

Pharmaceutical Manufacturing Unit (PMU), Huddersfield

Noise Impact Assessment Report

Client:

Atherden Fuller Leng Limited
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56 Peter Street, Manchester, M2 3NQ

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Document Control

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P01	17-11-2025	AJ	-
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About the Author

The author has a first-class honours degree in acoustics, over 20 years of experience working as an acoustic consultant – including 7 years as a Board Director of one of the largest independent acoustic consultancies in the UK – and is a full member of both the Institute of Acoustics (MIOA) and the Institute of Engineering & Technology (MIET). He has prepared numerous Noise Impact Assessments and EIA Noise & Vibration Chapters to supplement planning applications across all major uses and building sectors.

Executive Summary

Planning permission is sought for the demolition of an existing warehouse building and the construction of a new facility to extend the existing PMU operation on School Street West in Huddersfield.

Jameson Acoustics has been commissioned to undertake an assessment of the potential noise impacts generated by the proposed development when operational.

Plant noise emission limits have been proposed and, in lieu of any plant proposals, we have suggested the Local Authority move to secure compliance with these limits through a suitably worded planning condition. Early stage guidance has been provided on noise control from the proposed external air source heat pump (ASHP) installation, comprising a limiting sound power level for the unit and solid acoustic fencing to the site perimeter along the boundary to the ASHP area.

Noise impacts from the operation of the facility have been assessed to BS 4142 in terms of internal operational activities and delivery activities on the new access road. Our findings indicate a low probability of adverse impact from these operations during daytime hours.

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1.0 Introduction

Planning permission is sought for the demolition of an existing warehouse building and the construction of a new facility to extend the existing PMU operation on School Street West in Huddersfield.

Jameson Acoustics [JA] has been commissioned to undertake an assessment of the potential noise impacts generated by the proposed development when operational.

Our findings are presented herein.

NB: For a description of the acoustic terminology used herein, please see Appendix A.

2.0 Objectives

To review relevant design standards and good practice guides to determine the assessment methodology and criteria.

To present recently completed baseline environmental noise survey results at the site, taken over a 5-day period (encompassing a weekend) in accordance with BS 7445 and BS 4142.

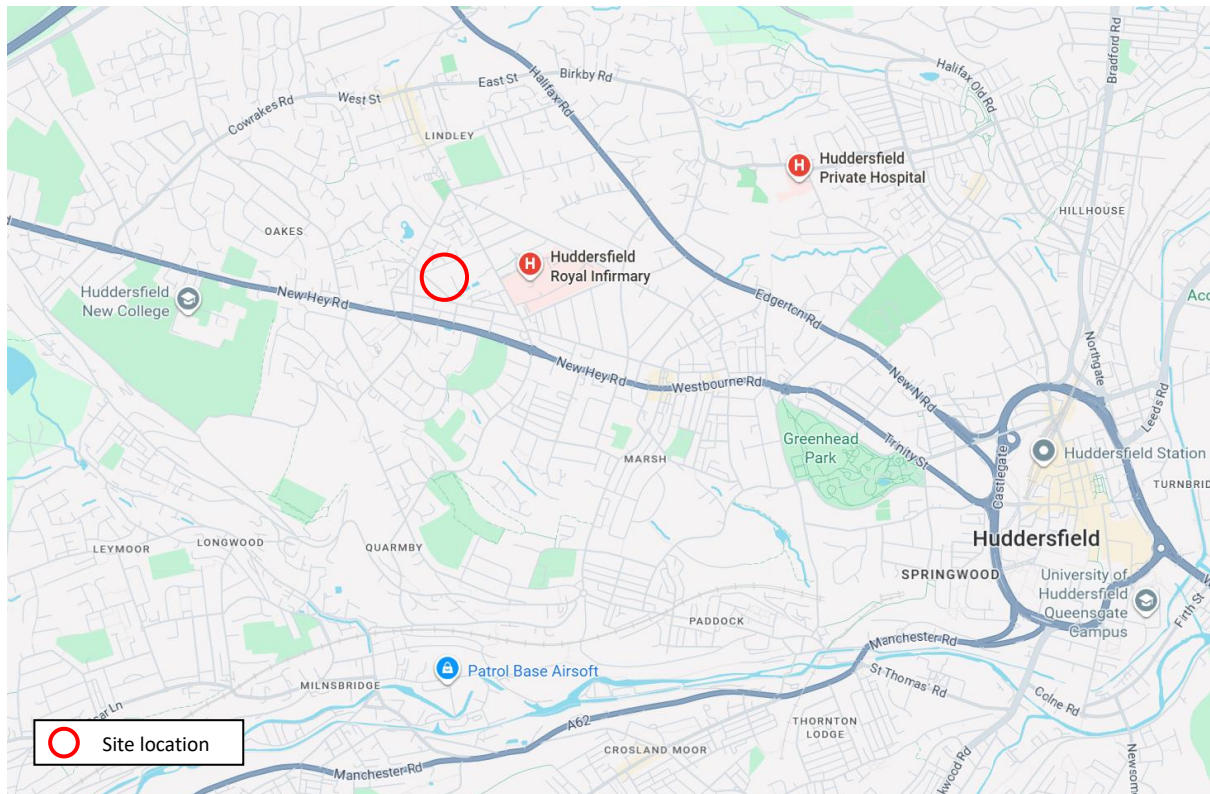
With consideration for the baseline noise climate, to assess potential noise impacts from the operation of the proposed facility, including new items of fixed external plant and operational activities internally and externally (service yard and goods vehicle movements).

To advise on noise mitigation measures as required/appropriate.

3.0 Site Context

3.1 Location

The site is located on School Street West in Huddersfield, as shown below, and falls under the jurisdiction of Kirklees Council [KC].



Location Plan (© maps.google.co.uk)

3.2 Description

The site currently comprises three adjoining industrial buildings. The proposal is to demolish the central building and construct a new building to extend the pharmaceutical manufacturing facility. The site is accessed off School Street West and is bounded by NHS car parks to the north and east, and School Street West to the south and west.

The nearest noise sensitive residential properties are located to the south on School Street West and to the north on Union Street.

The noise climate on and around the site is dominated by road traffic, comprising local vehicular movements and distant traffic on the A640 New Hey Road to the south.

See below Site Plan.



