

**ENVIRONMENTAL ACOUSTIC
IMPACT ASSESSMENT**

**Bedford Road Health Clinic
Bedford Road,
Hitchin
SG5 1HF**

**Reference : CS8948
Revision : Original
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Prepared By:



Stuart Metcalfe MIOA

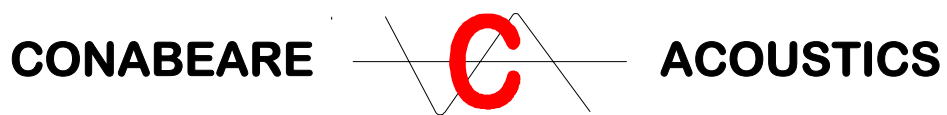
CLIENT:

**Bianco Sale Limited
Courtney House,
62 Jarvis Road,
Croydon,
Surrey
CR2 6HU**

**bianco
sale** limited

Conabeare Acoustics Limited

11 Chiltern Enterprise Centre, Station Road, Theale, Berkshire. RG7 4AA
Telephone 0118 930 3650 Facsimile 0118 930 3912
sales@conabeare.co.uk

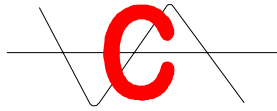


Revision & Changes Log

Revision	Date	Comments/Summary of changes	Amended By:

Conabeare Acoustics Limited

11 Chiltern Enterprise Centre, Station Road, Theale, Berkshire. RG7 4AA
Telephone 0118 930 3650 Facsimile 0118 930 3912
sales@conabeare.co.uk

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Telephone 0118 930 3650 Facsimile 0118 930 3912

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1 Introduction

Conabeare Acoustics Limited have been commissioned by Bianco Sale Limited, to undertake an Environmental Acoustic Survey and BS4142:2014 assessment in relation to noise emissions of proposed plant to Bedford Road Health Clinic, Bedford Road, Hitchin SG5 1HF.

The Survey was undertaken by Stuart Metcalfe MIOA who has been practicing in Building Services Acoustics and Noise Control Engineering for in excess of 30 years, is a Member of the Institute of Acoustics (MIOA) and is a Director at Conabeare Acoustics Ltd.

2 Acoustic Criteria

BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound.

BS4142:2014+A1:2019 gives a method for rating sound from industrial and commercial sources affecting people inside or outside dwellings or premises used for residential purposes.

An initial estimate of the significance of the sound from the industrial/commercial nature can be assessed by subtracting the measured background noise level from the rating level (this is the specific sound level of the source with any corrections or penalties for distinctive acoustic characteristics).

Typically, the greater the difference, the greater the magnitude of the impact.

The site is located within the North Hertfordshire District Council who have adopted the National Planning Policy Guidelines and as such References and evaluations are to be made to the National Planning Policy Framework 2023 (NPPF) and the Noise Policy Statement for England 2010 (NPSE).

There are several key phrases within the NPSE aims and these are discussed below.
“Significant adverse” and “adverse”

NOEL – No Observed Effect Level - This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level - This is the level above which adverse effects on health and quality of life can be detected. Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level - This is the level above which significant adverse effects on health and quality of life occur.

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Telephone 0118 930 3650 Facsimile 0118 930 3912
sales@conabeare.co.uk

3 Plant Location and Measurement Position

The site is located on Bedford Road in Hitchin, Hertfordshire.

The area consists of Residential, Healthcare and Commercial premises with the closest sound sensitive façade being adjudged to be the side residential façade of Hampden House which is adjacent to the proposed plant location

The nearest affected façades are at a distance of approximately 5 metres from the proposed plant location with partial line of site to the plant.

View A – Plan

Measuring Location **Proposed Plant Location** **Sound Sensitive Façade**



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View B – Measurement Location



4 Existing Noise Climate

The area is a mixture of commercial and residential premises with transportation noise and noise from plant at Hampden House being adjudged to be the dominant noise sources during the survey period.

