

MPF/PR0665/L05

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Dear Ben

PORT STREET, MANCHESTER – PLANNING CONDITION 15A

I write with confirmation of the results of the acoustic assessment of the external building services plant at Port Street, Manchester.

INTRODUCTION

Fisher Acoustics Ltd has been commissioned by Renaker Limited to determine the expected external noise levels generated by the external building services plant at Port Street, Manchester and to respond to condition 15a of the planning approval for the development.

PLANNING CONDITION

Planning condition 15 for Port Street (planning application number 132489/FO/2021) states:

- *“Prior to occupation of*
 - (a) The residential accommodation; and*
 - (b) The ground floor commercial units*

a scheme for the acoustic insulation of any externally mounted ancillary equipment associated with the development to ensure that it achieves a background noise level of 5dB below the existing background (LA90) at the nearest noise sensitive location 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 equipment. The approved scheme shall be completed before the premises is occupied and a verification report submitted for approval by the City Council as local planning authority and any non-compliance suitably mitigated in accordance with an agreed scheme prior to occupation. The approved scheme shall remain operational thereafter.

Reason - To secure a reduction in noise in order to protect future residents from noise nuisance, pursuant to policies SP1, H1 and DM1 of the Core Strategy.

This letter responds to part ‘a’ of condition 15, relating to external plant that serves the residential accommodation.

PRE-EXISTING NOISE LEVELS & ENVIRONMENTAL NOISE STUDIES

The Noise and Vibration chapter of the Environmental Statement for Port Street compiled by Fisher Acoustics (planning application number 132489/FO/2021), identifies the results of daytime and night time environmental noise surveys undertaken by Fisher Acoustics Limited at and around the site.

The results of the noise surveys have been used to establish the allowable noise levels due to building services plant at Port Street.

Table 1 below gives the applicable noise limits for non-emergency building services plant based upon the environmental noise survey data in order to comply with planning condition 15.

Location	Rating noise level (dB LAeq)	
	Daytime (07:00 hrs to 23:00 hrs)	Night time (23:00 hrs to 07:00 hrs)
Proposed Development, Great Ancoats Street Elevation	53	42
Proposed Development, Port Street Elevation	46	40
Proposed Development, internal elevation	44	40
The Astley, Port Street	49	42
MM2, Great Ancoats Street	53	42
Jacksons Mills, Tariff Street	43	39
Avro, Great Ancoats Street	44	40

Table 1: 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.

Manchester City Council has advised recently that the typical requirement for emergency plant is that noise levels from emergency plant can be up to 10dB above the pre-existing background noise level (LA90) during testing of the emergency equipment and that testing should only be undertaken on a weekday in the day time (between 9am and 5pm).

On this basis, the noise level at any residential façade during testing of any emergency plant should not exceed the daytime noise levels given in Table 2.

Location	Daytime noise level (dB LAeq)
Proposed Development, Great Ancoats Street Elevation	68
Proposed Development, Port Street Elevation	61
Proposed Development, internal elevation	59
The Astley, Port Street	64
MM2, Great Ancoats Street	68
Jacksons Mills, Tariff Street	58
Avro, Great Ancoats Street	59

Table 2: Environmental noise limits for emergency building services plant in test mode

BUILDING SERVICES PLANT (NON-EMERGENCY)

The following external non-emergency plant item has been installed at Port Street on the Level 9 roof of the podium block:

- 1 no. 400 mm diameter fan, corridor environmental ventilation

Figure 1 identifies the locations of the podium Level 9 roof-mounted corridor extract fans.