Site Plan (© maps.google.co.uk)

3.3 Proposed Development

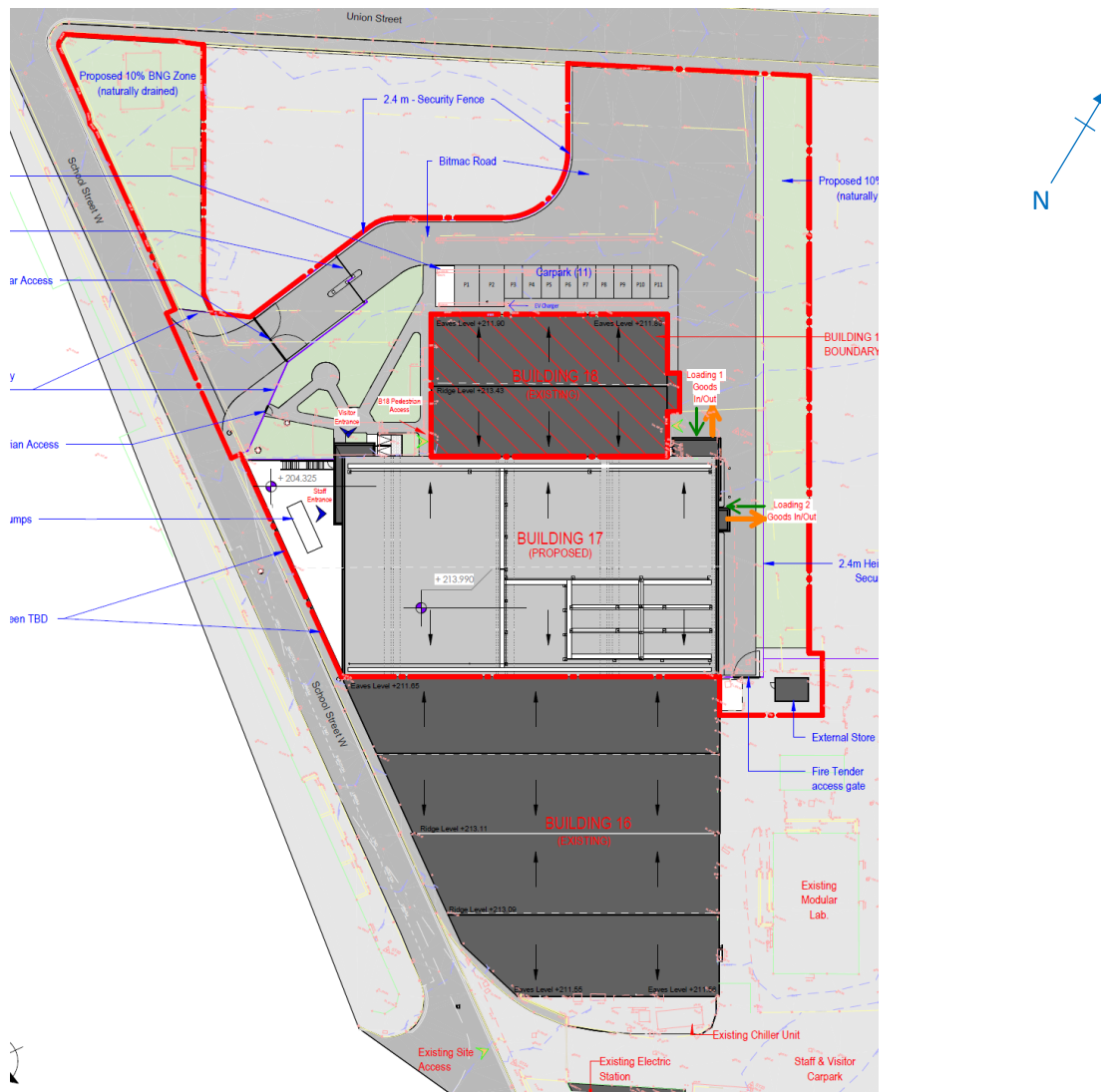
The development will see the demolition of the existing Building 17 and the erection of a new 2-storey steel framed unit. The unit will house new pharmaceutical production facilities and supporting office accommodation.

The site is already serviced by delivery vehicles that enter the site via the main entrance off School Street West to the south of Building 16. However, a new access route will be provided off School Street West via the north of the site. Vehicles will enter via a controlled (secure) access gate, travel around to the north edge of Building 18 and load goods via a loading area in the north-east corner of Building 17. The vehicles are anticipated to comprise vans rather than articulated heavy goods vehicles.

A new 2.4 metre high security fence will be installed around the site perimeter.

An area to the south-west of Building 17 is reserved for external plant. This area will house an air source heat pump. Additional building services plant will be installed within the building (internal plantrooms) with outlets in the roof.

See Proposed Site Plan below.



Proposed Site Plan

3.4 Site Context in relation to Noise (Ref. BS 4142)

The proposal is an extension to an existing industrial/commercial operation. The proposed development will not, therefore, be introducing a new industrial noise source to the area, but will clearly have the potential to contribute/increase global noise output from the site via:

- Delivery vehicle movements along the new access route,
- Loading/unloading and movement of goods within the service yard,
- Noise breakout from internal operations/production activities;
- Noise from new items of fixed building services plant.

The complete site operations during daytime hours only; typically weekday working hours 08:00-18:00hr, although for the purpose of our assessment we shall consider the full BS 4142 daytime assessment period of 07:00-23:00hr.

4.0 Planning Policy, Legislation & Assessment Guides

4.1 National Planning Policy

4.1.1 Noise Policy Statement for England (NPSE)

The Noise Policy Statement for England (NPSE) launched 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”*.

The 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.

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

The NPSE introduces a three-tier concept for the assessment of noise impacts onto a receptor:

- **NOEL – No Observed Effect Level:** The level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise.
- **LOAEL – Lowest Observable Adverse Effect Level:** The level above which adverse effects on health and quality of life can be detected.
- **SOAEL – Significant Observed Adverse Effect Level:** The level above which significant adverse effects on health and quality of life occur.

There are no numeric thresholds relating to each of the above. The NPSE acknowledges that the severity of noise impacts vary depending upon the type of noise, the type of receptor, the duration (on-time) of the noise, the characteristics of the noise, the time of day, the day of the week, etc.. As a result, the definition of what constitutes an SOAEL is somewhat flexible.

4.1.2 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) was first published in 2012 and sets out the government’s planning policies for England and how these are expected to be applied.

The latest revision of the NPPF (December 2024) states that planning system should ensure that *“...developments will function well and add to the overall quality of the area. They should be sympathetic to local character*

and history, including the surrounding built environment while not preventing or discouraging appropriate innovation or change”. Ref: Paragraph 135.

Paragraph 187 advises:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

(a)-(d) [...]

*(e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or **noise pollution** or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans, and*

(f) [...]”

Paragraph 198 advises:

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

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

*b) identify and protect tranquil areas which have remained relatively undisturbed by **noise** and are prized for their recreational and amenity value for this reason; [...]*”

The NPPF recognises that “...new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.” Ref. Paragraph 200.

“The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.” Ref. Paragraph 201.

4.1.3 Planning Practice Guidance on Noise (PPG)

The National Planning Practice Guidance (PPG) is a web-based resource, launched by the Department for Communities and Local Government (DCLG) in March 2014 to support the NPPF and make it more accessible. It advises on how planning can manage potential noise impacts in new development. The guidance is regularly reviewed and updated and noise is listed as a specific category. The guidance is for ad hoc developments, as major infrastructure is covered by overarching National Policy Statements.

