Boundary Noise Survey

Melton Foods, Melton Mowbray

August 2024






Experts in noise and vibration assessment and management

Document Control

Client	Melton Foods – A Division of Samworth Brothers Limited	**Principal Contact**	Jack Large

Job Number	J10-14744A-20

Report Prepared By:	David Sproston (Associate Director)

Document Status and Review Schedule

Report No.	Date	Status	Reviewed by
J10-14744A-20-R02-01	5 August 2024	Final	Jon Sims (Associate Director)

Noise Consultants Ltd operates a formal Quality Management System, which is certified to ISO 9001:2015 and a formal Environmental Management System, which is certified to ISO 14001:2015. NCL are an Associate Member of the Association of Noise Consultants (ANC).

When printed by Noise Consultants Ltd, this report will be on Evolve Office, 100% Recycled paper.

Noise Consultants Ltd
Patten House, Moulders Lane, Warrington, WA1 2BA Tel: 01925 937 195
contact@noiseconsultants.co.uk

Registered Office: 23 Coldharbour Road, Bristol, BS6 7JT
Companies House Registration No: 10853764

Contents

Tables

Figures

1 Introduction

1.1 This report describes the results of noise measurements carried out at the Melton Foods manufacturing facility at 3 Samworth Way in Melton Mowbray (the 'Site'). The measurements were requested in addition to a noise assessment and noise and vibration management plan (NVMP) prepared in connection with an Environmental Permit variation application, and are for in-house reference only.

Site Description and Environs

1.2 The Melton Foods manufacturing facility is located 2.2 km to the west of the centre of Melton Mowbray, a town in Leicestershire. The Site location is shown in **Figure 1.1**, and is located directly to the west of Kettleby Foods which also holds an environmental permit. Further west are open fields.

1.3 The Site manufactures a range of chilled and ambient foods, including sandwiches, wraps, and porridge. Samworth Brothers Supply Chain provides temperature-controlled distribution services to companies within the Samworth Brothers Group, external food manufacturers, retailers and other distributors. NCL understand that the Site is not subject to time restrictions and operates 24 hours a day, 7 days/week.

1.4 The Site has extant planning consent[1] for all existing operations, with access provided from the A607 to the south, beyond which are open fields and Leicester Road Industrial Estate.

1.5 The Birmingham to Peterborough railway runs along the northern boundary in a 5-6m deep cutting and carries both passenger and freight trains, day and night.

1.6 NCL understand that the Site has not received any significant noise complaints, directly or through the Environment Agency or Local Planning Authority.

1.7 **Table 1.1** summarises the various elements of operational noise within the Site, and their audibility at the identified NSRs.

[1] Melton Borough Council, Planning ref: 31/01054/FUL, Approved 8th April 2024

Table 1.1: Summary of Operational Noise Sources: Audibility and Noise Model Inclusion

Area / Source	Source Detail	Audibility at NSR(s)	Included in Noise Model
HV Compound	All existing plant	Inaudible at all NSRs	-
Rooftop Plant	Roof mounted plant on the main building		-
Noise Break-out	Noise breakout from production buildings		-
Dispatch Yard (Goods Out)	Idling HGVs and HGV movements		Yes
	Refrigerated trailer Carrier chiller packs		Yes
Intake Unloading area (Packaging)	All unloading activities including HGV and forklift truck movements	Infrequently audible at NSR1	Yes
Intake Service Yard (Goods In)	Hydraulic vertical balers	Inaudible at all NSRs	-
	Idling HGVs and HGV movements	Occasionally audible at NSR1	Yes – the model includes these sources in the southern area of the yard to reflect current operating conditions
	DFU	Faintly audible at night at NSR1 only	Yes
Ammonia Plant	All plant	Inaudible at all NSRs	-
Effluent Plant	All plant	Inaudible at all NSRs	Yes

Existing Identified Noise Sensitive Receptors

1.8 The nearest existing noise-sensitive receptors (NSRs) to the Site have been identified as dwellings, details of which are summarised in **Table 1.2.**

1.9 Adjacent to the south-eastern corner of the Site, and within the ownership of Melton Foods, is one pair of semi-detached 2-storey dwellings that front Leicester Road. Their rear gardens overlook Melton Foods' intake yard.

