

Heineken Manchester, Denmark Road Manchester

Acoustic Commissioning Report
Report 23102.AC.11 Rev A

Norder Design Associates Ltd
Beech Lawn
Green lane
Belper
Derbyshire
DE56 1BY

Report 23102.AC.11		
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First Issue 24/10/2025	Jamie Murray MIOA Principal Acoustic Consultant	John Cane MSc MIOA Senior Acoustic Consultant
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	Revised to include noise management plan within Section 6.0.	
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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 the completed maize silo installation and associated loading activities at Heineken, Denmark Road, Manchester. Norder project reference 8679.

This report presents commissioning measurements to demonstrate the installations comply with the emissions criteria at the closest noise-sensitive receptors. 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.

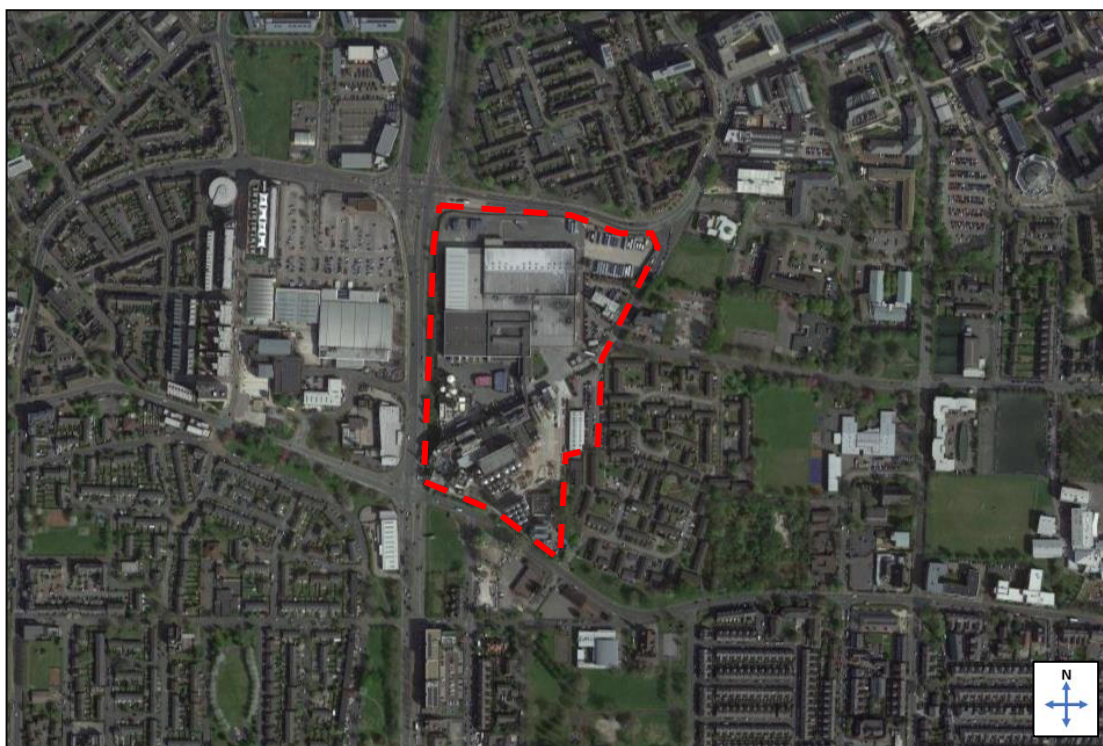


Figure 2.1 Site Location Map (Image Source: Google Maps)

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.

The location of receptors is 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

The typical background sound level for each receptor was determined in report reference '23102.PCR.01', and are listed below.

Period	Typical Background Sound Level (L _{A90}) at Receptor				
	1	2	3	4	5
Daytime (07:00 -23:00)	62 dB	62 dB	62 dB	60 dB	63 dB
Night-time (23:00 – 07:00)	55 dB	55 dB	46 dB	49 dB	51 dB

Table 2.2 Typical background sound level at each receptor

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 130013/FO/2021:

“5) Prior to commencement of the use hereby approved a Noise Management Plan (NMP) shall be submitted to and approved in writing by the City Council as local planning authority. The NMP shall include an assessment of noise from all activities associated with the loading bay, service yard and loading dock area.

