

Oaklands House - addendum report 22nd March 2022

Further measurements of Boiler Flue, over the weekend of 18th to 21st March 2022

Following the instructions of Sharon McAndrew, EHO at Manchester City Council, I have recorded background sound levels to assess noise from the boiler flue.

Method.

It was not possible to set up monitoring equipment at the nearest receptor location, the narrow, non-opening window to Flat 25 living room, as the flat roof is not accessible.

Noise logging equipment was therefore set up in Flat 25, with a measurement microphone positioned about two metres from the living room French doors, using an extension pole, so that it had a clear 'view' of the boiler flue which is located on the plant room roof. Source to receiver distance was approximately 6 metres and is assumed to be free-field.

Identical logging equipment was set up in Flat 15, directly below Flat 25, also with the microphone positioned outside the living room French doors, but with no view of the boiler flue. Source to receiver distance was approximately 10 metres but obscured by the roof edge.

It can therefore be assumed that the Flat 15 monitoring position was unaffected by noise from the boiler flue.

Each measurement system had the same view of Wilbraham Road and was the same distance from the road, so the effect of road traffic noise on each system should be the same, subject to measurement uncertainty. Both systems were carefully calibrated and their time clocks synchronised.

Measurement equipment.

Two, data logging, Class 1 sound level meters were used for this survey.

For Flat 15, a Norsonic 118 sound level meter was used, serial number 31454, due for recalibration in March 2023.

For Flat 25, a Norsonic 118 sound level meter was used, serial number 31512, due for recalibration in March 2023.

Both instruments were field-calibrated before and after the sequence of measurements and no drift was noted.

Calibration certificates for both meters are available for inspection upon request.

Weather conditions over the survey period were as follows:

Friday night - 3 to 5 degrees C, no rain, wind up to 5 m/s Easterly

Saturday night - 3 to 5 degrees C, no rain, wind up to 4 m/s Easterly

Sunday night - 0 to 1 degrees C, no rain, wind up to 1.5 m/s Easterly.

I have a written assurance that the wet heating system was fully operational over the weekend.

Results of measurements.

The results of measurements are as summarised in Tables A1 and A2.

Table A1 - results of measurements Flat 25.

Date	Daytime 7.00 to 11.00 pm		Night time 11.00 pm to 7.00 am	
	LAeq	LA90	LAeq	LA90
Friday 18th	59.85	51.61	58.5	44.9
Saturday 19th	60.36	52.44	57.84	45.38
Sunday 20th	60.81	50.61	56.79	41.08
Monday 21st	60.87	50.64	Not recorded	Not recorded
Average background	51.55		43.79	

Table A2 - results of measurements Flat 15.

Date	Daytime 7.00 to 11.00 pm		Night time 11.00 pm to 7.00 am	
	LAeq	LA90	LAeq	LA90
Friday 18th	58.65	51.2	57.49	45.05
Saturday 19th	59.54	52.46	56.89	45.81
Sunday 20th	59.57	50.39	55.76	41.72
Monday 21st	59.7	50.68	Not recorded	Not recorded
Average background	51.35		44.19	

The Tables show that the average night time background sound level at Flat 25 window was 43.79 dB LA90 and show that the average night time background sound level at Flat 15 window was 44.19 dB LA90. The values are remarkably similar and show very good repeatability over the three-day measurement survey.

The values in the table are reported to a precision of two places of decimals. When rounded, the average background sound levels at Flat 25 and Flat 15 are both the same, at 44 dB LA90.

This shows that the noise from the boiler flue, which could potentially affect Flat 25, is negligible and that the background is unaffected.

