residual, specific and
background sound

- 7.1.5. Once the specific sound level has been determined, this must be corrected for the presence of acoustic features that are audible at the assessment location to determine the **rating level**:

$$\text{Rating Level} = \text{Specific Sound Level} + \text{Character Corrections}$$

- 7.1.6. Normally it is possible to carry out a subjective assessment of characteristics, based on the following correction guidelines:
- Tonality: +2dB for a 'just perceptible' tone, +4dB for 'clearly perceptible', and rising to +6dB for 'highly perceptible' tones.
 - Impulsivity (rapidity of change and overall change in level): +3 dB for 'just perceptible' impulsivity, +6dB for 'clearly perceptible', rising to +9 dB for 'highly perceptible' impulsivity.
 - Intermittency: if the on/off-time of the specific sound is readily distinctive at the noise-sensitive receivers, +3dB.

- 7.1.7. It should be noted that, where one feature is clearly perceived as dominant, it may be appropriate to apply a single correction. Where multiple features are likely to affect perception and response, each should be added arithmetically.
- 7.1.8. An estimate of the magnitude of the impact is evaluated by subtracting the measured background sound level at the assessment location from the rating level

Assessment Level = Rating Level – Background Sound Level

- 7.1.9. Typically, the greater the difference between the background and rating level, the greater the magnitude of impact, although BS 4142 emphasises that this is highly context-specific. As an initial estimate, BS4142 states that:
- A difference (between the background and rating level) of around +10 dB or more is likely to be indicative of significant adverse impact, depending on context
 - A difference (between the background and rating level) of around +5 dB or more is likely to be indicative of adverse impact, depending on context
 - Where the rating level does not exceed the background level, this is an indication that the specific sound will have a low impact, depending on context
- 7.1.10. Where the initial estimate of the impact needs to be modified due to the context, other factor should be considered, including: absolute sound levels, the character and level of the residual sound and the sensitivity of the receiver, which includes the effect of building façade sound insulation.

8. Survey

8.1. Measurement Locations

8.1.1. Fixed position monitoring took place at 4 positions to account for the likely dominant noise sources. The monitoring equipment was located 1.5m from the ground and at least 3m from the next nearest reflecting surface. The monitoring position is shown in Figure 3. The nearest noise sensitive receivers were identified as residential houses on Barnsley Road.