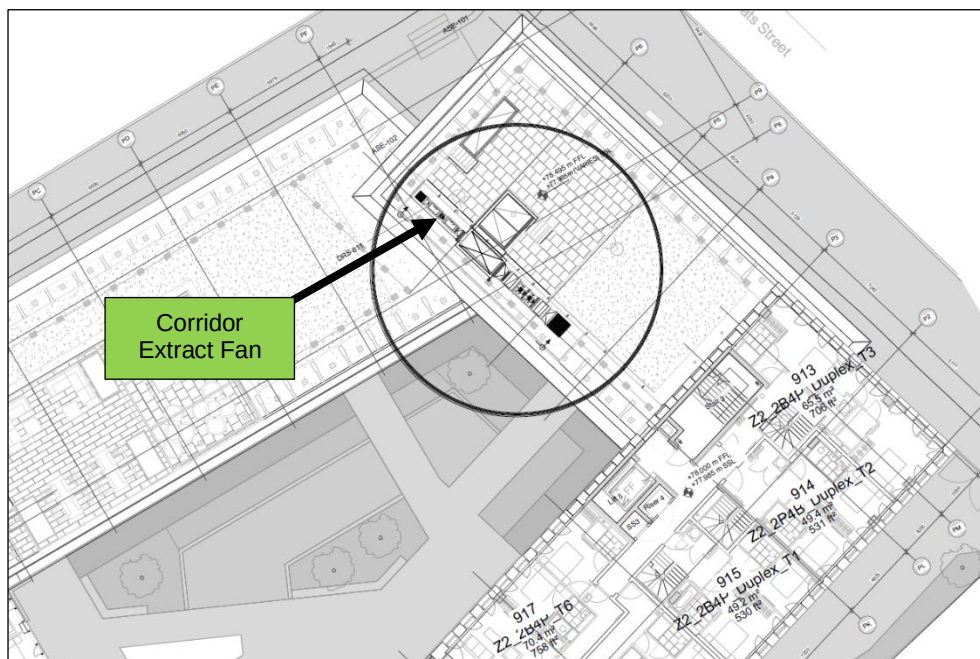


Figure 1: Roof-mounted non-emergency plant locations, podium Level 9, Port Street - Plan

Table 3 identifies the reported in-duct discharge sound power levels of the above fan.

Building services plant item	Sound Power Level (dB re 1 x 10 ⁻¹² Watts)							
	dB(A)	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1k	2k	4k
400 mm dia. fan with 2D attenuator, discharge to atmosphere	53	66	64	53	44	37	46	41

Table 3: Sound power levels of non-emergency extract plant – in-duct

BUILDING SERVICES PLANT (EMERGENCY)

The following external emergency plant items have been installed at Port Street:

- 2 no. 710 mm diameter smoke-rated axial fans– Podium Level 9 Roof
- 2 no. 710 mm diameter smoke-rated axial fans – Podium Level 10 Roof
- 2 no. 1250 mm diameter smoke-rated axial fans –Tower Roof

Each smoke extract installation is comprised of two fans. Only one fan will run at any one time as the second fan remains on standby in the event of failure.

It has been advised that the above smoke extract fans would be tested on a weekly or fortnightly basis, operating for under five minutes per test. During these tests, the plant would be operated at 33% of its normal duty, such that the noise levels generated by the fans during testing would be substantially lower than during a live emergency.

Figure 2 identifies the locations of the podium Level 9 roof-mounted smoke extract fans.

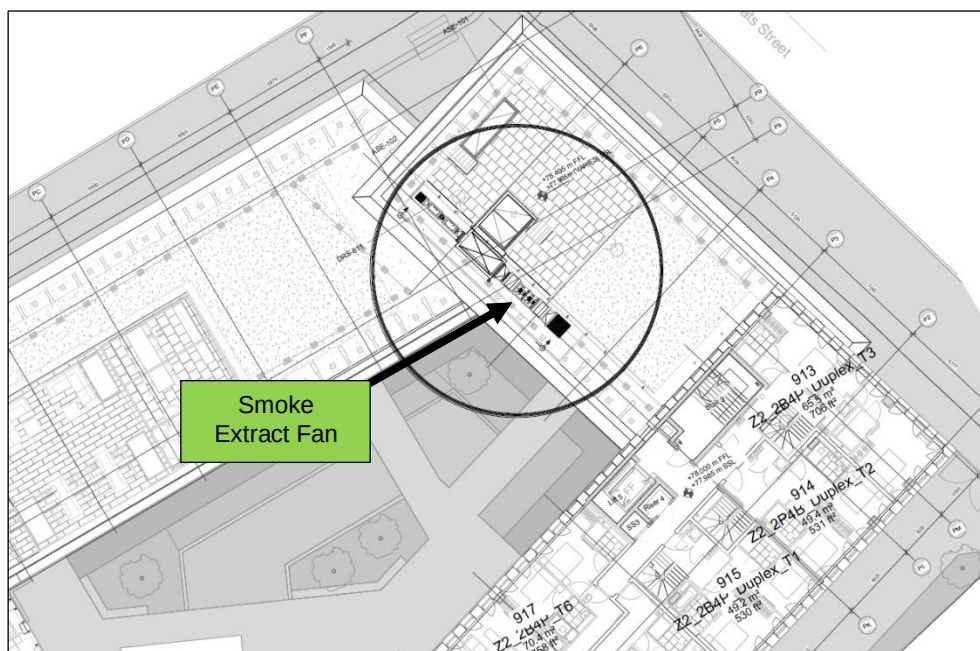


Figure 2: Roof-mounted emergency plant locations, podium Level 9, Port Street – Plan

Figure 3 identifies the locations of the podium Level 10 roof-mounted smoke extract fans.