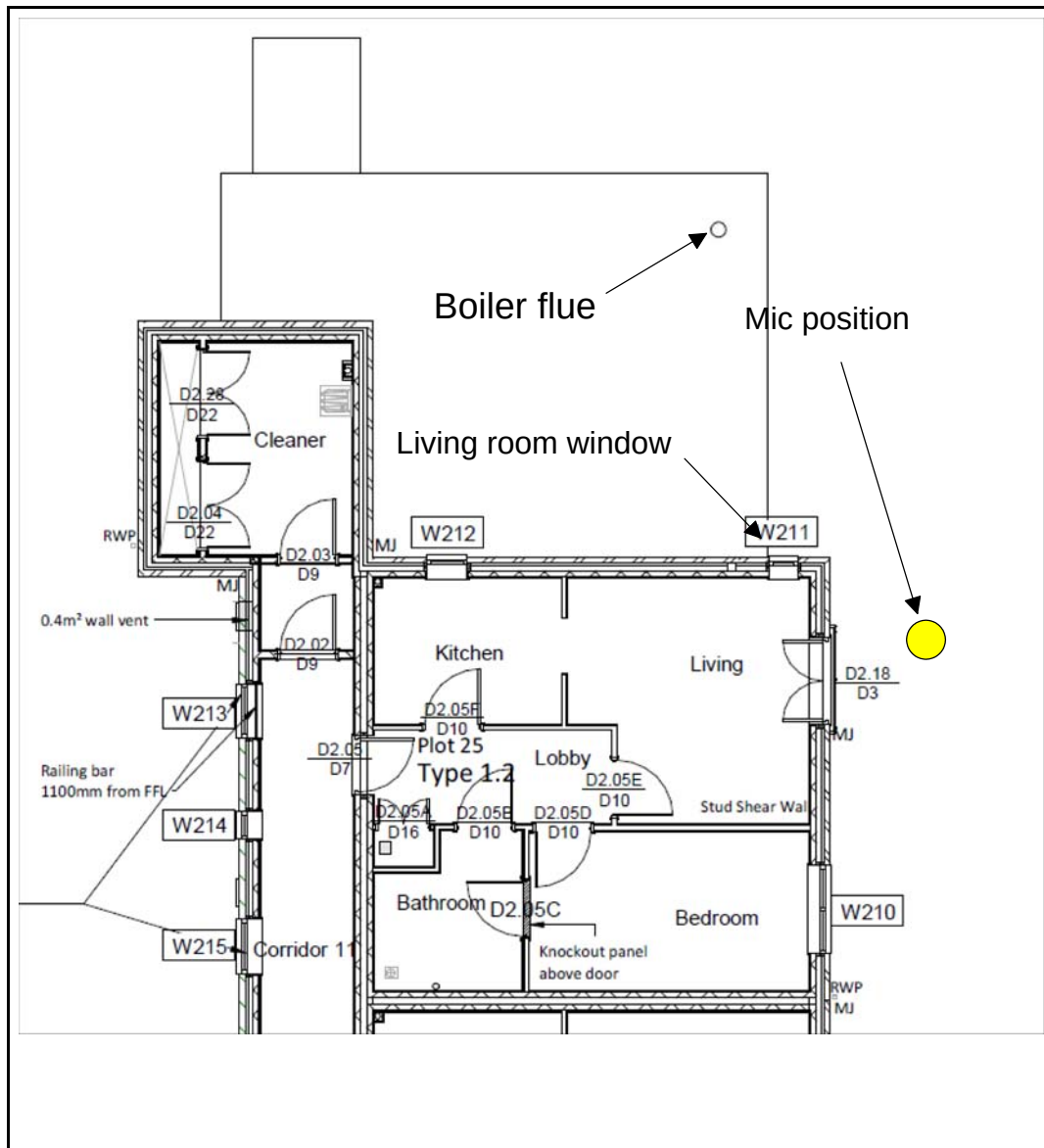
This is evidence that the specific sound due to the boiler flue, under typical cold weather demand conditions, must be more than 5 dB below background and therefore meets the planning condition.

This concludes this addendum to the main report.

