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2A ST GEORGE'S ROAD, LONDON, NW11 0LR

NOISE ASSESSMENT OF PROPOSED RELOCATION OF ROOFTOP PLANT



Report prepared by:
Duncan Newhall BSc MIOA
DKN Acoustics Ltd
1 Wine Street
Bradford on Avon
Wiltshire BA15 1NS

On behalf of:
Envoy (Golders Green) Ltd
32 Castlewood Road
London
N16 6DW

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1.0 EXECUTIVE SUMMARY

- 1.1 A noise assessment has been carried out of the proposed relocation of plant from second floor roof to proposed third floor roof at 2a St George's Road, London, NW11 0LR.
- 1.2 The assessment is required to accompany the planning application to LB Barnet for the proposed additional third floor to provide further office space.
- 1.3 The existing ground to second floors provide office space and the basement is used for events. The existing rooftop plant is required to operate principally over the daytime (for offices). Some plant is also required on occasion during the evening/early night (for basement use), with one small plant item in use overnight (small condensing unit serving office server room).
- 1.4 The nearest residences are in Temple Gardens (to the west) and in Finchley Road (to the north and east).
- 1.5 A background noise survey representing these residences has been undertaken when existing plant was switched off over key periods.
- 1.6 The cumulative plant noise level for the required periods of use has been predicted at the nearest residences and compared with the relevant background noise level.
- 1.7 An acoustic enclosure has been recommended for the proposed third floor rooftop plant. This measure is required to attenuate plant noise to meet the LB Barnet requirement not to exceed 5 dB below background or 10 dB below background (if plant noise is tonal or impulsive).
- 1.8 If additional plant is required for the proposed third floor offices, there is some tolerance for any noise contribution to enable the LB Barnet noise requirements to be met still.
- 1.9 The proposed plant relocation to third floor roof with acoustic enclosure would provide an acoustic benefit to the nearest residences compared with existing.
- 1.10 It is therefore recommended that planning approval may be granted and conditioned accordingly as necessary.

2.0 INTRODUCTION

- 2.1 DKN Acoustics Ltd has been instructed by Envoy (Golders Green) Ltd to carry out a noise assessment of the proposed relocation of rooftop plant at 2a St George's Road, London, NW11 OLR.
- 2.2 The noise assessment is required to accompany the planning application to LB Barnet for the proposed relocation of plant on the roof of the proposed additional third floor.
- 2.3 The existing rooftop plant is permitted under planning permission 17/5013/FUL. The existing permission includes the noise-related conditions 6, 7 and 14 as follows. Conditions 6 and 14 refer in particular to mechanical services plant.

6 a) Prior to the installation of any ventilation/extraction plant, a report shall be submitted to the Local Planning Authority, carried out by a competent acoustic consultant that assesses the likely noise impacts from the development of the ventilation/extraction plant, and mitigation measures for the development to reduce these noise impacts to acceptable levels, and has been submitted to and approved in writing by the Local Planning Authority.

The report shall include all calculations and baseline data, and be set out so that the Local Planning Authority can fully audit the report and critically analyse the content and recommendations.

b) The measures approved under this condition shall be implemented in their entirety prior to the commencement of the use/first occupation of the development and retained as such thereafter.

Reason: To ensure that the proposed development does not prejudice the amenities of occupiers of neighbouring properties in accordance with Policy DM04 of the Development Management Policies DPD (adopted September 2012), the Sustainable Design and Construction SPD (adopted April 2013) and Policy 7.15 of the London Plan 2015.

- 7 a) No development other than demolition works shall take place until details of mitigation measures to show how the development will be constructed/adapted so as to provide sufficient air borne and structure borne sound insulation against internally/externally generated noise and vibration has been submitted to and approved in writing by the Local Planning Authority.

This sound insulation shall ensure that the levels of noise generated from the proposed B1(a) use; as measured within habitable rooms of the development shall be no higher than 35dB(A) from 7am to 11pm and 30dB(A) in bedrooms from 11pm to 7am.

The report shall include all calculations and baseline data, and be set out so that the Local Planning Authority can fully audit the report and critically analyse the content and recommendations.

- b) The mitigation measures as approved under this condition shall be implemented in their entirety prior to the commencement of the use or first occupation of the development and retained as such thereafter.

Reason: To ensure that the proposed development does not prejudice the amenities of occupiers of the residential properties in accordance with Policies DM04 of the Development Management Policies DPD (adopted September 2012), the Sustainable Design and Construction SPD, and 7.15 of the London Plan 2015.

- 14 The level of noise emitted from any plant installed hereby approved shall be at least 5dB(A) below the background level, as measured from any point 1 metre outside the window of any room of a neighbouring residential property.

If the noise emitted has a distinguishable, discrete continuous note (whine, hiss, screech, hum) and/or distinct impulse (bangs, clicks, clatters, thumps), then it shall be at least 10dB(A) below the background level, as measured from any point 1 metre outside the window of any room of a neighbouring residential property.

Reason: To ensure that the proposed development does not prejudice the amenities of occupiers of neighbouring properties in accordance with Policies DM04 of the Development Management Policies DPD (adopted September 2012) and 7.15 of the London Plan 2015.

2.4 It is expected that the relevant conditions 12 and 14 would be replicated for any future planning permission for the proposed development. The requirements appear to be in common with current LB Barnet planning policy and conditioned for other, similar developments.

2.5 The assessment has included:

- Review of supplied site drawings and plant specification;
- Site inspection;
- Background noise survey;
- Prediction of cumulative plant noise level from proposed rooftop plant;
- Assessment of noise impact in comparison with LB Barnet condition requirements;
- Recommendations for appropriate outline noise control measures as necessary.

2.6 Noise levels referred to in the text of this report have been rounded to the nearest whole decibel (dB), as fractions of dBs are imperceptible. A glossary and description of the relevant noise units and noise characteristics is provided in Appendix I.

Client:
Envoy (Golders Green) Ltd

Site address:
2a St George's Road, NW11 0LR

2.7 The survey and assessment has been carried out by Duncan Newhall, who is a Member of the Institute of Acoustics (IOA) and holder of the IOA Diploma in Acoustics and Noise Control. DKN Acoustics Ltd is an independent acoustic consultancy.

3.0 SITE DESCRIPTION

Site building

- 3.1 The existing building at 2a St George's Road rises to second floor level. The main uses of the existing floors are:

Basement:

Occupied by 'The Sorting Office' providing a restaurant and events space. Hours of use may extend to 11pm, with staff present until approximately midnight/1am for post event cleaning. Events typically take place at weekends but not exclusively.

Ground, first & second floors:

Occupied by office space. Hours of use are typically 9am-5pm weekdays. The second floor is currently vacant.

- 3.2 The proposed development is to provide an additional storey at third floor level for further office space.

Rooftop mechanical services plant

- 3.3 The rooftop plant currently sited on the second floor roof comprises the items shown in Table 1. Figure 10 shows the site photos. The client has advised which items serve which areas of the building and their typical hours of use.

Table 1: Existing rooftop plant items

Ref.	Plant item	Make/model	Manufacturer's noise level Overall (A)	Equivalent SPL at 1m	Area served	Typical required hours of use
1	AHU (air handling unit) comprising:	Daikin 3.33/2.30 D-AHU Modular R ADT08FCD1			Ground, first, second floor office use	9am-5pm
	AHU supply (with attenuator)		69 (Lw)	61		
	AHU supply casing		67 (Lw)	59	Basement event use	Up to 1am
	AHU return (with attenuator)		62 (Lw)	54		
	AHU return casing		61 (Lw)	53		
2	Condensing unit (comfort cooling)	Daikin REYQ20T7Y1B	66 (SPL at 1m)	66	Ground, first, second floor office use	9am-5pm
3	Condensing unit (comfort cooling)	Daikin ERQ250A7W1B	58 (SPL at 1m)	58		
4	Condensing unit (comfort cooling)	Daikin ERQ250A7W1B	58 (SPL at 1m)	58		
5	Heat pump	Daikin RXM50N2V1B9	48 (SPL at 1m)	48	Server room	24 hrs
6	Condensing unit (comfort cooling)	Daikin REYQ20T7Y1B	66 (SPL at 1m)	66	Ground, first, second floor office use	9am-5pm
7	WC extract fan discharge	Helios Type SB EC 200 B	76 (Lw)	68		
	WC extract fan casing		58 (Lw)	50		
8	Kitchen extract fan discharge	Helios Type SB EC 355	74 (Lw)	66		
	Kitchen extract fan casing		59 (Lw)	51		

Notes: Manufacturers' noise data quoted as Lw = sound power level or SPL = sound pressure level

3.4 The existing plant items would be relocated to the new third floor roof. It is assumed that plant would occupy the same footprint as currently on the second floor roof. It is yet to be confirmed, but an additional plant item or items may be required for the proposed third floor offices (e.g. condensing unit).

3.5 The majority of plant items would only be required to be in use during office hours from 9am-5pm. The AHU (ref. 1) also serves the basement events use and can potentially be in use until 1am. The heat pump (ref. 5) is understood to cool the server room of the offices and can potentially be in use at any time over 24 hours depending on demand.

3.6 The manufacturers' noise information is shown in Appendix III.

Local area & nearest residences

- 3.7 The area is a mix of commercial and residential uses. There are a number of ground floor commercial premises (shops, take-away restaurants etc) on Finchley Road to the east. Further commercial premises are located in Potsdown Mews opposite to the south.
- 3.8 The nearest residences are at the following approximate distances from the main plant area:
- Residences in Temple Gardens, rising to second floor (dormer) windows, approximately 30m to the west.
 - Residences at 1069 Finchley Road (recently constructed) rising to fourth floor, approximately 25m to the north (rear).
 - Upper floors of Finchley Road, rising to third floor (dormer) windows, approximately 20m to the east.
- 3.9 The existing and proposed drawings and photos are shown in Figures 1-10.

4.0 BACKGROUND NOISE SURVEY

- 4.1 A site noise survey was carried out to the rear of the flat roof and representing the nearest residences.
- 4.2 The 24-hour survey was carried out from 14:00 hours on Monday 6 November to Tuesday 7 November 2023.
- 4.3 The existing plant was required to be in use to serve the occupied offices. In order to measure the true background noise level in the absence of existing plant, the client ensured that all plant items were manually switched off from approximately 19:05 hours Monday 9 November to 07:45 hours on Tuesday 10 November.
- 4.4 This is with the exception of the small heat pump (ref. 5) serving the server room, which was required to be kept on. However, the time of year of the survey is expected to ensure minimal required use of this cooling plant item. It has been calculated that any noise contribution from this plant item at the measurement location is sufficiently low in comparison to the measured levels to have no effect on the true background noise level. The client confirmed that there were no events taking place at the basement use during the survey and plant serving this area would not have been operating.
- 4.5 This arrangement therefore enabled the true background noise level to be recorded during the day from 19:05-23:00 hours and 07:00-07:45 hours, and over the complete night-time period of 23:00-07:00 hours. These periods have been used to provide the representative background noise data for the assessment. Other periods of the survey are expected to include some noise contribution from rooftop plant.
- 4.6 The measurement location was approximately 1.2m above the flat roof and was in free-field conditions (i.e. at least 3.5m from any reflective surface except the roof). The measurement location is shown in Figures 1 & 10.
- 4.7 Noise levels were measured over sequential 5-minute periods. They were recorded in terms of the overall A-weighted noise levels, including third-octave band frequency analysis.

4.8 The overall A-weighted noise levels measured are summarised in Table 2 below and shown in full in Appendix II.

Table 2: Summary of mean measured background noise levels, dB

Location	Period	Mean noise level (1 hour day; 15 min night)				Comments
		L _{Aeq}	L _{Amax}	L _{A10}	L _{A90}	
Location 1 – rear of second floor roof Existing plant switched <u>off</u>	Part Day (evening) Mon 6 Nov 19:05-20:05 hours	63	89 (56-97 range)	53	50	First hour that could be measured <u>after</u> 9am-5pm office hours; representative of office plant hours of use
	Evening/night Mon 6/Tue 7 Nov 23:00-01:00 hours	55	77 (51-87 range)	51	48	Representing hours of basement plant and server room heat pump hours
	Full night Mon 6/Tue 7 Nov 23:00-07:00 hours	51	71 (51-85 range)	50	47	Representative of overnight hours of use of server room heat pump
	Part Day (morning) Tue 7 Nov 07:00-07:45 hours	54	62 (57-87 range)	55	52	Period <u>before</u> 9am-5pm office hours; representative of office plant hours of use

Notes: L_{A90} background noise level shown over one-hour periods (day 07:00-23:00 hours) and 15-minute periods (night 23:00-07:00 hours) consistent with the related guidance BS4142: 2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'.

4.9 The background noise levels is expected to have been affected by sources such as road traffic, aircraft and plant items serving other nearby premises, particularly to the rear of commercial premises on Finchley Road to the east.

4.10 The representative L_{A90} background sound level measured in relation to the plant operating schedule was as follows:

Office plant hours (9am-5pm): 50 dB L_{A90} (lowest value recorded during evening used as a worst-case; likely to be higher during office hours)

Basement plant evening/night hours (11pm-1am): 48 dB L_{A90}

Server room plant overnight hours (11pm-7am): 47 dB L_{A90}

Noise measurement equipment

4.11 The measurements were undertaken using the following equipment.

Table 3: Measurement equipment

Equipment	Serial no.
RION NL-52 Type 1 sound level meter	00809384
Pre-amplifier model NH-25	09677
Microphone model UC-59	17841
Microphone extension cable	n/a
Windshield	n/a
Calibrator model NC-74 to 94.0dB	34794362

4.12 The sound level meter is fully calibrated with an up-to-date calibration certificate, a copy of which will be provided on request.

4.13 The calibration of the meter was checked before and after the survey, using calibrator model NC-74 (serial no. 34794362) with no variation in level noted. A windshield was fitted over the microphones at all times.

Weather conditions

4.14 Weather conditions were dry with clear skies and with a low wind speed generally less than 5m/s. Temperatures were up to around 13°C during the day and down to 4°C at night (see Appendix II). These represented good conditions for the noise measurement of representative background noise levels.

5.0 NOISE ASSESSMENT

Existing plant

5.1 The manufacturers' noise information has been used to predict the cumulative plant noise level at the nearest residences.

5.2 The plant schedule shown in Table 1 outlines the required operating hours of the installed plant items. The plant noise level has been predicted to reflect these times, assuming the worst-case that all relevant plant items are operating simultaneously. The predictions take account of attenuation by distance and by any acoustic screening plus the contribution from any reflected noise. The resultant noise level has then been compared with the relevant measured background noise level to assess compliance with condition 14.

5.3 The full details are shown in Appendix V, with the summary in Table 4.

Table 4: Summary plant noise assessment - existing (dB & figures rounded)

Location	Day plant Office hours: 0900-1700 hrs			Eve/night plant Basement use hours: 2300-0100hrs			Overnight plant Night: 2300-0700hrs		
	Temple Gardens to West	1069 Finchley Rd to North	Finchley Rd to East	Temple Gardens to West	1069 Finchley Rd to North	Finchley Rd to East	Temple Gardens to West	1069 Finchley Rd to North	Finchley Rd to East
Predicted cumulative plant noise level	47	47	46	36	35	38	14	15	22
L _{A90} background level	50	50	50	48	48	48	47	47	47
Difference	-3	-3	-4	-12	-13	-10	-33	-32	-24
<u>Meets Condition 14?</u>									
- 5 dB below background (not tonal/impulsive)	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
- 10 dB below background (if tonal/impulsive)	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

5.4 The daytime use of existing plant (serving the offices) is predicted to exceed the requirement of condition 14 at the nearest residences. The evening and night-time plant use is predicted to meet condition 14 in all cases at the nearest residences.

- 5.5 For the proposed relocation of plant (and potential additional plant item(s) for the new third floor use), it is recommended that appropriate noise control measures are provided as follows.

Noise control recommendations – proposed plant

Acoustic enclosure

- 5.6 A four-sided acoustic enclosure is recommended for the third floor rooftop plant. This should be a solid three-sided screen with a louvred section to the front (south).
- 5.7 The enclosure should have dimensions large enough to break the line of sight from plant items to nearby residential windows, which should be confirmed on site.
- 5.8 It is recommended that the enclosure be formed of a solid screen on the west, north and east elevations in the direction of the nearest residences. An appropriate close-boarded timber screen or other proprietary material would be suitable. This should be of adequate mass (at least 15 kg/m²) and with an absorptive layer on the plant-side to reduce reflected/reverberant plant noise. The screen should be as close as possible to the plant items to maximise attenuation. There should be no direct contact between the screen and plant items, ductwork and pipework etc. Particular attention should be paid where the enclosure is required to pass over exposed duct runs on the flat roof. Any resultant holes or gaps should be as small as possible and sealed with a flexible/resilient seal. There should be no holes or gaps in its construction, including with the flat roof, to ensure noise cannot 'leak' or by-pass the screen.
- 5.9 There are many such products on the market, with suitable examples found at:
www.jacksons-security.co.uk/acoustic-security-barriers/absorptive-acoustic-barrier
(timber)
www.ransfords.co.uk/products/noise-barriers/noise-absorbent-system/ (timber)
www.caice.co.uk/acoustic-enclosures/ (metal)
- 5.10 A typical timber product type and recommended screen location are shown in Appendix VI.
- 5.11 The remaining side (to the south) should be formed by an acoustic louvre section, which should fully seal with the rest of the enclosure. Rather than a solid screen here, the louvred section is likely to be required for airflow changes at the AHU terminations. The acoustic performance

is not critical here as this is not in the direction of the nearest residences. A suggested product is shown in Appendix VI ([Caice-Acoustic-Louvre-Brochure.pdf](#)).

- 5.12 An access door would be required in the enclosure. This should be made to the same specification as the rest of the acoustic screen. The door should be fitted with appropriate perimeter and threshold seals to ensure no gaps when the door is closed.
- 5.13 The M&E consultant/contractor should be consulted to ensure that the recommended enclosure can be accommodated on site and would not adversely affect the operation of plant.
- 5.14 The screening attenuation to the nearest residences from the enclosure has been calculated and further plant noise predictions have been undertaken with this measure installed. The full details are shown in Appendix V with the summary in Table 5 below.

Table 5: Summary plant noise assessment – with acoustic enclosure (dB & figures rounded)

Location	Day plant Office hours: 0900-1700 hrs			Eve/night plant Basement use hours: 2300-0100hrs			Overnight plant Night: 2300-0700hrs		
	Temple Gardens to West	1069 Finchley Rd to North	Finchley Rd to East	Temple Gardens to West	1069 Finchley Rd to North	Finchley Rd to East	Temple Gardens to West	1069 Finchley Rd to North	Finchley Rd to East
Predicted cumulative plant noise level	32	36	32	25	29	25	0	1	0
L _{A90} background level	50	50	50	48	48	48	47	47	47
Difference	-17	-13	-17	-23	-19	-23	-47	-46	-47
<u>Meets Condition 142</u>									
- 5 dB below background (not tonal/impulsive)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- 10 dB below background (if tonal/impulsive)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

- 5.15 The acoustic enclosure as recommended would enable the requirements of condition 14 to be met at all times at the residential locations.
- 5.16 The proposed plant relocation and recommended enclosure would provide an acoustic benefit to the neighbouring residences compared with existing.