1.10 Around 250m to the east are existing dwellings on Badger Avenue. Further to the east is a new residential development, currently under construction.

Figure 1.1: Site Location Plan

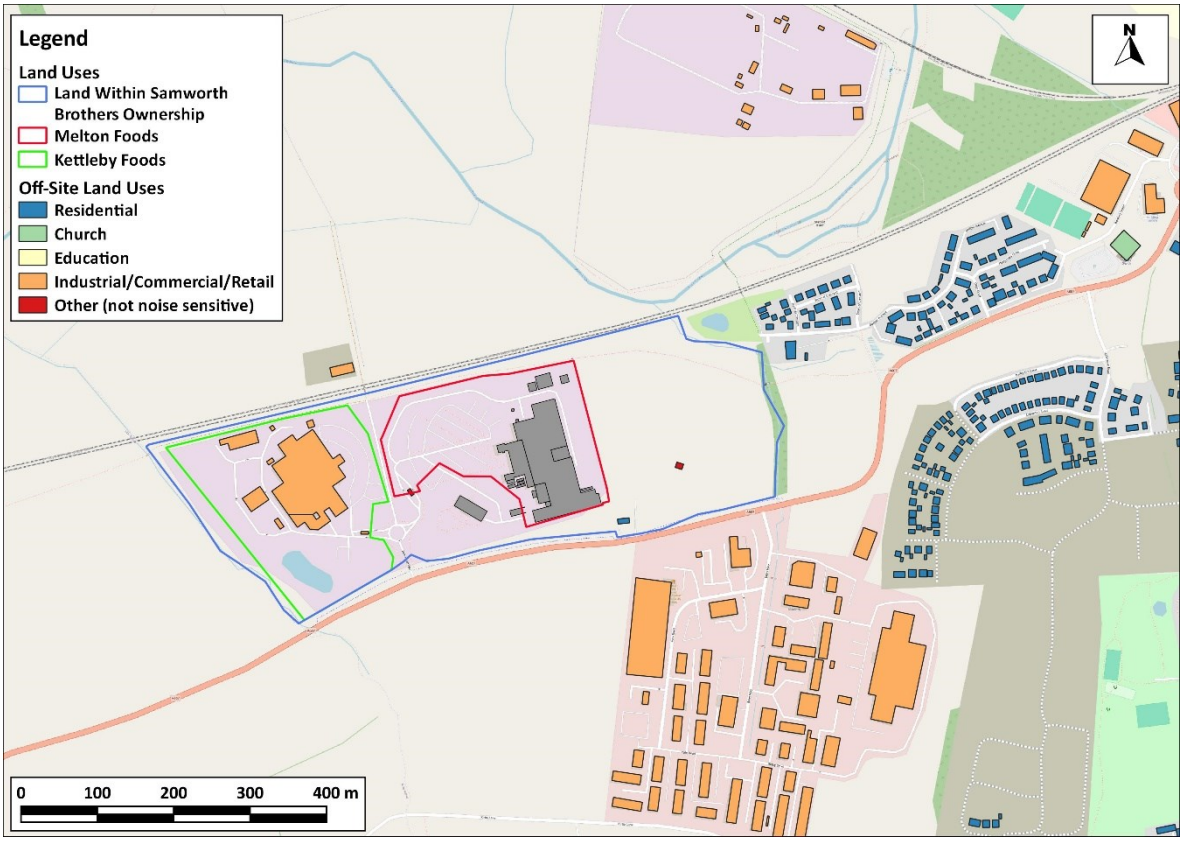
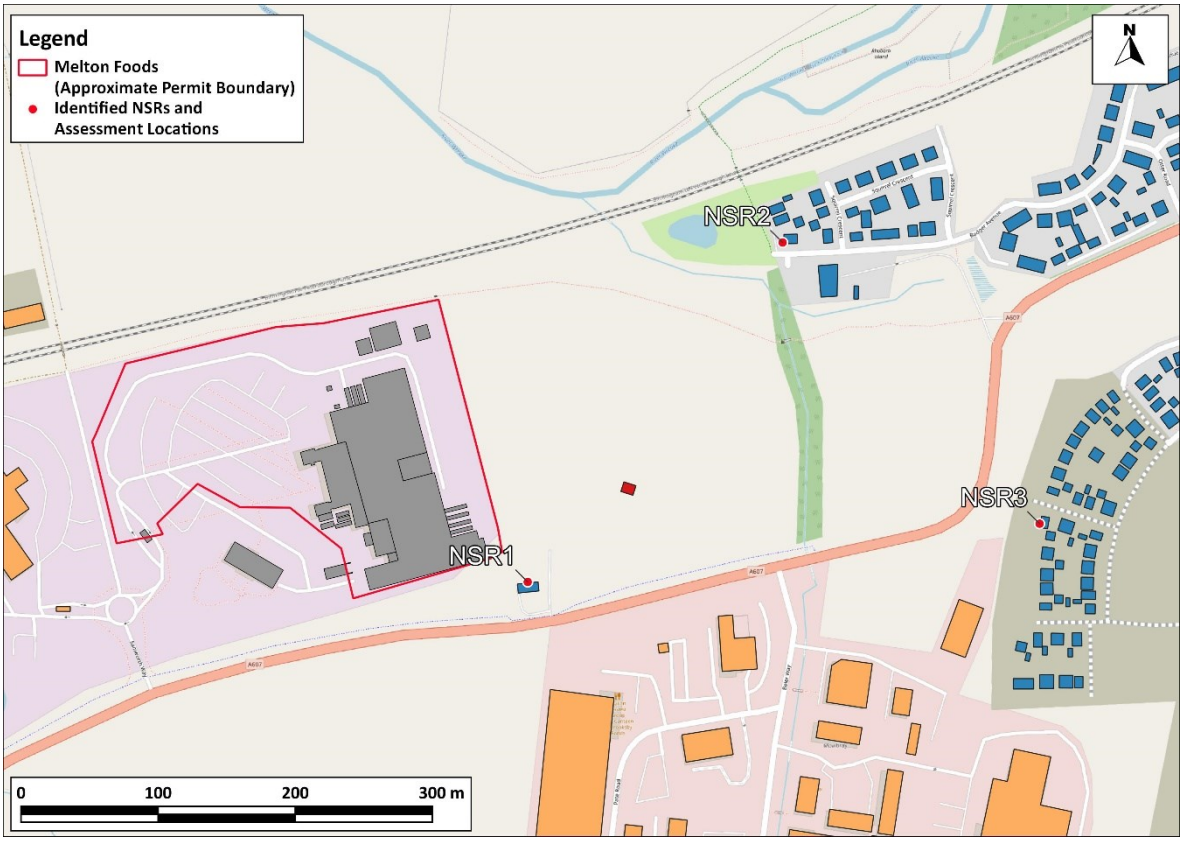


