

Alder King
Pembroke House
15 Pembroke Road
Bristol
BS8 3B

Head Office **0191 620 0750**
Midlands **0115 708 0750**
E info@apexacoustics.co.uk
W www.apexacoustics.co.uk

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Ref. 6206.10A

Comet Hotel, Hatfield –Planning Condition 21

1 Introduction

This letter provides the details required for the discharge of Condition 21, relating to the planning application reference 6/2016/1739/MAJ

The condition states:

Prior to commencement of construction of the hotel and refurbishment of the listed building, a scheme for sound insulation for the hotel buildings shall be submitted to and approved in writing by the Local Planning Authority. The hotel buildings shall not be occupied until the approved scheme has been fully implemented and the scheme shall be retained thereafter in accordance with the approved details.

REASON: To protect the living conditions and amenity of the residents and other nearby residential properties from noise disturbance in accordance with Policies D1 and R19 of the Welwyn Hatfield District Plan 2005.

To address the sound insulation requirements for the hotel, the following scenarios are considered:

- Activity noise breakout from the hotel
- Traffic noise ingress to the hotel
- Plant noise from the hotel



4051



CONTRACTORS HEALTH & SAFETY ASSESSMENT SCHEME
Accredited Contractor



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2 Activity noise breakout from the hotel

The hotel will include some areas which could potentially generate noise levels associated with a bar or restaurant.

To predict the noise level at the receptors, the noise break out has been modelled using CadnaA noise modelling software.

The noise levels associated with a bar have been modelled as an internal level of 85 dB $L_{Aeq,T}$ and the sound reduction for the glazing has been modelled as 32 dB R_w . These are considered as a worst case as it is very unlikely all the spaces modelled would generate these levels.

The predicted noise contours, at 4m above ground, are shown in Figure 1.