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Telephone 0118 930 3650 Facsimile 0118 930 3912
sales@conabeare.co.uk

5 Noise Survey

5.1 Measurements

The Survey commenced at approximately 08:45 hours on Thursday 15th January 2026 until approximately 08:45 hours on Friday 16th January 2026.

The Analyser was programmed to record 15 minute sampling periods over the survey duration.

The microphone was located on a tripod at approximately 1.7 metres above, and at a minimum of 1m from, a reflecting plane.

The measurements and their interpretation are in accordance with BS 7445: Parts 1 and 2. All readings are Sound Pressure Levels (Lp) in dB (re 20µPa).

5.2 Weather during Survey Period

The weather was cool with some showers throughout the measuring period. The weather did not, in our opinion, adversely influence the readings obtained.

5.3 Instrumentation

The instrumentation used was a Type 1 Larson Davis SoundExpert 821 Sound Level Analyser confirming to IEC 651-1979 Type 1, EN60651 Type 1 and IEC 804-1985 Type 1, EN60804 Type 1.

- **Larson Davis SoundExpert 821 Sound Level Analyser, Serial Number 40317, calibrated on 14th March 2025, Certificate Number 16359.**

The additional following equipment was also used

- **Larson Davis type CAL200 Calibrator, Serial Number 17720 calibrated on 13th March 2025, Certificate Number 16356.**
- **Extension Cable**

Field calibration checks were made using the Calibrator and no significant drift was noted against the Calibration level of 114.0dB ± 0.2dB at 1000Hz ± 0.2%.

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5.4 Survey Results

The following is a summary of the lowest Background (L_{A90}) levels recorded in Daytime, Evening and Night-time Periods

- $L_{A90,15min}$ 48.4dB(A) between 07:00 hours to 19:00 hours.
- $L_{A90,15min}$ 48.2dB(A) between 19:00 hours to 23:00 hours.
- $L_{A90,15min}$ 47.7dB(A) between 23:00 hours to 07:00 hours.

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6 Assessment Methodology: BS4142:2014+A1:2019

The BS 4142:2014+A1:2019 methodology involves predicting or measuring the specific sound level from the source in question and applying rating penalties for acoustic character features such as tonality, impulsivity or irregularity.

This rated sound level is then compared to the existing typical L_{A90} background sound level. Impacts are assessed as follows:

- a) Typically, the greater this difference, the greater the magnitude of the impact.
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- d) 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.

It is also considered appropriate to consider other pertinent sources of guidance. The following sections consider absolute criteria advocated by both the World Health Organisation: 1999: “Guidelines for Community Noise” and BS 8233:1999: “Sound insulation and noise reduction for buildings – Code of practice”.

World Health Organisation: 1999: “Guidelines for Community Noise”

This document provides a review of the effects of noise and a description of the principles of the WHO health criteria and guidelines for Community Noise.

The effects of noise in dwellings are identified as sleep disturbance, annoyance and speech interference. For bedrooms, the critical effect is sleep disturbance. The indoor guideline value for continuous noise in bedrooms is 30 dB L_{Aeq} . To enable casual conversation indoors during the daytime, the sound level of the interfering noise should not exceed 35 dB L_{Aeq} .

Table 1 of the document summarises the guideline values for community noise in specific environments and includes the noise indices to be adopted. Significantly, the corresponding time base to be used for the assessment is also included.

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The relevant extracts of Table 1 are reproduced thus:

Specific environment	Critical health effect(s)	LAeq [dB]	Time base [hours]	LAmaz fast [dB]
Dwelling, indoors	Speech intelligibility & moderate annoyance daytime & evening	35	16	45
	Sleep disturbance, night-time	30	8	

This level should be a cumulative level from all plant running normally and makes allowance for any tonal or intermittent noise from the plant.

BS8233:2014

BS 8233: 2014 – “Guidance on sound insulation and noise reduction for buildings” provides information on achieving internal acoustic environments appropriate to their functions.

As part of this document, recommendations are given to the internal noise levels which are commensurate with achieving acceptable resting, dining and sleeping conditions within residential properties. The values given are generally in terms of an LAeq level although reference is also made with regards to maximum noise levels, although no criterion is specified in this recently revised version of the standard.