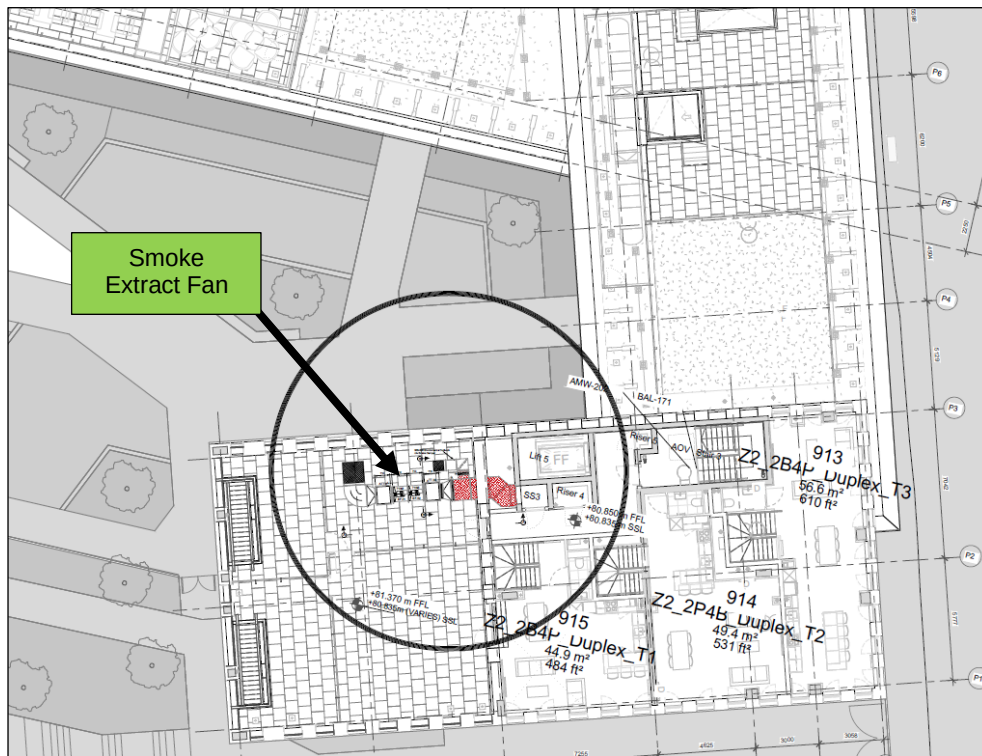


Figure 3: Roof-mounted emergency plant locations, podium Level 10 roof, Port Street - Plan