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Supporting information attached:

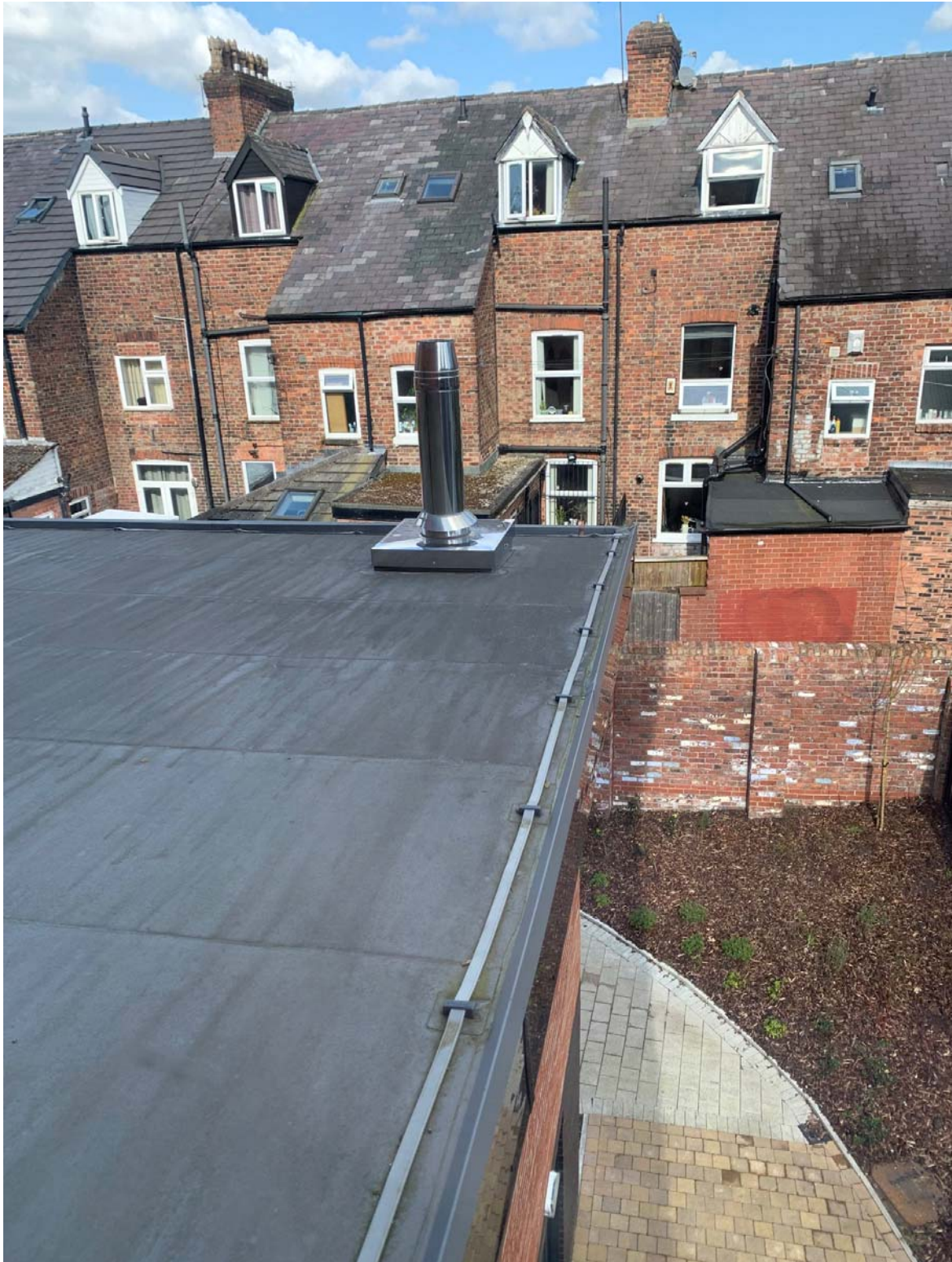
New measurement position



Sample weather report - BBC, for Sunday 20th March 2022

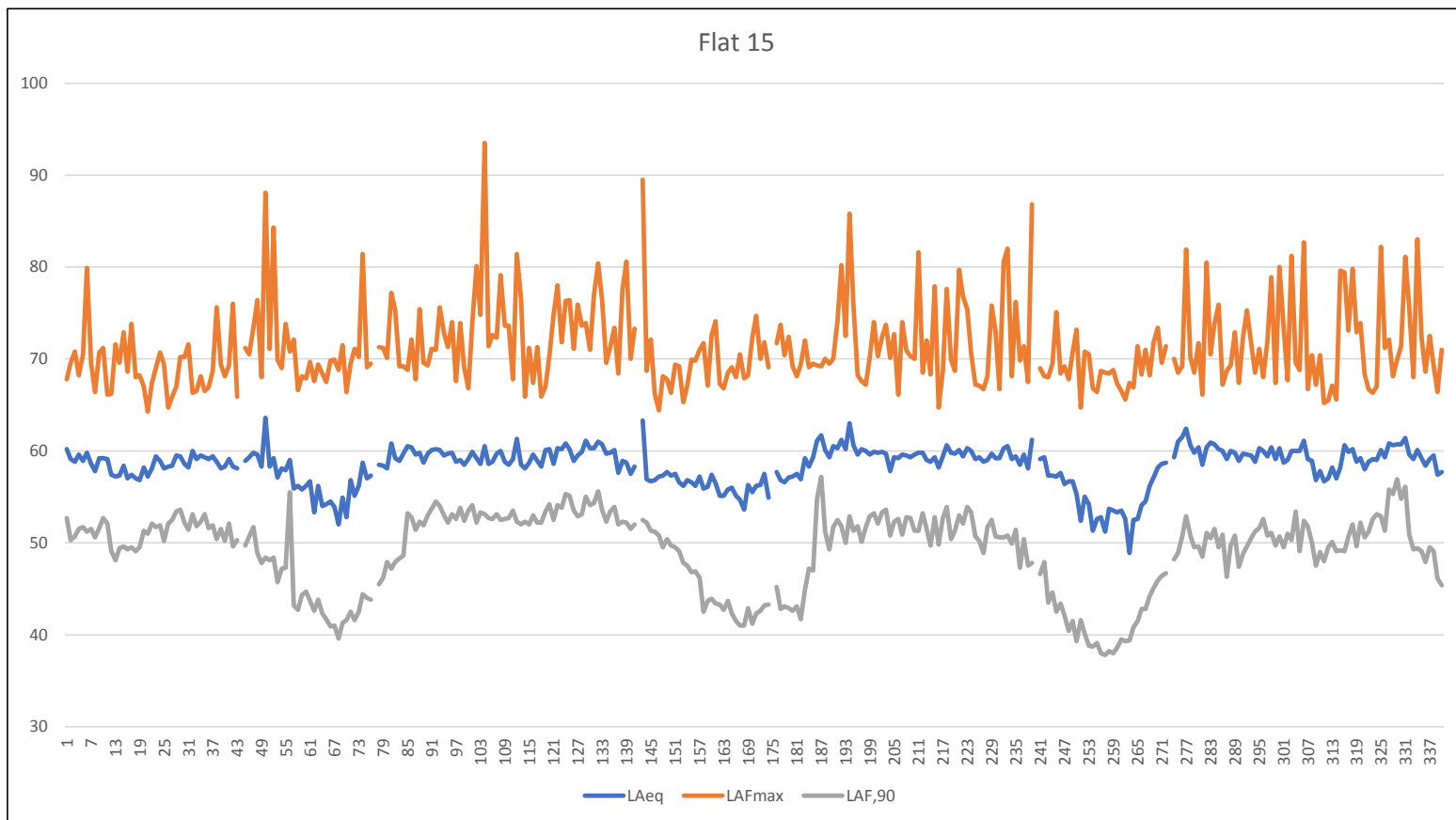