PPG provides the following tabulated summary of the effects of noise exposure (in terms of health and quality of life) associated with noise generating and sensitive developments.

Response	Examples of Outcomes	Increasing Effect Level	Action
No Observed Effect Level			
Not present	No effect	No Observed Effect	No specific measures required
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, 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 stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

4.2 Local Planning Policy

In relation to local policy regard is had to Policy LP52 of Kirklees Local Plan Strategy and Policies (February 2019) which in relation to noise sensitive development states the following.

“...where environmentally sensitive development would be subject to significant levels of pollution, must be accompanied by evidence to show that the impacts have been evaluated and measures have been incorporated to prevent or reduce the pollution, so as to ensure it does not reduce the quality of life and well-being of people to an unacceptable impact on the environment.”

4.3 Assessment Guides

4.3.1 World Health Organisation (WHO)

The current WHO Environmental Noise Guidelines 2018 for the European Region supersede the 2000 Guidelines for Community Noise, although it does suggest that the 2000 values for outdoor noise levels for dwellings remain valid, as presented below.

Location	Critical Health Effect(s)	Noise Limit
Outdoor living area (gardens)	Serious annoyance, daytime/evening	55 dB $L_{Aeq,16hr}$
	Moderate annoyance, daytime/evening	50 dB $L_{Aeq,16hr}$
Outside bedroom window	Sleep disturbance, window open	45 dB $L_{Aeq,8hr}$
		60 dB $L_{Amax,f}$

The above guideline values apply as a threshold above which “critical health effects” may occur. The values are therefore at the lowest noise limit to which any psychological or physiological effects may be triggered. With reference to the NPSE, these values are set at the Lowest Observed Adverse Effect Level (LOAEL). The WHO guidelines do not define the level above which effects would be considered significant (SOAEL). Designing for compliance with the LOAEL would, therefore, be considered the ‘ideal’ robust approach.

Exceedances of the WHO guideline values do not necessarily imply significant noise impact and, indeed, it may be that significant impacts do not occur until much higher degrees of noise exposure are reached.

Note that the above tend to apply to continuous noise sources, such as road/rail traffic, and hence the time base for assessment is drawn out to full day (16hr) and night (8hr) periods. When assessing more transient noise sources, a reduced time base of 1 hour is considered more appropriate.

4.3.2 Change in Noise Level

The following Table shows the human response to changes in noise, developed by the Institute of Acoustics and used/accepted by numerous authorities, inspectors (at inquiry) to evaluate the effects of changes in L_{Aeq} noise levels.

Change in Noise Level, $L_{Aeq,T}$ (dB)	Response	Impact
< 3	Imperceptible	None
3-5	Perceptible	Slight-to-Moderate
6-10	Up to a doubling in loudness	Moderate-to-Significant
11-15	More than a doubling in loudness	Substantial
>15	-	Severe

If the specific noise source is controlled to a level that does not exceed the prevailing ambient noise climate, the change in noise level would be less than 3 dB L_{Aeq} which, in accordance with the above table, would provide a positive indication that adverse noise impacts are unlikely.

4.3.3 BS 4142: 2014+A1: 2019

British Standard BS 4142 looks at the assessment of noise of a commercial / industrial nature (e.g. plant). It describes methods for rating and assessing outdoor sound of an industrial and/or commercial nature “on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident”.

The assessment method is based on the difference between the measured ‘background sound level’ without the influence of any industrial noise source, and the ‘rating level’ of the industrial source, at the receiver location. The standard states that:

- “a difference of around +10 dB or more is likely to be an indication of a significant adverse impact”;
- “a difference of around +5 dB is of marginal significance is likely to be an indication of an 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”.

The time-base for assessment is defined as 1-hour for daytime operations (07:00-23:00 hr) and 15-minutes for night-time operations (23:00-07:00 hr). An acoustic feature correction should be applied to any specific sound source emitting attention-grabbing noise characteristics, such as tonality.

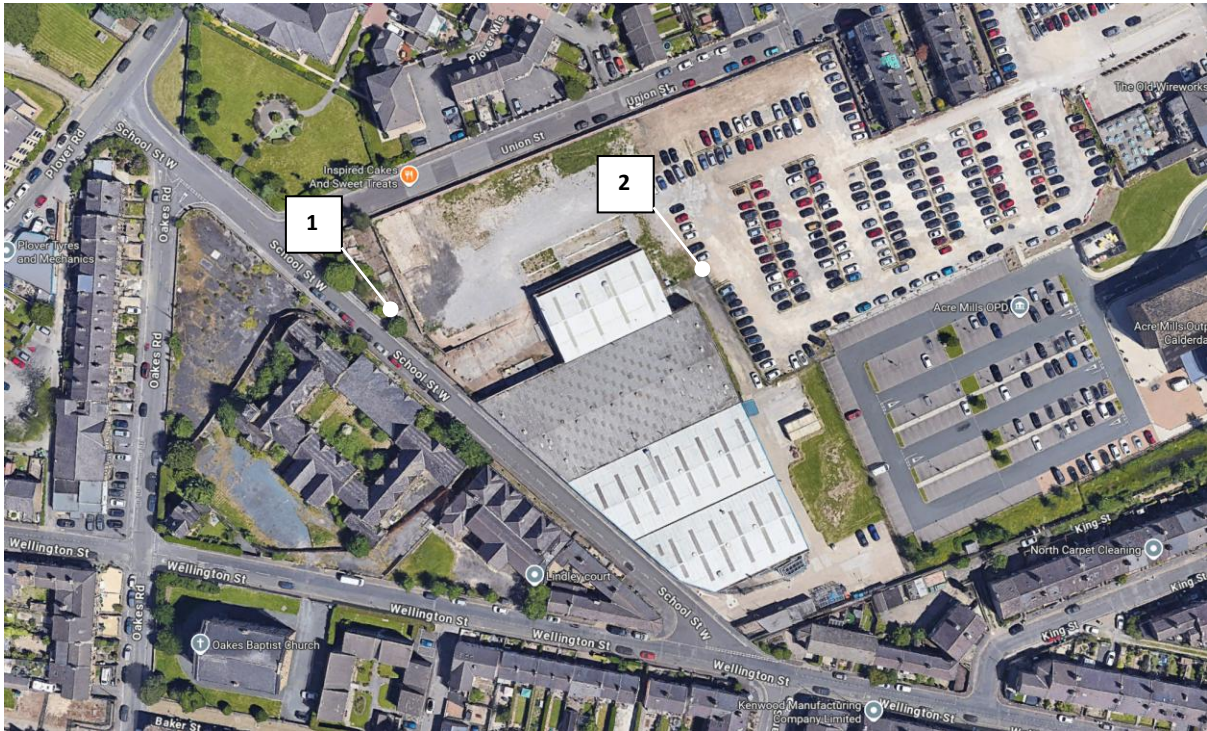
Importantly, the standard applies ‘context’ to the assessment. The evaluation of noise impact is not just determined through the objective numeric assessment, but also with consideration for the site context, e.g. is the receptor already exposed to similar noises, how sensitive is the receptor, how often and for how long does the noise occur. It is therefore entirely possible that whilst the objective outcome of the BS 4142 calculation indicates a risk of adverse noise impact, the context of the proposals may reduce this to an acceptable level. Such cases can be supported by using alternative assessment methods, for example, the WHO guidelines and/or change in L_{Aeq} noise level.

