RSK Acoustics

Maitland Park, Camden

Music noise levels (Conditions 11, 37 & 38)

Report 17/0485/R3

Maitland Park, Camden

Music noise levels (Conditions 11, 37 & 38)

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Bouygues Construction

Becket House
1 Lambeth Palace Road
London
SE1 7EU

Revision	Description	Date	Prepared	Approved
0	First issue	8 June 2023	Thomas Goose	Matthew White
1	Following commissioning	13 July 2023	Thomas Goose	Matthew White

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Music noise levels (Conditions 11, 37 & 38)

1 Introduction

1.1 This report details measurements of separating floor sound insulation and witnessing of sound levels relating to music noise in the TRA Hall at Mary Prince House, Camden with reference to Planning Conditions imposed by London Borough of Camden in planning permission reference 2014/5840/P.

2 Planning Conditions

2.1 Planning permission (application ref 2014/5840/P) for the development was granted subject to conditions. This report and associated works relate to Conditions 11, 37 & 38, which are reproduced below:

Condition 11 – Music noise levels

No music shall be played in the community hall in such a way as to exceed levels of 47dB Leq,1min at 63Hz and 41dB Leq,1min at 125Hz inside any habitable room of any residential dwelling (including those forming part of the development itself). Dwellings forming part of the scheme should be considered with windows closed and adequate background ventilation provided.

Reason: To safeguard the amenities of the adjoining premises and the area generally in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017.

Condition 37 – Music from TRA Hall

Prior to the first use of the TRA hall, an acoustic report shall be submitted to and approved by the Local Planning Authority in writing. The acoustic report shall provide sound tests to demonstrate music from the TRA Hall complies with condition 11.

Reason: To safeguard the amenities of the adjoining premises and the area generally in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017.

Condition 38 – Sound limiter

A suitable sound limiting device shall be installed in the TRA Hall. The limiting device shall be set to ensure the noise limits specified by condition 11 are not exceeded. Prior to the first use of the TRA hall, a certificate of compliance shall be submitted to and approved by the Local Planning Authority in writing. The limiter shall be protected in such a manner so as to prevent tampering by unauthorised persons.

Reason: To safeguard the amenities of the adjoining premises and the area generally in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017.

3 Condition 37 – Music from TRA Hall

3.1 Sound insulation tests were undertaken on 6th June 2023 between the TRA Hall and the following first floor habitable rooms that were considered to be most exposed to sound transmission from the TRA Hall:

- Flat 12 Bedroom 1
- Flat 12 Bedroom 2
- Flat 12 Kitchen/diner
- Flat 11 Bedroom
- Flat 11 Kitchen/diner

3.2 This sound test meets the requirements of Planning Condition 37.

3.3 Based on the sound insulation values measured, when sound levels in the hall are limited to the values in Table T1 using a sound limiting device meeting the requirements of Planning Condition 38, the requirements of Planning Condition 11 will be met.

	$L_{eq,1min}$, dB in octave band with centre frequency	
Source room	**63Hz**	**125Hz**
TRA Hall	83	94

T1 Permissible sound levels in TRA Hall

4 Condition 38 – sound limiter

4.1 A Formula Sound Sentry system with serial number 29362 was installed and commissioned by Knight Sound and Light on 24th June 2023. Certificate 00102 is reproduced in Appendix A.

4.2 RSK Acoustics witnessed the verification of the sound limiter on 12th July 2023 and confirm that when the noise levels listed in Table T1 were exceeded for more than 10 seconds, the mains power was cut by the limiter device. This is understood to affect all five circuits available in the hall.

4.3 The sound limiting device is therefore considered to meet the requirements of Planning Condition 38.

5 Condition 11 – Music noise levels

5.1 As the requirements of Conditions 37 and 38 have been met, we consider that Condition 11 can be discharged by default.

6 Conclusion

6.1 A level difference measurement has been undertaken between the TRA Hall and habitable rooms above to satisfy the requirements of Condition 37, determining that noise levels within the TRA Hall should be limited to the values listed in Table T1 to meet the requirements of Condition 11.

6.2 A sound limiting device has been installed that has been verified to comply with the limits included in Table T1 and the requirements of Condition 38.