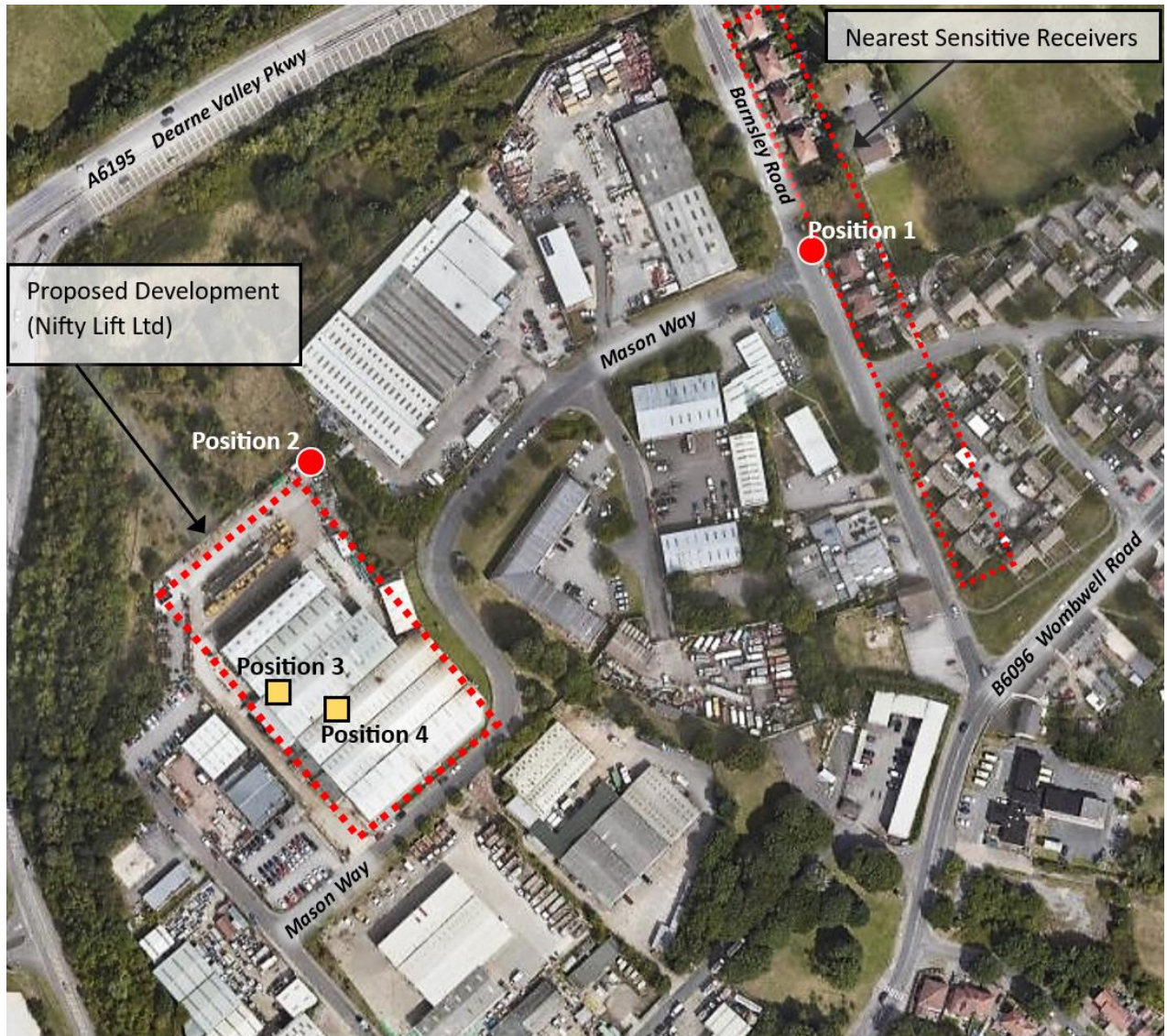


Figure 3 - Noise monitoring locations on site. **Red** monitoring positions (1&2) indicate external unattended monitoring and **Gold** monitoring positions (3&4) indicate unattended internal monitoring positions.

8.1.2. The measurement instrumentation used during the survey is detailed in the appendix. The acoustic equipment was calibrated to comply with Section 4.2 of BS7445-1:2003⁵ before and after the surveys. The calibration details are also detailed in the appendix.

⁵ BS7445-1:2003 "Description and measurement of environmental noise – Part 1: Guide to quantities and procedures"

8.2. Meteorology

8.2.1. During the survey the weather information was noted. This is summarised in Table 3.

	12 th October 2023	17 th October 2023
Roads(Wet/Dry)	Dry	Dry
Wind Speed (ms ⁻¹)/Direction	2.5 / SW	6.1 / E

Table 3 - Meteorological data noted during the survey

8.3. Measurement and Timescale

8.3.1. Unattended monitoring was carried out between 12th October 2023 and 17th October 2023. The measurements that have been made are summarised in Table 4.

Monitoring position	Date	Type	Quantity
1	12 th October 2023 to 17 th October 2023	Unattended	L _{Aeq,15min} / L _{A90,15min}
2	12 th October 2023 to 17 th October 2023	Unattended	L _{Aeq,1min}
3	12 th October 2023 to 17 th October 2023	Unattended	L _{Aeq,1min}
4	12 th October 2023 to 17 th October 2023	Unattended	L _{Aeq,1min}
Specific Sound Sources			
Paint Booth Extract	17 th October 2023	Attended	L _{Aeq,1min}
Air Compressor	17 th October 2023	Attended	L _{Aeq,1min}

Table 4 – Measurements made at the site of the Proposed Development

8.3.2. Sound pressure measurements were subsequently averaged into hourly, daytime and night-time periods. The acoustic measurements and their interpretation have been in accordance with BS 7445: Parts 1, and 2⁶. All sound pressure levels are in dB (re 20µPa).

8.4. Results Summary

Average Sound Pressure Levels

8.4.1. The fixed position measurement results are summarised in Table 5.

Measurement location	Daytime dB, L _{Aeq,16hour}	Night-time dB, L _{Aeq,8hour}
1	65.5	58.7
2	61.8	54.4
3	71.9*	70.1
4	85.6*	85.0

* Worst-case period measured during operating hours. Partial night/day, 00:00 to 09:00.