Table 1.2: Nearest Identified NSRs

NSR Ref.	Type	Address / Description	OS Ref (easting, northing)	Intervening Ground Type
NSR1	Two-storey semi-detached dwelling	Nos. 1 and 2 Leicester Road	473551,317952	Soft (predominantly grass)
NSR2	Two-storey dwelling	40 Badger Avenue	473738,318200	
NSR3	Two-storey dwelling	Dwellings under construction to the east of the Site and south of the A607	473924,317995	

Figure 1.2: Nearest Identified NSRs and Assessment Locations



2 Boundary Noise Survey

Boundary Noise Survey Details

2.1 An attended boundary noise survey was carried out in February 2024. A weather station was deployed during the noise survey at a secure and open location within the Site that is considered representative of the prevailing weather conditions at the Site during the survey.

2.2 **Figure 2.1** present the noise and weather monitoring locations, which are described in **Table 2.1**. In the interests of consistency, the noise monitoring locations were chosen to match those where Melton Foods have previously measured operational noise from the Site. However, as noise impacts on off-site human receptors need to be considered and there are no dwellings in close proximity to Site to the north, west and south, noise levels were measured at boundary locations in the direction of the NSRs to the east only.

2.3 Full details of the boundary noise survey are provided in **Appendix A1**. Temperature and wind speeds during the survey are summarised in **Appendix A1** and show that the prevailing weather conditions were cold/cool (1.5 - 8.5 °C) and calm with maximum wind speeds not exceeding 2ms^{-1} and wind gusts generally not exceeding 5ms^{-1}. No rain was observed during the measurement period whilst on site, cloud cover was observed as ranging between 50-100% coverage (4-8 Okta).

2.4 All noise measurements were conducted, where possible, in accordance with BS 7445-1:2003 *'Description and measurement of environmental noise. Guide to quantities and procedures'* (BS 7445, 2003).

2.5 Noise levels were measured in terms of the L_{Aeq} noise descriptor, as it is this parameter that can be readily compared with past and future measurements, provided those measurements are carried out under the same conditions using suitable noise measurement equipment.

2.6 Noise levels were measured at night when extraneous noise was low to reduce the uncertainty of the measured noise levels. The measurements were carried out without any HGV or forklift trucks operating externally, and consequently, the measured noise levels are attributable to fixed plant, which will assist in determining if noise from fixed plant changes significantly over time.

2.7 Additionally, steady fixed plant that does not change significantly over time permits relatively brief measurement periods without increasing measurement uncertainty.