6) a) Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the use hereby approved the scheme shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the site.

b) Prior to the first use of the development hereby approved 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.”

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.

Period	Plant Noise Emission Limits, L _{Ar,T}				
	1	2	3	4	5
Daytime (07:00 -23:00)	57 dB	57 dB	57 dB	55 dB	58 dB
Night-time (23:00 – 07:00)	50 dB	50 dB	41 dB	44 dB	46 dB

Table 3.1 Criteria at nearest noise sensitive locations

4.0 PLANT INSTALLATION

The plant installation is comprised of the following units:

- 1 No. blower cabinet
- 2 No. chain conveyors
- 2 No. motors

The plant installation locations are shown in Appendix A. The above plant items only operate when maize is being transferred from the silos into the brewery, but would operate for sustained periods of around 30-60 minutes at a time.

When deliveries occur, the HGV pulls up to the maize silos and unloads via blowers on the HGV. The deliveries last for at least 45 minutes at a time, but only a single delivery would occur at any one time. These deliveries have been limited to occur during daytime periods only.

5.0 COMMISSIONING MEASUREMENTS

5.1 Procedure

Maize Silos – Fixed Plant

The site was attended on 10 September 2025 to undertake commissioning measurements. Source noise measurements were undertaken of each specific plant item at 1 m from each specific plant item.

Weather conditions were generally dry with light winds and therefore suitable for the measurement of noise.

Maize Delivery

The site was attended on 31 July 2025 to undertake measurements of a maize delivery. Source noise measurements were undertaken at a distance of 15 m from the blower on the HGV.

Weather conditions were generally dry with light winds and therefore suitable for the measurement of noise.

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	For site visit on 31/07/25 NTi Audio, XL2-TA Calibration No: TCRT24/1627 Calibration Dates: 20/08/2023 Calibration Due: 19/08/2025	A2A-09207-E0
	For site visit on 10/09/25 NTi Audio, XL2-TA Calibration No: UCRT25/2203 Calibration Date: 01/09/2025 Calibration Due: 31/08/2027	
CAL3 – KP North Calibrator 3	For site visit on 31/07/25 Larson Davies CAL200 Calibration No: UCRT24/2065 Calibration Date: 07/08/2024 Calibration Due: 06/08/2025	8932
	For site visit on 10/09/25 Larson Davies CAL200 Calibration No: UCRT25/2200 Calibration Date: 01/09/2025 Calibration Due: 31/08/2026	

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	
Maize Delivery (15m)	71	74	66	77	73	68	63	64	78
Maize Silo – Blower Cabinet (1m)	72	66	69	67	66	58	55	48	70
Maize Silo – 1No. Chain Conveyor (1m)	70	71	72	66	63	56	53	49	69
Maize Silo – 2 No. Motors (1m)	72	67	70	67	63	56	54	56	69

Table 5.2 Measured source noise level data

Subjectively, there was a highly perceptible tonal element to the maize delivery, but no distinct acoustic features were present for any of the fixed plant items.

6.0 ASSESSMENT – MAIZE DELIVERY (CONDITION 5)

6.1 Closest Noise Sensitive Receptors

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

- **R1** - Approximately **200 m**, fully screened
- **R2** - Approximately **215 m**, fully screened
- **R3** - Approximately **185 m**, partially screened
- **R4** - Approximately **325 m**, fully screened
- **R5** - Approximately **190 m**, fully screened

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 nearest receptors from the maize delivery would be as shown below.

The calculated noise level at each receptor has been assessed against the daytime criteria for each individual receptor. Detailed calculations for each receptor are shown in Appendix B.

The subjective impression on site was that the source noise contained significant tonal elements. Whilst the need for character corrections should be assessed based on the noise level at the receptors, a +6 dB acoustic feature correction for tonality has been applied to the

specific level to account for highly perceptible tonality at the receptor to facilitate a worst-case assessment.