- 5.17 There is some tolerance in meeting the requirements. This would provide scope for the LB Barnet requirements to still be met with any further noise contribution from any additional plant item(s) as may be required for the proposed third floor. The development proposals are at a relatively early stage and the need for and specification of any additional plant required has not yet been confirmed.

Hours of operation

- 5.18 It will be important to ensure that plant is provided with appropriate timer controls so that individual items do not operate outside the required hours shown in Table 1.
- 5.19 This would prevent the unnecessary use of plant during the more sensitive evening and night-time hours when background noise typically reduces to a minimum.

Anti-vibration measures

- 5.20 All plant should be installed on appropriate anti-vibration mounts. Ductwork and pipework connections should include flexible connectors. These measures are all required to reduce structure-borne noise/vibration transmission to the building.

Good practice measures

- 5.21 It is recommended that plant be regularly inspected, serviced and maintained as necessary. This would prevent the generation of unnecessary noise and ensure that plant is operating at optimum efficiency.

Conclusions

- 5.22 The assessment has shown that the proposed relocation of plant to the new third floor roof level would meet LB Barnet noise requirements. This assumes that the proposed acoustic enclosure is provided as recommended for the rooftop plant.
- 5.23 It is recommended that this assessment provides the required information for planning permission to be granted and conditioned accordingly on noise grounds.

Appendix I – Noise & vibration units and indices

Sound pressure level, sound power level and the decibel (dB)

A sound wave is a small fluctuation of atmospheric pressure. The human ear responds to these variations in pressure, producing the sensation of hearing. The ear can detect a very wide range of pressure variations. In order to cope with this wide range of pressure variations, a logarithmic scale is used to convert the values into manageable numbers. Although it might seem unusual to use a logarithmic scale to measure a physical phenomenon, it has been found that human hearing also responds to sound in an approximately logarithmic fashion. The dB (decibel) is the logarithmic unit used to describe sound (or noise) levels. The usual range of sound pressure levels is from 0 dB (threshold of hearing) to 120 dB (threshold of pain).

An increase in noise level of 10 dB(A) is roughly perceived as a doubling of the sound source. A 3 dB(A) change in noise level is generally the minimum perceptible difference.

Sound pressure level: The quantity of sound pressure (in dB) from a sound source at particular location and dependent on the acoustic environment it is in.

Sound power level: Total amount of sound (in dB) inherent in a particular source independent of the acoustic environment it is in.

Frequency and Hertz (Hz)

As well as the loudness of a sound, the frequency content of a sound is also very important. Frequency is a measure of the rate of fluctuation of a sound wave. The unit used is cycles per second, or Hertz (Hz). Sometimes large frequency values are written as kiloHertz (kHz), where 1 kHz = 1000 Hz. Young people with normal hearing can hear frequencies in the range 20 Hz to 20,000 Hz. However, the upper frequency limit gradually reduces as a person gets older.

Glossary of Terms

When a noise level is constant and does not fluctuate over time, it can be described adequately by measuring the dB(A) level. However, when the noise level varies with time, the measured dB(A) level will vary as well. In this case it is therefore not possible to represent the noise climate with a simple dB(A) value. In order to describe noise where the level is continuously varying, a number of other indices, including statistical parameters, are used. The indices used in this report are described below.

L_{Aeq} The A-weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified time period. In other words, L_{Aeq} is the level of a continuous noise which has the same total (A-weighted) energy as the real fluctuating noise, measured over the same time period. It is increasingly being used as the preferred parameter for all forms of environmental noise.

L_{Amax} The maximum A-weighted noise level that was recorded during the monitoring period.

L_{A10} The A-weighted noise level exceeded for 10% of the time period. L_{A10} is commonly used as a descriptor of road traffic noise.

L_{A90} The A-weighted noise level exceeded for 90% of the time period. L_{A90} is used as a measure of background noise.

SEL or L_{AE} Sound exposure level which is the level of sound of 1 second duration, that has the same sound energy as the actual noise event considered.

R_w Weighted sound reduction index. Single number quantity which characterises the airborne sound insulating properties of a material or building element over a range of frequencies as measured in a laboratory.

SRI Sound reduction index. Laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.

$D_{nT,w}$ Weighted standardised level difference. Single number quantity that characterises the airborne sound insulation between rooms. This can only be tested and determined in situ.

$L'_{nT,w}$ Weighted standardised impact sound pressure level. Single number quantity used to characterise the impact sound insulation of floors over a range of frequencies. This can only be tested and determined in situ.

A-weighting

The human ear responds differently to different frequencies of sound. A-weighting is the method of adjusting measured sound pressure levels to take into account human hearing and our uneven frequency response. For example, an A-weighted Leq noise level of 95 dB can be written as either Leq of 95 dB(A) or L_{Aeq} of 95 dB.

Appendix II – Background noise survey

Table A1: Measured noise levels Mon 6 – Tue 7 November 2023, dB

Address	Start Time	LAeq	LAmaz	LA10	LA90	Comments
1	06/11/2023 14:00	63.2	81.0	66.7	54.8	
2	06/11/2023 14:05	61.5	83.1	63.8	54.4	
3	06/11/2023 14:10	56.3	66.4	57.9	54.7	
4	06/11/2023 14:15	56.5	70.0	57.4	55.0	
5	06/11/2023 14:20	56.8	65.9	58.0	55.7	
6	06/11/2023 14:25	57.7	75.8	56.6	55.3	
7	06/11/2023 14:30	55.8	60.6	56.4	55.2	
8	06/11/2023 14:35	55.9	61.3	56.4	55.4	
9	06/11/2023 14:40	56.0	61.1	56.5	55.5	
10	06/11/2023 14:45	55.8	58.5	56.4	55.3	
11	06/11/2023 14:50	56.4	64.2	57.3	55.6	
12	06/11/2023 14:55	59.5	79.9	58.7	55.6	
13	06/11/2023 15:00	62.9	76.7	66.8	54.7	
14	06/11/2023 15:05	61.4	77.9	64.2	54.7	
15	06/11/2023 15:10	56.1	74.6	56.6	54.6	
16	06/11/2023 15:15	55.9	70.2	56.9	53.0	
17	06/11/2023 15:20	56.5	75.5	57.7	52.9	
18	06/11/2023 15:25	58.5	77.0	59.7	55.8	
19	06/11/2023 15:30	58.0	77.4	58.3	55.6	
20	06/11/2023 15:35	57.0	65.9	58.4	55.7	
21	06/11/2023 15:40	57.2	67.1	58.6	55.9	
22	06/11/2023 15:45	63.8	87.1	63.4	55.8	
23	06/11/2023 15:50	66.6	88.2	66.7	55.8	
24	06/11/2023 15:55	67.5	86.6	68.1	55.4	
25	06/11/2023 16:00	67.3	87.3	66.0	54.8	
26	06/11/2023 16:05	62.0	86.7	59.0	54.6	
27	06/11/2023 16:10	59.1	77.4	59.6	54.7	
28	06/11/2023 16:15	56.2	61.2	56.7	55.6	
29	06/11/2023 16:20	56.1	57.7	56.6	55.7	
30	06/11/2023 16:25	56.0	59.5	56.5	55.5	
31	06/11/2023 16:30	56.5	69.7	56.8	55.9	
32	06/11/2023 16:35	56.2	60.7	56.7	55.7	Plant on
33	06/11/2023 16:40	56.3	60.0	57.0	55.7	
34	06/11/2023 16:45	56.8	62.4	57.9	55.9	
35	06/11/2023 16:50	56.3	65.8	56.7	55.6	
36	06/11/2023 16:55	55.9	67.1	56.5	54.8	
37	06/11/2023 17:00	54.9	57.9	55.5	54.4	
38	06/11/2023 17:05	54.9	58.2	55.4	54.5	
39	06/11/2023 17:10	55.6	60.1	56.5	54.7	
40	06/11/2023 17:15	56.3	58.1	56.7	55.8	
41	06/11/2023 17:20	56.4	66.6	56.8	55.9	
42	06/11/2023 17:25	56.2	69.0	56.6	55.6	
43	06/11/2023 17:30	56.1	57.8	56.6	55.6	
44	06/11/2023 17:35	56.3	59.8	56.9	55.8	
45	06/11/2023 17:40	57.2	69.5	57.5	55.7	
46	06/11/2023 17:45	56.2	58.0	56.6	55.7	
47	06/11/2023 17:50	56.0	57.3	56.5	55.6	
48	06/11/2023 17:55	55.4	59.7	56.2	54.6	
49	06/11/2023 18:00	55.1	58.5	55.7	54.6	
50	06/11/2023 18:05	55.1	57.2	55.7	54.5	
51	06/11/2023 18:10	56.5	68.0	57.0	55.1	
52	06/11/2023 18:15	56.0	59.6	56.8	55.0	
53	06/11/2023 18:20	55.2	57.8	55.7	54.7	
54	06/11/2023 18:25	55.4	59.8	56.0	54.8	
55	06/11/2023 18:30	55.4	59.4	56.0	54.8	
56	06/11/2023 18:35	55.4	58.9	56.1	54.7	
57	06/11/2023 18:40	55.8	63.2	56.7	54.9	
58	06/11/2023 18:45	56.6	70.8	58.0	50.8	
59	06/11/2023 18:50	55.3	70.0	58.0	51.0	
60	06/11/2023 18:55	55.3	71.8	56.9	51.2	
61	06/11/2023 19:00	54.2	71.1	55.9	50.6	

Client:
Envoy (Golders Green) Ltd

Site address:
2a St George's Road, NW11 OLR

Address	Start Time	LAeq	LAmx	LA10	LA90	Comments
62	06/11/2023 19:05	53.4	68.0	55.5	50.3	
63	06/11/2023 19:10	52.3	69.1	53.2	50.1	
64	06/11/2023 19:15	51.3	60.6	52.8	49.6	
65	06/11/2023 19:20	50.3	61.9	51.6	48.6	
66	06/11/2023 19:25	50.4	62.8	51.4	48.9	
67	06/11/2023 19:30	50.9	55.9	52.1	49.5	
68	06/11/2023 19:35	67.2	94.4	53.2	50.2	
69	06/11/2023 19:40	66.0	93.6	54.1	50.4	
70	06/11/2023 19:45	70.7	96.6	54.2	49.4	
71	06/11/2023 19:50	55.4	75.5	56.4	50.4	
72	06/11/2023 19:55	51.0	57.0	52.5	49.5	
73	06/11/2023 20:00	50.8	61.6	51.9	49.3	
74	06/11/2023 20:05	51.1	57.0	52.1	49.7	
75	06/11/2023 20:10	51.2	55.0	52.1	50.2	
76	06/11/2023 20:15	50.6	54.7	51.6	49.4	
77	06/11/2023 20:20	50.4	55.3	51.6	49.2	
78	06/11/2023 20:25	51.2	59.9	53.0	49.1	
79	06/11/2023 20:30	50.9	56.5	52.1	49.6	
80	06/11/2023 20:35	50.7	61.1	51.5	49.3	
81	06/11/2023 20:40	51.1	66.4	52.2	49.6	
82	06/11/2023 20:45	51.1	60.8	51.8	49.8	
83	06/11/2023 20:50	50.8	59.5	51.9	49.5	
84	06/11/2023 20:55	51.0	60.9	51.9	49.5	
85	06/11/2023 21:00	53.1	80.8	52.1	49.4	Plant off 19:05-23:00 hrs
86	06/11/2023 21:05	58.0	81.4	52.2	49.2	
87	06/11/2023 21:10	52.2	67.3	53.9	50.4	
88	06/11/2023 21:15	52.0	68.5	52.7	49.5	
89	06/11/2023 21:20	51.2	62.9	52.4	49.3	
90	06/11/2023 21:25	51.4	65.5	52.5	49.5	
91	06/11/2023 21:30	51.4	60.3	52.6	49.8	
92	06/11/2023 21:35	50.5	57.2	51.6	49.1	
93	06/11/2023 21:40	50.5	61.0	51.6	49.2	
94	06/11/2023 21:45	51.1	58.3	52.5	49.5	
95	06/11/2023 21:50	51.0	64.8	51.9	49.1	
96	06/11/2023 21:55	50.6	61.8	52.0	49.0	
97	06/11/2023 22:00	51.4	62.2	52.9	49.2	
98	06/11/2023 22:05	50.1	54.2	51.7	48.5	
99	06/11/2023 22:10	50.8	59.1	52.5	49.0	
100	06/11/2023 22:15	53.9	77.4	52.1	49.1	
101	06/11/2023 22:20	50.6	54.3	51.7	49.2	
102	06/11/2023 22:25	52.1	77.0	53.1	49.5	
103	06/11/2023 22:30	53.1	65.7	55.5	49.2	
104	06/11/2023 22:35	50.3	54.7	51.6	48.8	
105	06/11/2023 22:40	50.3	56.3	51.4	48.9	
106	06/11/2023 22:45	52.0	64.9	53.2	50.1	
107	06/11/2023 22:50	50.5	59.0	52.1	48.8	
108	06/11/2023 22:55	50.1	56.2	51.4	48.6	
109	06/11/2023 23:00	49.8	56.6	51.4	48.3	
110	06/11/2023 23:05	50.2	56.6	51.3	48.7	
111	06/11/2023 23:10	61.7	84.7	59.0	48.9	
112	06/11/2023 23:15	59.6	85.6	53.6	49.0	
113	06/11/2023 23:20	65.4	87.2	59.7	48.7	
114	06/11/2023 23:25	50.5	67.0	50.8	48.9	
115	06/11/2023 23:30	51.0	61.1	52.9	48.8	
116	06/11/2023 23:35	49.5	56.2	51.0	47.7	
117	06/11/2023 23:40	49.3	54.1	50.4	48.0	
118	06/11/2023 23:45	48.8	53.4	49.8	47.8	
119	06/11/2023 23:50	48.0	51.3	48.9	47.0	Plant off 23:00-07:00 hrs
120	06/11/2023 23:55	48.0	53.3	49.1	46.8	
121	07/11/2023 00:00	49.0	54.9	50.0	47.9	
122	07/11/2023 00:05	48.9	52.2	50.0	47.6	
123	07/11/2023 00:10	49.1	54.6	50.7	47.5	
124	07/11/2023 00:15	48.7	54.4	49.9	47.5	
125	07/11/2023 00:20	48.8	53.1	50.1	47.5	
126	07/11/2023 00:25	49.2	59.8	51.0	47.1	
127	07/11/2023 00:30	48.6	55.1	50.2	46.8	
128	07/11/2023 00:35	47.5	57.1	48.5	46.3	

Client:
Envoy (Golders Green) Ltd

Site address:
2a St George's Road, NW11 0LR

Address	Start Time	LAeq	LAmaz	LA10	LA90	Comments
129	07/11/2023 00:40	47.9	54.7	49.3	46.3	
130	07/11/2023 00:45	48.9	68.2	50.4	46.3	
131	07/11/2023 00:50	48.6	60.9	50.2	46.7	
132	07/11/2023 00:55	47.5	53.1	49.2	45.3	
133	07/11/2023 01:00	46.8	57.2	48.5	44.7	
134	07/11/2023 01:05	46.7	56.8	47.8	45.0	
135	07/11/2023 01:10	47.3	53.5	48.8	45.6	
136	07/11/2023 01:15	47.6	54.1	49.1	45.9	
137	07/11/2023 01:20	46.7	50.8	47.9	45.4	
138	07/11/2023 01:25	46.2	51.7	47.7	44.3	
139	07/11/2023 01:30	46.7	51.6	48.5	44.7	
140	07/11/2023 01:35	45.8	53.3	47.5	44.1	
141	07/11/2023 01:40	45.1	49.2	46.2	44.0	
142	07/11/2023 01:45	45.7	53.3	47.2	44.0	
143	07/11/2023 01:50	45.7	50.7	47.5	43.9	
144	07/11/2023 01:55	45.6	50.6	46.8	44.2	
145	07/11/2023 02:00	45.9	52.6	47.7	43.7	
146	07/11/2023 02:05	45.9	51.7	47.1	44.6	
147	07/11/2023 02:10	46.2	52.5	48.0	44.3	
148	07/11/2023 02:15	46.1	53.8	47.6	44.3	
149	07/11/2023 02:20	46.3	57.5	48.0	43.7	
150	07/11/2023 02:25	45.8	55.7	47.4	43.6	
151	07/11/2023 02:30	45.8	50.5	47.5	43.9	
152	07/11/2023 02:35	46.9	57.0	48.2	44.9	
153	07/11/2023 02:40	46.3	51.4	47.6	44.6	
154	07/11/2023 02:45	45.4	50.7	46.9	43.6	
155	07/11/2023 02:50	45.2	51.7	46.7	43.0	
156	07/11/2023 02:55	45.2	50.9	46.3	43.6	
157	07/11/2023 03:00	46.3	56.2	47.8	44.0	
158	07/11/2023 03:05	46.0	52.0	47.2	44.6	
159	07/11/2023 03:10	46.5	56.1	48.4	44.2	
160	07/11/2023 03:15	45.0	50.5	46.3	43.1	
161	07/11/2023 03:20	45.1	55.0	46.4	43.5	
162	07/11/2023 03:25	44.7	48.7	45.7	43.6	Plant off 23:00-07:00 hrs
163	07/11/2023 03:30	44.9	49.3	46.0	43.5	
164	07/11/2023 03:35	45.4	52.7	46.7	43.6	
165	07/11/2023 03:40	45.3	50.2	46.9	43.8	
166	07/11/2023 03:45	46.0	53.8	47.6	43.9	
167	07/11/2023 03:50	46.3	53.8	47.8	44.5	
168	07/11/2023 03:55	46.0	50.9	47.2	45.0	
169	07/11/2023 04:00	46.1	53.0	47.0	44.7	
170	07/11/2023 04:05	47.3	57.7	48.9	45.1	
171	07/11/2023 04:10	46.4	54.2	47.6	44.9	
172	07/11/2023 04:15	47.7	59.3	49.1	45.2	
173	07/11/2023 04:20	47.1	54.5	49.6	44.6	
174	07/11/2023 04:25	46.2	52.4	47.8	44.4	
175	07/11/2023 04:30	45.9	50.9	47.3	44.6	
176	07/11/2023 04:35	46.3	51.4	47.4	45.0	
177	07/11/2023 04:40	47.4	54.0	49.0	45.8	
178	07/11/2023 04:45	46.5	50.4	48.0	44.9	
179	07/11/2023 04:50	47.3	53.4	48.6	45.8	
180	07/11/2023 04:55	48.4	56.3	49.8	46.6	
181	07/11/2023 05:00	47.5	51.4	48.8	46.2	
182	07/11/2023 05:05	47.8	51.7	48.9	46.5	
183	07/11/2023 05:10	48.7	53.8	49.9	47.5	
184	07/11/2023 05:15	49.5	53.4	50.6	48.3	
185	07/11/2023 05:20	49.7	53.5	50.8	48.6	
186	07/11/2023 05:25	49.7	53.7	51.0	48.3	
187	07/11/2023 05:30	50.1	55.4	51.2	48.5	
188	07/11/2023 05:35	50.4	53.7	51.6	49.1	
189	07/11/2023 05:40	50.7	55.9	51.9	49.3	
190	07/11/2023 05:45	51.1	59.8	52.4	49.7	
191	07/11/2023 05:50	51.1	54.2	52.1	50.0	
192	07/11/2023 05:55	52.1	56.9	53.4	50.7	
193	07/11/2023 06:00	52.1	55.8	53.3	50.9	
194	07/11/2023 06:05	53.3	59.7	54.8	51.1	
195	07/11/2023 06:10	53.4	64.5	54.6	51.8	