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35dB LAeq 16 hours	-
Dining	Dining Room	40dB LAeq 16 hours	-
Sleeping	Bedroom	35dB LAeq 16 hours	30dB LAeq 8 hours

It is generally accepted that a partially open window will provide a level difference of 15dB and therefore the guideline levels to achieve 30dBA within a bedroom would indicate a level of 45dBA directly outside a bedroom window would be acceptable.

Noise Change (dBA)	Category
0	No Impact
0.1 to 2.9	Slight Impact
3.0 to 4.9	Moderate Impact
5.0 to 9.9	Substantial Impact
10.0 and above	Severe Impact

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7 Noise Assessment

The objective of any specification limiting new noises should therefore be to ensure that sound emission from the new building services plant and any other new sources, in particular, should not materially add to the existing sound climate.

7.1 Plant Noise Emissions Criteria

We understand that the operating hours for the plant will be between 07:00 and 19:00 and as such we would recommend setting a target level at 1 metre from the nearest residential facades as below;

- $L_{Aeq,15min}$ 38.0dBA – 07:00 to 19:00.

This level is 10dB(A) below the measured background level as this will still provide internal noise levels in line with BS8233 and WHO guidelines for daytime operation.

We would also recommend setting a noise level at the Health Centre façade of 55dBA. This will then give a resultant noise level within the Health Centre of 40dBA/NR35 based upon BS8233 and CIBSE Guidelines.

7.2 Proposed Plant

The proposed plant being assessed is as detailed below;

- Air Source Heat Pump 3 number Mitsubishi CAHV-R450YA-HPB

7.3 Plant Locations

The condensing unit is to be located within the courtyard to the rear of the building.

7.4 Plant Noise Levels

The manufacturers sound spectrums are reproduced below where available.

Item	Model	Parameter	Sound Level (dB) at Octave Band Centre Frequency (Hz)								
			63	125	250	500	1k	2k	4k	8k	dBA
ASHP	CAHV-R450YA-HPB	Lp @ 1m	64	66	67	60	54	51	52	47	63

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11 Chiltern Enterprise Centre, Station Road, Theale, Berkshire. RG7 4AA
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Acoustic Feature Correction

We have allowed for a 3dB Acoustic Correction Feature for the sound sensitive façade.

No allowance has been made for tonal noise as no items of plant are considered to be tonal in nature.

No allowance has been made for intermittency as the unit will heat water and is there expected to operate for long periods of time.

Distance Attenuation

The additional distance loss to 4 metres is 13dB.

Barrier Attenuation

We have allowed for screening due to the boundary wall.

Un-mitigated Noise Levels – Residential Facade.

The combined noise level for all items of plant with no mitigating measures, and with all suitable allowances made, will be 48dBA at 1 metre from the nearest residential sound sensitive façade at Hampden House.

These combined noise levels are equal to the lowest measured Background Level at the nearest noise sensitive façade and will provide *LOAEL – Lowest Observed Adverse Effect Level*.

It will therefore be necessary to reduce the equipment noise levels by 10dBA to meet the proposed target level.

Un-mitigated Noise Levels – Health Centre Facade.

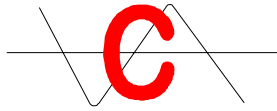
The combined noise level for all items of plant with no mitigating measures, and with all suitable allowances made, will be 64dBA at 1 metre from the nearest sound sensitive façade at the Health Centre.

It will therefore be necessary to reduce the plant noise levels by 9dBA to meet the proposed target level.

Proposed mitigating measures are detailed below.

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11 Chiltern Enterprise Centre, Station Road, Theale, Berkshire. RG7 4AA
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8 Recommendations

To enable the target noise levels at the adjacent Residential and Health Centre façades to be met it will be necessary to install the following mitigating measures.

Acoustic Louvred Screen

The Air Source Heat Pump should have an acoustic louvred screen fitted to allow air to and from the unit which will require the following minimum acoustic performance.

