

Compliance 4 Buildings 88 North Street Hornchurch RM11 1SR

LUMI 1 Limited 82 Camden High Street Camden London NW1 0LT Date: 29th July 2024

Dear Nathan,

RE: 82 High Street, Camden, London, Noise from kitchen equipment

In our reports dated 22nd March 2023 and 19th May 2023, we have previously advised that noise from kitchen extract and supply fans at 82 Camden High Street was in exceedance of the Local Authority's requirements at the nearest noise-sensitive receptors, based on site visits and our measurements of the plant in situ. Our report proposed a target rating level of 36 dB(A), based on the background sound level of 46 dB(A). This target is subject to approval by the Local Authority.

Recommendations were made for in-duct attenuators to both the supply and extract fans, to reduce noise emissions both from duct breakout, and from the duct terminations. We also made recommendations for spring anti-vibration mounts to the fan and flexible connections between the fan and ductwork.

We undertook a further site visit on Friday 26 July 2024, after the in-duct attenuators had been installed. The attenuators had been installed externally in the courtyard, due to internal spatial constraints. Our recommended anti-vibration measures to the fan had not yet been installed, but we understand these are due to be installed imminently. A photo of the installation at the time of our visit is presented in Photo 1.

Sound pressure level measurements were undertaken at ground floor level, of background noise with no plant operating, and then with both plant items operating individually as well as simultaneously, and a further background measurement. The only plant noise of note was some ductwork break-out noise from the first sections of duct before the attenuators (less than 1 metres long).

Due to the constrained nature of the rear courtyard, the measurement position was subject to five reflecting surfaces within distances of 0.5 to 1.5 metres (four walls and the floor), whereas the receptor position is subject to only three reflecting surfaces (including the receiving façade itself). Our measurements were taken approximately one metre away from each plant item. The nearest noise-sensitive receptor is a residential receptor at first floor level overlooking the courtyard. This receptor was judged to be approximately three metres from the sections of duct where noise was breaking out from. Our assessment therefore considers attenuation by distance, and a correction for the number



of reflecting facades as the receive location. A bird net had been installed above ground level, and it was therefore not possible to measure directly at the nearest noise-sensitive receptors.

No acoustic features were noted. The background sound primarily comprised road traffic in the surrounding area, some building services plant serving other premises, occasional rumbling from underground trains, and pigeons fluttering and cooing.

A summary of our assessment is presented below. A calculation is presented at the end of this letter.

	Sound level, dB					
Combined specific sound level at receptor, $L_{\mbox{\tiny As}}$	33					
Acoustic feature corrections	0					
Rating level L _{Ar}	33					
Background sound level	46					
Exceedance over background sound level	-13					
Local Authority requirement	36					
Exceedance over Local Authority Requirement	-3					
Compliance with Local Authority requirement	PASS					

Table 1 Assessment of plant noise in accordance with Local Authority's requirements

Conclusions

Our assessment, based on our measured sound levels with relevant corrections, finds that the installation meets the Local Authority's requirements. Once the recommended anti-vibration measures are installed to the fan, structureborne noise will also be suitably mitigated.

Tony Trup BMus MSc MIOA MAES





Photo 1 In-duct attenuators on extract (top) and supply (bottom) fans

Noise emissions fro	m plant at	82 High	Street,	Camden
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Item / Description Background-corrected sound levels		Rating/Broadband/Input			Octave Band Centre Frequency, Hz							
		Rating	dB	dB(A)	63	125	250	500	1k	2k	4k	8k
Supply only				43.5 (A)	53.6	51.2	45.3	38.8	35.9	35.5	31.2	22.4
Combined as measured				48.1 (A)	58.0	58.2	49.7	43.1	41.2	38.1	30.9	22.5
Distance attenuation												
Ratio of Distances - Point Source 11	1 to 3 metres				-9.5	-9.5	-9.5	-9.5	-9.5	-9.5	-9.5	-9.5
Extract at receiver				37.3 (A)	45.7	48.3	38.1	32.3	30.4	27.0	19.2	16.9
Supply at receiver				38.5 (A)	48.5	48.7	40.2	33.6	31.7	28.6	21.3	12.9
Combined				38.5 (A)	48.5	48.7	40.2	33.6	31.7	28.6	21.3	12.9
Correction for reflections												
Rear w all and ground					-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
Combined SPL at receiver				32.5 (A)	42.5	42.7	34.2	27.6	25.7	22.6	15.3	6.9

Figure 1 Measurements and calculated level at receptor