

22050-BT-L01

Kim Ebling

Corstorphine & Wright Architects

The Stables

Paradise Wharf

Ducie St.

Manchester

M1 2JN

22/09/2022

Dear Kim,

303 CHEETHAM HILL ROAD, PLANT NOISE

An assessment of the plant noise emissions of the plant at the above site has been undertaken, as detailed below.

Criteria

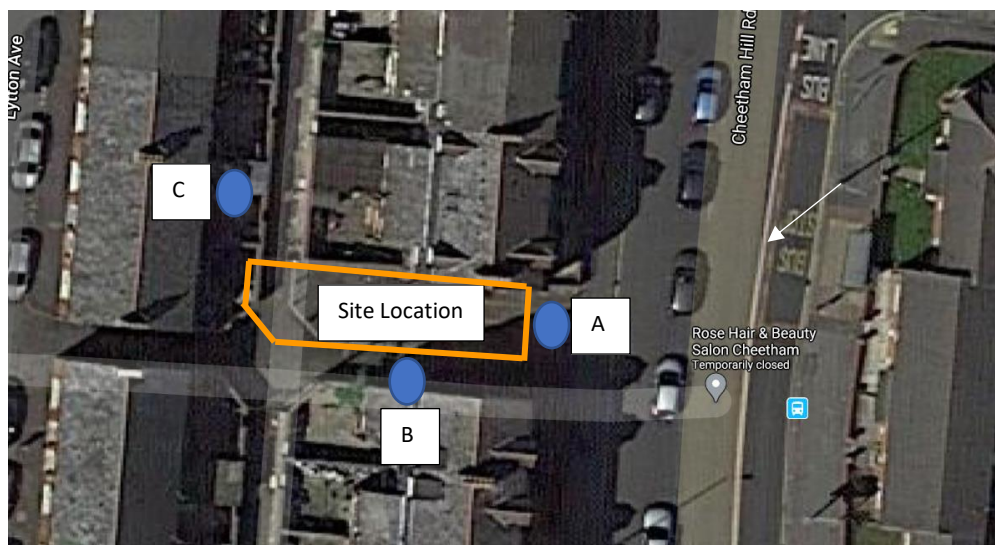
Manchester City Council require a typical plant noise limit of a rating level 5dB below the background noise levels during the period of operation.

Background Noise Levels

As the plant could operate at any time of day or night, the night-time background noise levels have been used in this assessment, as they are more onerous.

To assess the noise environment at the site, attended noise surveys were carried on Friday 26 June 2020 (daytime), and Friday 3 July 2020 (night-time). Additional measurements were taken during the rush hour period on Friday September 19th 2020. The measurement locations are shown in Figure 1, below.

Figure 1 – Site Location Showing Measurement Locations



A summary of the night-time noise levels measured are presented in Table 1, below. The measurements were carried out between 05:00 and 07:00h, representative of the noisiest period at night. Although night-time noise levels will reduce further in the period 23:00-05:00h, these levels have been considered representative of the entire 8-hour period, in order to provide a robust, worst-case assessment.

Table 1: Summary of night-time measured noise levels

Location	Start Time (hh:mm)	End Time (hh:mm)	$L_{Aeq,T}$ (dB)	$L_{A10,T}$ (dB)	$L_{A90,T}$ (dB)	$L_{Amax,F}$ (dB)
A	05:00	05:15	67	71	45	84
	05:45	06:00	69	73	49	84
	06:30	06:45	72	76	58	84
	06:45	07:00	71	76	54	87
B	05:15	05:30	61	66	44	76
	06:00	06:15	62	67	46	76
C	05:30	05:30	55	60	44	71
	06:15	06:30	56	61	46	68

Plant

The only plant associate with the small residential development are 3 toilet extract fans (model Xpelair 92931AW) and one Kitchen hood extract fan (Lamona LAM2550).

The Xpelair has a published sound pressure level of 41dBA @ 3m. No noise data for the Lamona is published but is likely to be similar to the Xpelair.

Assessment

There are no windows on façade B. Background noise levels are significantly lower at located C than A, and the plant is located at the rear of the property, and hence the assessment has been undertaken to the houses to the rear of the property.

The lowest background noise level measured during the noise survey was 44dBL_{A90,15min}.

The nearest house is around 11m from the rear of the property. Based on a noise level of 41dBA @ 3m, the distance correction to 11m is $20 * \log(3/11) = -11\text{dB}$. The correction for 4 units, assuming all operating simultaneously as a worst case, is $10 * \log(4) = +6\text{dB}$.

On this basis, the corrected noise level at the house is $41 - 11 + 6 = 36\text{dBL}_{Aeq,T}$.

This is 8dB lower than the lowest measured background noise level at night, and hence meets MCC criteria.

Yours Sincerely,

Ben Tomlin

Associate, dBx Acoustics Ltd