Client:
Envoy (Golders Green) Ltd

Site address:
2a St George's Road, NW11 OLR

Address	Start Time	LAeq	LAmx	LA10	LA90	Comments
196	07/11/2023 06:15	52.9	57.2	54.1	51.7	
197	07/11/2023 06:20	53.2	61.1	55.0	51.4	
198	07/11/2023 06:25	52.7	57.5	54.2	51.3	
199	07/11/2023 06:30	53.1	61.0	54.6	51.5	
200	07/11/2023 06:35	53.1	62.6	54.7	50.8	Plant off 23:00-07:00 hrs
201	07/11/2023 06:40	53.0	59.9	54.2	51.6	
202	07/11/2023 06:45	52.8	57.6	54.0	51.8	
203	07/11/2023 06:50	52.1	57.7	53.0	51.1	
204	07/11/2023 06:55	52.3	57.5	53.4	51.0	
205	07/11/2023 07:00	54.2	63.4	55.7	51.4	
206	07/11/2023 07:05	54.1	61.9	56.2	51.8	
207	07/11/2023 07:10	53.4	58.3	54.3	52.2	
208	07/11/2023 07:15	53.4	57.4	54.5	52.4	
209	07/11/2023 07:20	53.2	61.5	54.2	52.0	Plant off 07:00-07:45 hrs
210	07/11/2023 07:25	53.3	57.3	54.1	52.5	
211	07/11/2023 07:30	54.4	59.3	55.7	53.1	
212	07/11/2023 07:35	54.5	60.6	56.1	52.8	
213	07/11/2023 07:40	54.9	66.5	55.7	53.6	
214	07/11/2023 07:45	54.7	66.7	55.3	53.5	
215	07/11/2023 07:50	56.0	65.2	57.4	53.9	
216	07/11/2023 07:55	57.1	61.5	57.9	56.4	
217	07/11/2023 08:00	56.6	59.8	57.2	56.1	
218	07/11/2023 08:05	57.8	68.0	59.3	56.3	
219	07/11/2023 08:10	57.9	70.0	59.3	56.3	
220	07/11/2023 08:15	56.7	64.3	57.3	55.9	
221	07/11/2023 08:20	56.4	60.9	56.9	55.8	
222	07/11/2023 08:25	56.3	61.9	56.9	55.8	
223	07/11/2023 08:30	56.3	63.0	56.9	55.7	
224	07/11/2023 08:35	56.3	62.3	56.9	55.6	
225	07/11/2023 08:40	56.2	74.2	56.4	55.3	
226	07/11/2023 08:45	56.2	58.9	56.8	55.5	
227	07/11/2023 08:50	56.5	61.6	57.2	55.7	
228	07/11/2023 08:55	56.4	60.2	57.0	55.9	
229	07/11/2023 09:00	56.1	62.9	56.7	55.5	
230	07/11/2023 09:05	56.0	59.2	56.7	55.4	
231	07/11/2023 09:10	56.2	61.2	57.0	55.5	
232	07/11/2023 09:15	56.1	61.7	56.9	55.4	
233	07/11/2023 09:20	56.0	63.7	56.5	55.4	
234	07/11/2023 09:25	55.9	58.0	56.4	55.4	
235	07/11/2023 09:30	55.9	58.5	56.6	55.2	
236	07/11/2023 09:35	55.8	57.8	56.4	55.3	
237	07/11/2023 09:40	55.9	63.2	56.9	55.0	
238	07/11/2023 09:45	56.8	67.4	58.6	55.0	Plant on
239	07/11/2023 09:50	56.7	61.1	57.3	56.2	
240	07/11/2023 09:55	56.5	63.5	57.0	56.0	
241	07/11/2023 10:00	56.2	62.3	57.5	53.1	
242	07/11/2023 10:05	53.5	60.9	55.8	52.2	
243	07/11/2023 10:10	56.5	68.6	56.8	55.6	
244	07/11/2023 10:15	56.2	66.2	56.6	55.5	
245	07/11/2023 10:20	56.1	60.6	56.7	55.5	
246	07/11/2023 10:25	56.0	62.3	56.4	55.5	
247	07/11/2023 10:30	56.6	65.7	58.1	55.0	
248	07/11/2023 10:35	56.4	66.4	58.2	54.7	
249	07/11/2023 10:40	55.2	63.7	55.9	54.4	
250	07/11/2023 10:45	55.9	66.2	57.1	54.4	
251	07/11/2023 10:50	56.7	63.4	58.0	55.6	
252	07/11/2023 10:55	56.4	62.2	57.1	55.7	
253	07/11/2023 11:00	56.6	63.8	57.7	55.5	
254	07/11/2023 11:05	56.5	65.3	57.1	55.4	
255	07/11/2023 11:10	57.0	66.0	58.3	55.8	
256	07/11/2023 11:15	57.4	68.6	58.9	55.7	
257	07/11/2023 11:20	56.3	64.0	57.1	55.5	
258	07/11/2023 11:25	56.7	65.2	57.9	55.6	
259	07/11/2023 11:30	56.7	65.1	58.6	54.6	
260	07/11/2023 11:35	55.1	60.2	55.8	54.4	
261	07/11/2023 11:40	56.0	61.7	57.4	54.7	
262	07/11/2023 11:45	56.4	63.0	57.6	55.4	

Client:
Envoy (Golders Green) Ltd

Site address:
2a St George's Road, NW11 0LR

Address	Start Time	LAeq	LAmx	LA10	LA90	Comments
263	07/11/2023 11:50	56.2	64.3	56.7	55.6	
264	07/11/2023 11:55	56.3	60.6	57.1	55.5	
265	07/11/2023 12:00	56.7	66.5	57.7	55.4	
266	07/11/2023 12:05	55.7	59.7	56.2	55.2	
267	07/11/2023 12:10	56.3	62.2	56.9	55.6	
268	07/11/2023 12:15	57.0	71.5	57.0	55.4	
269	07/11/2023 12:20	56.1	58.9	56.7	55.5	
270	07/11/2023 12:25	56.0	61.9	56.6	55.4	
271	07/11/2023 12:30	56.2	65.1	56.8	55.3	
272	07/11/2023 12:35	56.0	61.3	56.6	55.4	
273	07/11/2023 12:40	56.0	60.9	56.6	55.4	
274	07/11/2023 12:45	56.2	72.6	56.6	55.3	
275	07/11/2023 12:50	56.2	63.3	56.8	55.5	
276	07/11/2023 12:55	54.8	59.6	55.4	54.2	Plant on
277	07/11/2023 13:00	55.1	64.0	56.0	54.2	
278	07/11/2023 13:05	53.5	61.1	55.2	49.8	
279	07/11/2023 13:10	55.5	62.2	56.4	53.0	
280	07/11/2023 13:15	56.8	66.3	57.3	55.3	
281	07/11/2023 13:20	56.1	66.1	56.8	55.3	
282	07/11/2023 13:25	56.4	64.7	57.2	55.2	
283	07/11/2023 13:30	56.3	65.6	57.1	55.4	
284	07/11/2023 13:35	56.3	61.8	57.3	55.5	
285	07/11/2023 13:40	55.9	67.4	56.5	55.3	
286	07/11/2023 13:45	56.4	63.4	57.4	55.5	
287	07/11/2023 13:50	53.7	60.7	56.1	48.8	
288	07/11/2023 13:55	54.6	61.0	56.3	50.8	

Chart A1: Background noise levels Mon 6 – Tue 7 November 2023, dB

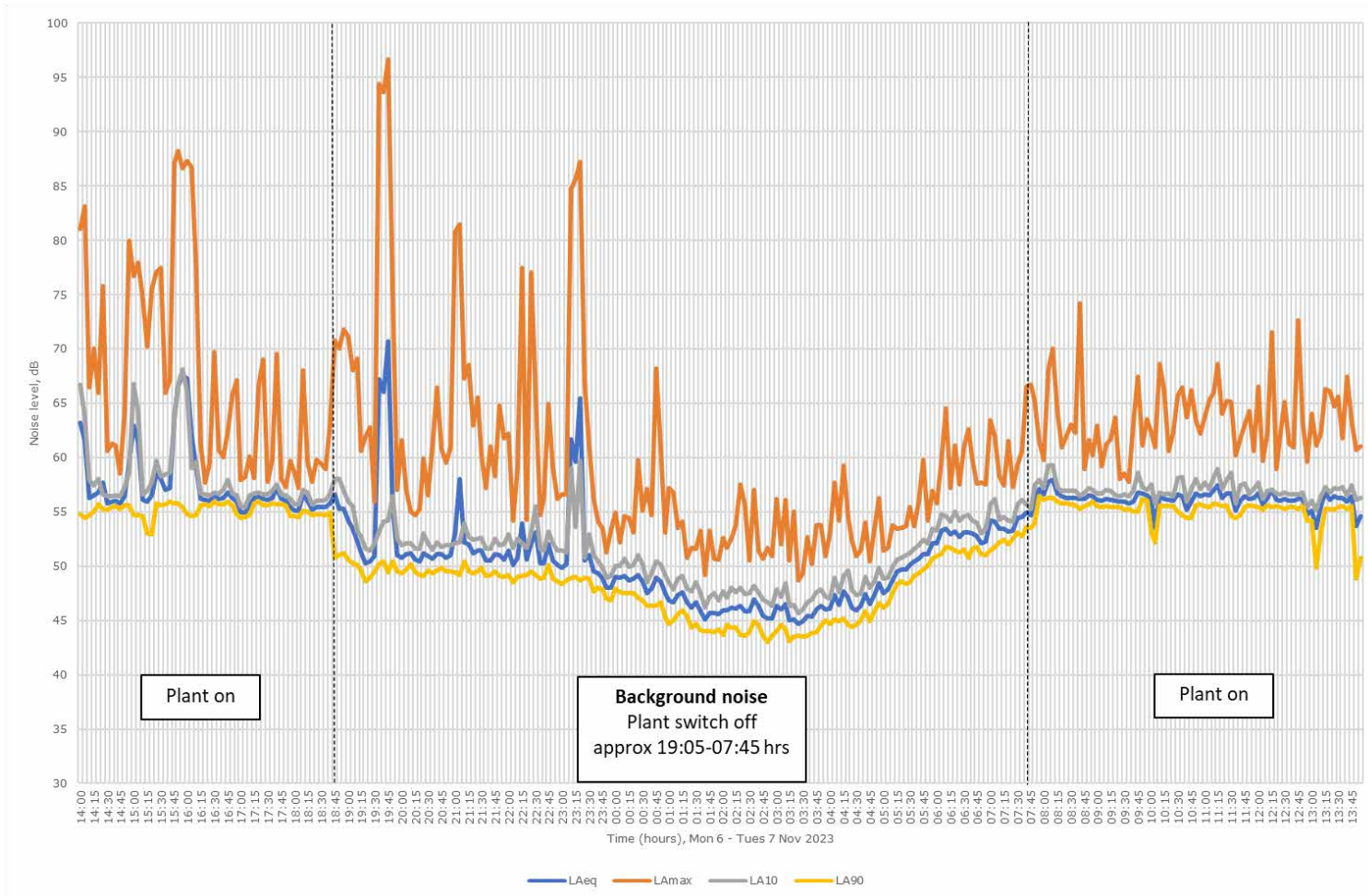
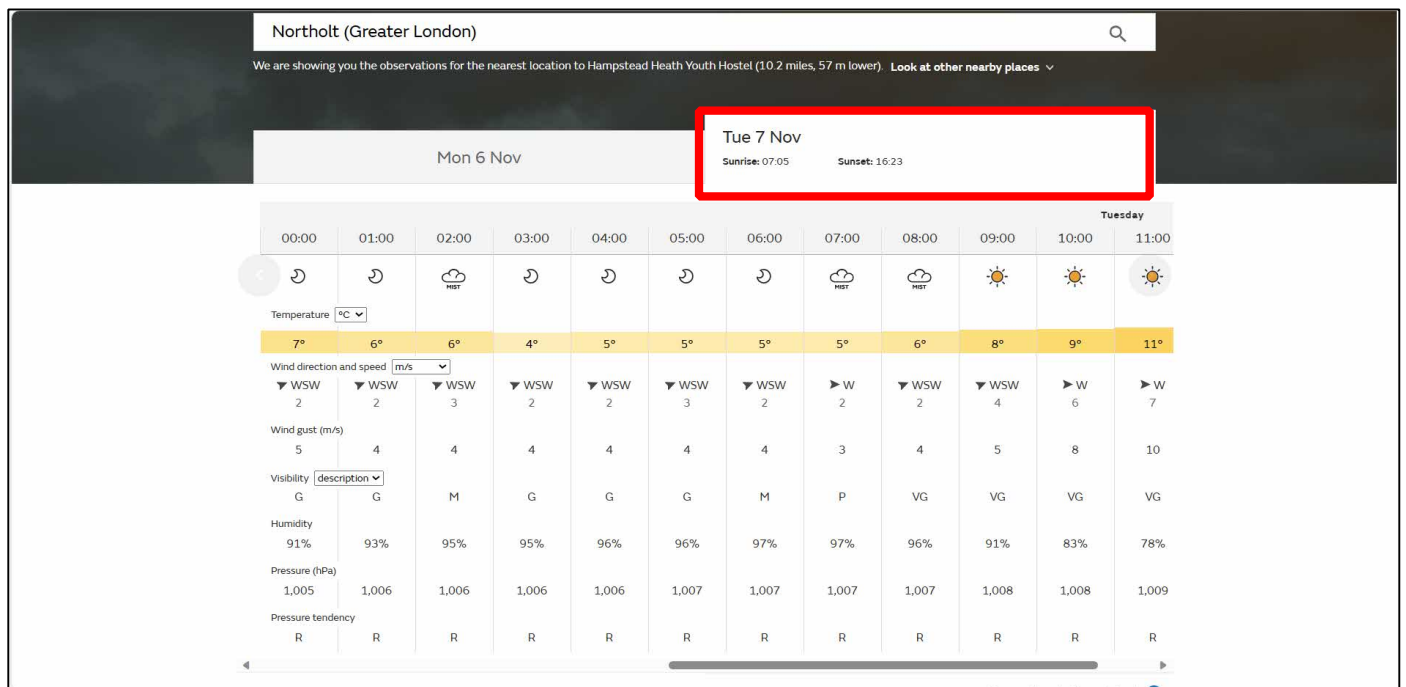
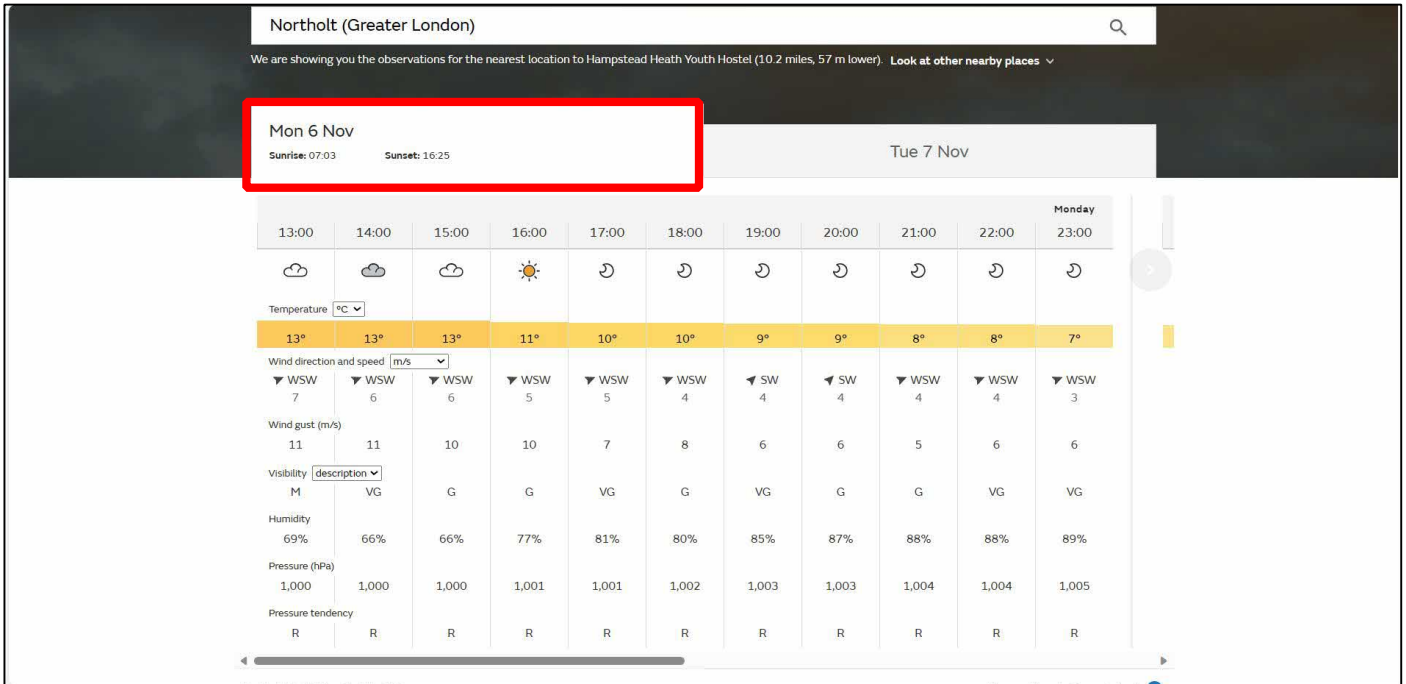




