

MPF/PR0635/L04A

3 June 2025

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Dear Michael

UNION T2, MANCHESTER – PLANNING CONDITION 17

I write with confirmation of the measured external noise levels due to the operation of the emergency and non-emergency plant at Union T2, St Johns, Manchester.

INTRODUCTION

Fisher Acoustics Ltd has been commissioned by Renaker Limited to measure the external noise levels generated by the internal and external plant installed at Union T2 to serve the residential aspects of the scheme and to compare the noise levels to the requirements of Conditions 17 of the planning approval for the development.

PLANNING CONDITION 17

Planning condition 17 for Union T2 (planning application number 132952/JO/2022, amended by 142449/NMC/202054) states:

- 17) a) *Externally mounted ancillary plant, equipment and servicing in relation to the residential aspect of the scheme shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to installation, the scheme shall be submitted to and approved in writing by the City Council as Local Planning Authority in order to secure a reduction in the level of noise emanating from the site. External plant shall not be brought into use until an emergency plant noise testing schedule has been submitted to, and approved in writing by, the City Council as Local Planning Authority.*
- b) *Externally mounted ancillary plant, equipment and servicing in relation to the commercial aspect of the scheme shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to installation, the scheme shall be submitted to and approved in writing by the City Council as Local Planning Authority, in order to secure a reduction in the level of noise emanating from the site. External plant shall not be brought into use until an emergency plant noise testing schedule has been submitted to, and approved in writing by, the City Council as Local Planning Authority.*
- c) *Prior to the operation of the residential aspect of the scheme, a verification report shall be submitted to and approved in writing by the City Council as local planning authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.*

d) Prior to the operation of the commercial aspect of the scheme a verification report shall be submitted to and approved in writing by the City Council as local planning authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.

Fisher Acoustics' letter reference MPF/PR0635/L01c dated 11 April 2025 (first issued 8 October 2024) responds to condition 17a. The letter advises that compliance with the requirement of the condition is expected given the operation of the proposed building services plant that serves the residential aspect of the scheme.

ENVIRONMENTAL NOISE LIMITS

Fisher Acoustics letter reference MPF/PR0635/L01c identifies the typical background noise levels at and around the site, as identified in Table 1.

Location	Typical background noise level (dB LA90)	
	Daytime (07:00 hrs to 23:00 hrs)	Night time (23:00 hrs to 07:00 hrs)
A: The Slate Yard	55	47
B: Left Bank	55	47
C: Marriott Hotel	52	45
D: Manchester Goods Yard	55	50
E: Union T1	52	45
F: Union T2	52	45

Table 1: Environmental noise limits for non-emergency building services plant

Table 2 below gives the applicable noise limits for non-emergency building services plant based upon the values given in Table 1 in order to comply with the requirements of Condition 17.

Location	Rating noise level (dB LAeq)	
	Daytime (07:00 hrs to 23:00 hrs)	Night time (23:00 hrs to 07:00 hrs)
A: The Slate Yard	50	42
B: Left Bank	50	42
C: Marriott Hotel	47	40
D: Manchester Goods Yard	50	45
E: Union T1	47	40
F: Union T2	47	40

Table 2: Environmental noise limits for non-emergency building services plant

With regard to emergency plant, such plant would only operate in an emergency or during periodical short-duration test runs. On this basis, it is not considered appropriate to require emergency plant to comply with the noise limits for continuously operating non-emergency plant. It is therefore suggested that the noise level from any emergency plant is no more than 10 dB(A) greater than the background noise level (measured as an LA90) at any residential receptor.

With reference to the typical daytime background noise levels identified in Table 1, it is recommended that the noise level at any residential façade during testing of any emergency plant does not exceed the daytime noise levels given in Table 3.

Location	Daytime noise level (dB LAeq)
A: The Slate Yard	65
B: Left Bank	65
C: Marriott Hotel	57
D: Manchester Goods Yard	65
E: Union T1	57
F: Union T2	57

Table 3: Environmental noise limits for emergency building services plant

BUILDING SERVICES PLANT (NON-EMERGENCY)

There is no externally-mounted non-emergency plant installed at Union T2. However, Manchester City Council has advised that condition 17 also applies to internally mounted central plant which terminates at the building envelope. The residential apartments and studios are each served by small individual fans (MVHRs) rather than central air handling plant. It has been confirmed by Manchester City Council that the MVHRs do not fall under the requirements of the condition.

