

22023-L04-SW

Andy Penza
Dragonfly
594 Manchester Old Road
Middleton
Manchester M24 4PW

08/05/2024

Dear Andy,

PALL MALL COURT – PLANT NOISE EMISSIONS

Further to our recent discussions, we have fully updated the plant noise emission model for Pall Mall Court to include all externally mounted plant and all external inlet and discharge points, with appropriate corrections for silencers based on the selections made by Caice.

Plant Noise Emission Limits

Planning Condition 9 requires that “externally mounted plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.”

Plant noise emission limits were set in the noise impact assessment report submitted to the Local Authority on this basis (dBx Acoustics report reference 22023-Pall Mall Court-R01A dated 25th April 2022) on the basis of a noise survey carried out by dBx Acoustics Ltd in March 2022, however, the daytime plant noise emission limits set within this report were on the basis of potential plant operation during the period 07:00h-23:00h. We understand that plant is generally expected to operate only during the hours 09:00h-17:00h.

On this basis, we have revisited the survey data to establish the background noise level during the period of plant operation. Table 1, below, summarises the typical background noise level at each receptor location during this period, and the associated plant noise emission limit.

Table 1: Background Noise Level and Plant Noise Emission Limits, 09:00h-17:00h

Receptor	Background Noise Level, $dB_{L_{A90,T}}$	Plant Noise Emission Limit, $dB_{L_{Ar,Tr}}$
A – Marsden St	51	46
B – King St	52	47
C – King St (Hotel Gotham)	53	48

The background noise levels (and hence plant noise emission limits) remain unchanged from those presented in the noise impact assessment, which is believed to be due to the influence of building services plant from the surrounding premises.

Mitigation Measures

We understand that due to space restrictions, it is not possible to include an acoustic plant screen around the roof mounted plant. This will in any event be ineffective in mitigating noise to the upper floors of the office buildings at One Marsden Street, which overlook the Tower Roof, and 30 Brown Street, which overlooks the 6th floor Marsden Street roof plant area.

The HVRF units on the Marsden Street and King Street roof plant areas will be fitted with the manufacturer's YNW noise reduction kit. There is insufficient space to install this kit to HVRF units on the Tower roof.

Model Results and Discussion

The results of the plant noise emission model indicate that the building services noise emission limits will be met for the receptors at King St (including Hotel Gotham), but will be exceeded at 30 Brown Street, where a building services noise level of up to 58dB_{L_{Af,Tr}} is predicted for the upper floors, and at One Marsden Street, where a building services noise level of up to 54dB_{L_{Af,Tr}} is predicted for the other floors.

As described above, no further mitigation of plant noise is practically achievable.

The noise survey was carried out when the existing building services plant at Pall Mall Court had been decommissioned, and therefore did not include noise from these items, including chillers, which would previously have impacted on the Marsden St / Brown Street receptors.

A previous planning application, reference 106696/FO/2014 was submitted to Manchester City Council (MCC) for replacement chillers located on the Tower Roof. A noise impact assessment was submitted by RandTech Consulting (ref MDR/J2469a dated 11th August 2014) which indicated that noise levels from these units at the Marsden St / Brown St receptors would be "62dBA" [sic]. It can be seen, therefore, that the replacement plant leads to a reduction in noise levels at the façade of these buildings of 2-5dB compared to the previously operating plant.

The facades of these buildings have sealed (non-openable) windows. Assuming basic thermally insulating double glazed units, it is reasonable to expect that noise from the exterior to interior of the offices would be reduced by at least 25dB, leading to a worst-case internal noise level from plant of 23dB_{L_{Aeq,T}}.

In accordance with BS8233:2014, building services noise levels within an open plan office would typically be designed to 45-50dB_{L_{Aeq,T}}, and 35-40dB_{L_{Aeq,T}} within an executive office. Noise intrusion to these buildings from plant associated with Pall Mall Court would consequently be expected to be significantly below the indoor ambient noise level within these offices and therefore inaudible.

Conclusion

Externally mounted and discharging plant at Pall Mall Court has been selected to limit noise emissions as far as is practically achievable. This includes attenuation to air handling and MVHR units, as well as noise reduction kits to HVRF units on the lower roof areas. No further mitigation can practically be included within the design.

Whilst the building services noise emissions to the office buildings at One Marsden Street and 30 Brown Street do not comply with the requirement of Planning Condition 9, it is demonstrated that noise emissions will have no adverse impact on occupants of these buildings, and will also be lower than when roof plant at Pall Mall Court was previously operational.

The acceptability of this will need to be confirmed by Manchester City Council.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'Susan Witterick'.

Susan Witterick

Director, dBx Acoustics Ltd