Table 5 - Summary of the external and internal sound pressure levels measured

⁶ BS7445-2:1991 "Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use"

Background Sound Levels

8.4.2. Figure 4 shows the results of the data analysis in terms of the frequency of occurrence of each data value during the daytime and the night-time respectively, at the nearest sensitive receiver, monitor position 1.

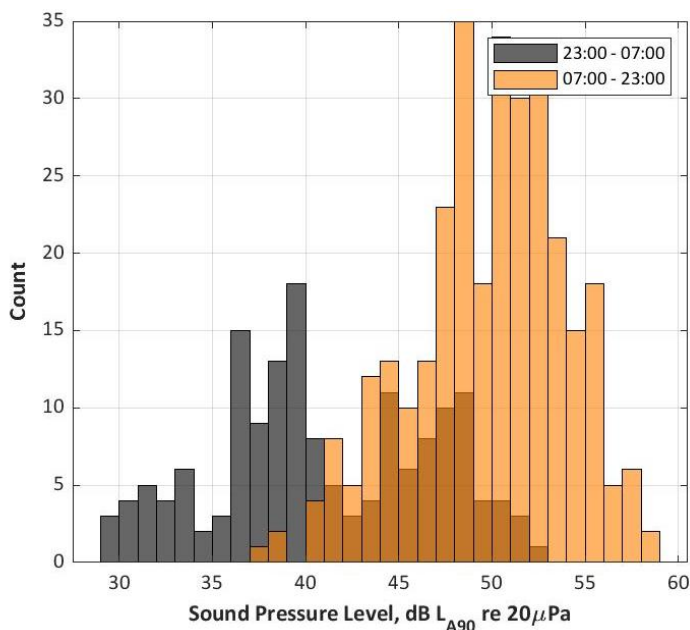


Figure 4 – Distribution of background sound levels during the daytime (07:00-23:00)(Orange) and during the night-time (23:00-07:00)(Grey)

8.4.3. As can be seen in Figure 4 the background sound levels ranged between 37dB $L_{A90,15min}$ and 58dB $L_{A90,15min}$ during the daytime period, and the background sound levels ranged between 29dB $L_{A90,15min}$ and 52dB $L_{A90,15min}$ during the night-time period.

8.4.4. The typical background sound level has been taken to be 48dB $L_{A90,15min}$ during the daytime and 39dB $L_{A90,15min}$ for the night-time.

Specific Sound Levels

8.4.5. The measured specific sound levels measured have been summarised in Table 6.

Specific Sound Source	Date	Sound Pressure dB $L_{Aeq,1min}$ @1m
Paint Booth Extract Duct	17 th October 2023	75.5
Single Air Compressor (internal)	17 th October 2023	75.5
Single Air Compressor (external)	17 th October 2023	70.7

Table 6 – Summary of the specific sound level measurements

9. 3D Noise Model

- 9.1.1. A 3D noise model has been constructed using SoundPLAN™ in order to predict the propagation of sound across the site of the Proposed Development. The calculation procedure has been used from ISO9613-2:1996⁷ to predict the propagation of sound from source to receiver, taking into account distance, screening, and atmospheric and ground conditions.
- 9.1.2. Google Maps Data has been used to create the existing roads and buildings. Terrain data has been taken DEFRA. The intervening ground conditions between the Proposed Development and the nearest sensitive receiver has been assumed to be hard, fully reflective ground to represent a worst case condition.
- 9.1.3. The business (Nifty Lift Ltd) is understood to be typically operational continuously, 24 hours/day during the week and closed at weekends. Survey data suggests the operational sound pressure level internally does not differ significantly between daytime and night-time, therefore a single worst case period has been used for the purposes of this assessment.
- 9.1.4. Two situations have been modelled to show the effect of the existing operations, and the effect of the Proposed Development post-extension.

9.2. Existing Operations

- 9.2.1. The existing industrial buildings at Nifty Lift Ltd have been created as Industrial Building objects in the model. Predicted internal absorption and façade sound reduction values have been applied to the buildings. It is understood that roller shutter doors are typically left open during the daytime. Assumptions about the building envelope have been made. A summary of the SoundPLAN™ library entries as used in the modelled construction is given in Table 7.