5.0 Baseline Noise Survey

5.1 Procedure

Automated noise level measurements were taken from 10:00 hours on Wednesday 6 August 2025 to 07:00 hours on Monday 11 August 2025 at 2nr on-site positions as described/illustrated below.

Position	Type	Description
1	Automated	To the north-west of the development site, approx. 3.5m from the roadside edge of School Street West. Microphone attached to a post approx. 3m above ground in free-field conditions.
2	Automated	To the north-east of the development site, on the perimeter fence adjacent to the NHS car park. Microphone attached to metal mesh fencing approx. 3m above ground in free-field conditions.



Site plan showing measurement positions (© maps.google.co.uk)

The positions were selected to establish the prevailing daytime and night-time noise levels representative of those at the nearest noise sensitive residential properties to the north and west of the site.

At both positions, the microphone was fitted with a windshield and the equipment was programme to continuously log all relevant A-weighted broadband (dBA) and linear spectral noise level indices, including L_{eq} , L_{90} , L_{10} and L_{max} , over 5-minute, 15-minute and 1-hour intervals.

All measurements were taken in general accordance with BS 7445-1: 2003 '*Description and Measurement of Environmental Noise*'.

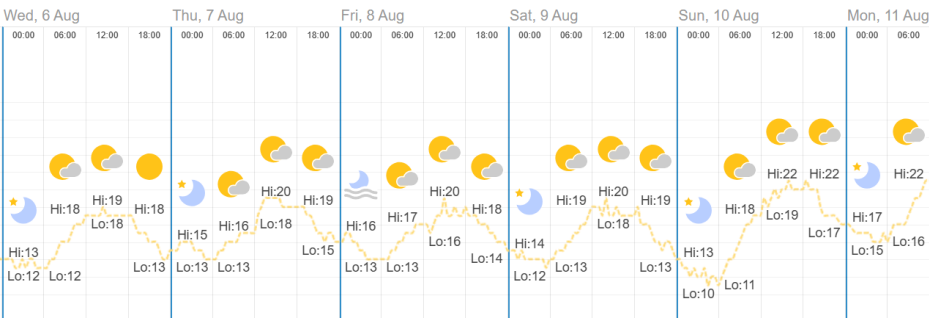
5.2 Instrumentation

The instrumentation used for the survey is summarised below. The sound level meters were hand-calibrated at the beginning and end of the survey periods. No significant deviations in calibration level were noted.

Description	Equipment	Serial Nr	Lab Calibration Expiry	Lab Calibration Certificate Nr
Class 1 sound level meter	Svantek 971A (with Type 7152 mic)	124663 (82835)	26 Aug 2026	1509611-1
Class 1 sound level meter	Svantek 971A (with Type 7152 mic)	131635 (85533)	4 Nov 2026	1510429-1
Class 1 sound calibrator	Cirrus CR:515	57570	12 Nov 2025	1171319

5.3 Weather Conditions

Due to the nature of the survey, i.e. unmanned, it is not possible to describe the weather conditions throughout the duration of the survey period. However, on install and collection the weather was suitable for obtaining representative measurement results, with overcast skies, low wind speeds and dry road surfaces. Based on internet weather reports for the full duration of the survey, conditions remained suitable, as shown below, albeit with some brief periods where wind speeds may have exceeded the 5 m/s limit of the equipment’s windshields.



5.4 Observed Noise Climate

Due to the nature of the survey, i.e. unmanned, it is not possible to describe the noise climate throughout the duration of the survey period. However, on install and collection the noise climate was noted to be dominated by distant road traffic and occasional vehicular movements on School Street West.

5.5 Survey Results & Analysis

The results of the automated survey have been plotted on Time History Graphs 22115-G1 & G2 enclosed in Appendix B. The graphs present the broadband A-weighted L_{A90} , L_{Aeq} and L_{Amax} noise levels logged over 15-minute intervals. A summary of the results, as used to inform subsequent assessments, is presented below.

L_{Aeq} Ambient Noise Levels

The following table summarises the typical daytime L_{Aeq} ambient noise levels.

Position	Position	Typical Ambient L_{Aeq} Noise Level (dB)	
		Mon-Sat	Sun
1	07:00-09:00	57	52
	09:00-12:00	59	55
	12:00-19:00	59	58
	19:00-23:00	56	56
2	07:00-09:00	48	40
	09:00-12:00	48	42
	12:00-19:00	49	44
	19:00-23:00	42	42

L_{A90} Background Noise Levels

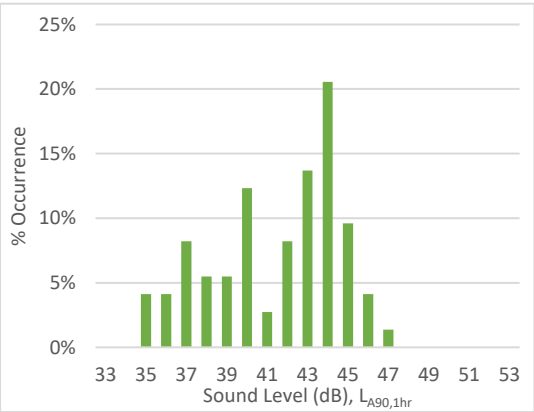
The typical weekday and weekend background L_{A90,1hr} (day) noise levels.

Position	Position	Typical Background L _{Aeq} Noise Level (dB)	
		Mon-Sat	Sun
1	07:00-09:00	43	35
	09:00-12:00	44	38
	12:00-19:00	44	39
	19:00-23:00	38	36
2	07:00-09:00	41	35
	09:00-12:00	42	37
	12:00-19:00	42	38
	19:00-23:00	38	36

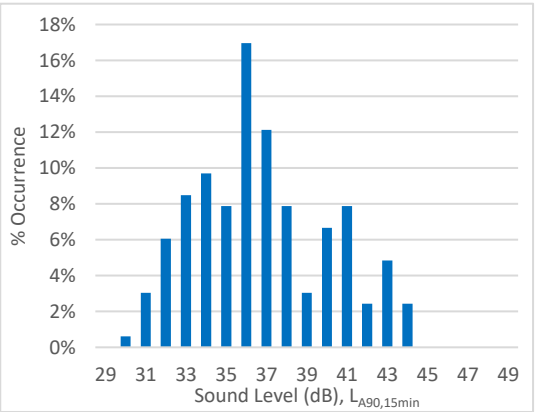
The ‘representative’ background noise levels (as defined in BS 4142) for full daytime and night-time periods have been determined through statistical analysis. BS 4142 states that “the background sound level must be reliable and suitably represent the particular circumstances and periods of interest. For this purpose, the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods”. In line with BS 4142, the time-base shall be 15-min (night-time, 23:00-07:00) and 1-hour (daytime, 07:00-23:00).