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

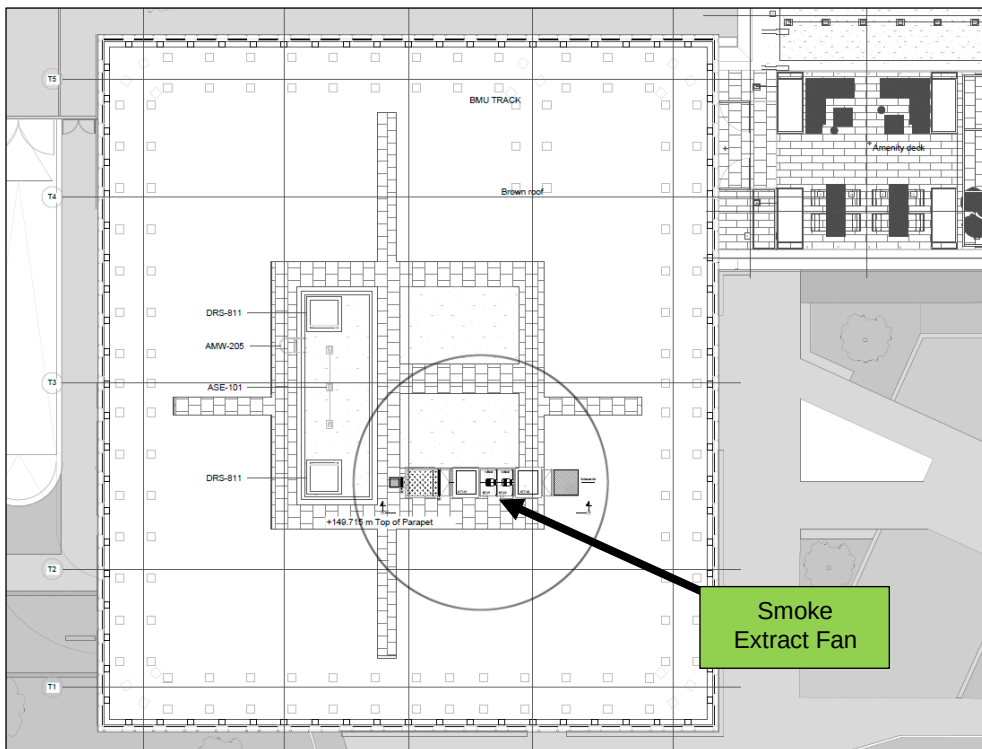


Figure 4: Roof-mounted emergency plant locations, Tower roof, Port Street - Plan

Table 4 identifies the reported in-duct sound power levels of the rooftop smoke extract plant during testing.

Building services plant item	Sound Power Level (dB re 1 x 10 ⁻¹² Watts)							
	dB(A)	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1k	2k	4k
710mm dia. axial fan with 1D attenuator, podium Level 9 roof, test operation, discharge to atmosphere	60	73	68	64	55	49	49	49
710mm dia. axial fan with 1D attenuator, podium Level 10 roof, test operation, discharge to atmosphere	60	73	68	64	55	49	49	49
1250mm dia. axial fan with 1D attenuator, Tower roof, test operation, discharge to atmosphere	67	71	69	71	62	59	58	52

Table 4: Sound power levels of emergency smoke extract plant – in-duct

CALCULATED EXTERNAL NOISE LEVELS DUE TO BUILDING SERVICES PLANT

Based on the reported sound power level for the plant items detailed above, the expected noise levels at the nearest noise sensitive receptors have been calculated. For the podium, the nearest noise sensitive locations are on the private roof terraces which are directly adjacent to the plant in question.

Table 5 identifies the calculated noise levels at the closest sensitive receptors due to operation of the non-emergency external plant.

Receptor	Free-field Sound Pressure Level (dB LAeq)	
	Plant Noise Level	Noise Limit
Proposed Development, Podium Level 9 Roof Terrace	20	42
Proposed Development, Podium Level 10 Roof Terrace	< 20	40
Proposed Development, Tower Level 33	< 20	40

Table 5: Calculated noise levels at the nearest sensitive receptors due to non-emergency external plant

Table 6 identifies the calculated noise levels at the closest sensitive receptors due to testing of the emergency external plant. The calculated noise levels assume that the three smoke extract fans are running simultaneously. In reality this is unlikely to happen and therefore the values in Table 6 represent a worst-case scenario.

Receptor	Free-field Sound Pressure Level (dB LAeq)	
	Plant Noise Level (Test conditions)	Noise Limit
Proposed Development, Podium Level 9 Roof Terrace	33	68
Proposed Development, Podium Level 10 Roof Terrace	35	59
Proposed Development, Tower Level 33	31	61

Table 6: Calculated noise levels at the nearest sensitive receptors due to emergency external plant

It can be seen that the calculated noise levels for non-emergency external plant and emergency external plant that serves the residential areas comply with the applicable noise limits.

The receptors that are at a greater distance from the Port Street development than the receptors identified in Tables 5 and 6 will benefit from greater attenuation of noise due to increased distance from the Port Street plant. Therefore, compliance with the identified noise limits at these other receptors is also fully expected.

CONCLUSION

Based on the reported sound power data for the external building services plant at Port Street, compliance with the requirements of condition 15a of the planning approval for the Port Street development is fully expected.

If there are any aspects that you would like to discuss, please do not hesitate to contact the undersigned.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Matt Fisher', is written over a faint, light blue rectangular background.

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