The plant which is ducted to the building envelope is as follows:

- Heat Recovery Units (HRUs) which ventilate the residential amenity areas at Ground floor and Level 1
- Extract fans which ventilate ancillary areas such as WCs at Ground floor and Level 1
- Condensers at Mezzanine level

Figures 1 to 3 shown the layout of internal building services plant at Ground floor, mezzanine level and Level 1.

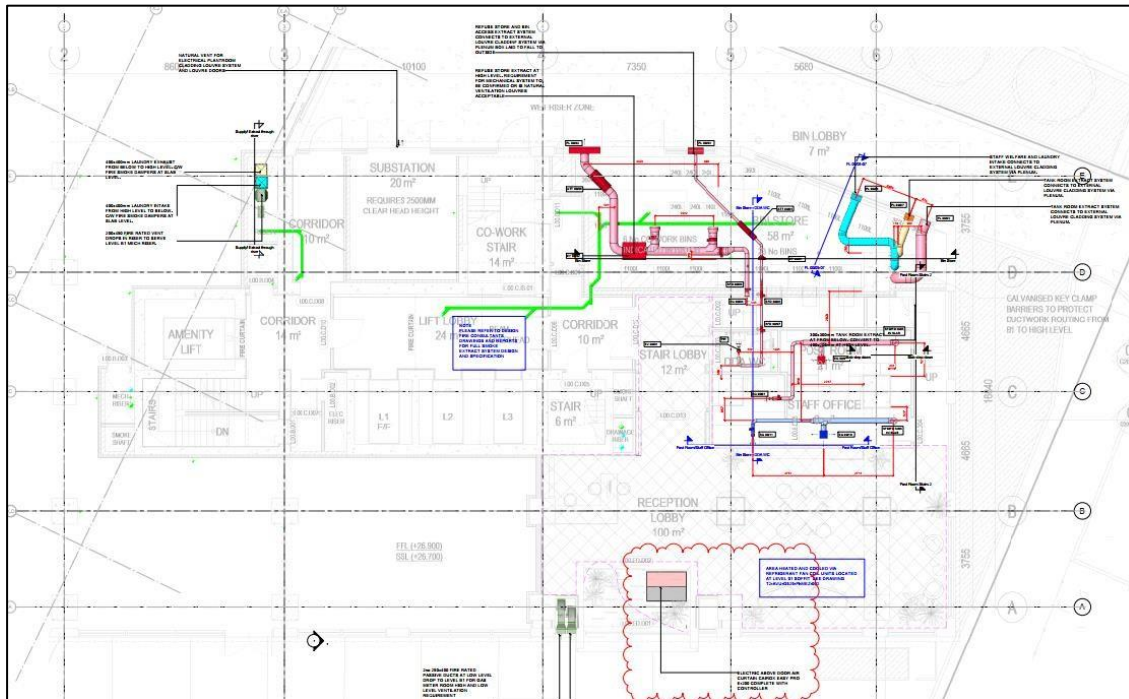


Figure 1: Internal building services plant – Ground Floor, T2

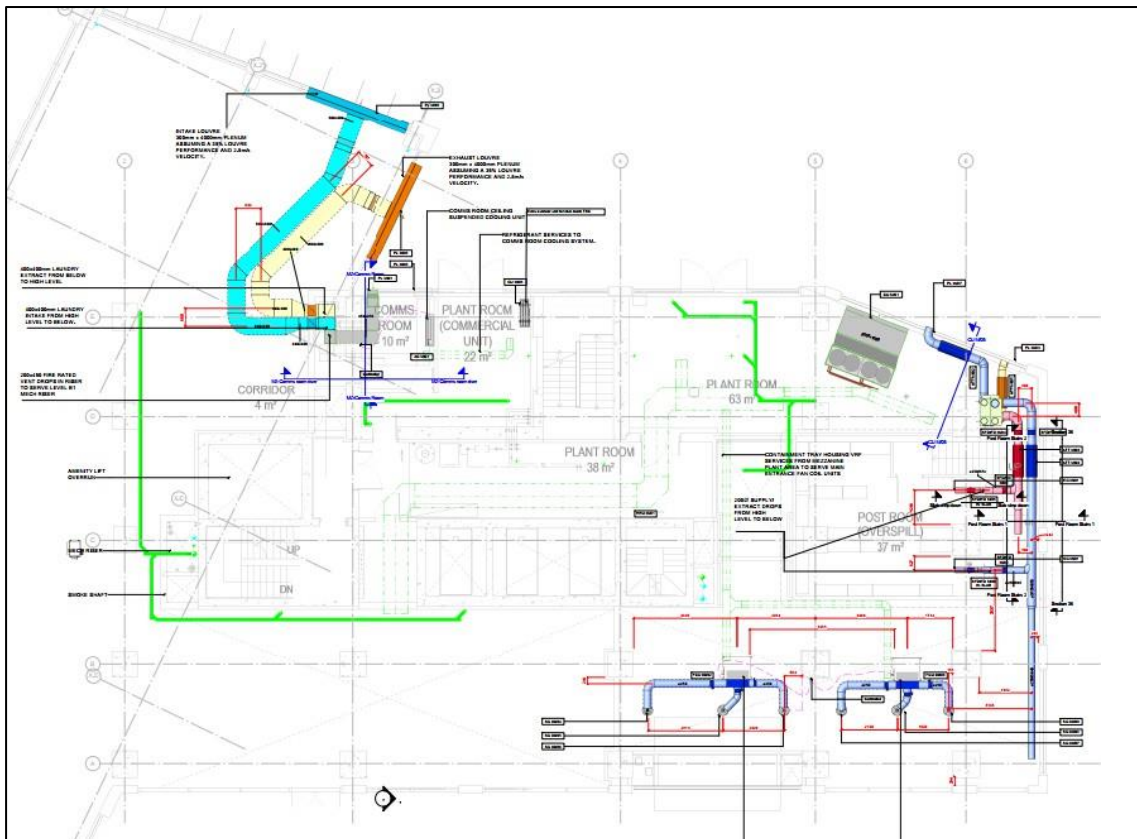


Figure 2: Internal building services plant – Mezzanine, T2

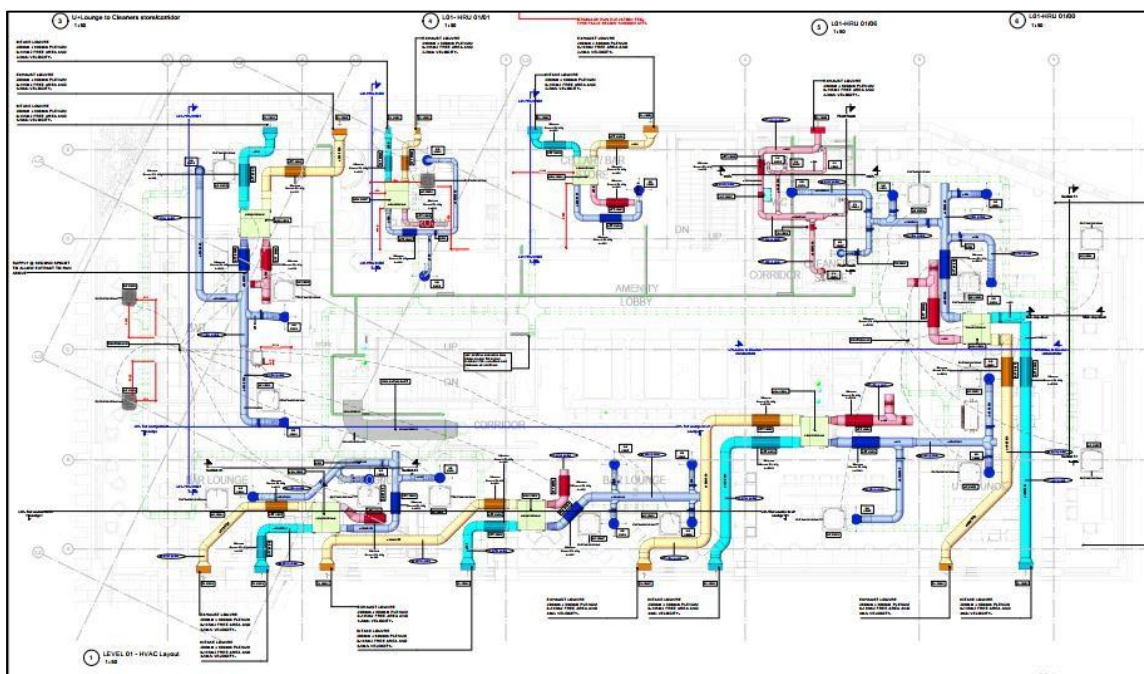


Figure 3: Internal building services plant – Level 1, T2