These values, as used to inform the plant noise limits, are summarised below.

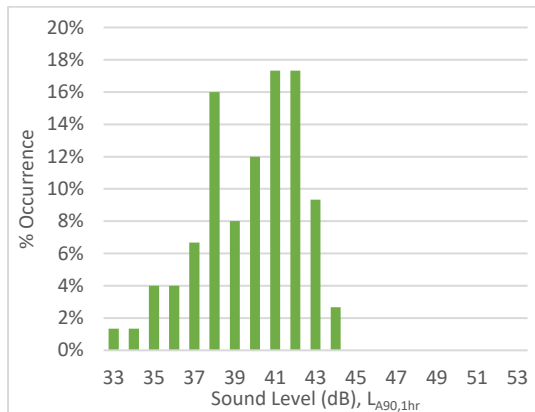
Position	Background Noise Level (dB)	
	Daytime L _{A90,1hr} (07:00-23:00)	Night-time L _{A90,15min} (23:00-07:00)
1	40	36
2	38	35



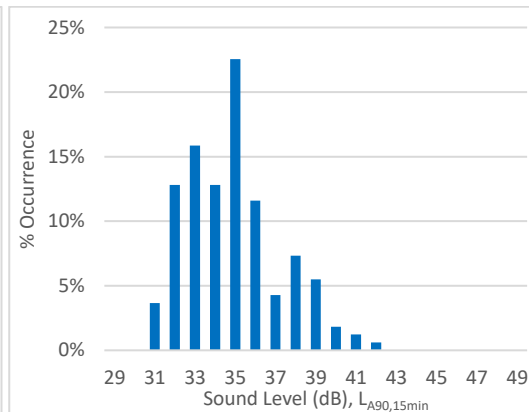
Position 1 – Daytime



Position 1 – Night-time



Position 2 – Daytime



Position 2 – Night-time

6.0 Fixed Plant Noise Assessment

6.1 Limits

BS 4142 states “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 of having a low impact, depending on the context”.

The context of the site is discussed in Section 3.4, and on this basis, and with reference to the results of the survey presented in Section 5.5, we would propose the following plant noise rating limits.

Location	Plant noise rating limit, $L_{A,T,r}$ ref. BS 4142 (dB)	
	Daytime (07:00-23:00)	Night (23:00-07:00)
Dwellings to west	40	36
Dwellings to north	38	35

Noise shall be assessed in accordance with BS 4142:2014 with corrections applied for any plant emitting noise of a tonal or irregular quality. Emergency plant items (e.g. standby generators, smoke extract equipment) should be subject to more relaxed criteria.

The above limits shall be subject to the final approval of the Local Authority.

6.2 Plant Proposals & Guidance

Plant serving the new facility will comprise an external air source heat pump and various air movement (ventilation) systems installed internally with atmospheric side inlets/outlets in the roof.

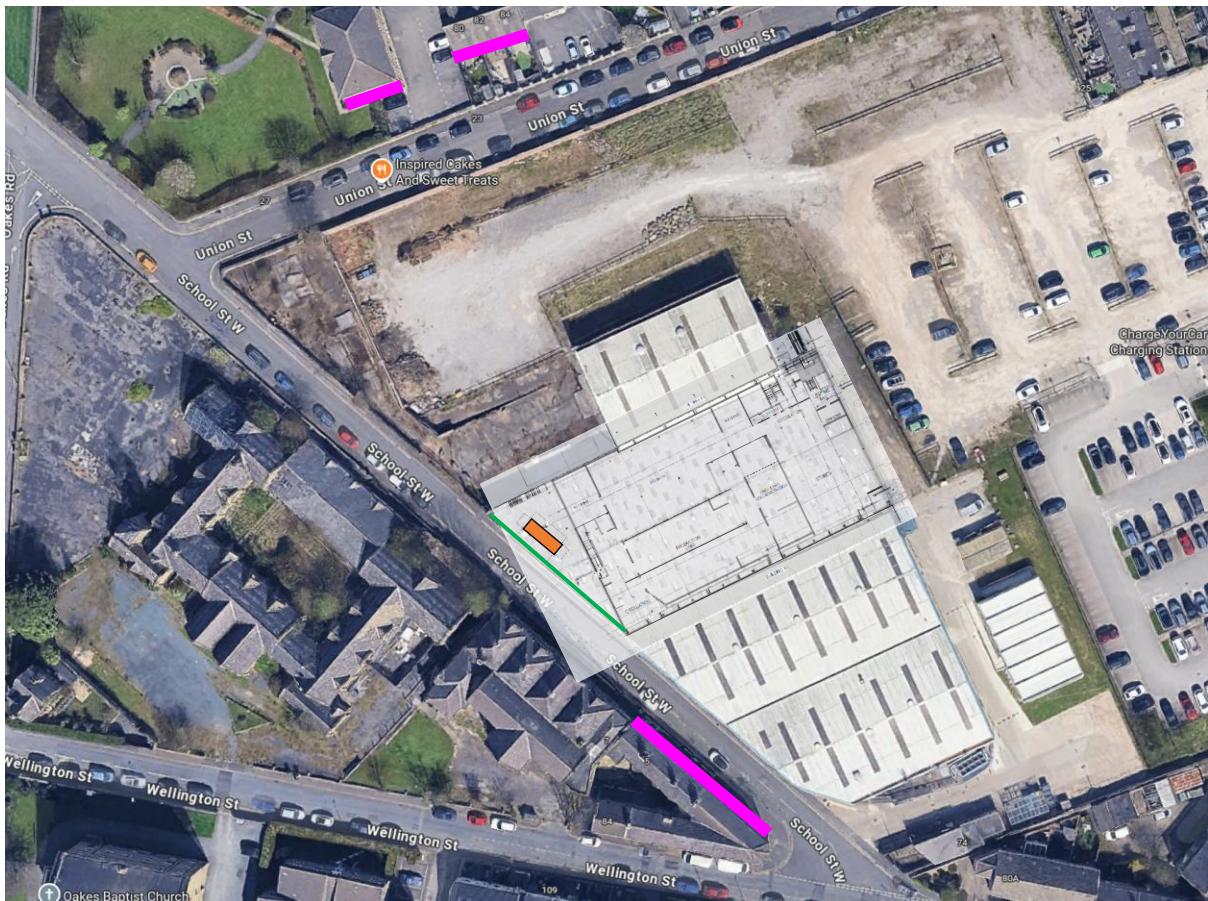
Full design proposals and specifications of plant items have yet to be finalised. It is therefore not possible for us to provide a full assessment at this stage. In lieu, it is common for the local authority to set a condition of

planning consent so that full details can be provided once the design is set. A suitably worded condition would be as follows:

"No fixed plant and/or machinery shall come into operation until details of the fixed plant and machinery serving the development hereby permitted, and any mitigation measures to achieve this condition, are submitted to and approved in writing by the local planning authority. The rating level of the sound emitted from the site shall not exceed the limits presented in the Jameson Acoustics Report. The sound levels shall be determined by measurement or calculation at the nearest residential premises. The measurements and assessment shall be made according to BS 4142:2014+A1:2019."

