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Heineken Manchester, Denmark Road Manchester

Acoustic Commissioning Report
Report 23102.AC.08

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1.0 INTRODUCTION

KP Acoustics Ltd has been commissioned by Norder Design Associates Ltd, Beech Lawn, Green Lane, Belper, Derbyshire, DE56 1BY to undertake commissioning noise measurements of a completed plant equipment installation and change to the external building fabric relating to the MCV Vessel & Cereal Cooker at Heineken, Denmark Road, Manchester. Norder project reference 9062.

This report presents commissioning measurements to demonstrate the plant unit installation complies with the emissions criteria at the closest noise-sensitive receivers. This report follows an earlier report, reference '23102.PCR.01', which assessed the impact of plant more widely across the site.

2.0 SITE SURVEYS

2.1 Site Description

As shown in Figure 2.1, the site is bounded by Greenheys Lane to the North, Princess Road to the West, Moss Lane to the South and local roads to the East. There are commercial buildings to the west of the site over the road and a mix of commercial, residential and civil buildings in other directions.

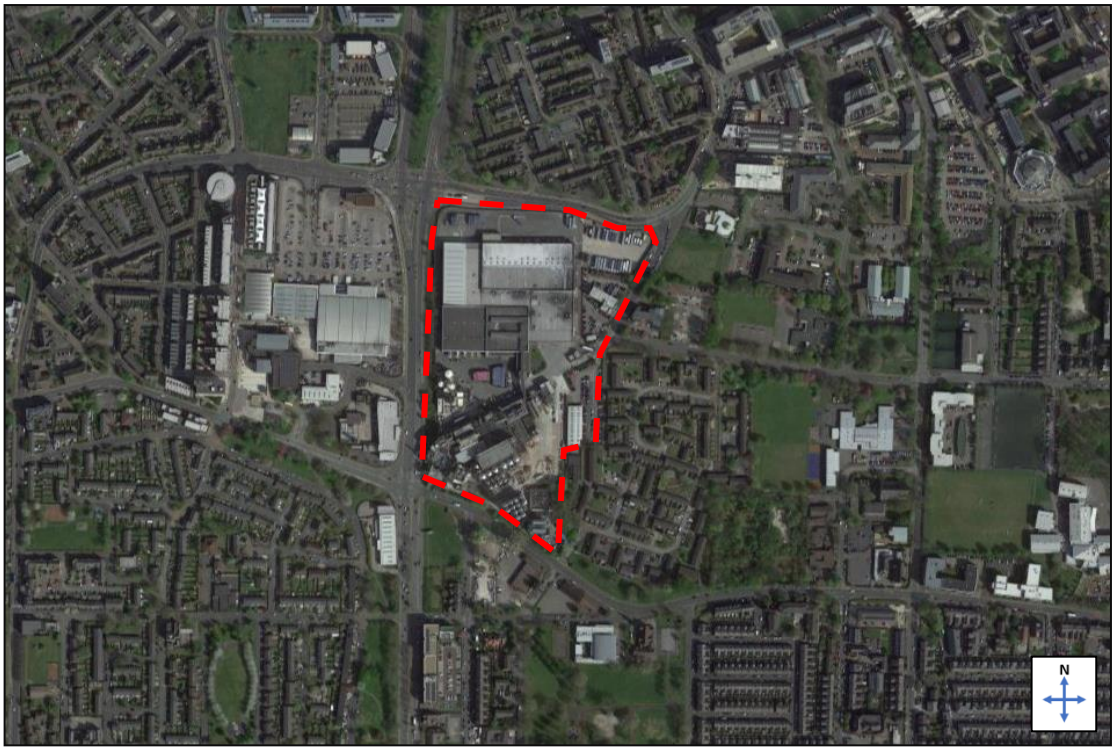


Figure 2.1 Site Location Map (Image Source: Google Maps)

2.2 Previous Assessment

A full study of the noise environment was carried out and detailed in KP Acoustics report with reference 23102.PCR.01, dated 23/12/2021.

In the above study, the noise impact of the site was found to be acceptable after the implementation of noise mitigation measures recommended to bring down the noise levels of some elements, which had been complained about or were otherwise found to require mitigation.

3.0 NOISE ASSESSMENT GUIDANCE AND TARGETS

3.1 Local Authority Guidance

The requirements of Manchester City Council in this instance are described in Planning Decision Notice 139675/FO/2024:

"6) b. Prior to occupation of the development a verification report shall be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that acceptable criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.