	Sound Reduction Spectrum	Sound Reduction Value (R)	Internal Absorption Properties
Floor	N/A	N/A	'Concrete '
Roof	'1mm sheet steel, double trapezoidal profile with air space, $d = 190\text{mm}$ '	35.0	'Hollow metal wo/ seals'
Facades	'1mm sheet steel, double trapezoidal profile with air space, $d = 190\text{mm}$ '	35.0	'Hollow metal wo/ seals'
Transmissive Area (Roller Shutter Doors, assumed to be open)	'Opening'	0.0	'Opening'

Table 7 – Summary of SoundPLAN™ library entries used

- 9.2.2. It should be noted that these are likely to underpredict the sound insulation performance and internal absorption of the building.
- 9.2.3. The measured internal sound pressure levels have been applied to the existing industrial buildings. The areas of operation internally have been modelled based on the survey measurement positions. Bays 0 to 3 have been applied with the worst-case average sound pressure levels measured during operational hours from Position 4 in Table 5. Bays 4 and 5 use the worst-case average sound pressure level measured during operational hours from Position 3 in Table 5.

⁷ ISO9613-2:1996 "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation"

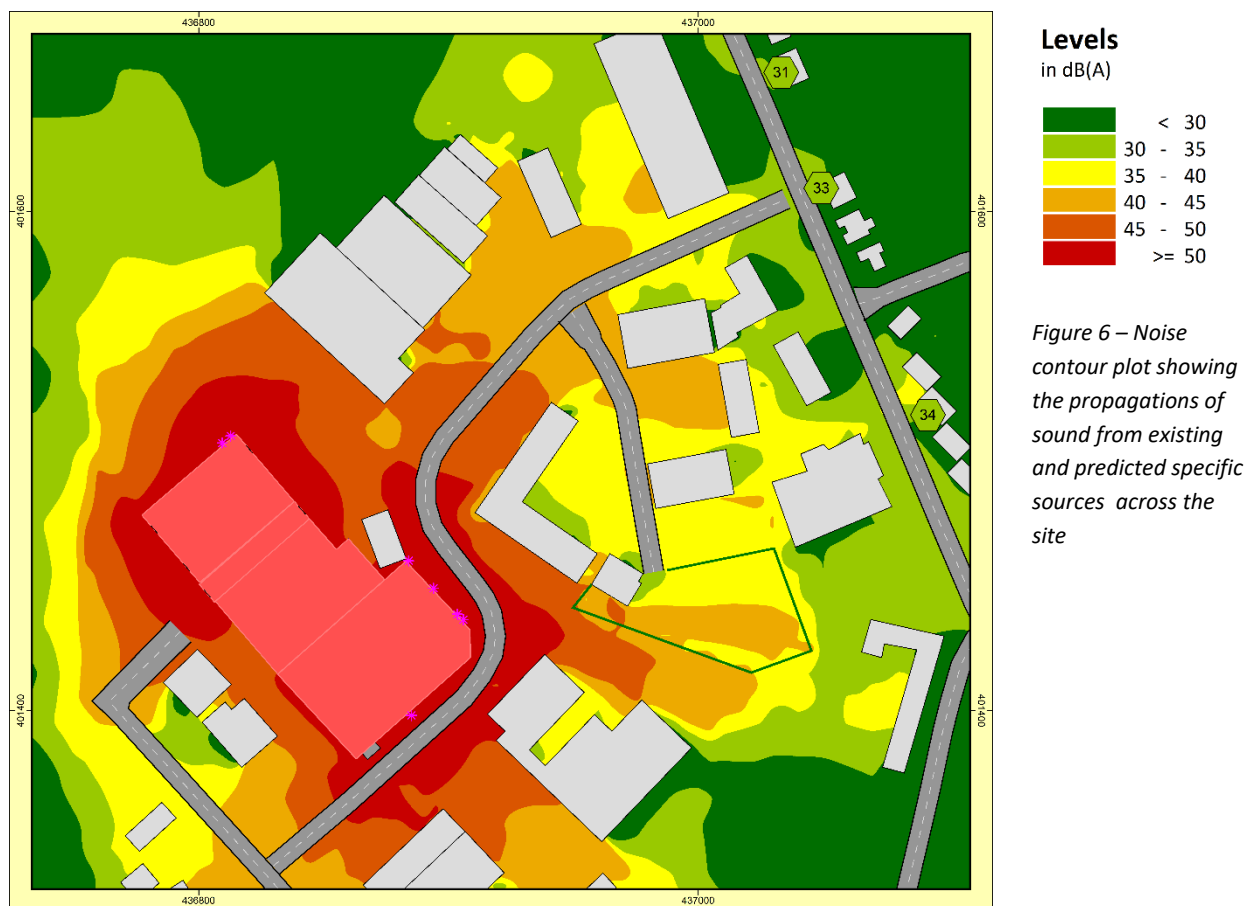
- 9.2.4. The paint booth extract fans located externally are represented by point sources. The point sources have been calibrated to the measured data in Table 6.
- 9.2.5. The air compressors have been modelled using area sources attached to a standard building object. The area covered is equivalent to the doorway openings of the existing building on site. The area sources have been calibrated to the externally measured position from Table 6, and 3dB has been added to allow for the increase in sound pressure from both compressors running simultaneously.
- 9.2.6. The results of the existing operations situation have been illustrated in a noise contour map in Figure 5.