For the air source heat pump (ASHP), we would provide initial guidance as follows:

- The ASHP will be installed at ground level in a service yard along School Street West (approx. indicated in orange below). The nearest noise sensitive properties are highlighted in pink.



- This area of the site is sunken below relative street level by circa 2.5 metres, with a retaining wall along the roadside boundary.
- We would advise that the section of boundary fence shown in green is made solid. The acoustic barrier (or fencing) should be comprise imperforate panelling providing a minimum mass per unit area of 12 kg/m^2 . This would provide a further 2.4 metres of screening of the ASHP for the dwellings to the south.

Based on site topography, the 2.5 metre high retaining wall + the 2.4 metre solid fencing will provide full line of sight screening of the ASHP when viewed from first floor bedroom windows of these dwellings.

- Based on calculations of ASHP noise emissions to these dwellings to the south and the dwellings to the north beyond Union Street, we would advise the ASHP is selected to achieve the following maximum sound power level rating. NB: The unit should be non-tonal and shall operate free from attention-grabbing noise features (impulsivity/intermittency).
 - **ASHP: Max. 83 dB L_{Aw}**
- If the above is achieved, our calculations indicate the plant noise limits presented in Section 6.1 should be achieved, with sufficient overhead for noise contributions from other plant (i.e. rooftop ventilation inlets/outlets). Our calculations consider all relevant acoustic propagation corrections for distance, reflections and screening.

7.0 Internal Operational Noise Assessment

Internal operations within the facility will comprise pharmaceutical production lines, with specialist machinery, as well as general internal loading activities (i.e. receiving packaged deliveries and loading goods onto shelves). For the former, we have liaised with the end-user and the equipment used for production is not 'high noise' generating. For the latter, manually operated pallet jacks may be used but, again, none of the activities would be categorised as 'high noise' generating.

Our assessment has been based on historic noise level data for similar industrial units to judge the significance of potential noise impacts on nearby dwellings. Based on previous measurements within similar light industrial units, internal reverberant noise levels are unlikely to exceed **67 dB L_{Aeq,1hr}**.

We have assessed internal activity noise breakout from the industrial units to the adjacent consented residential development based on the following assumptions:-

- Noise will be dominated by general reverberant noises within the units, rather than specific activities or machinery operating close to the unit walls/roof.
- The units will be predominantly constructed from thermally-insulated lightweight metal cladding with masonry walls at low level. The cladding (roof and upper level walls) can typically be expected to provide a sound reduction index of R_w 25 dB.
- In the north-east corner, a large roller shutter door will be included to allow goods deliveries. A conventional roller shutter door can be expected to provide a sound reduction index of R_w 12 dB. Our assessment will consider this door closed (normal use). Loading/unloading noise with the door open is considered in our delivery noise assessment (Section 8.0).
- In accordance with BS 4142, the context of the site is to be considered. The development is an extension to an existing industrial/commercial facility and will not therefore introduce a new type of industrial noise source to the area. Hence, no acoustic feature correction shall be applied.

- The closest distances from the nearest facing façade of the building to the nearest dwellings (as highlighted on Figure in Section 6.2) is measured to be approximately:
 - NSR A: Dwellings to the south on School Street West : 25 metres,
 - NSR B: Dwellings to the north over Union Street : 77 metres.

The results of our calculations are summarised in the tables below. The calculated results are compared with the representative weekday and weekend background noise levels at survey Position 2. Note: our calculations consider the corrections and losses associated with building sound reduction, distance loss, screening, reflections and directivity as appropriate in accordance with industry standard equations. Detailed calculation sheets are available upon request.

Receptor: NSR A (dwellings to south on School St W)

Period	Position	Calculated BS 4142 Rating Level, dB $L_{A_{r,Tr}}$	Background noise level, dB L_{A90}	Difference (dB)	BS 4142 Probability of Adverse Impact
Mon-Sat	07:00-09:00	23	43	-20	Low
	09:00-12:00	23	44	-21	Low
	12:00-19:00	23	44	-21	Low
	19:00-23:00	23	38	-15	Low
Sun	07:00-09:00	23	35	-12	Low
	09:00-12:00	23	38	-15	Low
	12:00-19:00	23	39	-16	Low
	19:00-23:00	23	36	-13	Low

Receptor: NSR B (dwellings to north over Union St)

Period	Position	Calculated BS 4142 Rating Level, dB $L_{A_{r,Tr}}$	Background noise level, dB L_{A90}	Difference (dB)	BS 4142 Probability of Adverse Impact
Mon-Sat	07:00-09:00	14	41	-27	Low
	09:00-12:00	14	42	-28	Low
	12:00-19:00	14	42	-28	Low
	19:00-23:00	14	38	-24	Low
Sun	07:00-09:00	14	35	-21	Low
	09:00-12:00	14	37	-23	Low
	12:00-19:00	14	38	-24	Low
	19:00-23:00	14	36	-22	Low

The results indicate that BS 4142 rating levels from internal operational activities would fall below the prevailing background noise levels at dwellings through the full daytime period, 7 days a week. As such, no specific noise mitigation measures should be deemed necessary to control internal operational noise breakout.

8.0 Delivery Noise Assessment

The precise delivery activities associated with the unit are not known. However, our assessment shall assume deliveries could be received any time between 07:00-23:00 hr.

The assessment considers noise from a delivery vehicle entering the site, reversing into the loading bay area (with a door slam), and loading/unloading activities (with wheeled pallet lifts). Loading and unloading activities would be largely external, with roller shutter open. For a worst-case assessment we shall assume there could be two deliveries in a single hourly assessment period.

Jameson Acoustics has previously undertaken L_{Aeq} and L_{Amax} noise level measurements of deliveries and service yard activities at numerous industrial and commercial sites in recent years. The following table presents the representative historic noise levels, with results normalised to a reference distance of 5 metres. Note, the L_{Aeq} noise levels have been converted into single event 'sound exposure levels' (SEL) by normalising the single event L_{Aeq} level to one-second.

Event (Measurement Duration)	L_{Aeq} (SEL), dB @ 5m	L_{Amax} , dB @ 5m
Goods van arriving/departing, 15mph (15-sec)	66 (78)	74
Goods van manoeuvring into bay, with door slam (10-sec)	65 (75)	82
Loading/unloading by hand and with wheeled pallet lifts (10-min)	62 (90)	80

Our calculations of resultant noise levels at the nearest and most exposed dwellings to the north over Union Street are based on the above data and industry standard corrections for distance loss and screening loss. This receptor is approx. 45 metres from the new access road (closest point) and approx. 80 metres from the loading area.