Chart A2: Weather data: Mon 6 - Tue 7 November 2023





Appendix III – Manufacturer's noise data


Air Handling Unit (AHU): Ref. 1

Technical Report 25/06/2019 - 2211
 ASTRAWEB 10.0.5.1 Ref. 366053/Rev. 01
 Material Name ADT08FCD1


Project Royal Mail Sorting Office
Unit AHU 3.33 / 2.30 with ambient attenuation option





Unit Data

Range / Series Model Panel • Insulation Model Box Ref. Panel Inner Skin Panel Outer Skin Profile AHU Base Supply Width • Height Return Width • Height Length Overall Weight Connection Side Supply Air Flow External Pressure Drop Return Air Flow External Pressure Drop Electrical Connection Air Density Altitude Specific fan power efficiency rating: SFPv (clean filters) SFPe (medium filters) ERP Compliant	D-AHU MODULAR_R SIZE 8 42 mm • Foam Energy ThermiC® F2 Aluzinc 0.5 mm Precoated 0.7 mm Aluminium Anodized Thermal Break 100 mm Aluminium 1940 mm • 1060 mm 1940 mm • 1060 mm 4150 mm 1776 Kg Right 12000 m ³ /h • 3.33 m ³ /s 200 Pa 8280 m ³ /h • 2.3 m ³ /s 150 Pa 400V/3Ph/50Hz 1.2 Kg/m ³ 0 m a.s.l. 1280 W/(m ³ /s) 1431 W/(m ³ /s) ERP 2018
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Report to performance data

1/11

									
Technical Report • 25/06/2019 • ASTRAWEB 10.0.5.1 • Material Name:ADT08FCD1 • Ref. 366053/Rev. 01									
Sound Report									
Supply									
Sound Power (dB)	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	AVG dB (A)
Fan Inlet	64	84	82	74	73	72	78	67	82
Fan Outlet	72	87	82	85	81	77	80	71	87
Unit Inlet	52	70	62	50	41	39	43	32	58
Unit Outlet	67	82	77	80	75	69	68	59	80
Airborne	63	78	66	67	63	57	60	37	69
Return									
Sound Power (dB)	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	AVG dB (A)
Fan Inlet	68	76	74	67	67	66	67	58	74
Fan Outlet	72	79	76	77	72	70	70	61	79
Unit Inlet	66	75	73	66	64	62	59	50	70
Unit Outlet	66	71	63	59	49	49	55	46	62
Airborne	63	70	60	59	54	50	50	27	61

Supply inlet unattenuated

Unit case

Return extract unattenuated

Unit case

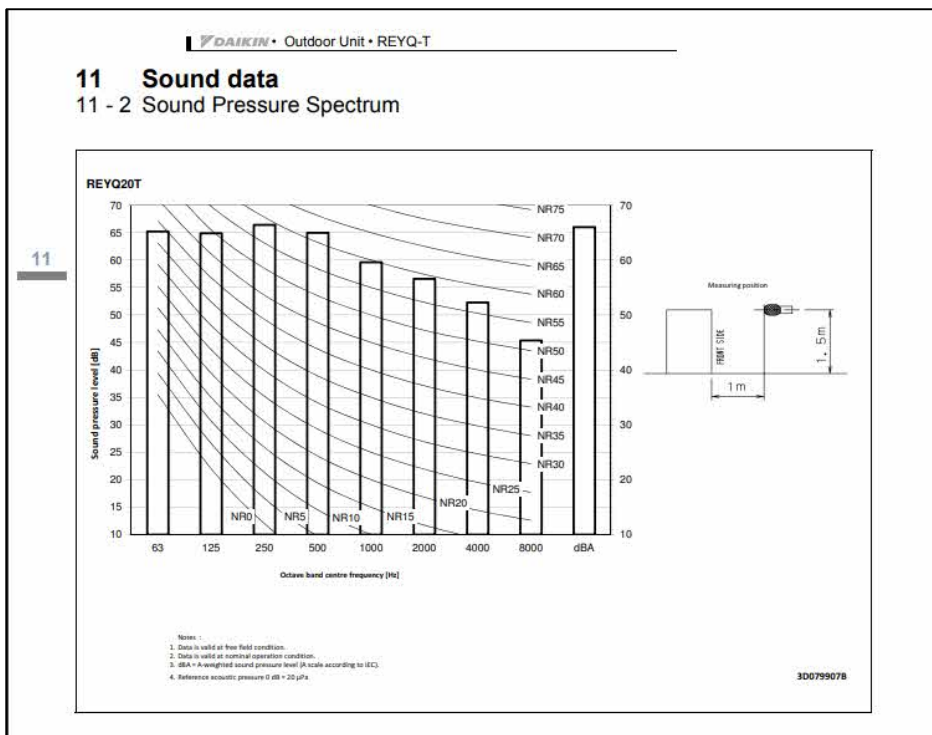
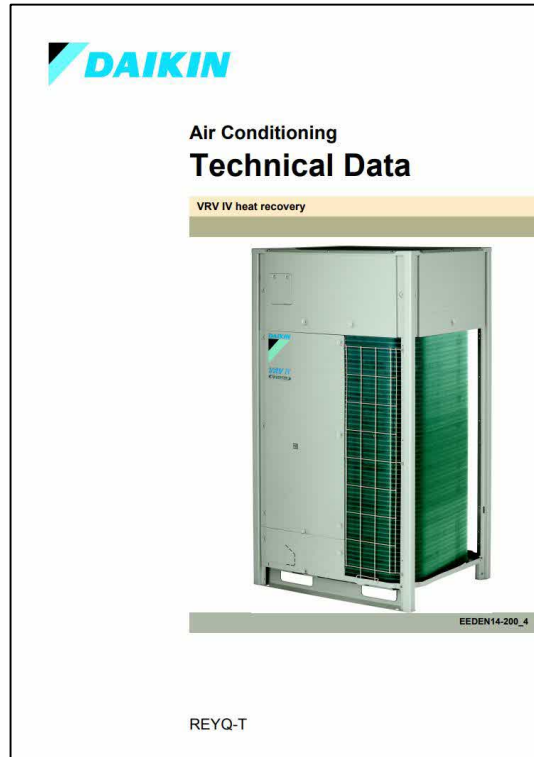
2) Attenuator Supply

Splitter Number	5x100
Splitters Length	600 mm
Material	SILKROCK Aluzinc
Pressure Drop	21 Pa
SPL Average Attenuation	27 dB
63 Hz	6 dB
125 Hz	8 dB
250 Hz	13 dB
500 Hz	18 dB
1000 Hz	23 dB
2000 Hz	21 dB
4000 Hz	15 dB
8000 Hz	15 dB

9) Attenuator Return

Splitter Number	5x100
Splitters Length	600 mm
Material	SILKROCK Aluzinc
Pressure Drop	14 Pa
SPL Average Attenuation	27 dB
63 Hz	6 dB
125 Hz	8 dB
250 Hz	13 dB
500 Hz	18 dB
1000 Hz	23 dB
2000 Hz	21 dB
4000 Hz	15 dB
8000 Hz	15 dB

Condensing unit: Ref 2 & 6


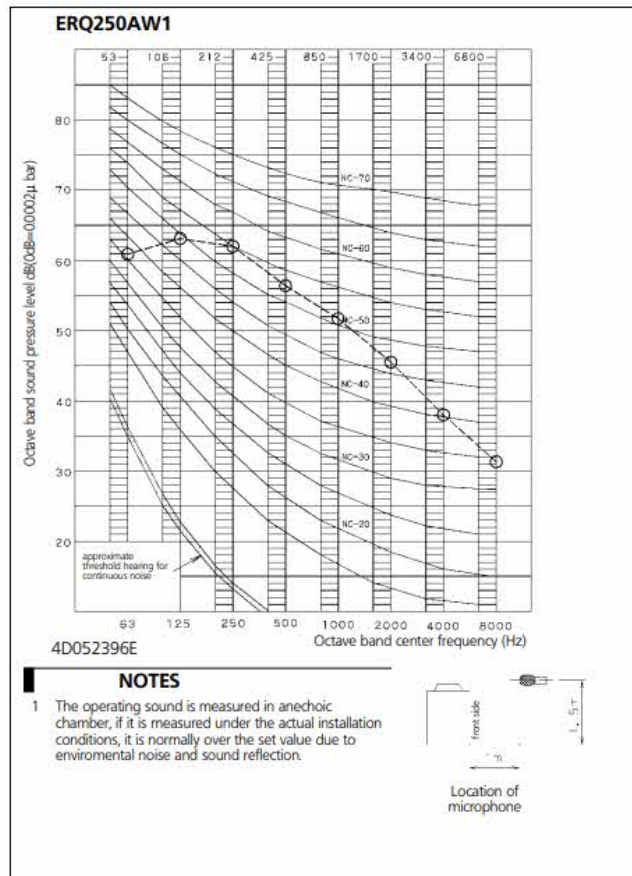


Condensing unit: Ref. 3 & 4

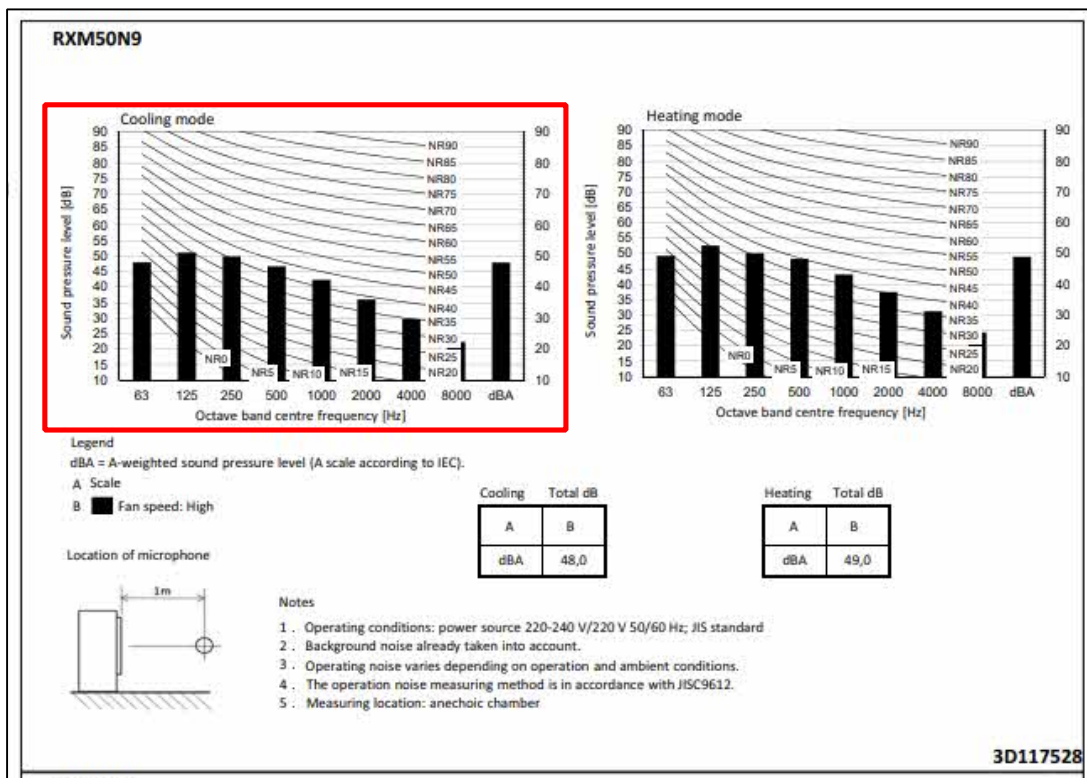
DAIKIN • Air handling unit connection • ERQ-AW1

1 Features

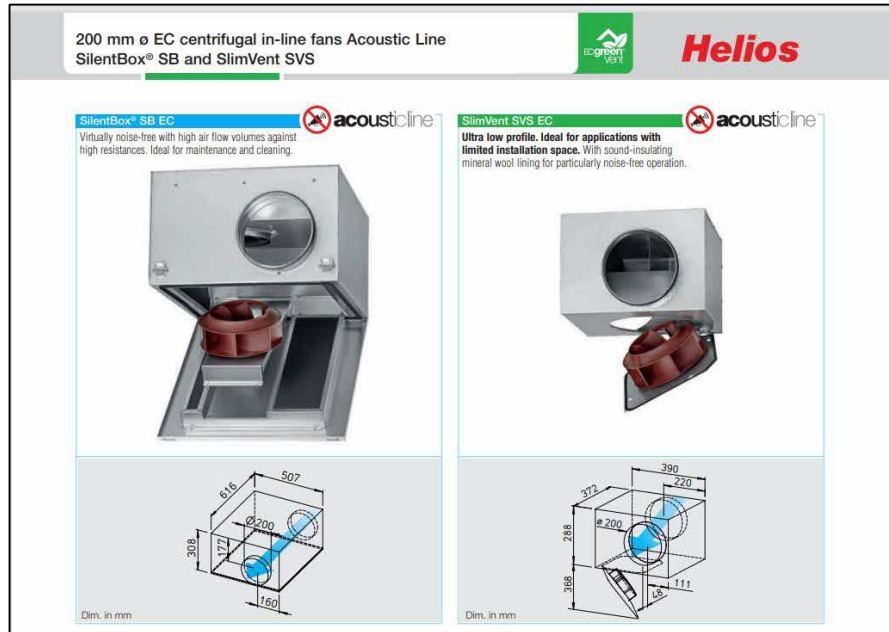
- Wide range of Daikin units offers maximum application potential plus flexible control options.
- The system provides optimized air conditions such as fresh air and humidity control, both in heating and in cooling, and can be used in small warehouses, showrooms and offices.
- Control box and expansion valve kit are required for each combination plus an air handling unit.

Heat pump: Ref. 5



WC extract fan: Ref. 7



SB EC 200 B											
Frequency		Hz	Total	125	250	500	1k	2k	4k	8k	
Δp_{fa} Pa	L _{WA}	Case breakout	dB(A)	58	51	56	49	41	37	33	30
	L _{WA}	Intake	dB(A)	69	66	65	58	49	44	44	36
	L _{WA}	Exhaust	dB(A)	76	69	72	68	64	65	60	52

Kitchen extract fan: Ref. 8



SB EC 355										
Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Case breakout	dB(A)	59	52	58	44	38	37	36	32
L _{WA}	Intake	dB(A)	70	68	63	49	44	46	41	41
L _{WA}	Exhaust	dB(A)	74	71	70	61	59	57	53	50

Appendix IV – Plant noise predictions

Figure 1a: Existing – to Temple Gardens residences to West

Highwater photo ref	Plant	Service	Plant model	Noise level	A	63	125	250	500	1K	2K	4K	8K						
1	AHU supply unit case	Fresh air - all building	AHU 3.33/2.30 D-AHU Modular R	Lw	69	63	78	66	67	63	57	60	37						
					Distance (m)	27	27	27	27	27	27	27	27	27	27	27			
					Distance attenuation	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	0	0	0	0	0	0	0	0	0	0	0			
					Reflected noise	0	0	0	0	0	0	0	0	0	0	0			
					SPL at residence	32.6	26.4	41.4	29.4	30.4	26.4	20.4	23.4	0.4					
					1	AHU supply fan inlet	Fresh air - all building	ADT08FCD1	Lw	82	64	84	82	74	73	72	78	57	
					1	Attenuator supply	Fresh air - all building		Lw	-6	-8	-13	-18	-23	-21	-15	-15		
					1	AHU supply fan inlet attenuated	Fresh air - all building		Lw	67	58	76	69	56	50	51	63	42	
					27	27	27	27	27	27	27	27							
					-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6							
					0	0	0	0	0	0	0	0							
					0	0	0	0	0	0	0	0							
					0	0	0	0	0	0	0	0							
					30.4	21.4	39.4	32.4	19.4	13.4	14.4	26.4	5.4						
1	AHU exhaust unit case	Fresh air - all building	AHU 3.33/2.30 D-AHU Modular R	Lw	61	63	70	60	59	54	50	50	27						
					Distance (m)	27	27	27	27	27	27	27	27	27	27				
					Distance attenuation	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	0	0	0	0	0	0	0	0	0	0	0			
					Reflected noise	0	0	0	0	0	0	0	0	0	0	0			
					SPL at residence	24.4	26.4	33.4	23.4	22.4	17.4	13.4	14.4	26.4	-9.6				
					1	AHU exhaust fan discharge	Fresh air - all building	ADT08FCD1	Lw	79	72	79	76	77	72	70	70	61	
					1	Attenuator discharge	Fresh air - all building		Lw	-6	-8	-13	-18	-23	-21	-15	-15		
					1	AHU discharge fan outlet attenuated	Fresh air - all building		Lw	62	66	71	63	59	49	55	46		
					27	27	27	27	27	27	27	27							
					-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6							
					0	0	0	0	0	0	0	0							
					0	0	0	0	0	0	0	0							
					0	0	0	0	0	0	0	0							
					25.4	29.4	34.4	26.4	22.4	12.4	12.4	18.4	9.4						
2	Condensing unit	G-2 floor	REY Q20T7Y1B	SPL at 1m	A	63	125	250	500	1K	2K	4K	8K						
					66	65	65	67	65	59	57	52	45						
					Distance (m)	30	30	30	30	30	30	30	30						
					Distance attenuation	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5						
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5						
					Acoustic screening - proposed	0	0	0	0	0	0	0	0						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	31.4	30.5	30.5	32.5	30.5	24.5	22.5	17.5	10.5					
					3	Condensing unit	G-2 floor	ERO250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31	
										Distance (m)	30	30	30	30	30	30	30	30	
Distance attenuation	-29.5	-29.5	-29.5	-29.5						-29.5	-29.5	-29.5	-29.5						
Acoustic screening - existing	-5	-5	-5	-5						-5	-5	-5	-5						
Acoustic screening - proposed	0	0	0	0						0	0	0	0						
Reflected noise	0	0	0	0						0	0	0	0						
SPL at residence	23.8	26.5	28.5	27.5						21.5	17.5	11.5	3.5	-3.5					
4	Condensing unit	G-2 floor	ERO250A7W1B	SPL at 1m						58.3	61	63	62	56	52	46	38	31	
										Distance (m)	30	30	30	30	30	30	30	30	
										Distance attenuation	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5						
					Acoustic screening - proposed	0	0	0	0	0	0	0	0						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	23.8	26.5	28.5	27.5	21.5	17.5	11.5	3.5	-3.5					
					5	Condensing unit	G-2 floor server room	RXM50N2V1B9 cooling	SPL at 1m	48	48	51	50	47	42	36	29	23	
										Distance (m)	30	30	30	30	30	30	30	30	
										Distance attenuation	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	
Acoustic screening - existing	-5	-5	-5	-5						-5	-5	-5	-5						
Acoustic screening - proposed	0	0	0	0						0	0	0	0						
Reflected noise	0	0	0	0						0	0	0	0						
SPL at residence	13.5	13.5	16.5	15.5						12.5	7.5	1.5	-5.5	-11.5					
6	Condensing unit	G-2 floor	REY Q20T7Y1B	SPL at 1m						66	65	65	67	65	59	57	52	45	
										Distance (m)	29	29	29	29	29	29	29	29	
										Distance attenuation	-29.2	-29.2	-29.2	-29.2	-29.2	-29.2	-29.2	-29.2	
					Acoustic screening - existing	0	0	0	0	0	0	0	0						
					Acoustic screening - proposed	0	0	0	0	0	0	0	0						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	36.7	35.8	35.8	37.8	35.8	29.8	27.8	22.8	15.8					
					7	EF 01 extract	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	76	69	72	68	64	65	60	52	A-wt OB	
										Distance (m)	24	24	24	24	24	24	24	24	
										Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	
Acoustic screening - existing	0	0	0	0						0	0	0	0						
Acoustic screening - proposed	0	0	0	0						0	0	0	0						
EF 01 fan motor case	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	58		51	56	49	41	37	33	30	A-wt OB						
				Distance (m)		24	24	24	24	24	24	24	24						
				Distance attenuation		-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6						
				Acoustic screening - existing		0	0	0	0	0	0	0	0						
				Acoustic screening - proposed		0	0	0	0	0	0	0	0						
8	EF 02 extract	Kitchen extract G-2 floor	Helios Type SB EC 355	Lw	74	71	70	61	59	57	53	50	A-wt OB						
					Distance (m)	24	24	24	24	24	24	24	24						
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6						
					Acoustic screening - existing	0	0	0	0	0	0	0	0						
					Acoustic screening - proposed	0	0	0	0	0	0	0	0						
	EF 02 fan motor case	Kitchen extract G-2 floor	Helios Type SB EC 355	Lw	59	52	58	44	38	37	36	32	A-wt OB						
					Distance (m)	24	24	24	24	24	24	24	24						
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6						
					Acoustic screening - existing	0	0	0	0	0	0	0	0						
					Acoustic screening - proposed	0	0	0	0	0	0	0	0						
TOTAL SPL at residence	46.6	Day 0900-1700 hrs	49.7	LA90 background	-3.1	Difference													
35.5	Night to 0100 hrs	47.6	LA90 background	-12.1	Difference														
13.5	Overnight 0100-0700 hrs	46.6	LA90 background	-33.1	Difference														