Boiler Flue location

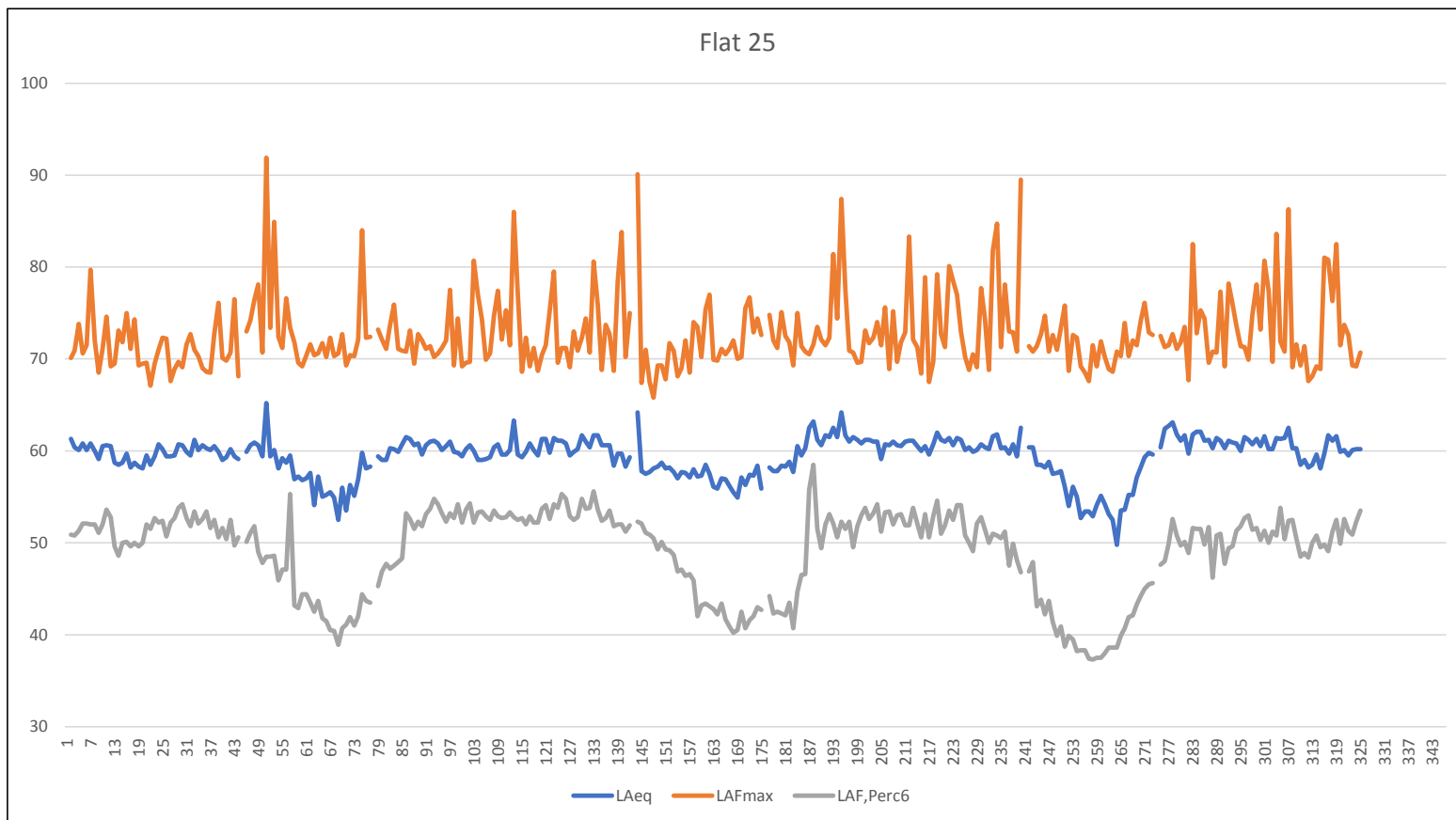


Microphone Location - Flat 25





	LAeq	LA90
Friday Day	58.65	51.20
Friday Night	57.49	45.05
Saturday Day	59.54	52.46
Saturday Night	56.89	45.81
Sunday Day	59.57	50.39
Sunday Night	55.76	41.72
Monday Day	59.70	50.68



	LAeq	LA90
Friday Day	59.85	51.61
Friday Night	58.50	44.90
Saturday Day	60.36	52.44
Saturday Night	57.84	45.38
Sunday Day	60.81	50.61
Sunday Night	56.79	41.08
Monday Day	60.87	50.64