The following table compares the calculated $L_{Aeq,1hr}$ noise levels per period against the background noise levels recorded during our survey. Full calculation sheets are presented in Appendix C.

Receptor: NSR B (dwellings to north over Union St)

Period	Position	Calculated BS 4142 Rating Level, dB $L_{Aeq,T}$	Background noise level, dB L_{A90}	Difference (dB)	BS 4142 Probability of Adverse Impact
Mon-Sat	07:00-09:00	34	41	-7	Low
	09:00-12:00	34	42	-8	Low
	12:00-19:00	34	42	-8	Low
	19:00-23:00	34	38	-4	Low
Sun	07:00-09:00	34	35	-1	Low
	09:00-12:00	34	37	-3	Low
	12:00-19:00	34	38	-4	Low
	19:00-23:00	34	36	-2	Low

The results indicate that the BS 4142 rating level from delivery activities is expected to fall below the prevailing background noise levels at dwellings through the full daytime period, 7 days a week.

As such, no specific noise mitigation measures should be deemed necessary to mitigate delivery noise. However, we would advise the following best practice guidance is following to help prevent adverse delivery noise impacts.

- Delivery vehicles should adhere to the Department for Transport Quiet Deliveries Good Practice Guidance dated 2015 where possible.
- Vehicle reversing alarms should be set to the minimum required for safe and efficient operations (white-noise alerts preferred to beeps).
- Vehicle engines should be turned off whilst stationary for prolonged periods.
- Restrict drop heights during loading to the minimum required for safe and efficient operations.
- Care should be taken to ensure the surface of the site used by vehicles is as smooth as possible. E.g. no raised manhole covers, maintenance of surface to ensure no potholes or similar steep changes in surface level.
- Playing of radios and undue shouting in the service yard should be prohibited.
- Have a community support contact at the site who can assist with any concerns the nearby residents may have.

11.0 Conclusions

Planning permission is sought for the demolition of an existing warehouse building and the construction of a new facility to extend the existing PMU operation on School Street West in Huddersfield.

Jameson Acoustics has been commissioned to undertake an assessment of the potential noise impacts generated by the proposed development when operational.

Plant noise emission limits have been proposed and, in lieu of any plant proposals, we have suggested the Local Authority move to secure compliance with these limits through a suitably worded planning condition. Early stage guidance has been provided on noise control from the proposed external air source heat pump (ASHP) installation, comprising a limiting sound power level for the unit and solid acoustic fencing to the site perimeter along the boundary to the ASHP area.

Noise impacts from the operation of the facility have been assessed to BS 4142 in terms of internal operational activities and delivery activities on the new access road. Our findings indicate a low probability of adverse impact from these operations during daytime hours.

Appendix A – Acoustic Terminology

dB	Decibel - Used as a measurement of sound level. Decibels are not an absolute unit of measurement but an expression of ratio between two quantities expressed in logarithmic form.
dB(A)	The human ear is more susceptible to mid-frequency noise than the high and low frequencies. The 'A'-weighting scale approximates this response and allows sound levels to be expressed as an overall single figure value in dBA. The _A subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted (e.g. $L_{Aeq,T}$ in dB). Noise levels in dBA do not have a linear relationship to each other; for similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is only just perceptible.
$L_{Aeq,T}$	$L_{Aeq,T}$ is the equivalent continuous sound pressure level. It is an average of the total sound energy measured over a specified time measurement period, T .
$L_{10,T}$	L_{10} is the noise level exceeded for 10% of the measurement period T (i.e. the quietest 10% of the measurement) and has, for many years, been used in the assessment of road traffic noise.
$L_{90,T}$	L_{90} is the noise level exceeded for 90% of the measurement period T (i.e. the quietest 10% of the measurement) and is often used to describe the 'background' noise level.
L_{max}	L_{max} is the maximum sound pressure level recorded over the measurement period, T . L_{max} is often used in assessing scheduled environmental noise 'events' (such as train passbys), particularly at night where such events may cause sleep disturbance.
R_w	The weighted sound reduction index, R_w , is a single figure description of sound reduction as defined in BS EN ISO 717-1. It is single-number quantity which characterizes the airborne sound insulating properties of a material or building element over a range of frequencies. The R_w is calculated from sound insulation measurements taken in an acoustic laboratory. Sound insulation ratings derived from site measurements are invariably lower than the laboratory figures and are referred to as the apparent weighted sound reduction index, R'_w .
$D_{n,e,w}$	The weighted element-normalised level difference, $D_{n,e,w}$, is a single figure description of the sound insulation performance of small building elements, such as a trickle ventilator.
C_{tr}	C_{tr} is correction term applied against the sound insulation single-number values (e.g. R_w) to provide a weighting against low frequency performance. The reference values used within the C_{tr} calculation are based on urban traffic noise.

