



PROJECT TECHNICAL MEMORANDUM

Project : Viadux Phase 2
Our Ref : 28830-PTM1-AGJ-R0
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RE: VIADUX PHASE 2, MANCHESTER ES ADDENDUM : NOISE & VIBRATION

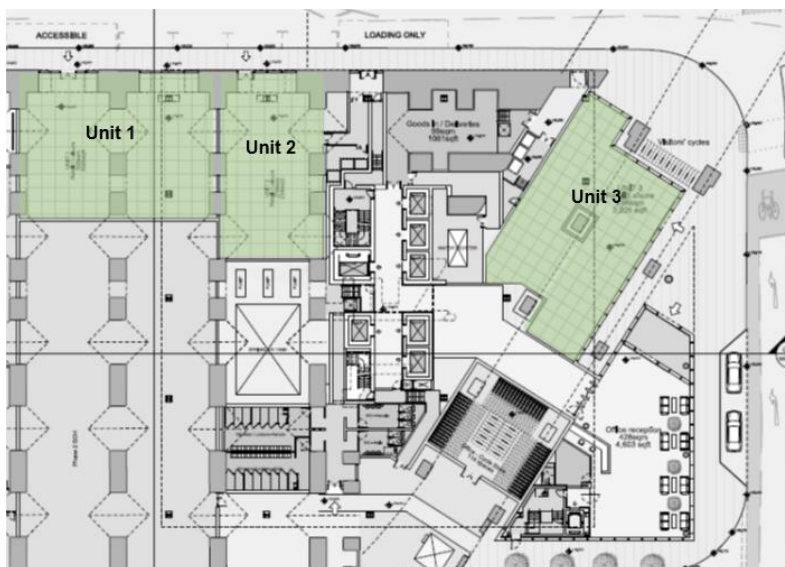
The technical memorandum serves as an addendum to the original Environmental Statement's (ES) Noise & Vibration Chapter, dated 2017, following recent changes to Building 3 in Phase 2 of the scheme. The original ES Noise & Vibration Chapter was compiled by Fisher Acoustics Ltd.

There are various design development changes to Phase 2, although the only item considered to affect the outcome of the original ES noise assessments would be:

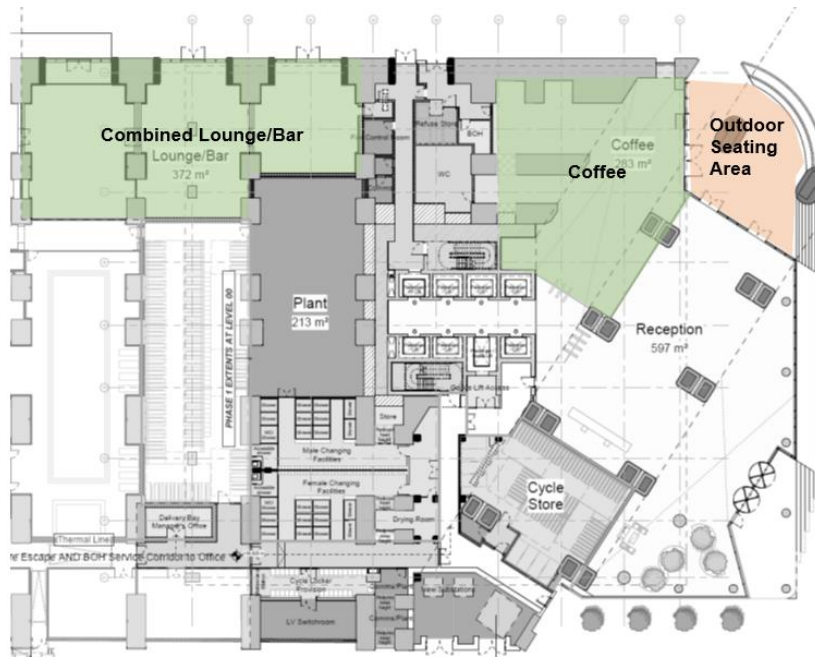
- Changes to Retail Units and addition of an external seating area to Retail Unit 3 (coffee shop).

Proposed Changes to Retail Units

The original scheme included two retail units (1 & 2) at ground floor off Great Bridgewater Street which have now been combined into a single residential lounge/bar unit. Retail unit 3 will now form a larger office reception spaces and coffee shop with an outdoor seating area. See below Figures.



Original Scheme – Ground Floor Layout



Latest Scheme – Ground Floor Layout

Addendum to ES Noise Assessment

Tables 10.17 and 10.17 of the original Chapter present maximum allowance daytime and night-time internal noise levels within commercial units (doors closed and opened respectively). These levels can remain unchanged. The limits presented for Unit 3 would be more than sufficient to accommodate noise from coffee shop operations.

The coffee shop's outdoor seating area is situated beneath the tram bridge adjacent to the junction of Great Bridgewater Street and Albion Street. The intention is for the space to include a handful of tables for coffee shop patrons (mostly office workers). Hence, at its busiest times there is unlikely to be more than around 20 people using the space. The coffee shop will only operate during daytime hours (between 07:00-23:00 hour).

Table 10.15 of the ES presents maximum allowance external music noise levels due to proposed commercial units which can be applied to the operation of the outdoor seating area. These are specifically for music (or entertainment) noise output to ensure levels are not more than 10 dB below the prevailing background noise level at the nearest noise sensitive receptors.

The daytime octave band music noise limits at 'The Axis', the nearest receptor to the coffee shop seating area, corresponds to a broadband noise level of **52 dBA L_{eq}** .

This receptor is approximately 55 metres away. If we consider that a human voice talking normally produces a noise level of ~60 dBA at 1m, our calculations indicate that 20 voices within the outdoor seating area would produce a noise level of **36 dBA L_{eq}** at The Axis façade some 55 metres.



This noise level is significantly below the aforementioned broadband noise limit, demonstrating that the operation of the outdoor seating area would constitute a low (negligible) risk of noise impact.

Should outdoor music be played, the loudspeaker system would need to be configuration to not exceed the following octave band noise limits set in line with Table 10.15 of the ES.

Description	Spatially Averaged Sound Pressure Level (dB) at Octave Band Centre Frequency (Hz)						
	63	125	250	500	1k	2k	4k
Coffee Shop Outdoor Seating Area	80	76	73	71	72	68	62

For and on behalf of
HANN TUCKER ASSOCIATES

Andrew Jameson