Sound Reduction Index (dB) at Octave Band Centre Frequencies (Hz)

<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1k</u>	<u>2k</u>	<u>4k</u>	<u>8k</u>
6	7	10	16	26	27	23	19

The acoustic louvre will be 300mm thick and would need to be sized to give maximum pressure loss to suit the Air Source Heat Pump requirements – 10Pa maximum.

Our calculations as below indicate that if the proposed mitigating measures are introduced then the resulting noise level at the nearest sound sensitive façades will meet the required target levels.

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9 Conclusion

A background Noise Survey was carried during a typical day and night time period at a location representative of the nearest sound sensitive receivers.

An assessment in line with BS4142:2014+A1:2019 has been carried out and mitigating measures proposed.

In our opinion, the scheme should be acceptable to the Local Authority subject to the proposed mitigating measures being introduced.

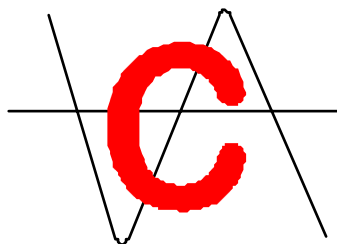
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- Period result profile -

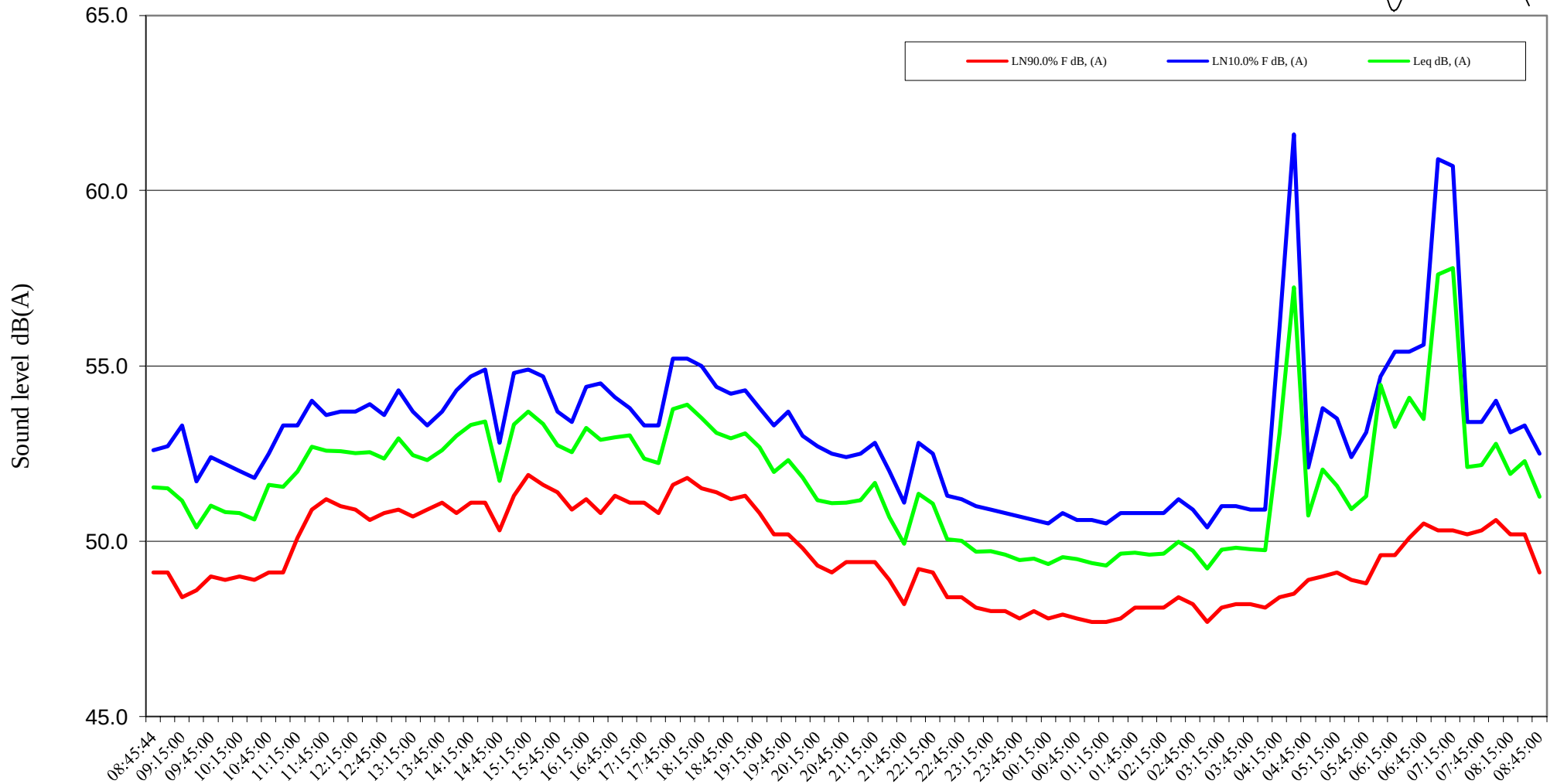
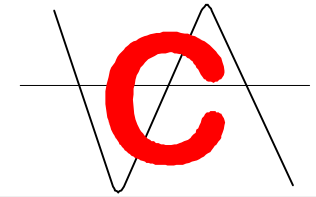
Overload occurred	No
Low battery occurred	No
Pause was used	No
Frequency weighting	A
Band	Broadband
Period time	15 min
Periods too short for LNs	No
First period listed	1 : 97
Measurement Description	
Start	15/01/2026 08:45:44
Stop	16/01/2026 08:45:48
Duration	24:00:04
Pre Calibration	15/01/2026 08:43