7) b. Prior to the operation of the scheme a verification report shall be submitted to and approved in writing by the City Council as local planning authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria."

Part A of each of the above conditions were previously discharged through the submission of 23102.PCR.01 and 23102.PCR.05 Rev B.

3.2 Targets

The targets for noise level external to receivers 1-5 were set in report reference '23102.PCR.01', and are listed below in Table 3.1.

Receiver	Criterion, dB(A), Day 07:00-23:00 (Upper Limit)	Criterion, dB(A), Night 23:00-07:00 (Upper Limit)
1	57	50
2	57	50
3	57	41

4	55	44
5	58	46

Table 3.1 Criteria at nearest noise sensitive locations

The location of receivers are explained in detail in report reference '23102.PCR.01', but in summary they are:

- R1 - Quinney Crescent to the southwest of the site
- R2 - Barnhill Street to the south of the site
- R3 - Charles Halle Road to the east of the site
- R4 - Greenheys Lane to the north of the site
- R5 - Westwood Street to the southeast of the site

For this project, The closest noise sensitive receiver to the proposed installation locations are:

- Mixer room - **Receiver 1**, located approximately 110 metres from the proposed plant installation location.
- Syrup room - **Receiver 1**, located approximately 140 metres from the proposed plant installation location.

4.0 PLANT INSTALLATION

Full details of the plant installation are available within the previously submitted report 23102.PCR.05 Rev B.

The plant installation involves the replacement of 2no. mash conversion vessels & 1no. new cereal cooker, this includes the installation of motors and flues in the building. Motors for the syrup room are also proposed, however there are no open elements to this room and the room is fully contained by solid brick walls.

The plant installation is comprised of the following units:

- 3 No. Nord Drivesystems 160MP/4 TF Motor units in Mixer Room
- 3 No. Motor units (model unknown) in Syrup Room

The installation location for the motor units in the mixer room is at the bottom of the mixers, as shown in Figure 4.2. The noise emission levels as provided by the manufacturer for the units are shown in Table 4.1.

Unit	Descriptor	Octave Frequency Band (Hz)								Overall (dBA)
		63	125	250	500	1k	2k	4k	8k	
Nord Drivesystems 160MP/4 TF	SWL (dB)	Spectral data not provided by manufacturer								79

Table 4.1 Plant Units Noise Emission Levels as provided by the manufacturer (Mixer Room)