Figure 1b: Existing – to 1069 Finchley Road residences to North

Highwater photo ref	Plant	Service	Plant model	Noise level	Noise level										
					A	63	125	250	500	1K	2K	4K	8K		
1	AHU supply unit case	Fresh air - all building	AHU 3.33/2 30 D-AHU Modular R	Lw	69	63	78	66	67	63	57	60	37		
					Distance (m)	24	24	24	24	24	24	24	24	24	24
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	
					Acoustic screening - proposed	0	0	0	0	0	0	0	0	0	
					Reflected noise	0	0	0	0	0	0	0	0	0	
					SPL at residence	33.6	27.4	42.4	30.4	31.4	27.4	21.4	24.4	1.4	
1	AHU supply fan inlet	Fresh air - all building	ADT08FCDT	Lw	82	64	84	82	74	73	72	78	57		
					Distance (m)	67	58	76	69	56	50	51	63	42	
					Distance attenuation	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5	-5	
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	25.6	16.5	34.5	27.5	14.5	8.5	9.5	21.5	0.5	
1	AHU exhaust unit case	Fresh air - all building	AHU 3.33/2 30 D-AHU Modular R	Lw	61	63	70	60	59	54	50	27			
					Distance (m)	24	24	24	24	24	24	24	24		
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	25.5	27.4	34.4	24.4	23.4	18.4	14.4	14.4	-8.6	
1	AHU exhaust fan discharge	Fresh air - all building	ADT08FCDT	Lw	79	72	79	76	77	72	70	70	61		
					Distance (m)	62	66	71	63	59	49	49	55	46	
					Distance attenuation	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	-26.5	
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5	-5	
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	20.5	24.5	29.5	21.5	17.5	7.5	7.5	13.5	4.5	
2	Condensing unit	G-2 floor	REY Q207Y1B	SPL at 1m	A	63	125	250	500	1K	2K	4K	8K		
					66	65	65	67	65	59	57	52	45		
					Distance (m)	21	21	21	21	21	21	21	21		
					Distance attenuation	-26.4	-26.4	-26.4	-26.4	-26.4	-26.4	-26.4	-26.4		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	39.5	38.6	38.6	40.6	38.6	32.6	30.6	25.6	18.6	
3	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31		
					Distance (m)	23	23	23	23	23	23	23	23		
					Distance attenuation	-27.2	-27.2	-27.2	-27.2	-27.2	-27.2	-27.2	-27.2		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	31.1	33.8	35.8	34.8	28.8	24.8	18.8	10.8	3.8	
4	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31		
					Distance (m)	24	24	24	24	24	24	24	24		
					Distance attenuation	-27.6	-27.6	-27.6	-27.6	-27.6	-27.6	-27.6	-27.6		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	30.7	33.4	35.4	34.4	28.4	24.4	18.4	10.4	3.4	
5	Condensing unit	G-2 floor server room	RXM50N2V1B9 cooling	SPL at 1m	48	48	51	50	47	42	36	29	23		
					Distance (m)	26	26	26	26	26	26	26	26		
					Distance attenuation	-28.3	-28.3	-28.3	-28.3	-28.3	-28.3	-28.3	-28.3		
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	14.7	14.7	17.7	16.7	13.7	8.7	2.7	-4.3	-10.3	
6	Condensing unit	G-2 floor	REY Q207Y1B	SPL at 1m	66	65	65	67	65	59	57	52	45		
					Distance (m)	27	27	27	27	27	27	27	27		
					Distance attenuation	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	0	0	0	0	0	0	0	0		
					SPL at residence	37.4	36.4	36.4	38.4	36.4	30.4	28.4	23.4	16.4	
7	EF 01 extract	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	76		69	72	68	64	65	60	52		
					Distance (m)	21	21	21	21	21	21	21	21		
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4		
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	3	3	3	3	3	3	3	3		
					SPL at residence	39.2	-36.4	32.6	35.6	31.6	27.6	28.6	23.6	15.6	
7	EF 01 fan motor case	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	58		51	56	49	41	37	33	30		
					Distance (m)	21	21	21	21	21	21	21	21		
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	3	3	3	3	3	3	3	3		
					SPL at residence	26.5	-31.4	19.6	24.6	17.6	9.6	5.6	1.6	-1.4	
8	EF 02 extract	Kitchen extract G-2 floor	Helios Type SB EC 355	Lw	74		71	70	61	59	57	53	50		
					Distance (m)	21	21	21	21	21	21	21	21		
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	3	3	3	3	3	3	3	3		
					SPL at residence	42.6	-31.4	39.6	38.6	29.6	27.6	25.6	21.6	18.6	
8	EF 02 fan motor case	Kitchen extract G-2 floor	Helios Type SB EC 356	Lw	59		52	58	44	38	37	36	32		
					Distance (m)	21	21	21	21	21	21	21	21		
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4		
					Acoustic screening - existing	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	0	0	0	0	0	0	0	0		
					Reflected noise	3	3	3	3	3	3	3	3		
					SPL at residence	27.8	-31.4	20.6	26.6	12.6	6.6	5.6	4.6	0.6	
TOTAL SPL at residence					46.8	Day 0900-1700 hrs			49.7	LA90 background			-2.9	Difference	
					35.0	Night to 0100 hrs			47.6	LA90 background			-12.6	Difference	
					14.7	Overnight 0100-0700 hrs			46.6	LA90 background			-31.9	Difference	

Figure 2a: With acoustic enclosure – to Temple Gardens residences to West

Highwater photo ref	Plant	Service	Plant model	Noise level	A	63	125	250	500	1K	2K	4K	8K				
1	AHU supply unit case	Fresh air - all building	AHU 3.33/2.30 D-AHU Modular R	Lw	69	63	78	66	67	63	57	60	37				
					Distance (m)	27	27	27	27	27	27	27	27	27	27	27	
					Distance attenuation	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0	
					Acoustic screening - proposed	-6.0	-6.9	-8.3	-10.2	-12.5	-15.2	-18.0	-20.9				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	22.3	20.4	34.5	21.1	20.2	13.8	5.2	5.4	-20.5			
1	AHU supply fan inlet	Fresh air - all building	ADT08CD1	Lw	82	64	84	82	74	73	72	78	57				
					Distance (m)	27	27	27	27	27	27	27	27	27	27		
					Distance attenuation	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6		
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-6.0	-6.9	-8.3	-10.2	-12.5	-15.2	-18.0	-20.9				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	19.7	15.4	32.5	24.1	9.2	0.8	-0.8	8.4	-15.5			
1	AHU supply fan inlet attenuated	Fresh air - all building	ADT08CD1	Lw	67	58	76	69	56	50	51	63	42				
					Distance (m)	27	27	27	27	27	27	27	27	27			
					Distance attenuation	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-6.0	-6.9	-8.3	-10.2	-12.5	-15.2	-18.0	-20.9				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	19.7	15.4	32.5	24.1	9.2	0.8	-0.8	8.4	-15.5			
1	AHU exhaust unit case	Fresh air - all building	AHU 3.33/2.30 D-AHU Modular R	Lw	61	63	70	60	59	54	50	50	27				
					Distance (m)	27	27	27	27	27	27	27	27	27	27		
					Distance attenuation	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6		
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-6.0	-6.9	-8.3	-10.2	-12.5	-15.2	-18.0	-20.9				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	14.5	20.4	26.5	15.1	12.2	4.8	-1.8	-4.6	-30.5			
1	AHU exhaust fan discharge	Fresh air - all building	ADT08CD1	Lw	79	72	79	76	77	72	70	70	61				
					Distance (m)	27	27	27	27	27	27	27	27	27	27		
					Distance attenuation	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6	-36.6		
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-6.0	-6.9	-8.3	-10.2	-12.5	-15.2	-18.0	-20.9				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	15.3	23.4	27.5	18.1	12.2	-0.2	-2.8	0.4	-11.5			
2	Condensing unit	G-2 floor	REY Q20T7Y1B	SPL at 1m	A	63	125	250	500	1K	2K	4K	8K				
					66	65	65	67	65	59	57	52	45				
					Distance (m)	30	30	30	30	30	30	30	30				
					Distance attenuation	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5				
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5				
					Acoustic screening - proposed	-7.5	-9.2	-11.3	-13.8	-16.6	-19.4	-22.4	-25.3				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	17.2	22.9	21.3	21.1	16.6	7.9	3.0	-4.9	-14.9			
3	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31				
					Distance (m)	30	30	30	30	30	30	30	30	30			
					Distance attenuation	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5				
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5				
					Acoustic screening - proposed	-7.5	-9.2	-11.3	-13.8	-16.6	-19.4	-22.4	-25.3				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	10.8	18.9	19.3	16.1	7.6	0.9	-8.0	-18.9	-28.9			
4	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31				
					Distance (m)	30	30	30	30	30	30	30	30	30			
					Distance attenuation	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5				
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5				
					Acoustic screening - proposed	-7.5	-9.2	-11.3	-13.8	-16.6	-19.4	-22.4	-25.3				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	10.8	18.9	19.3	16.1	7.6	0.9	-8.0	-18.9	-28.9			
5	Condensing unit	G-2 floor server room	RKM50N2V1B9 cooling	SPL at 1m	48	48	51	50	47	42	36	29	23				
					Distance (m)	30	30	30	30	30	30	30	30	30			
					Distance attenuation	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5				
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5				
					Acoustic screening - proposed	-9.9	-12.2	-14.8	-17.6	-20.5	-23.4	-26.4	-29.4				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	-3.6	3.5	4.3	0.7	-5.1	-13.0	-22.0	-32.0	-41.0			
6	Condensing unit	G-2 floor	REY Q20T7Y1B	SPL at 1m	66	65	65	67	65	59	57	52	45				
					Distance (m)	29	29	29	29	29	29	29	29	29			
					Distance attenuation	-29.2	-29.2	-29.2	-29.2	-29.2	-29.2	-29.2	-29.2				
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-7.5	-9.2	-11.3	-13.8	-16.6	-19.4	-22.4	-25.3				
					Reflected noise	0	0	0	0	0	0	0	0				
					SPL at residence	22.5	28.2	26.6	26.4	21.9	13.2	8.3	0.4	-9.6			
7	EF 01 extract	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	76		69	72	68	64	65	60	52	A-wt OB			
					Distance (m)	24	24	24	24	24	24	24	24	24	24		
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6				
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-10.4	-12.7	-15.4	-18.2	-21.1	-24.1	-27.1	-30.1				
					Reflected noise	3	3	3	3	3	3	3	3				
					SPL at residence	27.4	-43.0	23.6	24.0	17.2	10.3	8.3	0.3	-10.7			
7	EF 01 fan motor case	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	58		51	56	49	41	37	33	30	A-wt OB			
					Distance (m)	24	24	24	24	24	24	24	24	24	24		
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6				
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-10.4	-12.7	-15.4	-18.2	-21.1	-24.1	-27.1	-30.1				
					Reflected noise	3	3	3	3	3	3	3	3				
					SPL at residence	10.3	-43.0	5.6	8.0	-1.8	-12.7	-19.7	-26.7	-32.7			
8	EF 02 extract	Kitchen extract G-2 floor	Helios Type SB EC 355	Lw	74		71	70	61	59	57	53	50	A-wt OB			
					Distance (m)	24	24	24	24	24	24	24	24	24	24		
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6				
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-10.4	-12.7	-15.4	-18.2	-21.1	-24.1	-27.1	-30.1				
					Reflected noise	3	3	3	3	3	3	3	3				
					SPL at residence	27.3	-43.0	25.6	22.0	10.2	5.3	0.3	-6.7	-12.7			
8	EF 02 fan motor case	Kitchen extract G-2 floor	Helios Type SB EC 356	Lw	59		52	58	44	38	37	36	32	A-wt OB			
					Distance (m)	24	24	24	24	24	24	24	24	24	24		
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6				
					Acoustic screening - existing	0	0	0	0	0	0	0	0				
					Acoustic screening - proposed	-10.4	-12.7	-15.4	-18.2	-21.1	-24.1	-27.1	-30.1				
					Reflected noise	3	3	3	3	3	3	3	3				
					SPL at residence	11.7	-43.0	6.6	10.0	-6.8	-15.7	-19.7	-23.7	-30.7			
TOTAL SPL at residence					32.3	Day 0900-1700 hrs			49.7	LA90 background				-17.4	Difference		
					25.1	Night to 0100 hrs			47.6	LA90 background				-22.5	Difference		
					-3.6	Overnight 0100-0700 hrs			46.6	LA90 background				-50.2	Difference		

Figure 2b: With acoustic enclosure – to 1069 Finchley Road residences to North

Highwater photo ref	Plant	Service	Plant model	Noise level	A	63	125	250	500	1K	2K	4K	8K					
1	AHU supply unit case	Fresh air - all building	AHU 3.33/2 30 D-AHU Modular R	Lw	69	63	78	66	67	63	57	60	37					
					Distance (m)	24	24	24	24	24	24	24	24	24	24	24		
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6		
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0		
					Acoustic screening - proposed	-4.9	-5.0	-5.2	-5.5	-5.5	-6.1	-7.2	-8.7	-10.8				
					Reflected noise	0	0	0	0	0	0	0	0	0	0	0		
					SPL at residence	27.6	22.5	37.4	25.2	25.9	21.2	14.2	15.7	-9.4				
1	AHU supply fan inlet attenuated	Fresh air - all building	ADT08FCDT	Lw	82	64	84	82	74	73	72	78	57					
					Distance (m)	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5		
					Distance attenuation	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5		
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5		
					Acoustic screening - proposed	-4.9	-5.0	-5.2	-5.5	-5.5	-6.2	-7.2	-8.8	-10.8				
					Reflected noise	0	0	0	0	0	0	0	0	0	0	0		
					SPL at residence	18.9	11.7	29.6	22.4	9.0	2.4	2.3	12.8	-10.3				
1	AHU exhaust unit case	Fresh air - all building	AHU 3.33/2 30 D-AHU Modular R	Lw	61	63	70	60	59	54	50	27						
					Distance (m)	24	24	24	24	24	24	24	24	24	24			
					Distance attenuation	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6	-35.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-4.9	-5.0	-5.2	-5.5	-5.5	-6.1	-7.2	-8.7	-10.8				
					Reflected noise	0	0	0	0	0	0	0	0	0	0			
					SPL at residence	19.6	22.5	29.4	19.2	17.9	12.2	7.2	5.7	-19.4				
1	AHU exhaust fan discharge attenuated	Fresh air - all building	ADT08FCDT	Lw	79	72	79	76	77	72	70	70	61					
					Distance (m)	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5		
					Distance attenuation	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5		
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5		
					Acoustic screening - proposed	-4.9	-5.0	-5.2	-5.5	-5.5	-6.2	-7.2	-8.8	-10.8				
					Reflected noise	0	0	0	0	0	0	0	0	0	0	0		
					SPL at residence	14.4	19.7	24.6	16.4	12.0	1.4	0.3	4.8	-6.3				
2	Condensing unit	G-2 floor	REY Q207Y1B	SPL at 1m	A	63	125	250	500	1K	2K	4K	8K					
					66	65	65	67	65	59	57	52	45					
					Distance (m)	21	21	21	21	21	21	21	21	21				
					Distance attenuation	-26.4	-26.4	-26.4	-26.4	-26.4	-26.4	-26.4	-26.4	-26.4				
					Acoustic screening - existing	0	0	0	0	0	0	0	0					
					Acoustic screening - proposed	-5.6	-6.2	-7.3	-8.9	-10.9	-13.4	-16.1	-18.9					
					Reflected noise	0	0	0	0	0	0	0	0					
					SPL at residence	30	33.0	32.3	33.3	29.7	21.6	17.2	9.5	-0.4				
3	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31					
					Distance (m)	23	23	23	23	23	23	23	23	23				
					Distance attenuation	-27.2	-27.2	-27.2	-27.2	-27.2	-27.2	-27.2	-27.2	-27.2				
					Acoustic screening - existing	0	0	0	0	0	0	0	0					
					Acoustic screening - proposed	-5.6	-6.2	-7.3	-8.9	-10.9	-13.4	-16.1	-18.9					
					Reflected noise	0	0	0	0	0	0	0	0					
					SPL at residence	22.5	28.2	29.6	27.5	19.9	13.8	5.4	-5.3	-15.2				
4	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31					
					Distance (m)	24	24	24	24	24	24	24	24	24				
					Distance attenuation	-27.6	-27.6	-27.6	-27.6	-27.6	-27.6	-27.6	-27.6	-27.6				
					Acoustic screening - existing	0	0	0	0	0	0	0	0					
					Acoustic screening - proposed	-5.6	-6.2	-7.3	-8.9	-10.9	-13.4	-16.1	-18.9					
					Reflected noise	0	0	0	0	0	0	0	0					
					SPL at residence	22.1	27.8	29.2	27.1	19.5	13.5	5.0	-5.7	-15.5				
5	Condensing unit	G-2 floor server room	RXM50N2V1B9 cooling	SPL at 1m	48	48	51	50	47	42	36	29	23					
					Distance (m)	26	26	26	26	26	26	26	26	26				
					Distance attenuation	-28.3	-28.3	-28.3	-28.3	-28.3	-28.3	-28.3	-28.3	-28.3				
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5					
					Acoustic screening - proposed	-7.7	-9.5	-11.7	-14.2	-17.0	-19.9	-22.8	-25.8					
					Reflected noise	0	0	0	0	0	0	0	0					
					SPL at residence	0.8	7.0	8.2	5.0	-0.5	-8.3	-17.2	-27.1	-36.1				
6	Condensing unit	G-2 floor	REY Q207Y1B	SPL at 1m	66	65	65	67	65	59	57	52	45					
					Distance (m)	27	27	27	27	27	27	27	27	27				
					Distance attenuation	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6				
					Acoustic screening - existing	0	0	0	0	0	0	0	0					
					Acoustic screening - proposed	-5.6	-6.2	-7.3	-8.9	-10.9	-13.4	-16.1	-18.9					
					Reflected noise	0	0	0	0	0	0	0	0					
					SPL at residence	27.9	30.8	30.2	31.1	27.5	19.4	15.0	7.3	-2.6				
7	EF 01 extract	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	76		69	72	68	64	65	60	52	A-wt OB				
					Distance (m)	21	21	21	21	21	21	21	21	21				
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4				
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5					
					Acoustic screening - proposed	-8.8	-10.8	-13.2	-15.9	-18.7	-21.7	-24.6	-27.6					
					Reflected noise	3	3	3	3	3	3	3	3					
					SPL at residence	25.7	-45.2	21.8	22.3	15.7	8.8	6.9	-1.1	-12.1				
7	EF 01 fan motor case	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	58		51	56	49	41	37	33	30	A-wt OB				
					Distance (m)	21	21	21	21	21	21	21	21	21				
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4				
					Acoustic screening - existing	0	0	0	0	0	0	0	0					
					Acoustic screening - proposed	-8.8	-10.8	-13.2	-15.9	-18.7	-21.7	-24.6	-27.6					
					Reflected noise	3	3	3	3	3	3	3	3					
					SPL at residence	13.6	-40.2	8.8	11.3	1.7	-9.2	-16.1	-23.1	-29.1				
8	EF 02 extract	Kitchen extract G-2 floor	Helios Type SB EC 355	Lw	74		71	70	61	59	57	53	50	A-wt OB				
					Distance (m)	21	21	21	21	21	21	21	21	21				
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4				
					Acoustic screening - existing	0	0	0	0	0	0	0	0					
					Acoustic screening - proposed	-8.8	-10.8	-13.2	-15.9	-18.7	-21.7	-24.6	-27.6					
					Reflected noise	3	3	3	3	3	3	3	3					
					SPL at residence	30.5	-40.2	28.8	25.3	13.7	8.8	5.9	-1.1	-9.1				
8	EF 02 fan motor case	Kitchen extract G-2 floor	Helios Type SB EC 356	Lw	59		52	58	44	38	37	36	32	A-wt OB				
					Distance (m)	21	21	21	21	21	21	21	21	21				
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4				
					Acoustic screening - existing	0	0	0										