Period number	Date	Time	LN90.0% F dB, (A)	LN10.0% F dB, (A)	Leq dB, (A)
1	15/01/2026	08:45:44	49.1	52.6	51.5
2	15/01/2026	09:00:00	49.1	52.7	51.5
3	15/01/2026	09:15:00	48.4	53.3	51.1
4	15/01/2026	09:30:00	48.6	51.7	50.4
5	15/01/2026	09:45:00	49.0	52.4	51.0
6	15/01/2026	10:00:00	48.9	52.2	50.8
7	15/01/2026	10:15:00	49.0	52.0	50.8
8	15/01/2026	10:30:00	48.9	51.8	50.6
9	15/01/2026	10:45:00	49.1	52.5	51.6
10	15/01/2026	11:00:00	49.1	53.3	51.5
11	15/01/2026	11:15:00	50.1	53.3	52.0
12	15/01/2026	11:30:00	50.9	54.0	52.7
13	15/01/2026	11:45:00	51.2	53.6	52.6
14	15/01/2026	12:00:00	51.0	53.7	52.6
15	15/01/2026	12:15:00	50.9	53.7	52.5
16	15/01/2026	12:30:00	50.6	53.9	52.5
17	15/01/2026	12:45:00	50.8	53.6	52.3
18	15/01/2026	13:00:00	50.9	54.3	52.9
19	15/01/2026	13:15:00	50.7	53.7	52.4
20	15/01/2026	13:30:00	50.9	53.3	52.3
21	15/01/2026	13:45:00	51.1	53.7	52.6
22	15/01/2026	14:00:00	50.8	54.3	53.0
23	15/01/2026	14:15:00	51.1	54.7	53.3
24	15/01/2026	14:30:00	51.1	54.9	53.4
25	15/01/2026	14:45:00	50.3	52.8	51.7
26	15/01/2026	15:00:00	51.3	54.8	53.3
27	15/01/2026	15:15:00	51.9	54.9	53.7
28	15/01/2026	15:30:00	51.6	54.7	53.3
29	15/01/2026	15:45:00	51.4	53.7	52.7
30	15/01/2026	16:00:00	50.9	53.4	52.5
31	15/01/2026	16:15:00	51.2	54.4	53.2
32	15/01/2026	16:30:00	50.8	54.5	52.9
33	15/01/2026	16:45:00	51.3	54.1	53.0
34	15/01/2026	17:00:00	51.1	53.8	53.0
35	15/01/2026	17:15:00	51.1	53.3	52.4
36	15/01/2026	17:30:00	50.8	53.3	52.2
37	15/01/2026	17:45:00	51.6	55.2	53.8
38	15/01/2026	18:00:00	51.8	55.2	53.9
39	15/01/2026	18:15:00	51.5	55.0	53.5