6.3 We therefore consider that each of Conditions 38, 37 and 11 can be discharged.

End of Section

Appendix A

Equipment, methodology and detailed results

Sound insulation tests

Tests were undertaken to determine the Level Difference (*D*) of the relevant sections of separating floor. The following methodology and instrumentation were adopted:

1. A stereo pink noise source was connected to a mixing desk conveying the signal to 2 subwoofers and a single cabinet loudspeaker in the source room.

2. The sound level analyser was used to record the average L_{eq} noise level generated in the source room using a 'sweep' measurement. Measurements were made in one-third octave bands over the frequency range 50-5,000 Hz for 30 seconds at each position.

3. In the receiver room, resultant L_{eq} noise levels were also recorded using a 30-second 'sweep' measurement, in the same one-third octave bands.

4. In the receiver room, with the sound source turned off background L_{eq} noise levels were also recorded using a 30-second 'sweep' measurement, in the same one-third octave bands.

5. The loudspeakers were then moved and steps 2 – 4 were repeated.

6. In each one-third octave band, the level difference (*D*) was calculated for both sets of speaker positions by subtracting the average receiver room sound pressure level (corrected for background noise where required) from the source room average sound pressure level for each loudspeaker position.

7. The results have been corrected for the background noise as appropriate in accordance with ISO 140-4 requirements; whereby if the difference is 6-10 dB, a logarithmic subtraction is made, and if the difference is less than or equal to 6 dB, then 1.3 dB is subtracted. Therefore, the presented results in such cases are the limit of measurement.

8. The one-third octave band measurements were converted to octave bands to determine the maximum permitted noise levels in the 63Hz and 125Hz octave bands in the TRA Hall to achieve noise levels in habitable rooms compliant with Condition 11.

Sound level measurements were made using the equipment listed in Table T2. Calibration certificates are available on request.

Item	Manufacturer	Type
Sound Level Meter	Svantek	SV971A
Acoustic Calibrator	Rion	NC-74

T2 Equipment used during attended noise measurements.

The microphone was fitted with an appropriate windshield and was calibrated before and after the measurements. No significant drift was noted to have occurred.

The sound level difference values measured between the TRA Hall and the first-floor habitable rooms, at the worst-case speaker position, are summarised in Table T3.

Receive room	Weighted level difference D_w, dB	Level difference D, dB in octave band with centre frequency	
		63Hz	125Hz
Flat 12 Bedroom 1	70	37	54
Flat 12 Bedroom 2	75	38	55
Flat 12 Kitchen/diner	71	37	54
Flat 11 Bedroom	70	46	57
Flat 11 Kitchen/diner	73	36	56

T3 Measured sound insulation values

With the inclusion of a limiting device to the specification in Table T1, the expected sound levels in rooms above are summarised in Table T4.