Figure 2c: With acoustic enclosure – to Finchley Road residences to East

Highwater photo ref	Plant	Service	Plant model	Noise level	A	63	125	250	500	1K	2K	4K	8K						
1	AHU supply unit case	Fresh air - all building	AHU 3.33/2.30 D-AHU Modular R	Lw	69	63	78	66	67	63	57	60	37						
					Distance (m)	22	22	22	22	22	22	22	22	22	22	22			
					Distance attenuation	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-6.3	-7.4	-9.1	-11.2	-13.7	-16.4	-19.3	-22.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	23.3	21.8	35.7	22.1	21.0	14.5	5.7	5.9	20.0					
1	AHU supply fan inlet	Fresh air - all building	ADT08FCDT	Lw	82	64	84	82	74	73	72	78	57						
					Distance (m)	21	21	21	21	21	21	21	21	21	21	21			
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-6.3	-7.4	-9.1	-11.2	-13.7	-16.4	-19.3	-22.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	21.2	17.2	34.1	25.5	10.4	1.9	0.2	9.3	-14.6					
1	AHU exhaust unit case	Fresh air - all building	AHU 3.33/2.30 D-AHU Modular R	Lw	61	63	70	60	59	54	50	50	27						
					Distance (m)	22	22	22	22	22	22	22	22	22	22				
					Distance attenuation	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8	-34.8			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-6.3	-7.4	-9.1	-11.2	-13.7	-16.4	-19.3	-22.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	15.4	21.8	27.7	16.1	13.0	5.5	-1.3	-4.1	-30.0					
1	AHU exhaust fan discharge	Fresh air - all building	ADT08FCDT	Lw	79	72	79	76	77	72	70	70	61						
					Distance (m)	21	21	21	21	21	21	21	21	21	21	21			
					Distance attenuation	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-6.3	-7.4	-9.1	-11.2	-13.7	-16.4	-19.3	-22.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	16.7	25.2	29.1	19.5	13.4	0.9	-1.8	1.3	-10.6					
2	Condensing unit	G-2 floor	REY Q207Y1B	SPL at 1m	A	63	125	250	500	1K	2K	4K	8K						
					66	65	65	67	65	59	57	52	45						
					Distance (m)	20	20	20	20	20	20	20	20	20	20	20			
					Distance attenuation	-26.0	-26.0	-26.0	-26.0	-26.0	-26.0	-26.0	-26.0	-26.0	-26.0	-26.0			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-9.2	-11.3	-13.8	-16.5	-19.3	-22.3	-25.2	-28.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	23.2	29.8	27.7	27.2	22.5	13.6	8.7	0.7	-9.3					
3	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31						
					Distance (m)	19	19	19	19	19	19	19	19	19	19				
					Distance attenuation	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-9.2	-11.3	-13.8	-16.5	-19.3	-22.3	-25.2	-28.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	17.4	26.3	26.2	22.7	13.9	7.1	-1.9	-12.8	-22.8					
4	Condensing unit	G-2 floor	ERQ250A7W1B	SPL at 1m	58.3	61	63	62	56	52	46	38	31						
					Distance (m)	19	19	19	19	19	19	19	19	19	19				
					Distance attenuation	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-9.2	-11.3	-13.8	-16.5	-19.3	-22.3	-25.2	-28.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	17.4	26.3	26.2	22.7	13.9	7.1	-1.9	-12.8	-22.8					
5	Condensing unit	G-2 floor server room	RXM50N2V1B9 cooling	SPL at 1m	48	48	51	50	47	42	36	29	23						
					Distance (m)	19	19	19	19	19	19	19	19	19	19				
					Distance attenuation	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-12.6	-15.2	-18.0	-20.9	-23.9	-26.8	-29.8	-32.8						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	2.1	9.8	10.2	6.4	0.5	-7.4	-16.4	-28.4	-35.4					
6	Condensing unit	G-2 floor	REY Q207Y1B	SPL at 1m	66	65	65	67	65	59	57	52	45						
					Distance (m)	19	19	19	19	19	19	19	19	19	19				
					Distance attenuation	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6	-25.6			
					Acoustic screening - existing	0	0	0	0	0	0	0	0	0	0	0			
					Acoustic screening - proposed	-9.2	-11.3	-13.8	-16.5	-19.3	-22.3	-25.2	-28.2						
					Reflected noise	0	0	0	0	0	0	0	0						
					SPL at residence	23.7	30.3	28.2	27.7	22.9	14.1	9.1	1.2	-8.8					
7	EF 01 extract	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	76		69	72	68	64	65	60	52	A-wt OB					
					Distance (m)	25	25	25	25	25	25	25	25	25	25				
					Distance attenuation	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0			
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5			
					Acoustic screening - proposed	-9.8	-12.1	-14.7	-17.5	-20.4	-23.3	-26.3	-29.3						
					Reflected noise	3	3	3	3	3	3	3	3						
					SPL at residence	22.8	-47.8	18.9	19.4	12.6	5.7	3.7	-4.2	-15.2					
7	EF 01 fan motor case	WC extract G-2 floor	Helios Type SB EC 200 B	Lw	58		51	56	49	41	37	33	30	A-wt OB					
					Distance (m)	25	25	25	25	25	25	25	25	25	25				
					Distance attenuation	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0			
					Acoustic screening - existing	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5			
					Acoustic screening - proposed	-9.8	-12.1	-14.7	-17.5	-20.4	-23.3	-26.3	-29.3						
					Reflected noise	3	3	3	3	3	3	3	3						
					SPL at residence	5.6	-47.8	0.9	3.4	-6.4	-17.3	-24.3	-31.2	-37.2					
8	EF 02 extract	Kitchen extract G-2 floor	Helios Type SB EC 355	Lw	74		71	70	61	59	57	53	50	A-wt OB					
					Distance (m)	25	25	25	25	25	25	25	25	25	25				
					Distance attenuation	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0	-36.0			
					Acoustic screening - existing	-5	-5	-5	-										

Appendix V – Recommended acoustic enclosure for 3rd floor roof

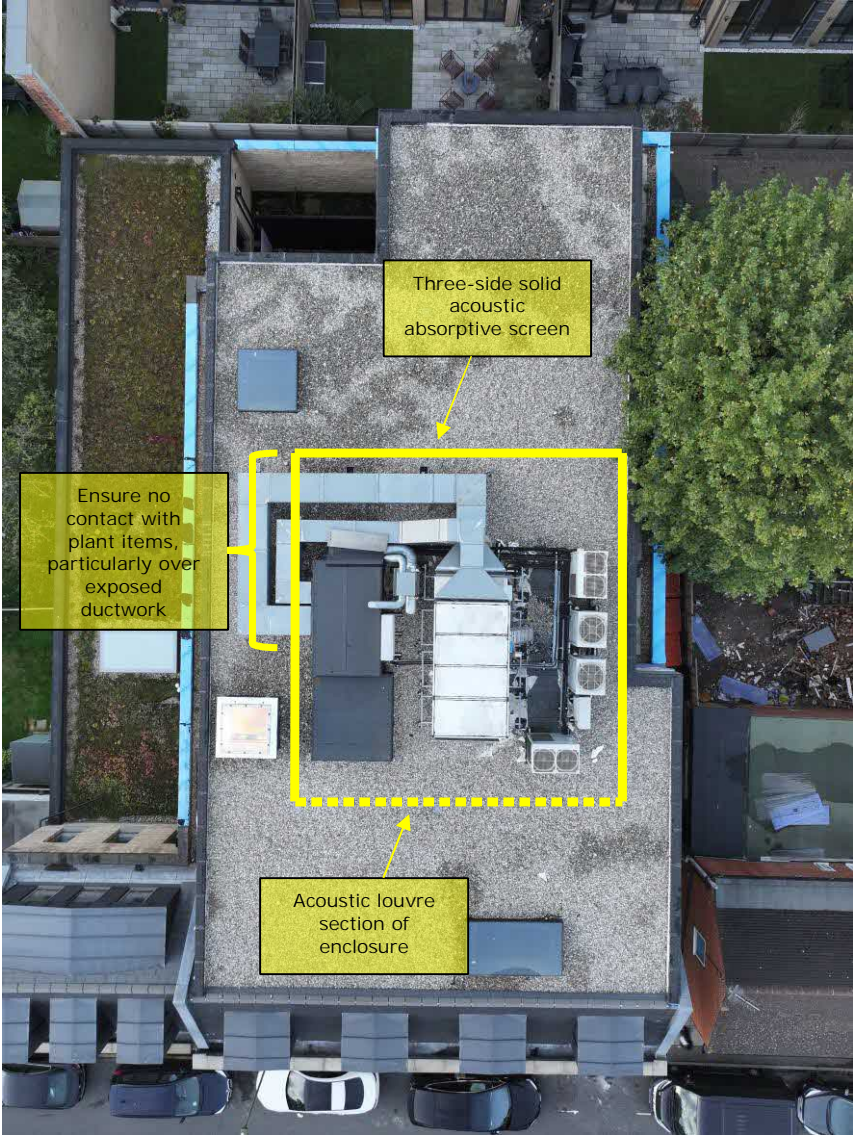
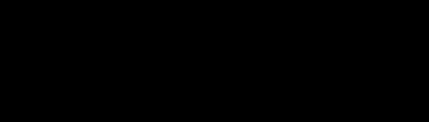


Photo: Location of recommended plant enclosure (third floor roof)




Client:
Envoy (Golders Green) Ltd

Site address:
2a St George's Road, NW11 0LR

JSW 130 Issue 03

JAKOUSTIC® ABSORPTIVE


Jacksons Fencing



Jakoustic® Absorptive acoustic fencing has the same interlocking V board construction as Jakoustic® Reflective, but has an additional absorptive layer on one side of the fence, made up of a mineral Rockwool fibre and protective membrane. It is ideal for applications where a noise source is in a tight confined area surrounded by other reflective surfaces.

- Timber construction with planed boards visible on one face
- Unique tuning fork design posts
- Special fixings clamp the acoustic boards between posts
- Can accommodate changes in level or profile
- With timber capping and counter rail
- Jakoustic® fencing with an additional absorptive layer covered with a protective membrane
- Matching pedestrian, swing and tracked sliding gates
- Up to 32dB reduction in noise*
- High privacy barrier
- 25-year Jakcure® guarantee

*Jakoustic® Plus Absorptive Layer barrier certified laboratory results:
 Category B3 rating according to BS EN 1793-2:1998
 Category A3 rating according to BS EN 1793-1:1998
 Laboratory sound reduction 32 dB Approximate Superficial Mass 28kg/m²



▶ Heights available with timber tuning fork posts, for general applications away from hills and coasts.
 ▶ For barrier heights 2.1m - 3.0m the timber posts are reinforced with a steel spur post, coated black.

Height (mm)	Post centres (mm)	Spur Post (mm)	Post length (mm)
2000	2410	N/A	2900
2500	2410	2000	3400
3000	2410	2500	3900

*For taller heights, see Jakoustic® Commercial and Highway, which is constructed on galvanised steel I beam posts.

APPLICATIONS

- ✓ Commercial properties
- ✓ Industrial
- ✓ Sports venues
- ✓ Railways
- ✓ Residential

POST OPTIONS

- Timber tuning fork posts overlength set in concrete as standard

GATES

- Matching gates available with an absorptive layer

FINISHES

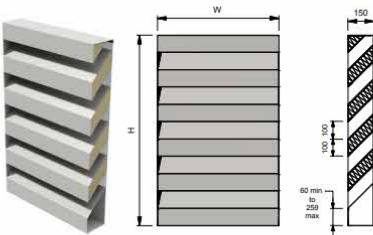
- Jakcure® treated timber as standard

Potential timber screen option (West, North & East elevation of enclosure)

SS150 Acoustic Louvre Technical Data



Single Bank Acoustic Louvre, Standard Performance Profile, 150mm Deep

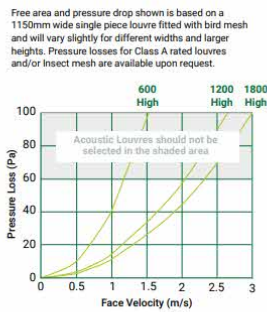
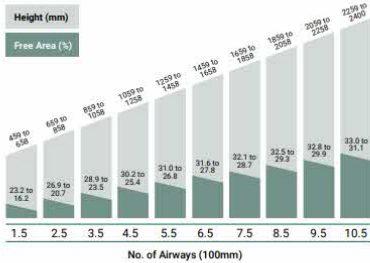


Typical weight 29kg/m²
Generally louvres above 50kg will be supplied in modules for assembly on site. Joining brackets and fixings will be provided for assembly.
Installation services, support steelwork, flashings, fixings to the structure and mastic will not be provided unless stated.
Refer to the Acoustic Louvre Schedule and Product Code Definitions for the size and specification of each Acoustic Louvre.
A minimum of 10mm clearance should be allowed between the structure and the Acoustic Louvre sizes shown.

Performance

Acoustic Data	dB in each Octave Band Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
Sound reduction index	4	4	6	8	11	11	11	10
Weighted sound reduction index (Rw)	11							
Static insertion loss	3	4	6	10	12	13	13	14
Regenerated sound power level at 1m/s face velocity	48	41	34	35	30	22	13	12
Regenerated sound power level at 2m/s face velocity	66	58	51	51	50	47	41	28

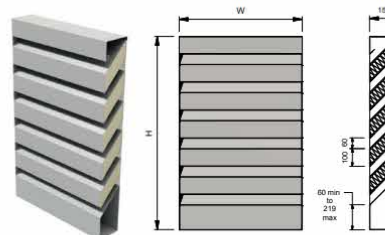
Free Area and Height range



SH150 Acoustic Louvre Technical Data



Single Bank Acoustic Louvre, Higher Performance Profile, 150mm Deep

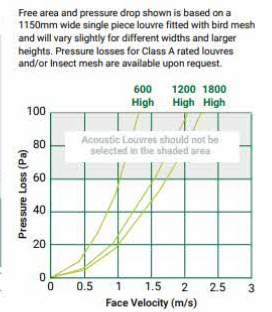
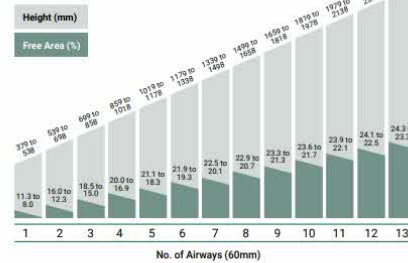


Typical weight 35kg/m²
Generally louvres above 50kg will be supplied in modules for assembly on site. Joining brackets and fixings will be provided for assembly.
Installation services, support steelwork, flashings, fixings to the structure and mastic will not be provided unless stated.
Refer to the Acoustic Louvre Schedule and Product Code Definitions for the size and specification of each Acoustic Louvre.
A minimum of 10mm clearance should be allowed between the structure and the Acoustic Louvre sizes shown.