Period number	Date	Time	LN90.0% F	LN10.0% F	Leq
			dB, (A)	dB, (A)	dB, (A)
40	15/01/2026	18:30:00	51.4	54.4	53.1
41	15/01/2026	18:45:00	51.2	54.2	52.9
42	15/01/2026	19:00:00	51.3	54.3	53.1
43	15/01/2026	19:15:00	50.8	53.8	52.7
44	15/01/2026	19:30:00	50.2	53.3	52.0
45	15/01/2026	19:45:00	50.2	53.7	52.3
46	15/01/2026	20:00:00	49.8	53.0	51.8
47	15/01/2026	20:15:00	49.3	52.7	51.2
48	15/01/2026	20:30:00	49.1	52.5	51.1
49	15/01/2026	20:45:00	49.4	52.4	51.1
50	15/01/2026	21:00:00	49.4	52.5	51.2
51	15/01/2026	21:15:00	49.4	52.8	51.7
52	15/01/2026	21:30:00	48.9	52.0	50.7
53	15/01/2026	21:45:00	48.2	51.1	49.9
54	15/01/2026	22:00:00	49.2	52.8	51.4
55	15/01/2026	22:15:00	49.1	52.5	51.1
56	15/01/2026	22:30:00	48.4	51.3	50.0
57	15/01/2026	22:45:00	48.4	51.2	50.0
58	15/01/2026	23:00:00	48.1	51.0	49.7
59	15/01/2026	23:15:00	48.0	50.9	49.7
60	15/01/2026	23:30:00	48.0	50.8	49.6
61	15/01/2026	23:45:00	47.8	50.7	49.5
62	16/01/2026	00:00:00	48.0	50.6	49.5
63	16/01/2026	00:15:00	47.8	50.5	49.3
64	16/01/2026	00:30:00	47.9	50.8	49.5
65	16/01/2026	00:45:00	47.8	50.6	49.5
66	16/01/2026	01:00:00	47.7	50.6	49.4
67	16/01/2026	01:15:00	47.7	50.5	49.3
68	16/01/2026	01:30:00	47.8	50.8	49.6
69	16/01/2026	01:45:00	48.1	50.8	49.7
70	16/01/2026	02:00:00	48.1	50.8	49.6
71	16/01/2026	02:15:00	48.1	50.8	49.6
72	16/01/2026	02:30:00	48.4	51.2	50.0
73	16/01/2026	02:45:00	48.2	50.9	49.7
74	16/01/2026	03:00:00	47.7	50.4	49.2
75	16/01/2026	03:15:00	48.1	51.0	49.8
76	16/01/2026	03:30:00	48.2	51.0	49.8
77	16/01/2026	03:45:00	48.2	50.9	49.8
78	16/01/2026	04:00:00	48.1	50.9	49.7
79	16/01/2026	04:15:00	48.4	56.1	53.1
80	16/01/2026	04:30:00	48.5	61.6	57.2
81	16/01/2026	04:45:00	48.9	52.1	50.7
82	16/01/2026	05:00:00	49.0	53.8	52.0
83	16/01/2026	05:15:00	49.1	53.5	51.6
84	16/01/2026	05:30:00	48.9	52.4	50.9
85	16/01/2026	05:45:00	48.8	53.1	51.3
86	16/01/2026	06:00:00	49.6	54.7	54.5
87	16/01/2026	06:15:00	49.6	55.4	53.3
88	16/01/2026	06:30:00	50.1	55.4	54.1
89	16/01/2026	06:45:00	50.5	55.6	53.5
90	16/01/2026	07:00:00	50.3	60.9	57.6
91	16/01/2026	07:15:00	50.3	60.7	57.8
92	16/01/2026	07:30:00	50.2	53.4	52.1
93	16/01/2026	07:45:00	50.3	53.4	52.2
94	16/01/2026	08:00:00	50.6	54.0	52.8
95	16/01/2026	08:15:00	50.2	53.1	51.9
96	16/01/2026	08:30:00	50.2	53.3	52.3
97	16/01/2026	08:45:00	49.1	52.5	51.3

