



48.5244.L3:MSC

2nd May 2018

Colco Consulting Pty Ltd
29A Amiens Road
CLONTARF NSW 2093

Attention: Mr W Collins

Dear Sirs,

ACOUSTIC COMPLIANCE TESTING OF SOUND SYSTEM
F45 TRAINING MANLY

DJW Projects installed an RMS Limiter to the sound system at the F45 Gym at 13/22 Central Avenue, Manly in 2016.

By way of a letter dated 3 December 2016, DJW Projects identified the limiter settings that had been established to satisfy the critical noise target of inaudibility within any habitable room in any residential premises between 12 midnight and 7.00 am specified in the consent to DA289/2015.

Further to your request I have obtained the B & K 2250 sound level meter data files from DJW Project of the testing carried out on the morning of 1 December 2016 (noting the DJW letter states 1 December 2017).

DJW Projects conducted the sound level measurements (for setting the limiter) using a Bruel & Kjaer Sound Level Meter Type 2250 (serial number 3008215). At the time of the measurements the sound level meter held a current calibration certificate to manufacturer's specification as the meter was less than 2 years old.

A series of measurements were conducted between 5.16 am and 5.42 am during which the sound system levels were adjusted. The initial testing found audible and measurable increases above the background level at the nearest residential boundary on the eastern side of Central Avenue, opposite the entrance to the F45 gym where the measurements were conducted at street level. The location is similar to location 1 set out in my report of 25 September 2016, but one building bay to the south.

The sound system limiter was progressively reduced to obtain no increase above the background level at the residential boundary location to achieve the after 6.30am setting (from my measurement results) and then further reduced to obtain inaudibility at the monitoring location for the pre-6.30am limiter setting. I note that the DJW Projects pre-6.30am limiter setting is more stringent than the inaudibility requirement for inside residential premises.

The sound file data identifies variations in the background level because of trucks and delivery vehicles in Central Avenue in the early hours of the morning, which is a similar observation I made during my testing in September 2015.

The before 6.30am minimum L90 background level obtained by DJW Projects was 52 dB(A) which is similar to the background levels I obtained on 21 September 2016, as shown by the results in the following table.

Location	Parameter	dB(A)	A-weighted Octave Band Centre Frequency (Hz)								
			31	63	125	250	500	1k	2k	4k	8k
21.9.16											
1 Sample 1	Ambient L ₁₀	61	31	22	47	47	51	53	56	56	43
	Ambient L _{eq}	58	28	40	46	44	48	40	43	53	41
	Ambient L ₉₀	51	12	26	36	39	43	43	44	42	31
1 Sample 2	Ambient L ₁₀	60	31	38	44	48	52	55	54	50	40
	Ambient L _{eq}	57	27	37	41	43	50	52	52	48	39
	Ambient L ₉₀	50	14	27	36	40	44	44	42	37	27
1.12.16											
1	Ambient L ₁₀	57	23	43	45	47	51	52	50	44	35
	Ambient L _{eq}	54	22	40	43	45	49	49	47	43	35
	Ambient L ₉₀	52	15	35	38	42	45	45	43	38	30

The B & K 2250 meter owned by DJW Projects has wave file data recording that permitted me to confirm the music levels/inaudibility identified in the DJW Project letter.

Yours faithfully,

THE ACOUSTIC GROUP PTY LTD



STEVEN E. COOPER