- 9.2.7. The results of the model show that in the existing situation, the worst-case predicted sound pressure level at the nearest sensitive receiver due to industrial activity at the site of the Proposed Development is 33dB(A). This is assumed to be the same for both daytime and night-time period due to the 24hour operation.

9.3. Post-Extension

- 9.3.1. The proposed industrial buildings have been created using the same process as the existing buildings. In order to make a robust worst-case assessment, some assumptions about the development have been made. The envelope of the buildings has been assumed to be the same as existing buildings. Transmissive areas have been used to represent open roller shutter doors as shown on plans. A summary of the SoundPLAN™ library entries used in the modelled construction is given in Table 7. It should be noted that these are likely to underpredict the sound insulation performance and internal absorption of the building.
- 9.3.2. It is understood that the extension is will not contain areas for fabrication. It is likely that the proposed building will be used for both assembly and paint operations, and warehousing. The exact areas of operations and locations of any external plant are not confirmed at the time of this report.
- 9.3.3. The measured internal sound pressure levels from Position 4 have been applied to the inside of the proposed building. It is assumed that both roller shutter doors will be open during operational hours.
- 9.3.4. Externally, 2 point sources have been included to represent potential new paint booth extract fans, identical to the existing extract fans measured on site. These have been hypothetically located to represent a reasonably worst-case position relative to the nearest sensitive receptor.
- 9.3.5. The results of the post-extension situation have been illustrated in the noise contour map in Figure 5.



- 9.3.6. The results of the model show that in the post-extension situation, the worst-case predicted sound pressure level at the nearest sensitive receiver due to the existing and predicted industrial activity of the Proposed Development is 34dB(A). This is assumed to be the same for both daytime and night-time period due to the expected 24hour operation.

10. BS4142 Assessment

10.1. Rating Level

10.1.1. The commercial sound sources were operating at the time of the attended survey. The sources have been assessed based on the character of the sound at the boundary with the proposed residential development, which is approximately 200m (existing) to 225m (proposed) away. The before and after situations allow for a direct comparison to any changes in noise impact, based on a BS4142 assessments. The subjective adjustments to the specific sound levels for acoustic features have been discussed in the following sections.

Tonality

10.1.2. It is possible that the operations at the Proposed Development produce tonal sound. However, due to the distances involved and screening provided by intervening buildings, it is not expected that this will be perceptible at the nearest sensitive receiver.

10.1.3. No acoustic correction has been applied for tonality.

Impulsivity

10.1.4. It is possible that the operations at the Proposed Development produce impulsive noise. However, due to the distances involved and screening provided by intervening buildings, it is not expected that this will be perceptible at the nearest sensitive receiver.

10.1.5. No acoustic correction has been applied for impulsivity.

Intermittency

10.1.6. It is possible that the operations at the Proposed Development produce intermittent noise. However, due to the distances involved and screening provided by intervening buildings, it is not expected that this will be perceptible at the nearest sensitive receiver.