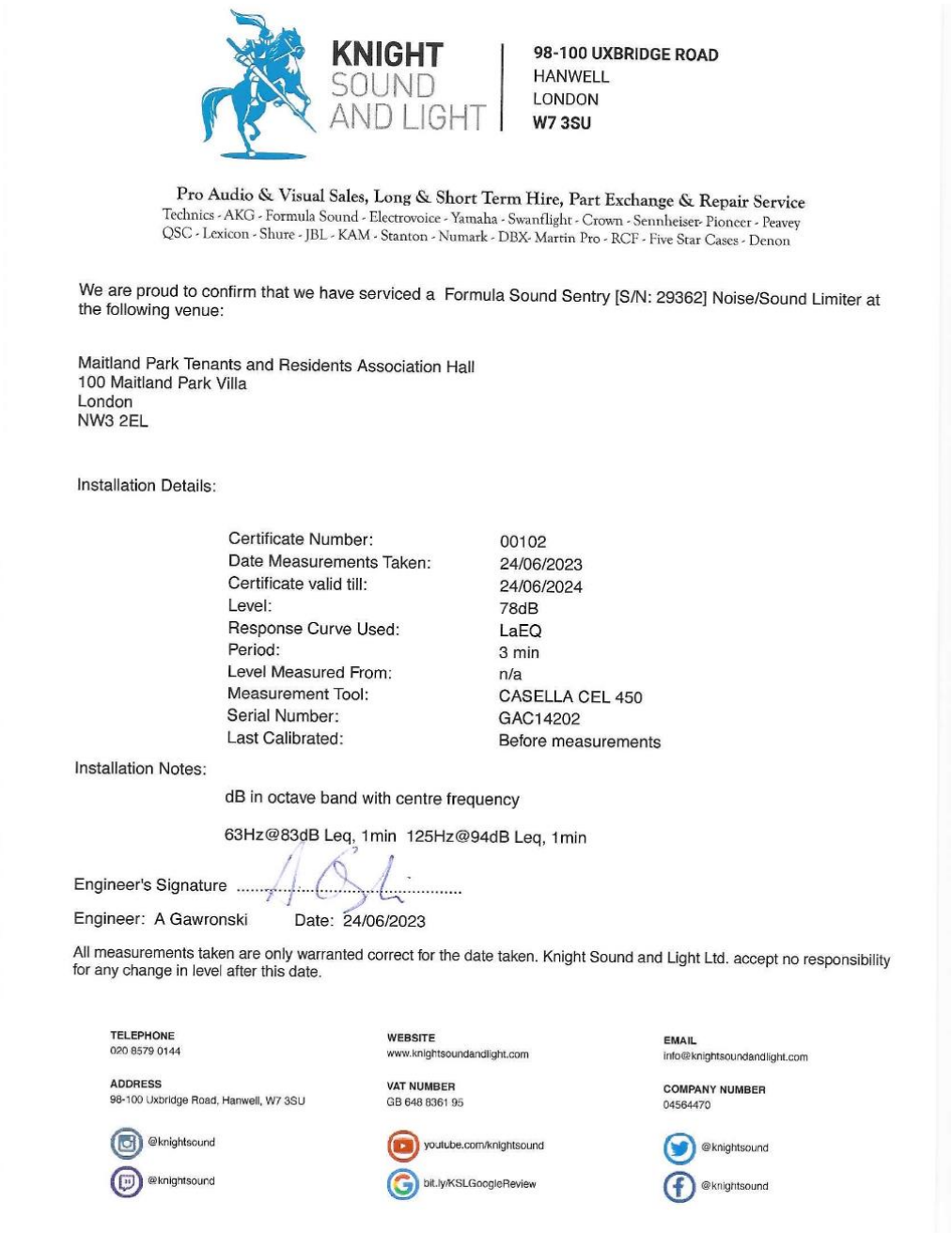
Receive room	Expected sound level L_{eq}, dB in octave band with centre frequency *(limit)*	
	63Hz	125Hz
Flat 12 Bedroom 1	46 *(47)*	40 *(41)*
Flat 12 Bedroom 2	45 *(47)*	39 *(41)*
Flat 12 Kitchen/diner	46 *(47)*	40 *(41)*
Flat 11 Bedroom	37 *(47)*	37 *(41)*
Flat 11 Kitchen/diner	47 *(47)*	38 *(41)*

T4 Expected sound levels in habitable rooms

Music noise levels (Conditions 11, 37 & 38)

Sound limiter

The installation certificate for the sound limiter provided by Knight Sound and Light is reproduced below:



KNIGHT SOUND AND LIGHT

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QSC - Lexicon - Shure - JBL - KAM - Stanton - Numark - DBX- Martin Pro - RCF - Five Star Cases - Denon

We are proud to confirm that we have serviced a Formula Sound Sentry [S/N: 29362] Noise/Sound Limiter at the following venue:

Maitland Park Tenants and Residents Association Hall
100 Maitland Park Villa
London
NW3 2EL

Installation Details:

Certificate Number:	00102
Date Measurements Taken:	24/06/2023
Certificate valid till:	24/06/2024
Level:	78dB
Response Curve Used:	LaEQ
Period:	3 min
Level Measured From:	n/a
Measurement Tool:	CASELLA CEL 450
Serial Number:	GAC14202
Last Calibrated:	Before measurements

Installation Notes:

dB in octave band with centre frequency

63Hz@83dB Leq, 1min 125Hz@94dB Leq, 1min

Engineer's Signature .....

Engineer: A Gawronski Date: 24/06/2023

All measurements taken are only warranted correct for the date taken. Knight Sound and Light Ltd. accept no responsibility for any change in level after this date.

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During the verification, sound level measurements were made by RSKA using the equipment listed in Table T5. Calibration certificates are available on request.

Music noise levels (Conditions 11, 37 & 38)

Item	Manufacturer	Type
Sound Level Meter	Norsonic	Nor118
Acoustic Calibrator	Norsonic	Nor1251

T5 Equipment used during attended noise measurements.

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