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15th January 2026 to 16th January 2026 - Time

Glossary of Terms

L_{A90}	The sound pressure level in dB(A) which is exceeded for 90% of the time and is taken to be the effective lowest background sound level for the period by such methods of sound rating as that recommended in BS4142:2014. It will also be used as a basis for selecting limiting sound levels from new plant by Local Planning Authorities when setting Planning Consent Conditions.
L_{Aeq}	The “equivalent continuous sound level” for the measuring period, defined as the level in dBA which, if held constant over the measuring period, would produce the same amount of sound energy as does the actual varying ambient sound level. It is a measure of the amount of sound energy affecting the site from sources other than new plant or operations.
L_{A10}	The sound level exceeded for 10% of the time over the sample period. Originally used as a measure of subjective reaction to traffic noise in particular, it can also be taken as an indication of the practical maximum sound level that the building envelope will have to protect against.
dBA	Describes 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 dBA broadly agree with people’s assessment of loudness. A change of 3dBA is the minimum perceptible under normal conditions, and a change of 10dBA corresponds roughly to halving or doubling the loudness of a sound.

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Telephone 0118 930 3650 Facsimile 0118 930 3912
sales@conabeare.co.uk



Project: CS8948 - Bedford Road Health Clinic, Bedford Road, Hitchin SG5 1HF

Client : Bianco Sale Limited

Revision: Original

Date : 28th January 2026

Item Calculation 01 - Noise To Residential Facade - Proposed Plant - Target Level - 38dBA

ASHP01	Air Source Heat Pump - Atmospheric Noise					63	125	250	500	1k	2k	4k	8k	dBA	
Unit Lp at 1 metre - Mitsubishi CAHV-R450YA-HPB - Manufacturers Data						64	66	67	60	54	51	52	47	63	
Additional Units						2	5	5	5	5	5	5	5		
Additional Distance to Listener						4	m	-13	-13	-13	-13	-13	-13		
Additional Surfaces (0)							0	0	0	0	0	0	0		
Screening - Line of Sight							-6	-7	-8	-10	-12	-14	-17		
Façade Effect							3	3	3	3	3	3	3		
Estimated Lp at Listener Condensing Unit Only							53	54	54	45	37	32	30	25	48
Proposed Acoustic Louvred Screen - Sound Reduction Index - WSD300HP							-6	-7	-10	-16	-26	-27	-23	-19	
Resultant Noise Level from Fan Exhaust with Mitigating Measures							47	47	44	29	11	5	7	6	37

Item Calculation 02 - Noise To Health Centre Facade - Proposed Plant - Target Level - 55dBA

ASHP01	Air Source Heat Pump - Atmospheric Noise					63	125	250	500	1k	2k	4k	8k	dBA	
Unit Lp at 1 metre - Mitsubishi CAHV-R450YA-HPB - Manufacturers Data						64	66	67	60	54	51	52	47	63	
Additional Units						2	5	5	5	5	5	5	5		
Additional Distance to Listener						2	m	-7	-7	-7	-7	-7	-7		
Additional Surfaces (0)							0	0	0	0	0	0	0		
Façade Effect							3	3	3	3	3	3	3		
Estimated Lp at Listener Condensing Unit Only							65	67	68	61	55	52	53	48	64
Proposed Acoustic Louvred Screen - Sound Reduction Index - WSD300HP							-6	-7	-10	-16	-26	-27	-23	-19	
Resultant Noise Level from Fan Exhaust with Mitigating Measures							59	60	58	45	29	25	30	29	51