BUILDING SERVICES PLANT (EMERGENCY)

The following externally mounted emergency plant items have been installed at Union T2:

- 2 no. Elta 800mm diameter inverter driven, smoke rated axial fans with 2D attenuators

It has been advised that the above smoke extract fans would be tested on a weekly or fortnightly basis, operating during the day for under five minutes per test. During these tests, the plant would be operated at 30% of its normal duty by virtue of a dedicated test setting, such that the noise levels generated by the fans during testing would be substantially lower than during a live emergency.

In addition, bi-annual full-load tests are to be carried out between the hours of 10am and 4pm, during which the extract fans would operate for around two hours.

It is understood that the occupants of the building will be notified of the testing by the on-site building management.

Figure 4 identifies the locations of the roof mounted smoke extract fans.

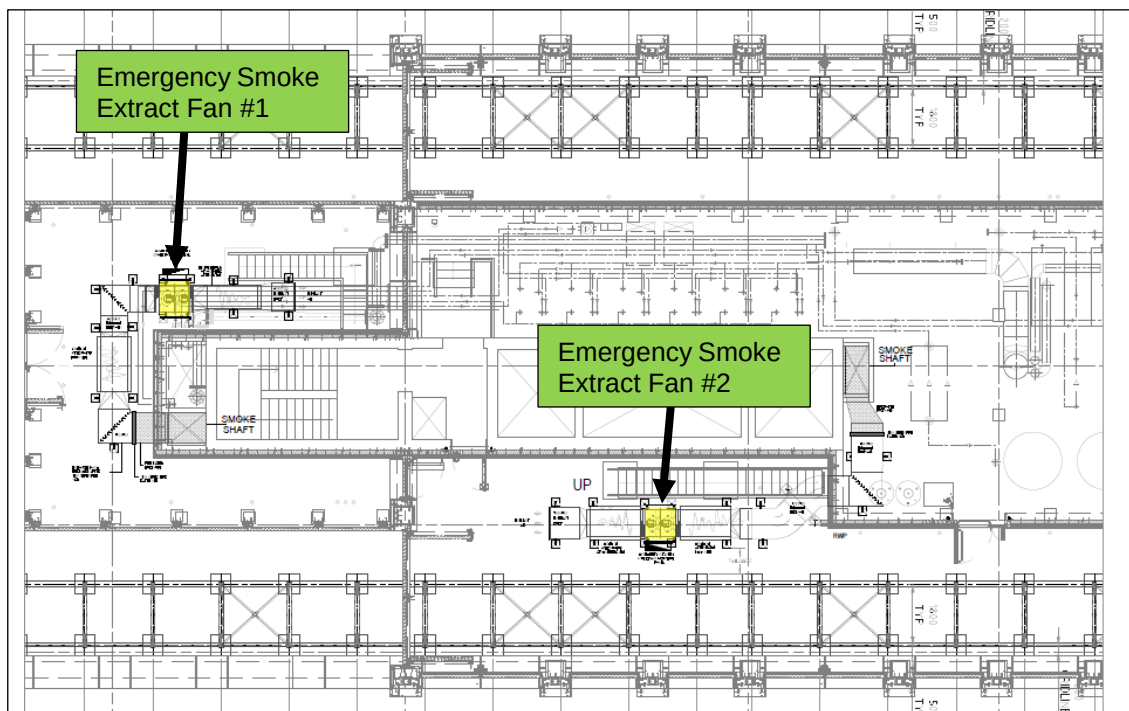


Figure 4: Roof-mounted emergency plant locations, Union T2

EXTERNAL NOISE MEASUREMENTS

Measurements of each plant item were made in normal operation and emergency mode (where applicable). The measurements were carried out during the day on Thursday 15 May 2025. There was no construction activity at the time of the measurements.