Description	Receptor				
	1	2	3	4	5
Predicted Rating Level at Receptor L _{Ar,15min}	52 dB	51 dB	57 dB	47 dB	52 dB
Criteria L _{Ar,15min}	57 dB	57 dB	57 dB	55 dB	58 dB

Table 6.1 Assessment of maize delivery

The above indicates compliance with the requirements of the Local Authority during daytime periods.

6.3 Noise Management Plan

The following noise management plan has been put in place to lower noise emissions as far as reasonably possible:

- Maize deliveries shall take place during daytime hours only (07:00 – 23:00), no maize deliveries shall take place during night-time hours.
- All plant and equipment will be regularly maintained to ensure that no item will produce excessive noise.
- There is a sitewide ban on delivery vehicles idling unnecessarily, which shall also apply to any vehicles within the maize silo and loading area.
- A speed limit of 10mph is in place at the site.
- Site staff will be made aware that they are working in the immediate vicinity of residential receptors and avoid all unnecessary noise due to misuse of tools and equipment, and unnecessary shouting and radios. To further enhance this, staff will be trained to operate the equipment and plant without causing excess noise.
- All operational staff will be responsible for reporting any noise problems immediately to the Brewery Manager (or designated responsible person).

7.0 ASSESSMENT – FIXED PLANT (CONDITION 6)

7.1 Closest Noise Sensitive Receptors

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

- **R1** - Approximately **200 m**, fully screened
- **R2** - Approximately **215 m**, fully screened
- **R3** - Approximately **185 m**, partially screened
- **R4** - Approximately **325 m**, fully screened
- **R5** - Approximately **190 m**, fully screened

7.2 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 nearest receptors from the proposed plant would be as shown below.

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

Detailed calculations for each source noise level measurement are shown in Appendix B.

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 receptors, this is a positive indication that no corrections are required.

Description	Receptor				
	1	2	3	4	5
Predicted Rating Level at Receptor $L_{Ar,15min}$	19 dB	18 dB	25 dB	15 dB	19 dB
Criteria $L_{Ar,15min}$	50 dB	50 dB	41 dB	44 dB	46 dB

Table 7.1 Assessment of maize silo fixed plant

The above indicates compliance with the requirements of the Local Authority during all periods.

8.0 CONCLUSION

Commissioning noise surveys have been undertaken for the maize silos and associated delivery activities at the Heineken Denmark Road site. Source measurements and subsequent propagation calculations have been carried out in accordance with BS 4142:2014 and BS 7445:2003.

The results demonstrate that the predicted Rating Levels at all identified noise-sensitive receptors fall within the site-specific criteria established in report reference 23102.PCR.01.

On this basis, the installed plant and associated activities are considered to comply with the requirements of Condition 5 and 6 of the planning decision notice 130013/FO/2021. No further noise mitigation measures are considered necessary.

APPENDIX A

The installation location for the maize silos is marked in red below. The location for maize deliveries is marked in green below.



Figure A.1 Plant location (red) (Source: Google Maps)

Each of the noise sources associated with the maize silos is marked up in the image below.