Performance

Acoustic Data	dB in each Octave Band Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
Sound reduction index	5	5	7	9	13	13	13	12
Weighted sound reduction index (Rw)	13							
Static insertion loss	4	5	7	12	16	16	16	18
Regenerated sound power level at 1m/s face velocity	53	47	38	36	33	29	18	12
Regenerated sound power level at 2m/s face velocity	70	65	58	53	51	51	45	35

Free Area and Height range



Potential acoustic louvre option (South elevation of enclosure)

Figure 1 - Site location plan

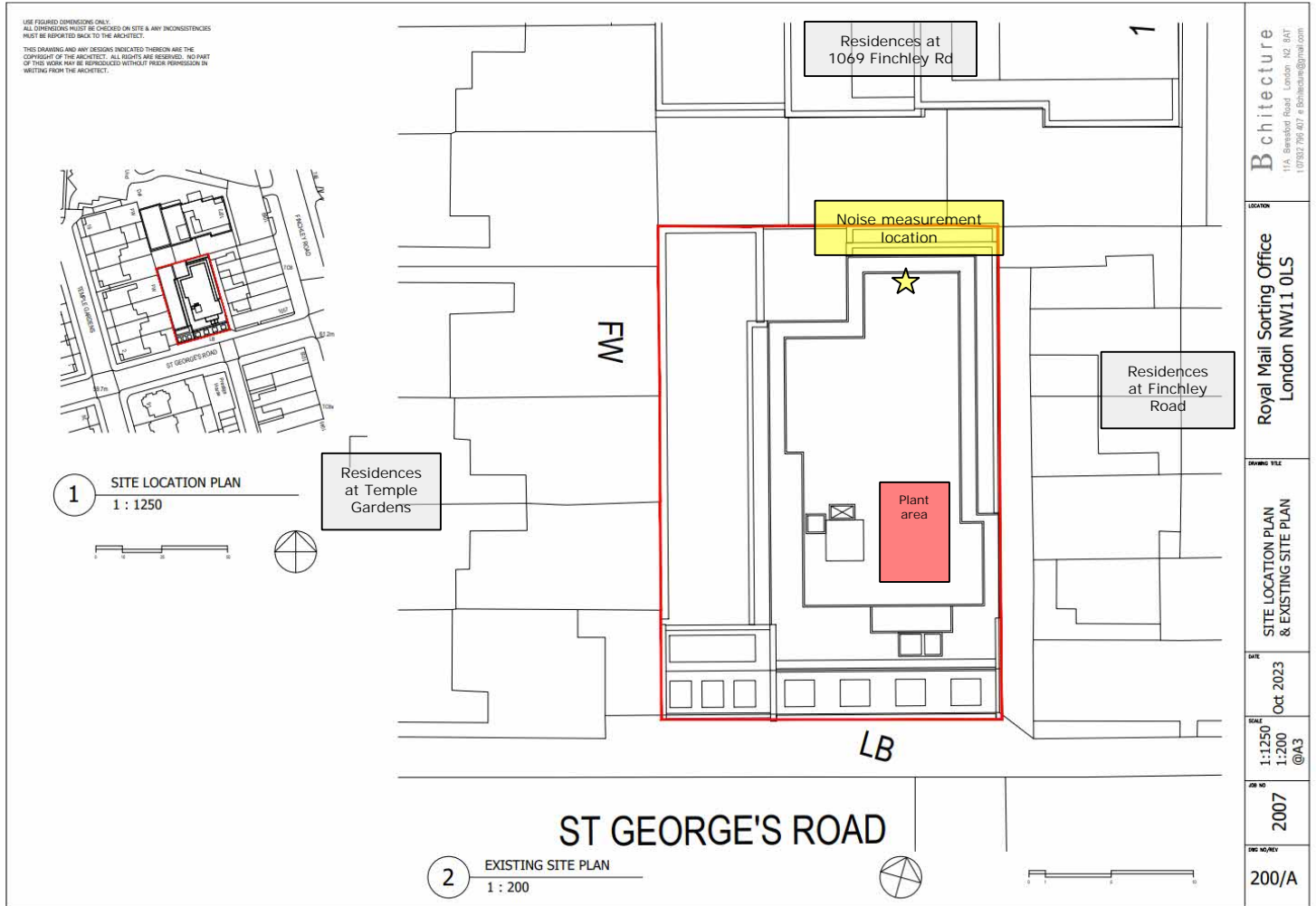


Figure 2 – Proposed ground floor plan

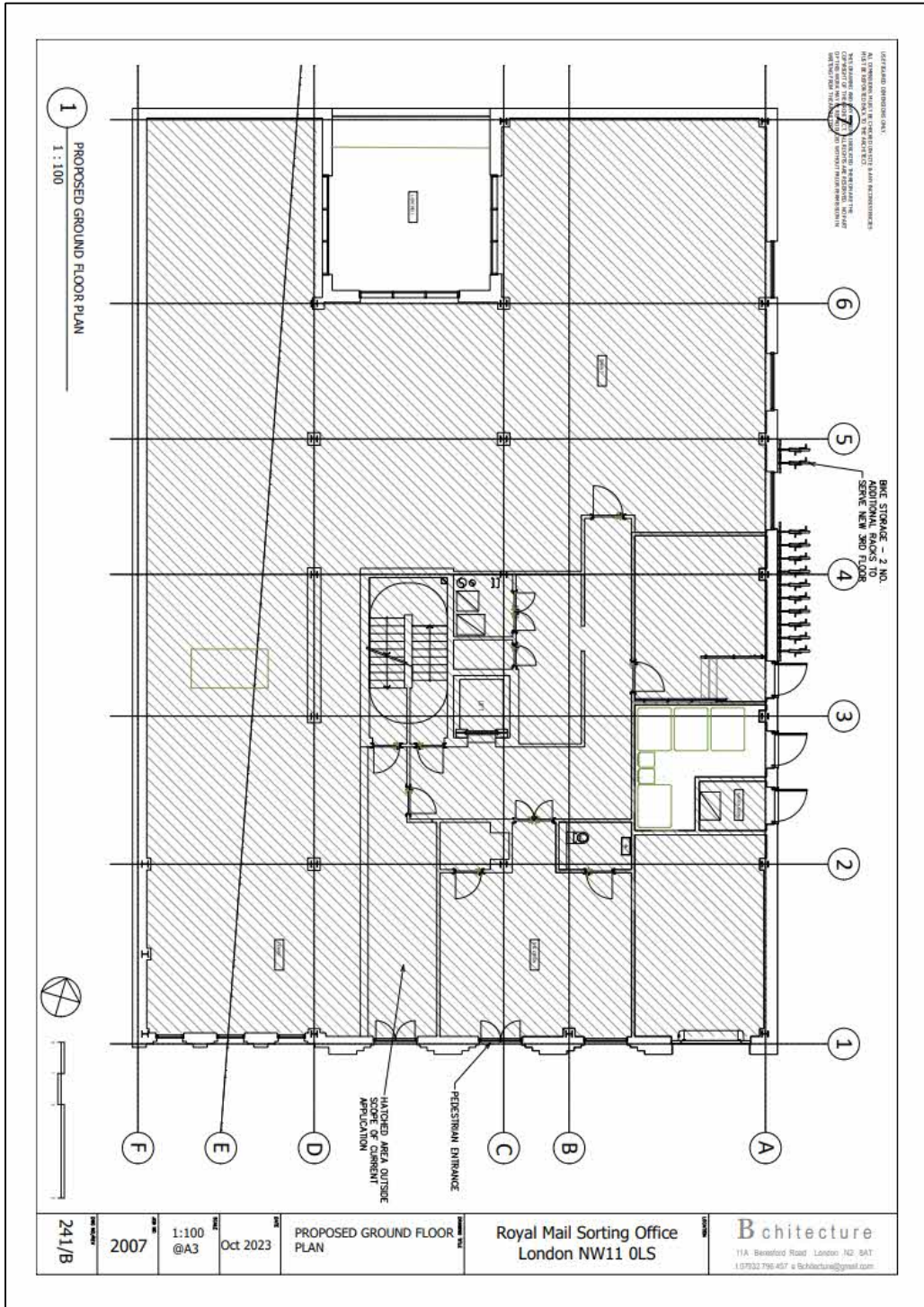


Figure 3 - Proposed first floor

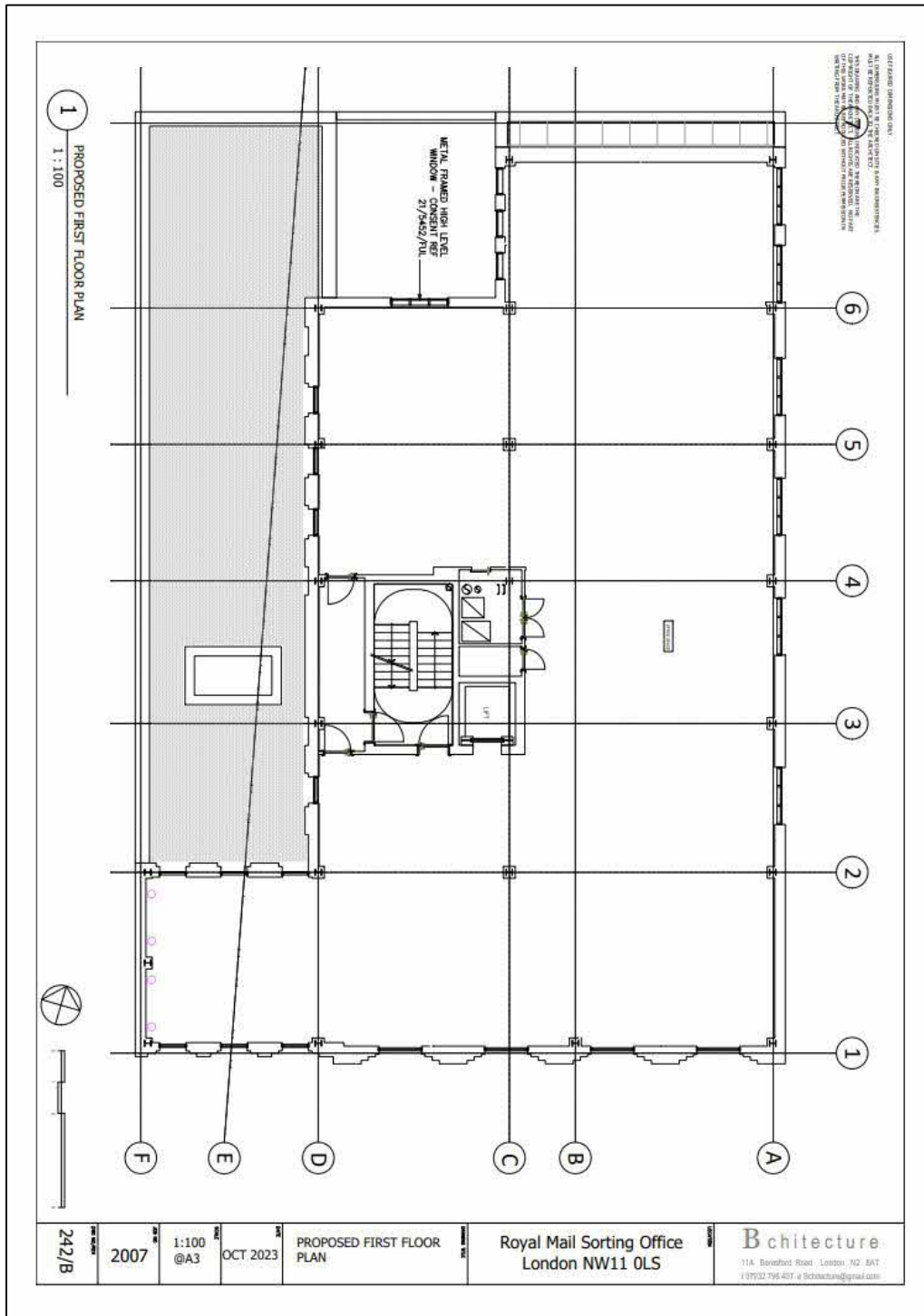


Figure 4 – Proposed second floor

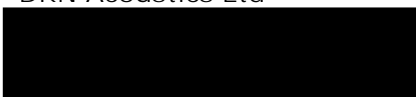
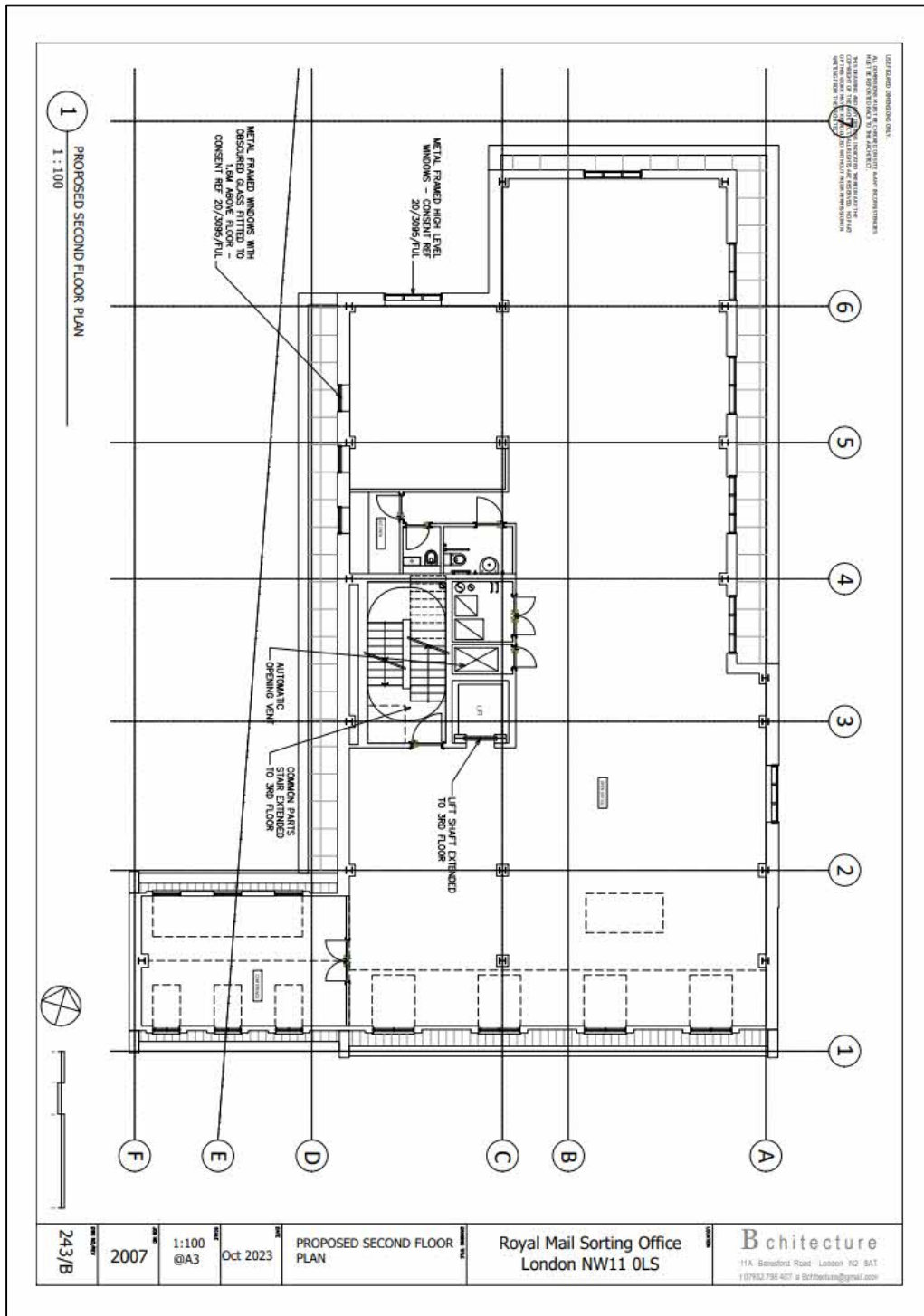