During the measurement visit, noise due to building services at T2 was not discernible or measurable at the closest receptors. Therefore measurements were taken in close proximity to T2 to improve the reliability of the measurements. However, it was determined that noise due to the HRUs and extract fans was not audible or measurable directly at any of the inlet and exhaust louvres around the T2 building. There is therefore no contribution to external noise levels from the HRUs and extract fans at T2.

Notwithstanding the above, for information a measurement is reported below for the HRUs.

Figure 5 identifies the measurement location to identify the external noise level due to the operation of the HRUs at Level 1 of the building. The measurement location was as follows:

- Location 1: 1st floor terrace, 3.0 metres from building façade and HRU louvres at a microphone height of 1.5m above roof terrace

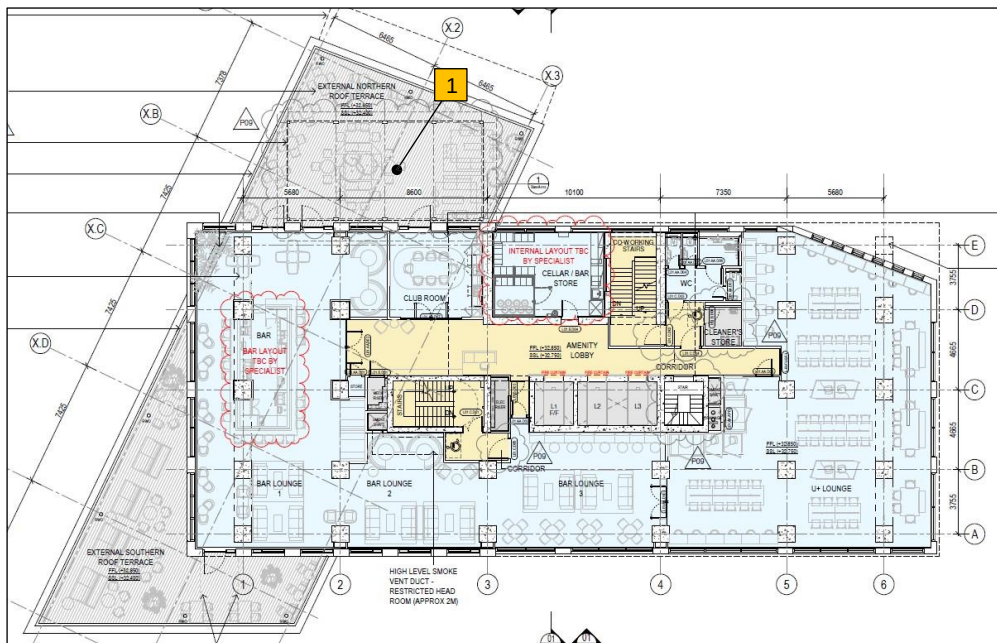


Figure 5: Level 1 HRU louvre measurement location, T2

Figure 6 identifies the location of the mezzanine condenser louvre measurement position. The condenser louvre measurement location was as follows:

- Location 1: 5 metres from mezzanine plantroom louvres at a microphone height of 1.5m above ground level