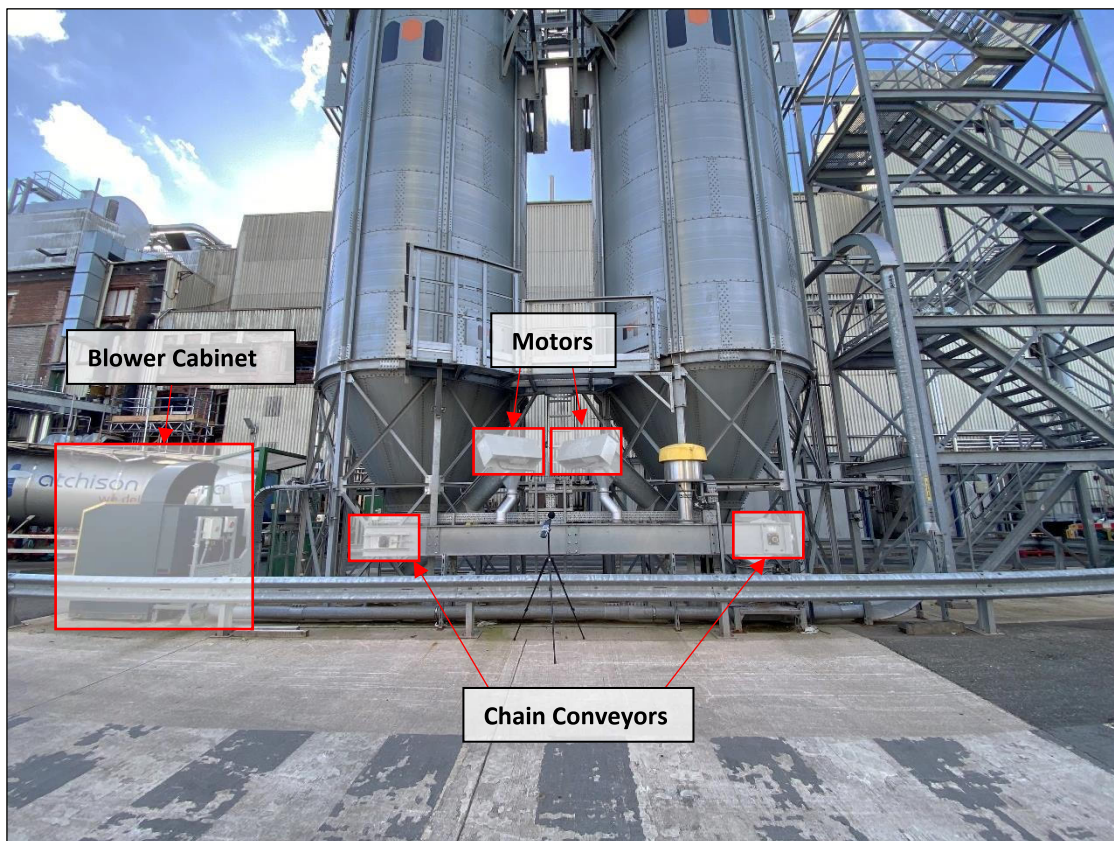


Figure A.2 Noise sources associated with the maize silo

APPENDIX B

Maize Deliveries

Description	Receptor				
	1	2	3	4	5
Sound Level at 15 $L_{Aeq,15min}$	67 dB	67 dB	67 dB	67 dB	67 dB
Distance Correction	-22 dB	-23 dB	-22 dB	-27 dB	-22 dB
Screening Correction	-10 dB	-10 dB	-5 dB	-10 dB	-10 dB
Tonality Acoustic Feature Correction	+6 dB	+6 dB	+6 dB	+6 dB	+6 dB
Predicted Rating Level at Receptor $L_{Ar,15min}$	52 dB	51 dB	57 dB	47 dB	52 dB

Table B.1 Calculation summary for maize deliveries

Maize Silo Fixed Plant

Source	Sound Pressure Level (dB) at Octave Band Centre Frequency (Hz)								dBA
	63	125	250	500	1k	2k	4k	8k	
Maize Silo – Blower Cabinet (1m)	72	66	69	67	66	58	55	48	70
Maize Silo – 1No. Chain Conveyor (1m)	70	71	72	66	63	56	53	49	69
Maize Silo – Chain Conveyor corrected to 2No. (1m)	73	74	75	69	66	59	56	52	72
Maize Silo – 2 No. Motors (1m)	72	67	70	67	63	56	54	56	69
Cumulative sound level at 1m	77	75	77	73	70	63	60	58	75

Table B.2 Standardised correction to cumulative sound level at 1m

Description	Receptor				
	1	2	3	4	5
Cumulative Sound Level at 10m $L_{Aeq,15min}$	75 dB	75 dB	75 dB	75 dB	75 dB
Distance Correction	-46 dB	-47 dB	-45 dB	-50 dB	-46 dB
Screening Correction	-10 dB	-10 dB	-5 dB	-10 dB	-10 dB
Predicted Rating Level at Receptor $L_{Ar,15min}$	19 dB	18 dB	25 dB	15 dB	19 dB

Table B.3 Calculation summary for maize silo fixed plant