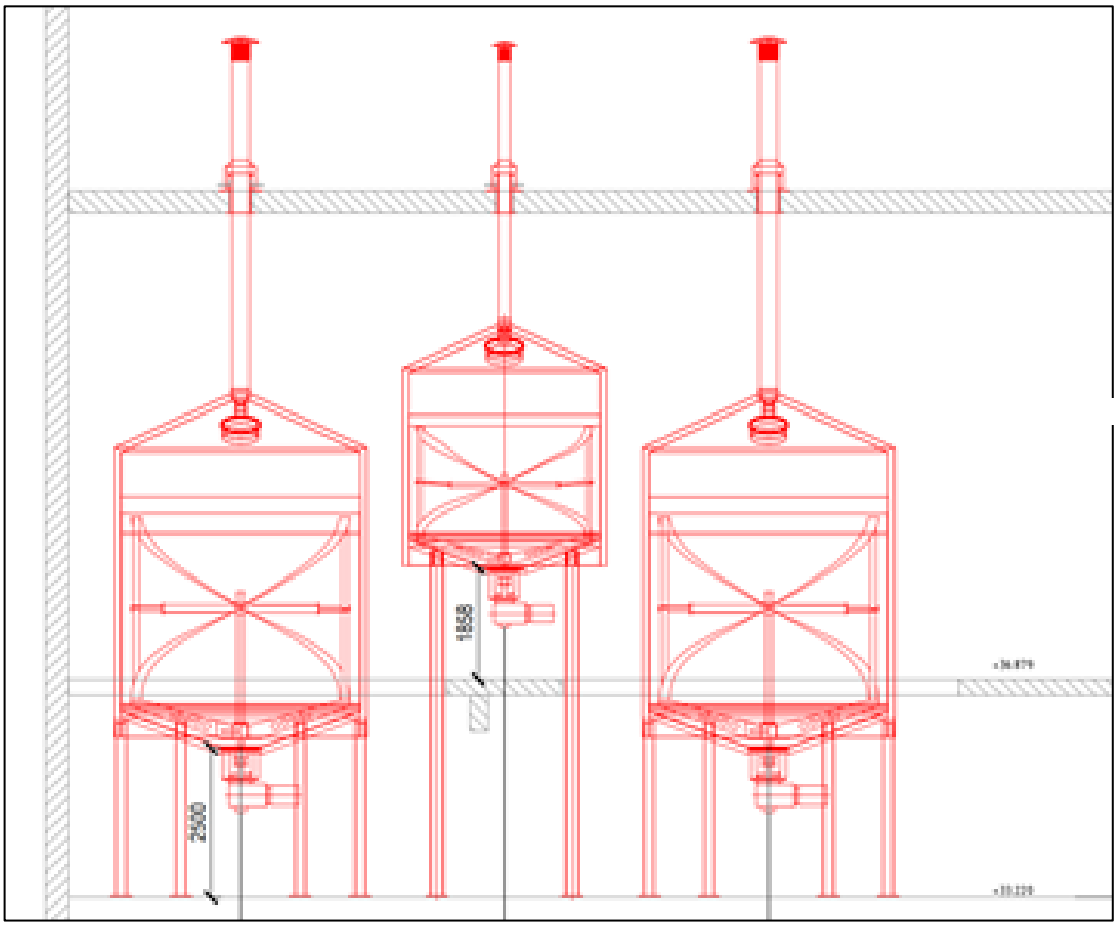


Figure 4.2 Proposed plant locations (Source: Norder)

There are three flues connected to the mixers. We have been informed that these flues are not connected to the motors, or any other fan or significant noise-producing plant. Further flues and chimneys are already existing at the roof.

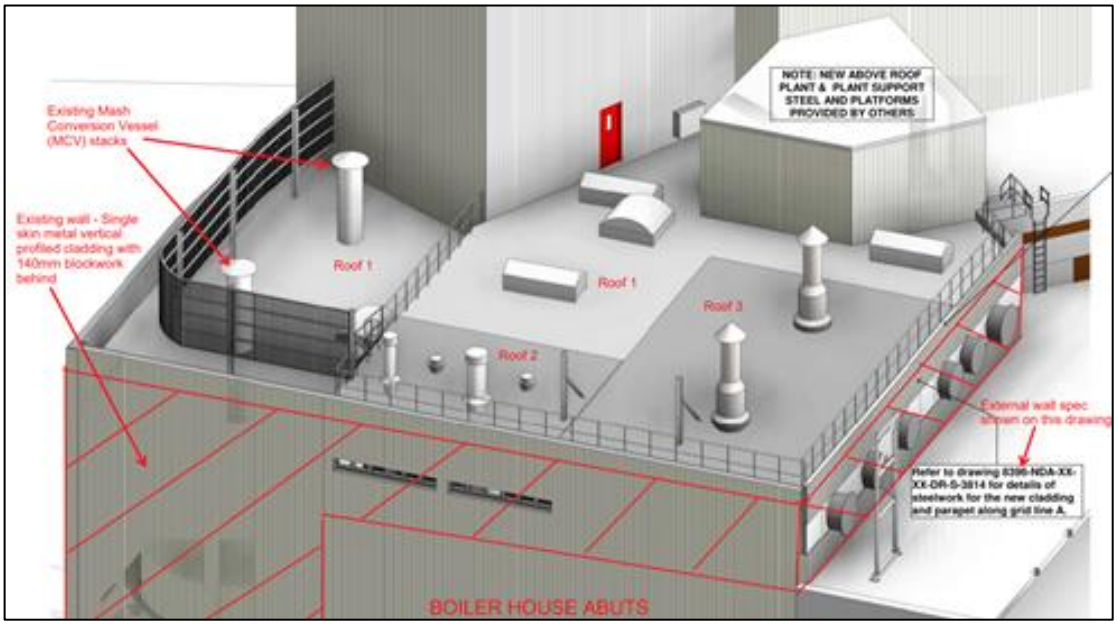


Figure 4.3 Proposed roof layout (Source: Norder)

The installation location for the motor units in the syrup room is floor mounted. The units are mounted in a closed room at ground floor, with a solid brick wall as the building envelope. The noise emission levels as provided by the manufacturer for the units are shown in Table 4.2.

Unit	Descriptor	Octave Frequency Band (Hz)								Overall (dBA)
		63	125	250	500	1k	2k	4k	8k	
Motor Unit	SPL @ 1m (dB)	Spectral data not provided by manufacturer								85

Table 4.2 Plant Units Noise Emission Levels as provided by the manufacturer (Syrup Room)

5.0 COMMISSIONING MEASUREMENTS

5.1 Procedure

The site was attended on 31 July 2025 to undertake commissioning measurements. The Mixer Room is the only space with openings in the façade through which noise may potentially escape, and measurements were therefore undertaken immediately outside these openings.