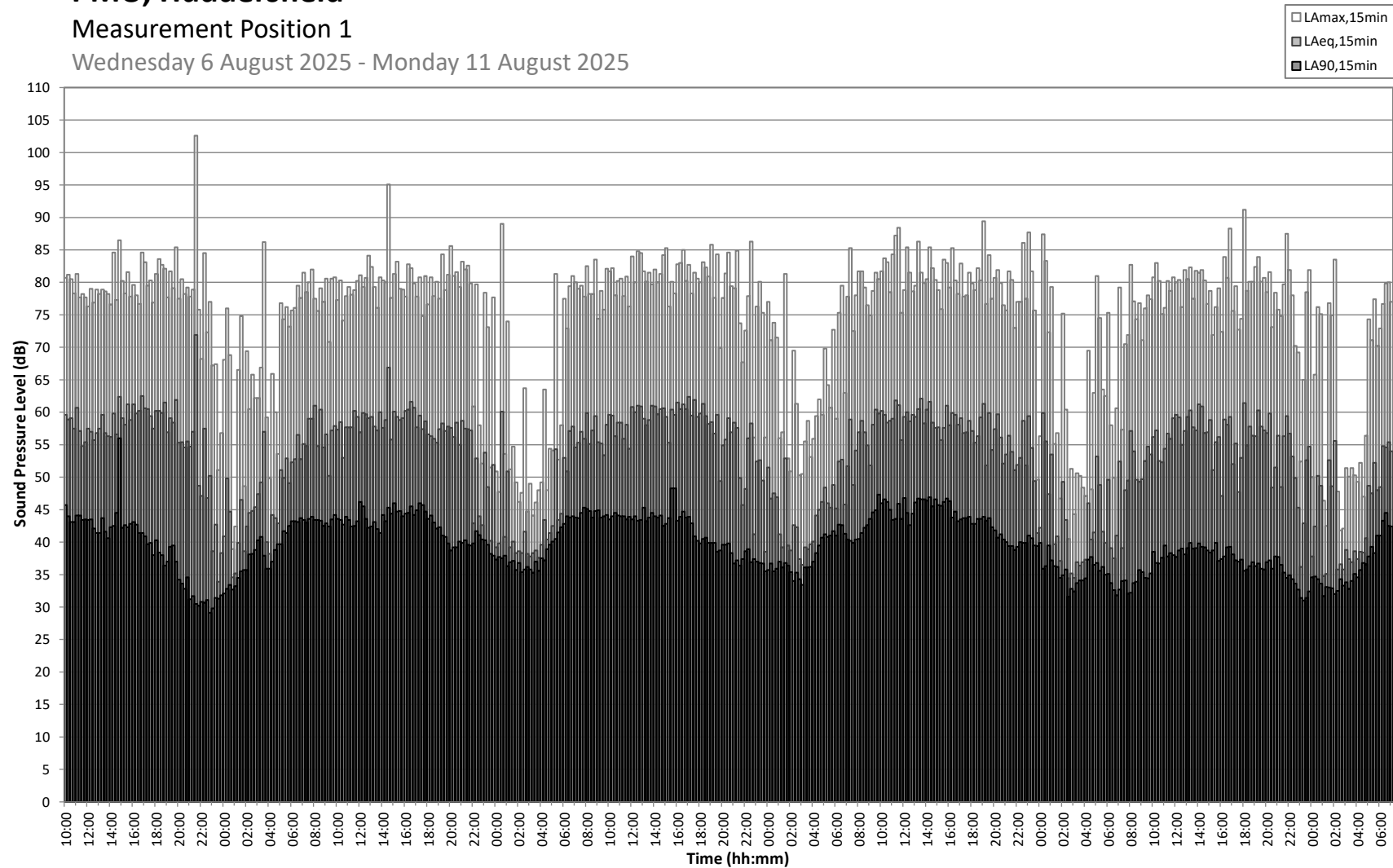
Appendix B – Noise Survey Time History Graphs

PMU, Huddersfield

Measurement Position 1

Wednesday 6 August 2025 - Monday 11 August 2025

22115-G1

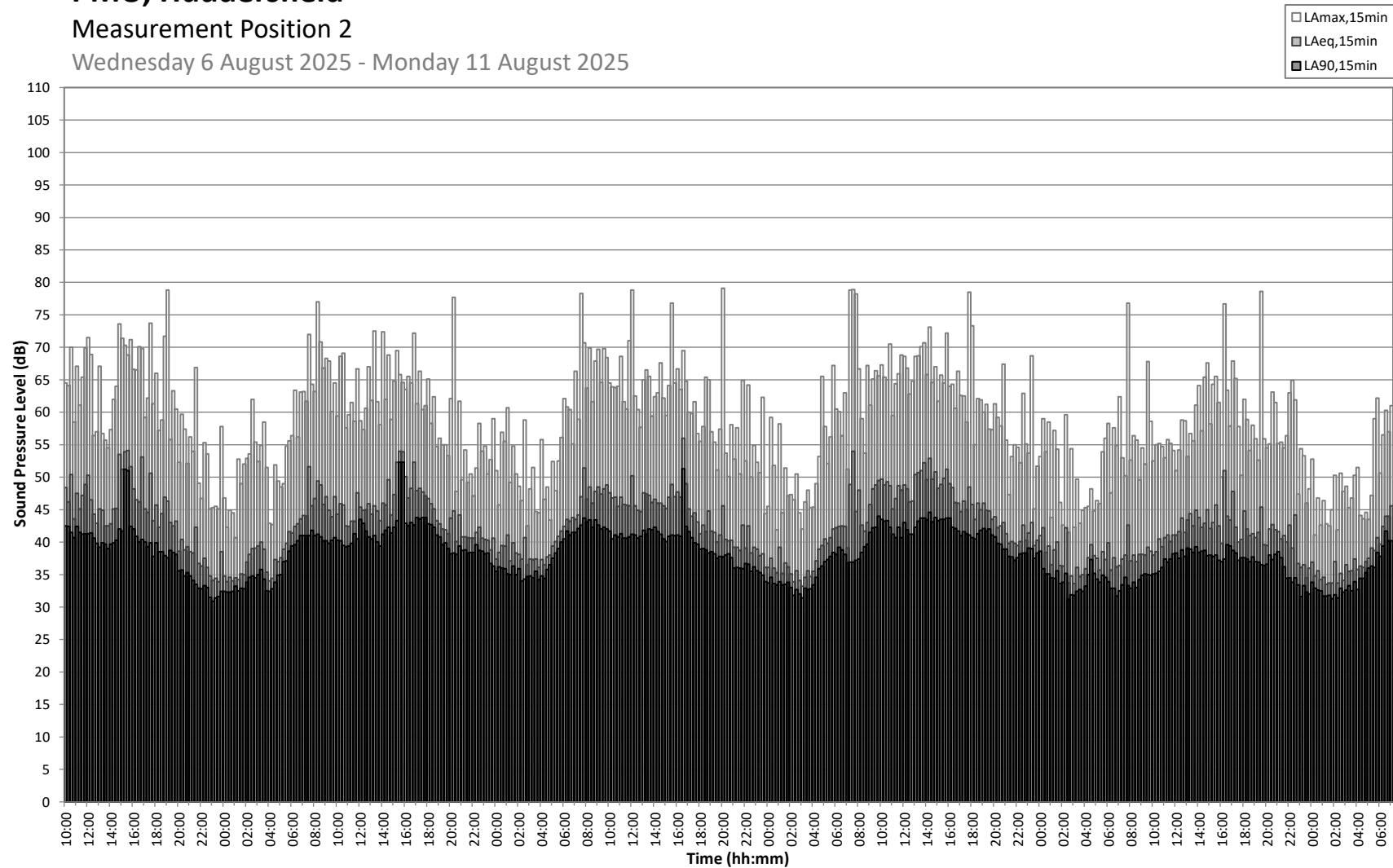


PMU, Huddersfield

Measurement Position 2

Wednesday 6 August 2025 - Monday 11 August 2025

22115-G2



Appendix C –Delivery Noise Assessment Calculation

Receptors:		NSR B (dwellings to north over Union St)									
NSR A											
Source	SEL at 5m	No Events/hr	L _{Aeq,5hr} at 5m (dB)	Distance (m)	Distance Loss (dB)	Screening	Screening Loss (dB)	Specific Noise Level at Receptor (dB)	BS 4142 Correction	Noise Rating Level at Receptor (dB)	
Goods van arriving	78	2	45	45	-19	None	0	26	0	26	
Goods van manoeuvring (w, door slam)	75	2	42	75	-24	None	0	19	0	19	
Loading/unloading	90	2	57	80	-24	None	0	33	0	33	
Goods van departing	78	2	45	45	-19	None	0	26	0	26	
		Total	58				Total	34	Total	34	