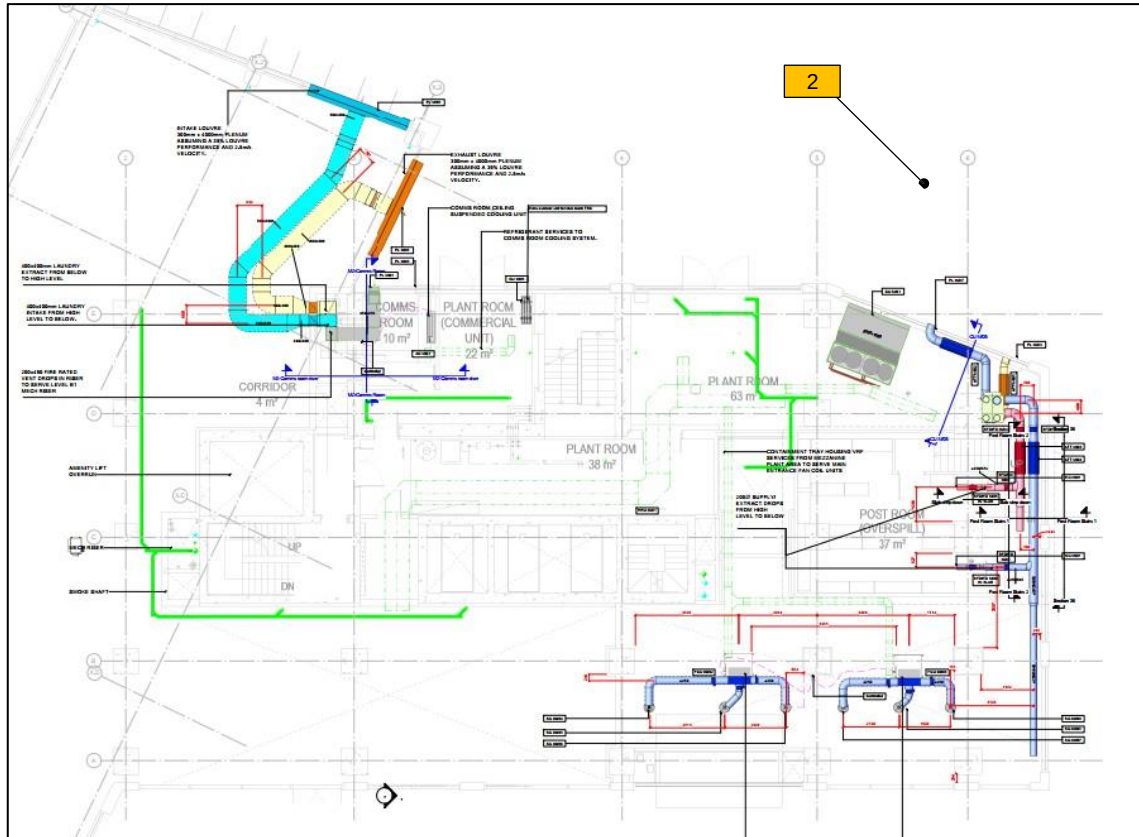


Figure 6: Mezzanine condenser plantroom louvre measurement location, T2

Table 4 identifies the measured sound pressure levels at locations 1 and 2 when the internal plant was operating at normal duty.

Measurement Position/ Building services plant item	Measured Sound Pressure Level, LAeq (dB re 2 x 10 ⁻¹² Pa)
Measurement Position 1: All T2 building services plant switched off	55 dB
Measurement Position 1: All amenity HRUs and extract fans operating	55 dB
Measurement Position 2: Condensers operating	56 dB

Table 4: Measured Sound pressure levels (Leq) of non-emergency plant, T2

It can be seen that there was no increase in the external noise level due to operation of the HRUs.

Figure 7 identifies the roof-top measurement locations for the emergency plant at T2. The roof-top emergency plant measurement locations were as follows:

- Location 3 & 4: 1 metre from exhaust of smoke extract fans

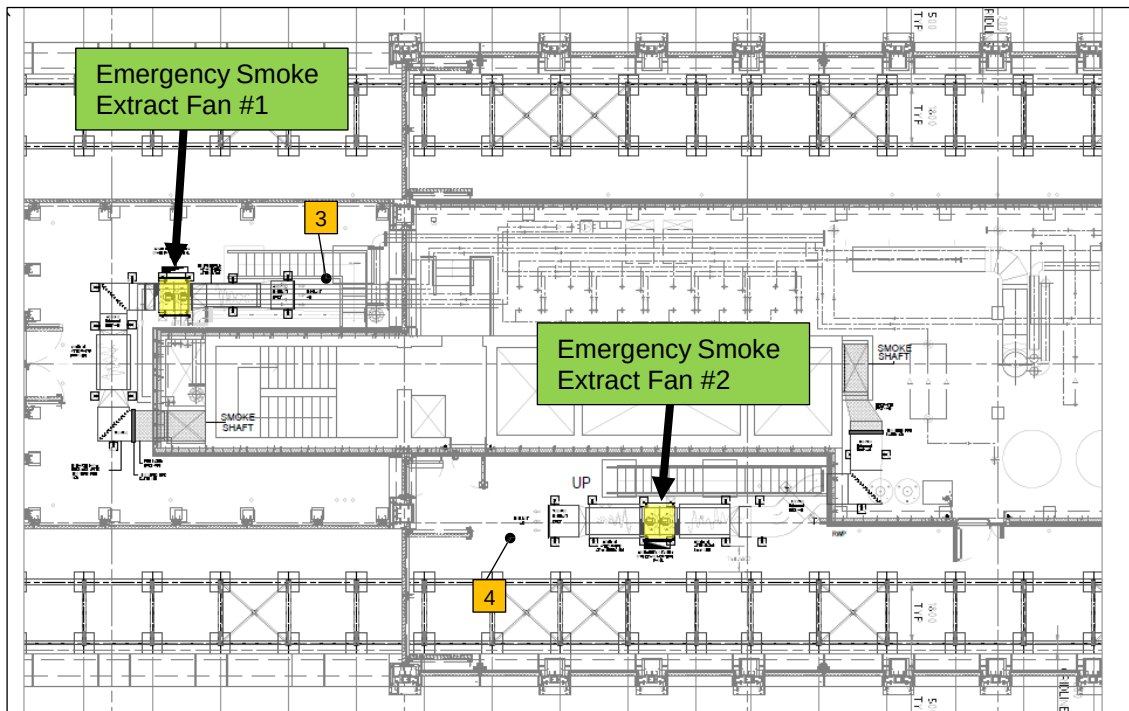


Figure 7: Roof-mounted emergency plant measurement locations, T2

During the site visit, both the total noise level during operation of the plant and the ambient noise level in the absence of noise from the plant was measured. The specific noise level due to operation of the plant has then been derived.

Table 5 identifies the measured sound pressure levels due to the operation of the rooftop smoke extract plant at full load (e.g. live emergency and full-load bi-annual test).

Measurement Position/ Building services plant item	Measured Sound Pressure Level, LAeq (dB re 2 x 10 ⁻¹² Pa)
Measurement Position 3: All T2 building services plant switched off	50 dB
Measurement Position 3: smoke extract fan at 100% Duty	57 dB
Measurement Position 4: All T2 building services plant switched off	54 dB
Measurement Position 4: smoke extract fan at 100% Duty	54 dB

Table 5: Measured Sound pressure levels (LAeq) of emergency plant, T2

From the measurement results, the noise level at the closest residential receptors due to the operation of non-emergency and emergency plant has been determined. From an acoustic perspective, the closest dwellings to the plant are those at Union T1, Union T2 and the Manchester Marriot Victoria & Albert Hotel.

Table 6 identifies the derived noise levels at the closest residential receptors due to the emergency and non-emergency plant serving Union T2.

Location	Free-field Sound Pressure Level (dB LAeq)					
	Non-Emergency plant operational noise level		Noise Limit		Emergency plant operational noise level	Noise Limit for Emergency plant
	Day Time	Night Time	Day Time	Night Time		
T2 North Elevation	29	29	47	40	21	57
T1 West Elevation	37	37	47	40	< 10	57
Marriot Hotel	33	33	47	40	< 10	57

Table 6: Specific noise levels due to T2 plant operation

It can be seen that the measured non-emergency plant noise levels identified in Table 4 comply with the applicable noise limits.

It can also be seen that the measured emergency plant noise levels identified in Table 4 comply with the noise limits.

It is therefore considered that compliance with the requirements of planning condition 17a and 17c has been achieved in relation to the assessed building services plant.

CONCLUSION

The derived noise levels at the closest noise sensitive receptors due to the operation of the assessed non-emergency and emergency building services plant at Union T2 comply with the applicable noise limits in relation to condition 17a and 17c of the planning approval.

If there is any aspect of the above that you would like to discuss then please do not hesitate to contact the undersigned.

Yours sincerely



MATT FISHER BEng(Hons) CEng MIOA
For and on behalf of Fisher Acoustics Limited