No noise was audible at the Mixer Room openings (including both the flues at roof level and the louvred openings at lower level). As a result, it was necessary to obtain internal noise measurements within the Mixer Room itself and apply calculations to predict propagation to the nearest receptors.

This outcome provides strong evidence that noise from the Mixer Room will not be perceptible at the nearest receptors, given that it was not audible even within 1 m of the openings.

It should be noted that there was other works ongoing within the Mixer Room which could not be stopped however the equipment under assessment was still running. Therefore this would result in much higher noise levels than would typically be expected and can be considered an extremely pessimistic worst-case.

Weather conditions during the survey were generally dry with light winds, and were therefore considered suitable for noise measurement.

5.2 Equipment

The equipment calibration was verified before and after use and no abnormalities were observed. The equipment used is described below.

Measurement Instrumentation	Manufacturer and Type	Serial Number
SLM4 Precision integrating sound level meter & analyser	NTi Audio, XL2-TA Calibration No: TCRT24/ 1627 Calibration Dates: 20/08/2023 Calibration Due: 19/08/2025	A2A-09207-E0
CAL3 – KP North Calibrator 3	Larson Davies CAL200 Calibration No: UCRT24/2065 Calibration Date: 07/08/2024 Calibration Due: 06/08/2025	8932

Table 5.1 Measurement instrumentation

5.3 Results

The measured source noise level data is provided below.

Source	Sound Pressure Level (dB) at Octave Band Centre Frequency (Hz)								dBA
	63	125	250	500	1k	2k	4k	8k	
Low level louvre to Mixer Room (0.5m)	65	60	56	55	53	49	46	43	58
Background for above (no influence from louvre)	64	57	54	55	53	53	48	41	59
Rooftop flues to Mixer Room (1.5m)	63	58	59	60	56	51	45	38	61
Background for above (no influence from flue)	65	59	59	59	55	51	45	38	60
Reverberant sound level measurement within Mixer Room	74	65	68	67	66	71	65	62	75

Table 5.2 Measured source noise level data

Subjectively, there was no noise audible from the façade/roof openings over and above the general background noise. This correlates to the noise level measurements of the source not being above the general background noise level measurement.

6.0 ASSESSMENT

6.1 Closest Noise Sensitive Receivers

The closest noise sensitive receiver to the plant installation is as follows:

- **R1** - Quinney Crescent to the southwest of the site (approximately **100 m**)

6.2 Calculations

Taking all acoustic corrections into consideration and based on the source noise measurements undertaken in Section 5.0, the noise level contribution expected at the closest receiver from the proposed plant would be as shown in Table 6.1. Note that the assessment uses the internal measured noise level, along with the acoustic corrections as already approved by Manchester City Council during the discharge of Part A of each planning condition. This was necessary since the noise external to the room itself was not audible above the general background noise level.

The calculated noise level at each receptor has been assessed against the night-time criteria to facilitate a worst-case assessment.

The subjective impression on site was that the source noise was constant and free of acoustic features such as tonality or impulsivity. It should also be noted that the measured noise levels also do not indicate tonality when assessed objectively in accordance with the guidance of BS 4142:2014. Whilst the need for character corrections should be assessed based on the noise level at the receivers, this is a positive indication that no corrections are required.

Description	**Receiver**
	R1
Reverberant sound level measurement within Mixer Room	75 dB L_{Aeq}
Approximate SRI of open window/grate	-13 dB
Distance correction	-41 dB (110 m)
Reverberant field to external field correction	-14 dB
Predicted Rating Level at receiver	9 dB $L_{Ar,15min}$
Criteria (23:00 – 07:00)	50 dB $L_{Ar,15min}$

Table 6.1 Predicted noise level and criterion at nearest noise sensitive location (night-time)

As shown above, the above indicates compliance with the requirements of the Local Authority. Further to the above, the predicted noise level is around 41 dB below the criteria such that

there should be effectively no contribution to 'background noise creep' at the nearest receptors.

7.0 CONCLUSION

Using measured source noise data of the installed plant unit installation, noise levels have been predicted at the nearby noise sensitive receivers for compliance with local planning requirements.

The assessment has shown that noise emissions from the plant unit installation comfortably meet the requirements of Manchester City Council.