Acoustic Calibration Services Limited
Unit 6H Diamond Industrial Centre
Works Road Letchworth Garden City
Hertfordshire SG6 1LW
Tel: 01462 677 197 Mobile: 0771 886 4944
Email: trevjohnlewis@aol.com



CERTIFICATE OF CALIBRATION

Model: LD SoundExpert 821 **Serial Number:** 40317

Organisation: Conabeare Acoustics Limited, 11 Chiltern Enterprise Centre
Station Road, Theale, Berkshire RG7 4AA

Job Number: 2999

Customer Order Reference: 11649

The Sound Level Meter was assessed for conformance with International Standard BS EN 61672-3:2006 as modified by TPS 49 Edition 1. The manufacturer claims Class 1 accuracy conformance and it was against these requirements that all the results were evaluated.

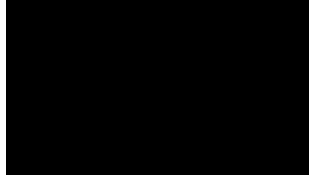
The sound level meter was fitted with a **PCB 377B02** Serial No. **355935** measurement microphone, a **PCB PRM821** preamplifier Serial No. **001704**, a **WS001** windshield and a **5m extension lead**. The microphone was replaced with a suitable input device in order to apply electrical signals to the preamplifier.

The sound level meter passed all tests carried out with no deviations from Class 1 specification, in accordance with the modified BS EN 61672-3:2006.

The meter was adjusted to read correctly in response to the associated **LD CAL200** sound calibrator serial no: **17720** (resulting sensitivity **-27.7 dB rel 1V/Pa or 51.7 mV/Pa**). When referencing to the current certification the calibration set-up level would be **113.7 dB** when corrected to reference atmospheric pressure.

All ACSL's calibration instrumentation is fully traceable to National Standards. The acoustic references are calibrated by laboratories which are UKAS accredited for the purpose.

Certificate No: 16359
Date of Issue: 14th March 2025

Signature: 
Print Name: Trevor Lewis

Robert Lewis Accountants, Head Office: 4 Capricorn Centre Cranes Farm Road Basildon SS14 3JJ
Registered No: 4143457 VAT No: GB 770505441 Directors: Trevor J Lewis, G Parry BSc CPhys MInstP AMIOA, O R Clingan MIOA

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Unit 6H Diamond Industrial Centre
Works Road Letchworth Garden City
Hertfordshire SG6 1LW
Tel: 01462-677 197 Mobile: 0771 886 4944
Email: trevjohnlewis@aol.com



CERTIFICATE OF CALIBRATION

Model: LD CAL200

Serial Number: 17720

Organisation: Conabeare Acoustics Limited, 11 Chiltern Enterprise Centre
Station Road, Theale, Berkshire RG7 4AA

Job Number: 2999

Customer Order Reference: 11649

The acoustic calibrator was run for a period of time until a stable level was achieved. The output level was compared to the certified level of the laboratory measurement references. The calibrator was applied to the meter, removed, then reapplied to provide five separate readings, with the average value of these measurements recorded and certified.

The ambient temperature during calibration was **23.1 ± 1°C**.
The barometric pressure was **99.8 to 99.9 kPa**.
The relative humidity was **33 to 43 %**

The sound pressure level output from the Acoustic Calibrator was measured in its half inch configuration using a B&K 4134 microphone. The mean level output of the acoustic calibrator was 114.0 dB at the reference setting and 94.0 dB at the -20dB setting.

The output frequency signal of the acoustic calibrator is 1000Hz.

All ACSL's calibration instrumentation is fully traceable to National Standards. The acoustic references are calibrated by laboratories which are UKAS accredited for the purpose.

Certificate No: 16356

Date of Issue: 13th March 2025

Signature:

Print Name:

Trevor Lewis

Robert Lewis Accountants, Head Office: 4 Capricorn Centre Cranes Farm Road Basildon SS14 3JJ
Registered No: 4143457 VAT No: GB 770505441 Directors: Trevor J Lewis, G Parry BSc CPhys MInstP AMIOA, O R Clingan MIOA