Figure 5 - Proposed third floor

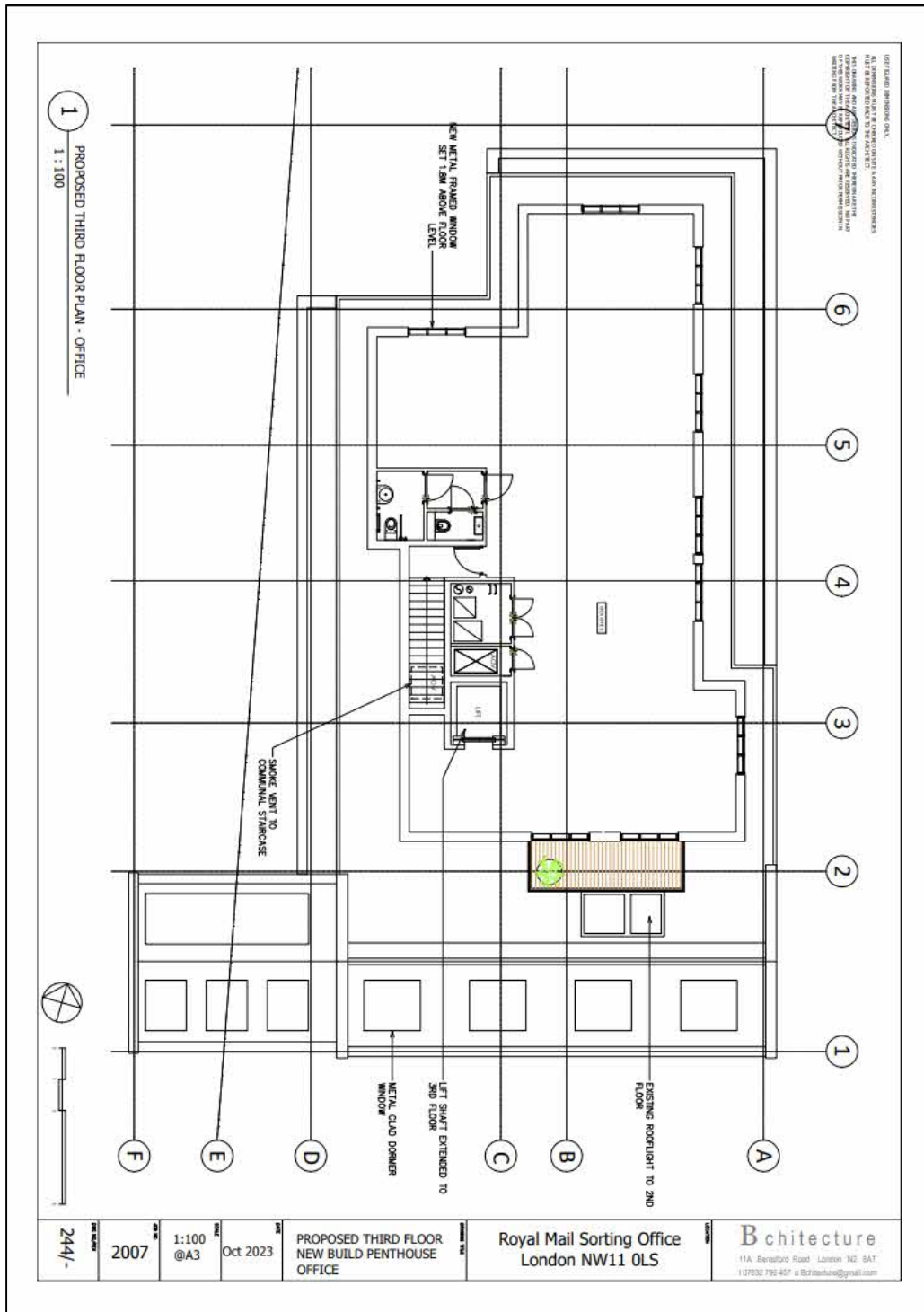


Figure 6 - Proposed roof plan

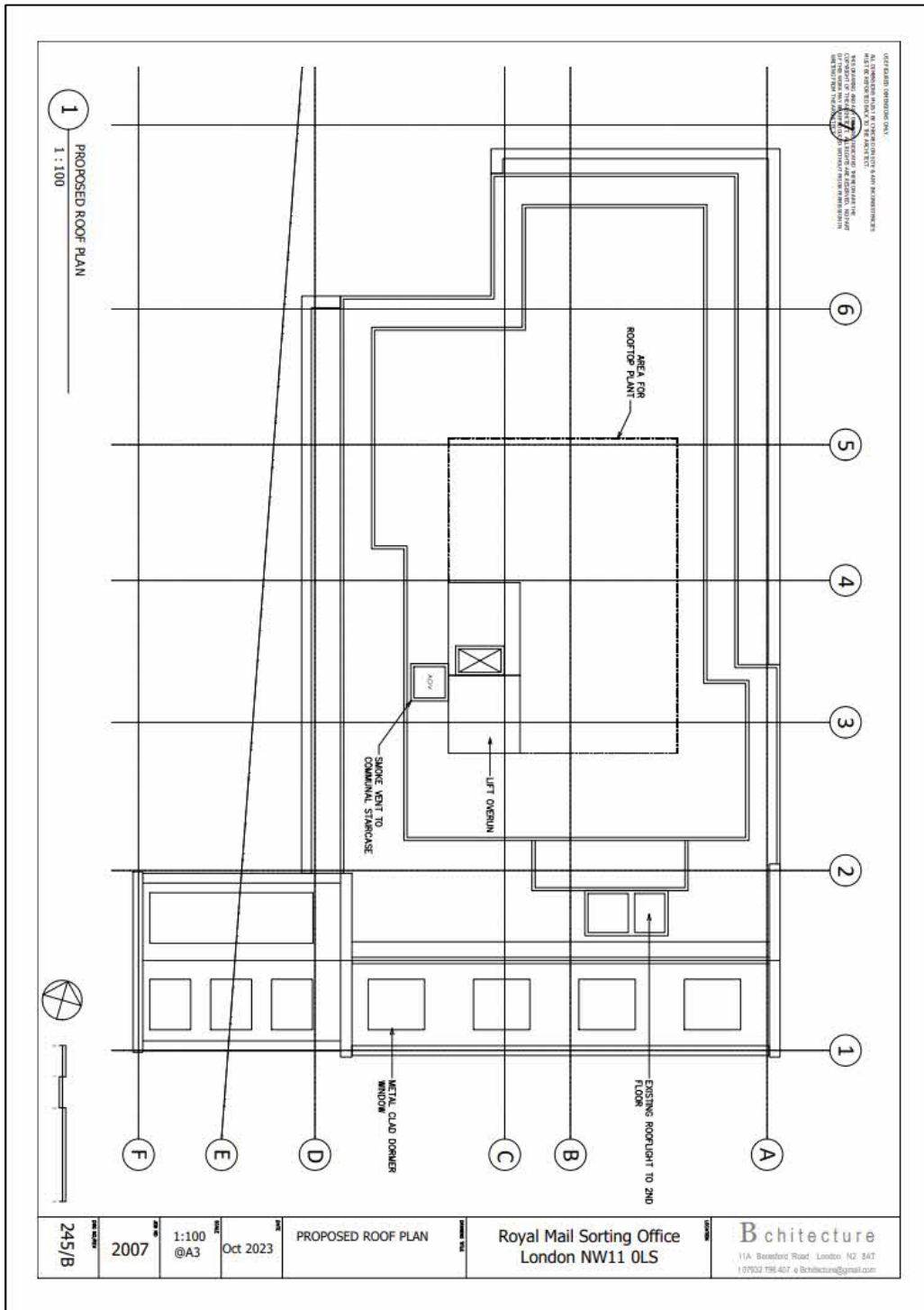


Figure 7 – Proposed south & west elevations

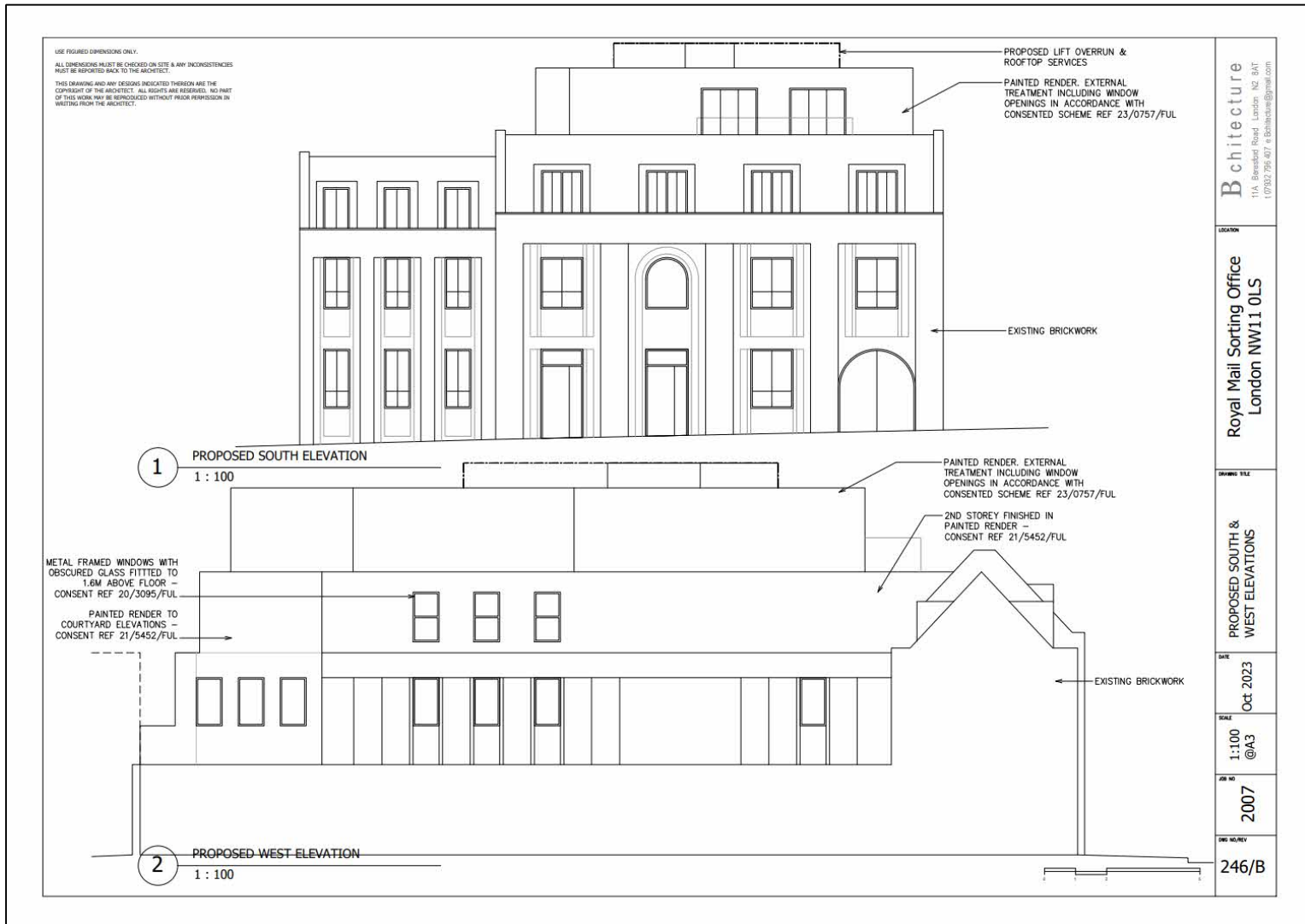


Figure 8 – Proposed north & east elevations

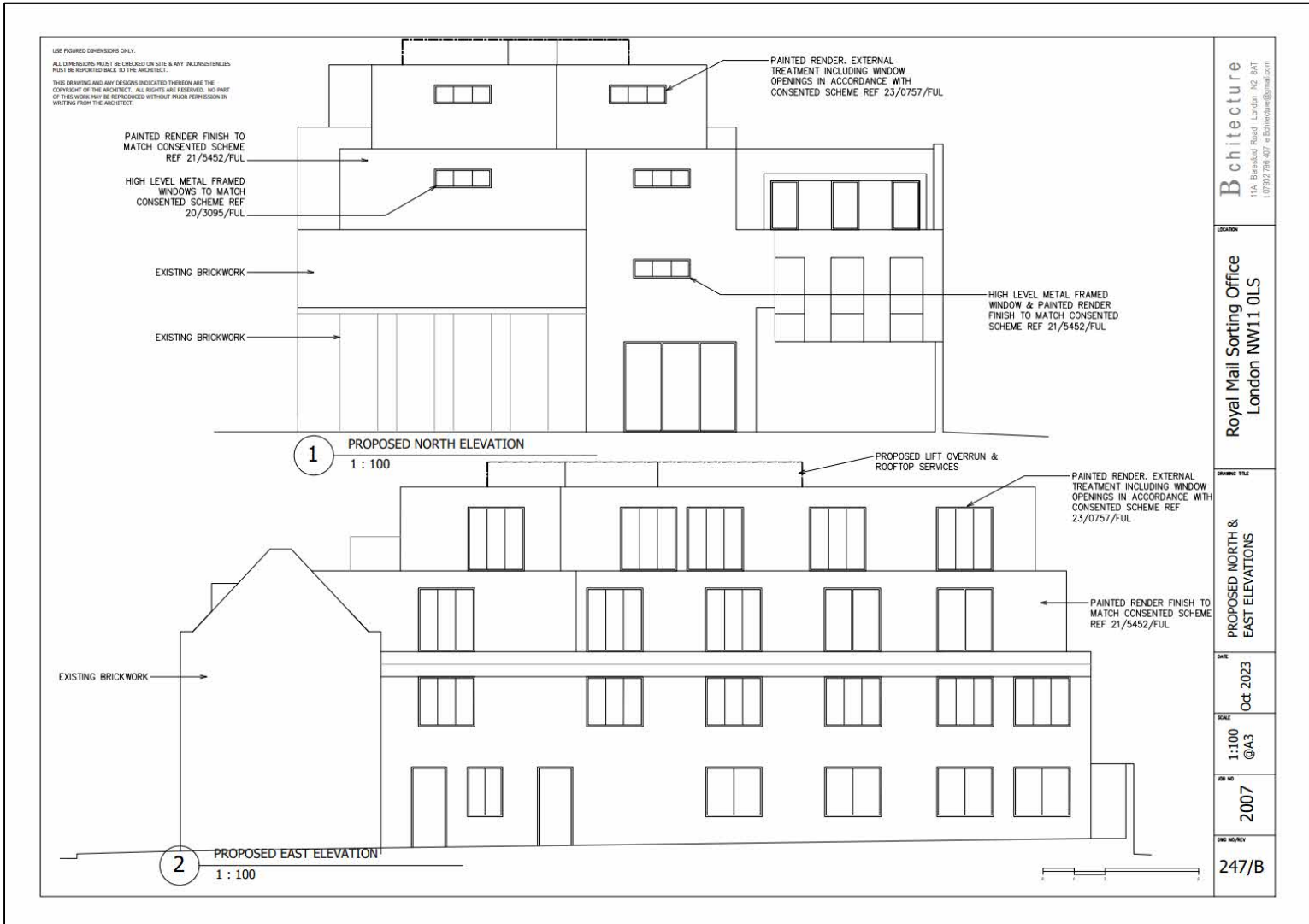
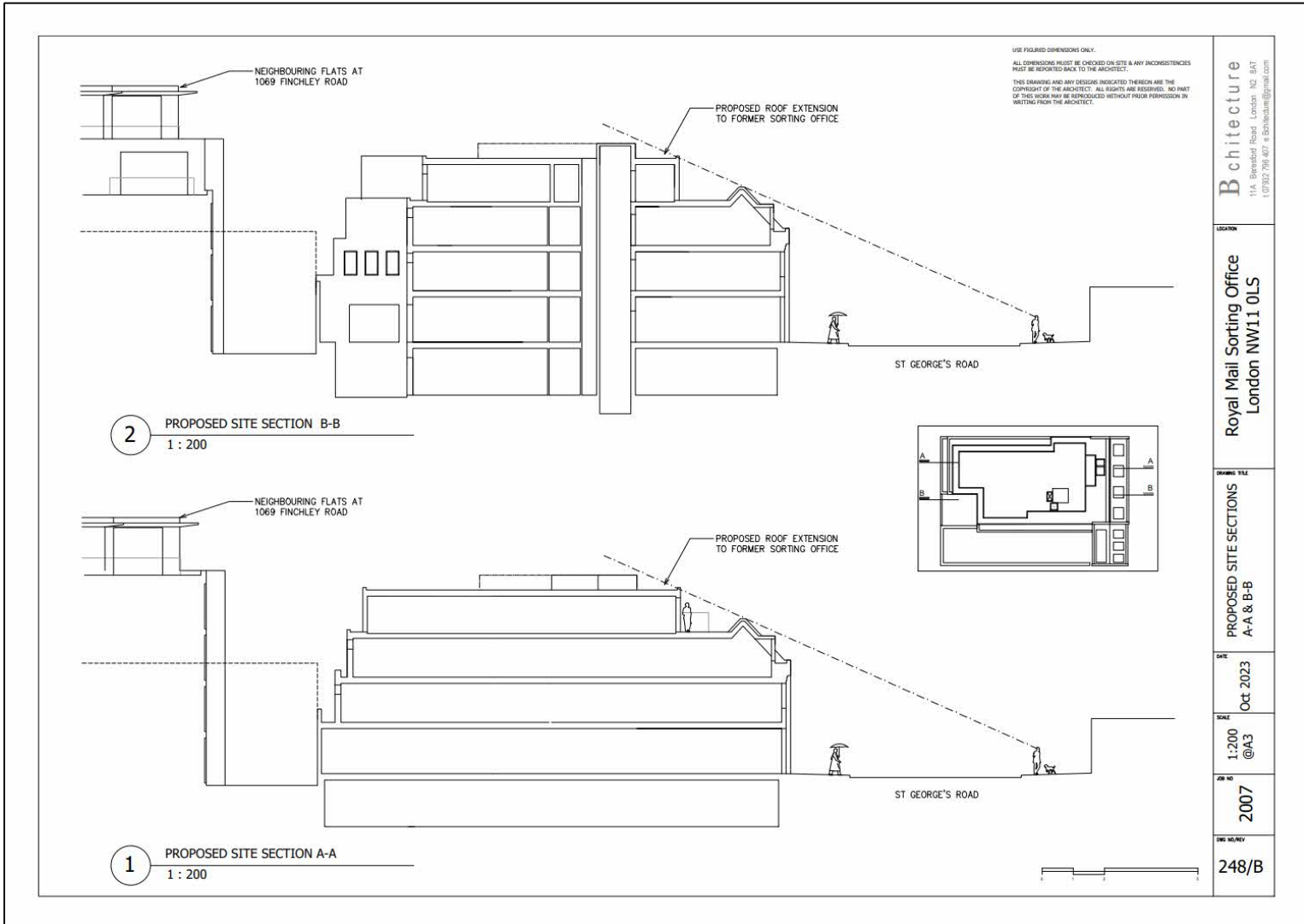


Figure 9 – Proposed site sections



Bchitecture 11A Barendse Road London N2 8AT 1 2752 768 407 # Bchitecture@gmail.com	
LOCATION	Royal Mail Sorting Office London NW11 0LS
DRAWING TITLE	PROPOSED SITE SECTIONS A-A & B-B
DATE	Oct 2023
SCALE	1:200 @A3
JOB NO	2007
DWG NO/REV	248/B

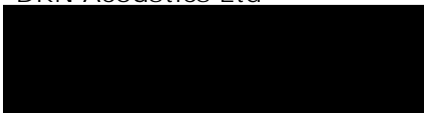
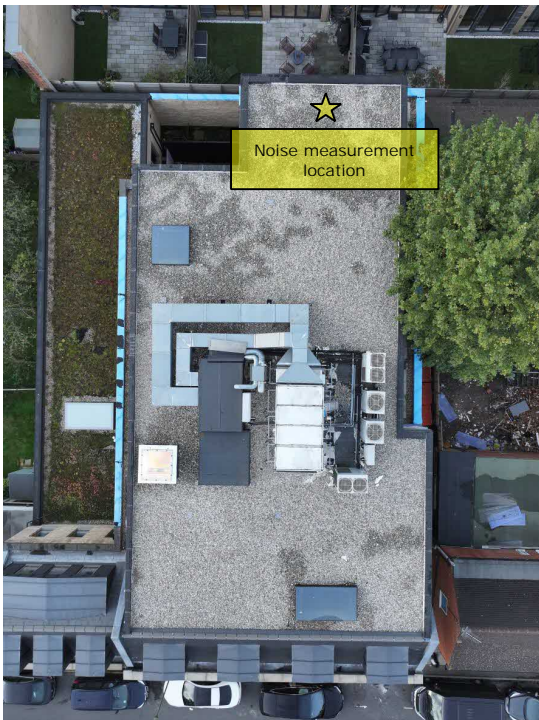


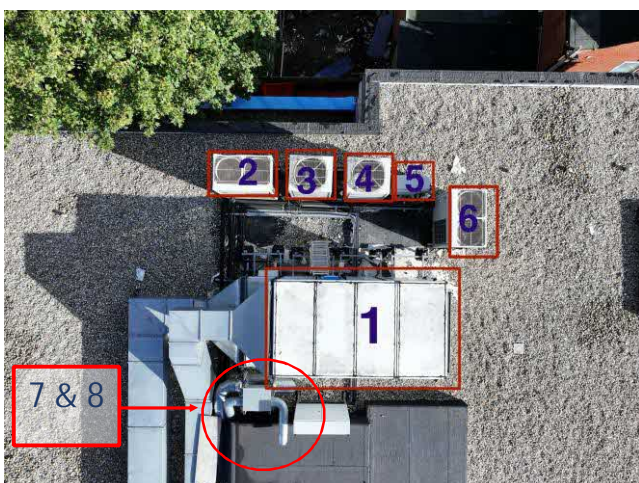
Figure 10 – Site photos



1: Overhead photo of existing roof plant



2. Noise measurement location



3: Existing roof plant references



4. Existing plant from east





5: Existing roof plant from north



6: Existing plant from south