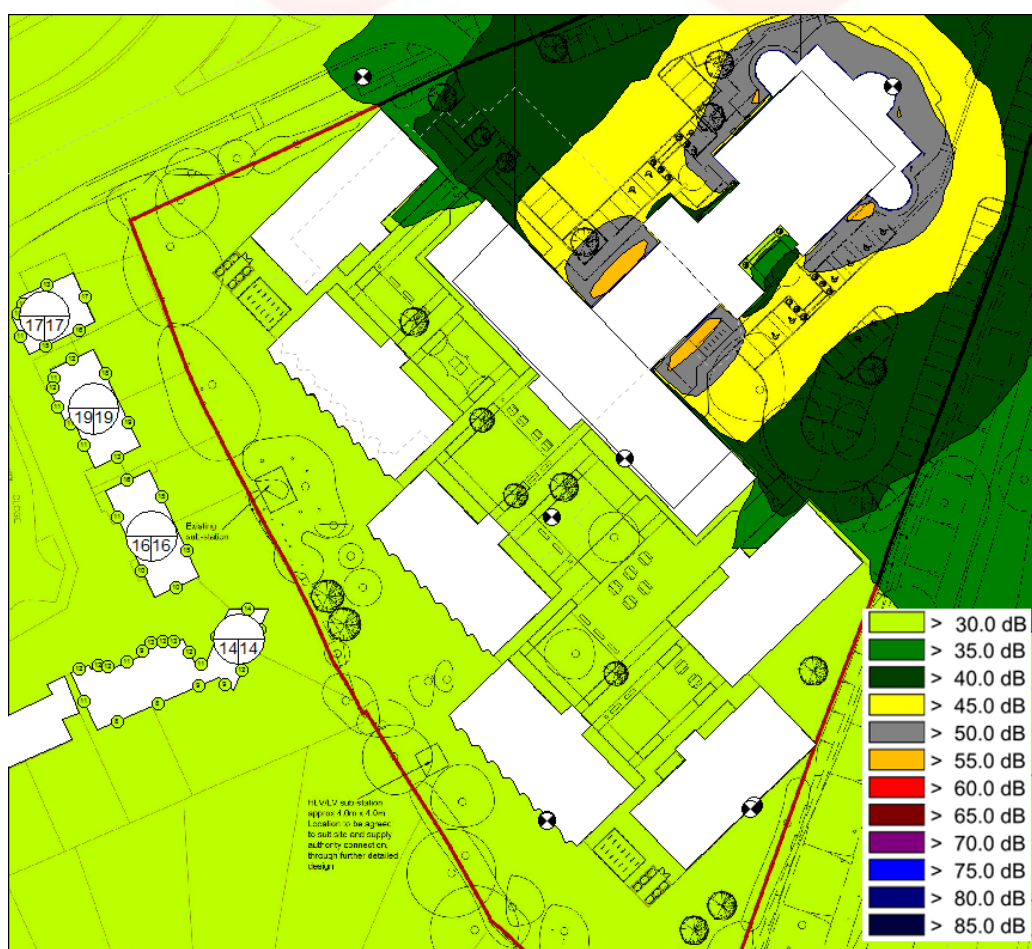


Figure 1: Noise breakout from areas with internal bar noise levels

The predicted noise levels due to the breakout, at the nearby residential receptors is up to 19 dB $L_{Aeq,T}$.

The lowest background levels at the receptors, as reported in the planning noise assessment was 47 dB L_{A90} during the night-time.

The predicted noise break out is 28 dB below the measured background noise levels and would be inaudible outside the nearby residential receptors.

3 Noise ingress to the hotel

The noise ingress to the hotel is covered in detail in the noise report reference '6206.2 Comet Hotel façade sound insulation Condition 18'; which provide details of the noise survey, modelling and façade mitigation.

The specification for the glazing and vents used within the hotel accommodation taken from the report are shown in Figure 2.



Figure 2: Plan highlighting specification requirements for each façade

The acoustic performance requirements for the glazing and vents, for each of the different specification is summarised in Table 1.

| Specification reference | | Glazing | Vent |
|-------------------------|------------------------------|----------------------|-------------------|
| A | minimum acoustic performance | $R_w + C_{tr}$ 23 dB | $D_{n,e,w}$ 34 dB |
| B | minimum acoustic performance | $R_w + C_{tr}$ 28 dB | $D_{n,e,w}$ 42 dB |
| C | minimum acoustic performance | $R_w + C_{tr}$ 33 dB | $D_{n,e,w}$ 44 dB |

Table 1: Acoustic requirements for glazing and façade vents

With the specific glazing and vent performance, the predicted indoor ambient noise level meet with BS8233 guideline levels.

4 Hotel plant noise

The plant noise from the hotel and student accommodation has been assessed and detailed modelling undertaken as part of the report issued to discharge Condition 19.

The report demonstrated that the required criteria could be met, provided the hotel plant was controlled to no more than 90 dB LwA within the plant deck area.

The layout of the plant is shown in Figure 3 and the manufacturer's noise data is shown in Table 2.

