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TECHNICAL MEMO

Project	Le Village, Brighton
To	Simon Ebbers and Lee Cockshott, Le Village Limited
From	Robert Miller, Director, F1 Acoustics Co Limited
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Reference	1532/TechnicalMemo/Rev0

1 INTRODUCTION

F1 Acoustics Co Limited has been appointed by Le Village Limited to provide acoustics consultancy services to help identify music noise disturbance solutions at Le Village public house, 1-2 High Street, Brighton, BN2 1RP.

2 MUSIC NOISE LISTENING TESTS

Music noise listening tests were carried out on Tuesday 3rd November 2020 between 10:00 and 13:00 at Le Village public house and surrounding area. Listening tests were undertaken to establish the likely primary transmission path of music noise between Le Village and surrounding residential properties including the adjacent Darwell Court apartment block.

Access was not possible in to any properties on the east side of Darwell Court and therefore listening tests were carried out externally on the footpath. The listening tests consisted of playing music and pink noise inside the public house at a higher than typical sound level to assess the difference between the two external doors being open individually and all doors being closed. The result of this listening test was that a significant increase in the music noise level outside Darwell Court at the junction of High Street and Ardingly Street was apparent when the side door of the public house (opening on to High Street) was opened. No significant increase in the music noise level was observed when the rear door (opening into the public house garden area) was opened.

Access was possible into the corridor and stairwell of Darwell Court that is directly adjacent to the Le Village to the north. Although the two properties do not share a party wall it is possible that structural transmission of the music noise may occur through any connected components of the buildings and was therefore investigated. Listening tests in the corridor/stairwell with music at a greater than typical sound level playing inside the public house resulted in structural transmission of music noise being barely perceptible.

Additional anecdotal evidence from a resident of Darwell Court with a room on the north façade of the building was that the wind direction can influence the music sound level they used to experience, before the reduction in music noise levels at the public house to comply with the government's pandemic regulations.

In conclusion the listening tests of the music noise has indicated that the primary source of music noise propagation is airborne from the east façade of the public house and is significantly increased when the door on this façade is opened. Structure borne music noise transmission is unlikely to be a significantly contributing factor at this time.

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3 POSSIBLE MITIGATION MEASURES

To mitigate the airborne music noise transmission from Le Village to Darwell Court and other surrounding residential properties the following mitigation measures could be put in place and installed:

- Side door leading on to High Street could be managed to remain closed (but not locked as this is a fire exit) during the evening and night-time when music noise levels are increased (assuming normal operating conditions outside of the Government's pandemic restrictions). The rear door leading to the garden should be used as the main access in and out during this time.
- Side door could have upgraded acoustic seals fitted on all sides (including the bottom) to ensure there are no air gaps therefore increasing the sound reduction of the door.
- The rear door could have an acoustic lobby installed (subject to planning approval) so that one door always remains closed as customers enter and leave.
- The windows on the east façade of the public house, although already sealed and unopenable, could be upgraded with secondary glazing to improve the sound reduction.

4 SOUND SYSTEM INFORMATION

The existing sound system consists of 6x 200 W powered speakers in a distributed configuration to evenly cover the internal space. The main drivers in the speakers are small and therefore do not have efficient bass reproduction capabilities effectively having a natural high pass filter at approximately 80 Hz. There is no sub-woofer installed and therefore there is no low frequency sound being produced in the 31.5 Hz octave band or below.

If structural transmission of the music noise was identified at a later date then vibration isolating speaker brackets could be installed on the wall mounted speakers.

A limiting device (SL2000) was installed on 3rd November 2020 to cut the power to the sound equipment if the set sound level limit is exceeded for more than 5 seconds.

5 MUSIC NOISE LEVELS

Owing to the current temporary Government regulations that restrict music noise levels in public houses, the limit for the music noise within Le Village has been set to 80 dB(A) in the centre of the space. The newly installed limiter has been set to this limit and two measurements were taken of the maximum sound level with a pink noise source and a dance music track (LCD Sound System – Daft Punk is Playing at My House). The results of the octave band maximum music noise level measurements are shown in the Table below.

Table 5.1: Measured Sound Level Limit

Source	Broad-band $L_{Aeq,T}$, dB	Octave Band $L_{Zeq,T}$, dB							
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Pink Noise	79	73	81	71	75	75	72	69	67
Dance Music	79	77	89	72	76	75	71	63	62

It is understood from discussions that the landlords have had with local residents that music noise is not currently causing a disturbance to local residents and therefore the currently set limit and limiting device will prevent a public nuisance from noise occurring.

When the Government's temporary pandemic music noise level restrictions are lifted and/or further mitigation measures are adopted the landlords (assisted by F1 Acoustics) are keen to work closely with local residents and Brighton and Hove City Council Officers to establish a more permanent acceptable music noise level that will not cause a public nuisance to local residents.