

Kate Solomon

Wales & West Housing
Archway House, 77 Parc Ty Glas
Llanishen
Cardiff
CF14 5DU

29/09/2025

Our Ref: 7784/L1_REV2

Dear Kate,

Re: Ty Brynseion, Dowlais

The following letter discusses the proposals for new air source heat pumps at Ty Brynseion, Dowlais, CF48 3SR

1. PRELIMINARY ASHP NOISE ASSESSMENT

1.1 Proposed ASHP Location

It is proposed to locate the an ASHPs in a compound on the northern site boundary.

Figure 1.1 below shows the development site and the closest existing SSRs listed below in Table 1.1.

Table 1.1 – Nearest Off-site Sound Sensitive Receivers

Sound Sensitive Receiver (SSR)	Approx. Distance (m) to nearest ASHPs
Gwernllwyn Court	25
Dowlais Elim Church	10

Nearest residential apartments within Ty Brynseion are around 10-15m away.

Figure 1.1 Site Plan Showing Nearest SSRs and ASHP Location

1.2 Proposed ASHPs

1no Bosch CS3000 AWP31 ASHP is proposed running in “super-silence” mode during both the day and night.

The following sound power levels has been provided by for ASHP running at design duty:

Table 1.2 – ASHP L_{wA} Spectra

	L_{wA}	Octave Band Centre Frequencies (dB)							
		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
AWP31	71	47.8	58.9	61.0	67.6	68.7	61.8	54.6	49.6

1.3 Predicted ASHP noise levels

1.3.1 Noise Map Model

The above ASHP source noise levels have been used to set up a noise map using *iNoise* (2024 V3) which in turn uses methodology from ISO9613 (2024).

This model allows noise levels from noise sources to be predicted over large distances and varying terrain. Attenuation is included accounting for distance, air absorption, ground absorption and screening losses from site topography/local structures where applicable.

A minimum 3m high solid imperforate fence (minimum lifetime mass per unit area of 10kg/m²) is required around the ASHPs, located 1.8m from the units – advised minimum distance to allow maintenance access, in order to provide acoustic screening to the nearest residences and to Ty Brynseion. The fence has been included in the prediction model.

The noise map model in Figure B.1 of Appendix B shows the predicted noise contour plot across the surrounding area to critical SSRs at 4.5m above local ground height.

The following initial noise prediction has been carried out to estimate the resultant sound levels at the SSRs.

Table 1.3 - ASHP Noise Prediction

Receptor	Predicted ASHP Sound level
Gwernllwyn Court	25dB(A)
Dowlais Elim Church	33dB(A)
Ty Brynseion	37dB(A)

1.4 Preliminary ASHP noise impact assessment

1.4.1 Existing Neighbouring Sound Sensitive Receptors

Predicted ASHPs sound levels of $\leq 30\text{dB } L_{Aeq}$ are indicated at the closest SSRs on Gwenllwyn Court during day and night. Noise from ASHPs would therefore fall well below the $37\text{dB } L_{Aeq}$ ASHP noise limit quoted in the latest MCS020 guidance for permitted developments.

ASHP sound levels at Dowlais Elim Church also fall below the MCS020 guidance figure. 35dB(A) during daytime period should not be considered significant for non-residential receptor.

Therefore, in our opinion, this would represent a low impact and carrying out a full assessment in accordance with BS 4142:2014+A1:2019 and undertaking a baseline noise survey at nearest sound sensitive receptors should not be required.

1.4.2 Ty Brynseion

For ASHP noise at the closest windows of Ty Brynseion, we would suggest that a level not exceeding $40\text{dB } L_{Aeq}$ outside windows is not an unreasonable design aim. It is understood that during heating windows would ordinarily be closed; this should be considered insignificant.

This is also indicated to easily meet BS8233:2014 desirable internal noise levels during the night-time inside properties with windows partially open and should therefore be considered acceptable.

Regards,

A handwritten signature in black ink, appearing to read 'Paul McGrath'.

Paul McGrath

BSc(Hons) MIOA | Director

Hunter Acoustics

APPENDIX A - ACOUSTIC TERMINOLOGY

Human response to noise depends on a number of factors including loudness, frequency content and variations in level with time. Various frequency weightings and statistical indices have been developed in order to objectively quantify 'annoyance'.

The following units have been used in this report:

dB(A)	The sound pressure level A-weighted to correspond with the frequency response of the human ear and therefore a persons' subjective response to frequency content.
L_{eq}	The equivalent continuous sound level is a notional steady state level which over a quoted time period would have the same acoustic energy content as the actual fluctuating noise measured over that period.
L_{max}	The highest instantaneous sound level recorded during the measurement period.
L_{10}	The sound level which is exceeded for 10% of the measurement period. i.e. The level exceeded for 6 minutes of a 1 hour measurement - used as a measure of background noise.
L_{90}	The sound level which is exceeded for 90% of the measurement period. i.e. The level exceeded for 54 minutes of a 1 hour measurement - used as a measure of background noise.
$L_{A,r,Tr}$	The 'rating' level, as described in BS 4142:2014 – the specific noise plus any adjustment for the characteristic features of the noise.
SSR	Sound sensitive receiver

APPENDIX B – NOISE MAP MODELS

Figure B.1 – Predicted ASHP Noise Levels $L_{Aeq,T}$ at First Floor Level (4.5m above local ground height)