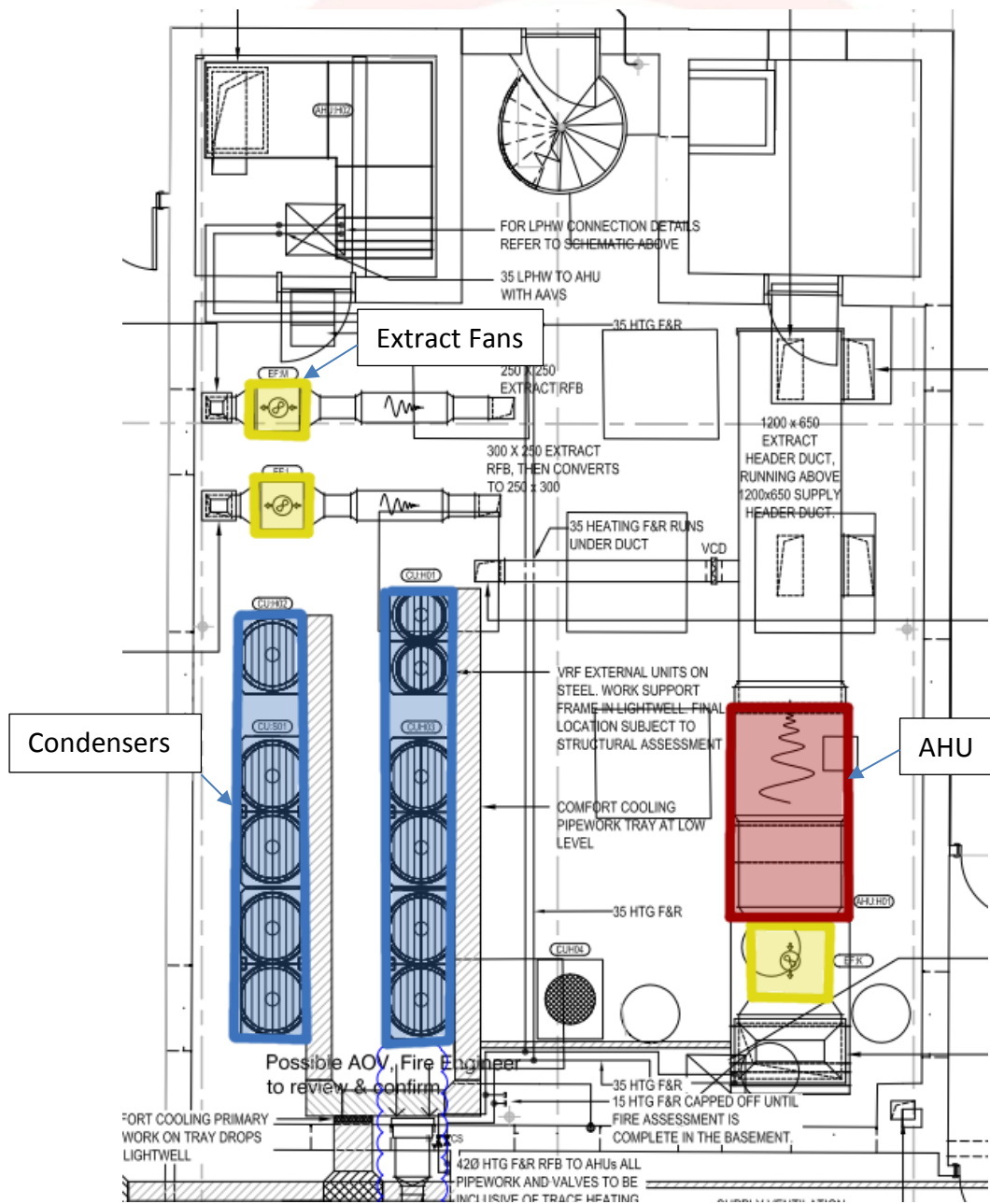


Figure 3: Hotel Plant layout

| Unit type | Reference | Noise levels | Sound Power Levels |
|-------------------|--------------|--------------|--------------------|
| Extract Fans | EF:M | 41 dBA @ 3 m | 61 dBA |
| | EF:L | 41 dBA @ 3 m | 61 dBA |
| | EF:K | 44 dBA @ 3 m | 66 dBA |
| Air Handling Unit | AHU 01 | 41 dBA @ 3 m | 61 dBA |
| Condensers | System 1 | 58 dBA @ 1 m | 78 dBA |
| | System 2 | 58 dBA @ 1 m | 78 dBA |
| | System 3 | 58 dBA @ 1 m | 78 dBA |
| | System 4 | 58 dBA @ 1 m | 78 dBA |
| | System 5 | 58 dBA @ 1 m | 78 dBA |
| | Social Space | 64 dBA @ 1 m | 86 dBA |
| Total | | | 88 dBA |

Table 2: Sound power levels of plant located on the hotel plant deck

The total sound power level of all the plant combined is less than 90 dB L_{WA} ; and therefore the noise level at the receptors is predicted to meet the criteria within planning condition, which is 10 dB below the existing background levels.

Prepared by:

Nick Conlan BEng MIOA
Acoustic Consultant