10.1.7. No acoustic correction has been applied for intermittency.

10.2. Assessment (Existing)

10.2.1. The BS4142 assessment for the existing situation is detailed in Table 8.

	Level, dB	
	Daytime (07:00-23:00)	Night-time (23:00-07:00)
Background sound level , dB $L_{A90,15min}$	48	39
Specific sound level , dB(A)	33	33
Acoustic feature corrections		
Tonality	0	0
Impulsivity	0	0
Intermittency	0	0
Other	0	0
Rating level		
Specific sound level + corrections	33	33
Assessment Level		
Rating level – Background sound level	-15	-6

Table 8 - The assessment procedure from BS4142

10.3. Assessment (Post-Extension)

10.3.1. The BS4142 assessment including the predicted situation is detailed in Table 9.

	Level, dB	
	Daytime (07:00-23:00)	Night-time (23:00-07:00)
Background sound level , dB $L_{A90,15min}$	48	39
Specific sound level , dB(A)	34	34
Acoustic feature corrections		
Tonality	0	0
Impulsivity	0	0
Intermittency	0	0
Other	0	0
Rating level		
Specific sound level + corrections	34	34
Assessment Level		
Rating level – Background sound level	-14	-5

Table 9 - The assessment procedure from BS4142

“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”

10.4. Context

10.4.1. In this situation, the industrial premises is existing, located on an industrial estate surrounded by other industrial activity and industrial/commercial sources. This is likely to result in a reduced perceived impact.

10.4.2. The proposed extension is predicted to increase the specific sound level at the nearest sensitive receiver by 1dB(A).

11. Conclusions

- 11.1.1. An environmental noise assessment has been carried out at the site of a proposed extension to the existing industrial premises at Nifty Lift Ltd, Mason Way, Platts Common Industrial Estate, Hoyland, South Yorkshire, S74 9TG to determine typical ambient sound levels.
- 11.1.2. A numerical BS4142 assessment indicates that the proposed specific sound is predicted to have a low impact on existing residential receivers and, generally, the lower the rating level is relative to the background sound level, the less likely it is that the specific sound source will have an adverse impact.
- 11.1.3. In this context the industrial premises is existing, located on an industrial estate surrounded by other industrial activity and industrial/commercial sources. The proposed extension is predicted to increase the specific sound level at the nearest sensitive receiver by 1dB(A).
- 11.1.4. We strongly recommend that this report be passed to the local planning authority for approval prior to any works being carried out.

12. Appendix

APPENDIX A: Summary Information

Required ISO Test Report Information (cross referenced where required)			
		Measurements carried out to:	Analysed to:
A	Standards	BS 7445-1: 2003 BS 7445-2: 1991 BS4142:2014	BS4142:2014
B	Organisation performed the measurements	noise.co.uk Ltd, The Haybarn, Newnham Grounds, Kings Newnham Lane, Bretford, Coventry, CV23 0JU.	
C	Name of Client	JHA Architecture Ltd	
D	Full site address	Nifty Lift Ltd Mason Way Platts Common Industrial Estate Hoyland South Yorkshire S74 9TG	
E	Date of surveys	Survey Date: 12 th October 2023 to 17 th October 2023	
F	Description & identification of Proposed Development	It is proposed to extend the existing industrial/commercial premises	
G	Brief Description of details of Procedure & equipment	See Section 6 of this report.	

APPENDIX B: Technical Appendix

12.1.1. Measurements were made using the following equipment:

Monitoring Position	Sound Level Meter (Serial Number)	Calibrator (Serial Number)
Unattended Measurements		
1	SoftdB Piccolo 2 (PO221070105)	BSWA CA114 (590010)
2	SoftdB Piccolo 2 (PO221070104)	BSWA CA114 (590010)
3	SoftdB Piccolo 2 (PO221070106)	BSWA CA114 (590010)
4	SoftdB Piccolo 2 (PO221070102)	BSWA CA114 (590010)
Attended Measurements		
	Norsonic 140 (1407446)	Norsonic 1251 (33767)

12.1.2. The equipment has traceable calibration. The sound level meters were calibrated immediately prior to and immediately after the measurements were carried out.

Sound Level Meter	Before	After
SoftdB Piccolo 2 (PO221070105)	94.0 dB	94.0 dB
SoftdB Piccolo 2 (PO221070104)	94.0 dB	94.0 dB
SoftdB Piccolo 2 (PO221070106)	94.0 dB	94.0 dB
SoftdB Piccolo 2 (PO221070102)	94.0 dB	94.0 dB
Norsonic 140 (1407446)	113.9	114.0

12.1.3. There was no adverse deviation.