Boundary Noise Survey Results

2.8 Noise levels measured at the Site boundary are summarised in **Table 2.1**.

Figure 2.1: Boundary Noise Survey Locations

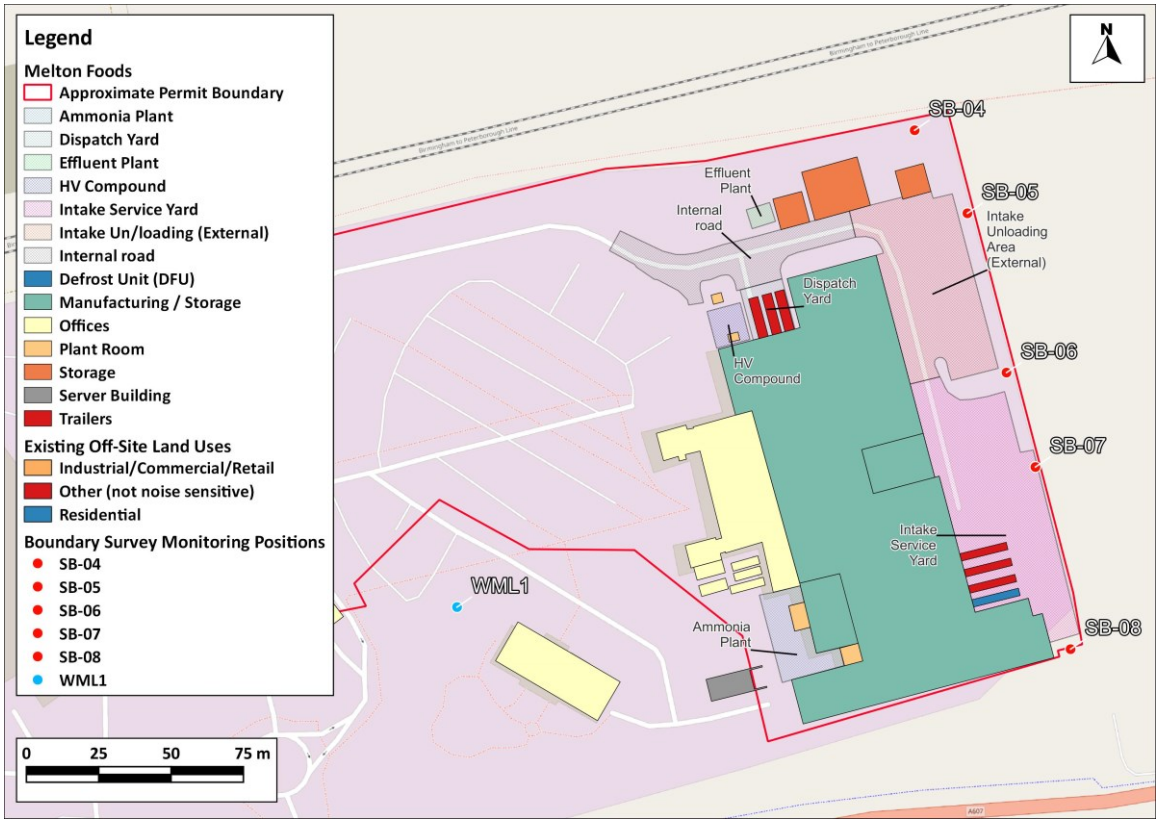


Table 2.1: Summary of Survey Locations and Measured Noise Levels

Survey Location		Observations	dB $L_{Aeq,T}$
Ref.	**Description**		
Boundary Noise Monitoring			
SB4	Free-field, towards the northern Site boundary, behind an existing storage building	Steady fixed plant, mainly refrigerated trailer chiller pack (Carrier Type) in dispatch yard.	42
SB5	Free-field, on footpath adjacent to the eastern boundary.	Steady fixed plant, mainly refrigerated trailer chiller pack (Carrier Type) in dispatch yard.	42
SB6		Steady fixed plant, mainly refrigerated trailer chiller pack (Carrier Type) in dispatch yard. Some noise from Defrost Unit (DFU) in Bay 1 of Intake Service yard	40
SB7		Steady fixed plant, mainly refrigerated noise from Defrost Unit (DFU) in Bay 1 of Intake Service yard	46
SB8	Free-field, at rear corner of dwelling rear garden	Steady fixed plant, mainly refrigerated noise from Defrost Unit (DFU) in Bay 1 of Intake Service yard. Distant road traffic more prominent and contributing to the measured noise level.	44
Weather Monitoring			
WML1	On earth bund, east of ammonia plant	Calm, dry, cool. Acceptable for the purpose of the assessment.	-

3 Glossary

dB	Decibel. The logarithmically scaled measurement unit of sound.
A-weighting	Frequency weighting applied to measured sound in order to account for the relative loudness perceived by the human ear.
$L_{Aeq,T}$	A-weighted equivalent continuous sound level over a given time period. It is the sound level of a steady sound that has the same energy as a fluctuating sound over the same time period.

4 Appendices

A1 Baseline Noise Survey Instrumentation

A1.1 To quantify existing levels of operational noise at the Site boundary, noise levels were measured at night to reduce the influence of noise other than that which originates from the site and are reasonably comparable to those which would prevail in the daytime but without the influence of other sources of environmental noise.

A1.2 Noise monitoring was undertaken using fully calibrated Class 1 integrating averaging that conforms with BS EN 61672-1:2013[2] calibrated to traceable standards within 2 years of the surveys. Details of the instrumentation used is summarised in **Table A3.1.** Calibration certificates for acoustic instrumentation can be provided on request.

Table A3.1: Baseline Survey Instrumentation

Type	Make	Model / Type	Serial	Date of Last Calibration
Sound Level Meter	RION	NL52	01009670	26/01/2023
			00909494	20/11/2023
Acoustic Calibrator	RION	NC52	34291339	31/07/2023
Weather Station	Davis	Vantage Vue	MQ171107088	n/a

A1.3 All noise measurements were conducted, where possible, in accordance with BS 7445:2003[3] and supplemented by detailed observations of the sound climate at each monitoring location.

A1.4 Prior to and following the noise measurements, acoustic field calibration of the sound level meters and microphones used in the survey was performed using an acoustic calibrator that itself had been calibrated within the preceding 12 months. No significant drift (i.e. >0.1dB) in the field-calibrated noise level was observed. Measurement microphones were fitted with suitable windshields for the duration of the noise monitoring and were time-synchronised.

A1.5 The sound level meters were set to record several noise parameters, including the ambient (L_{Aeq}), maximum (L_{AFmax}), and background (L_{A90}) sound levels, both in terms of broadband an one-third octave bands.

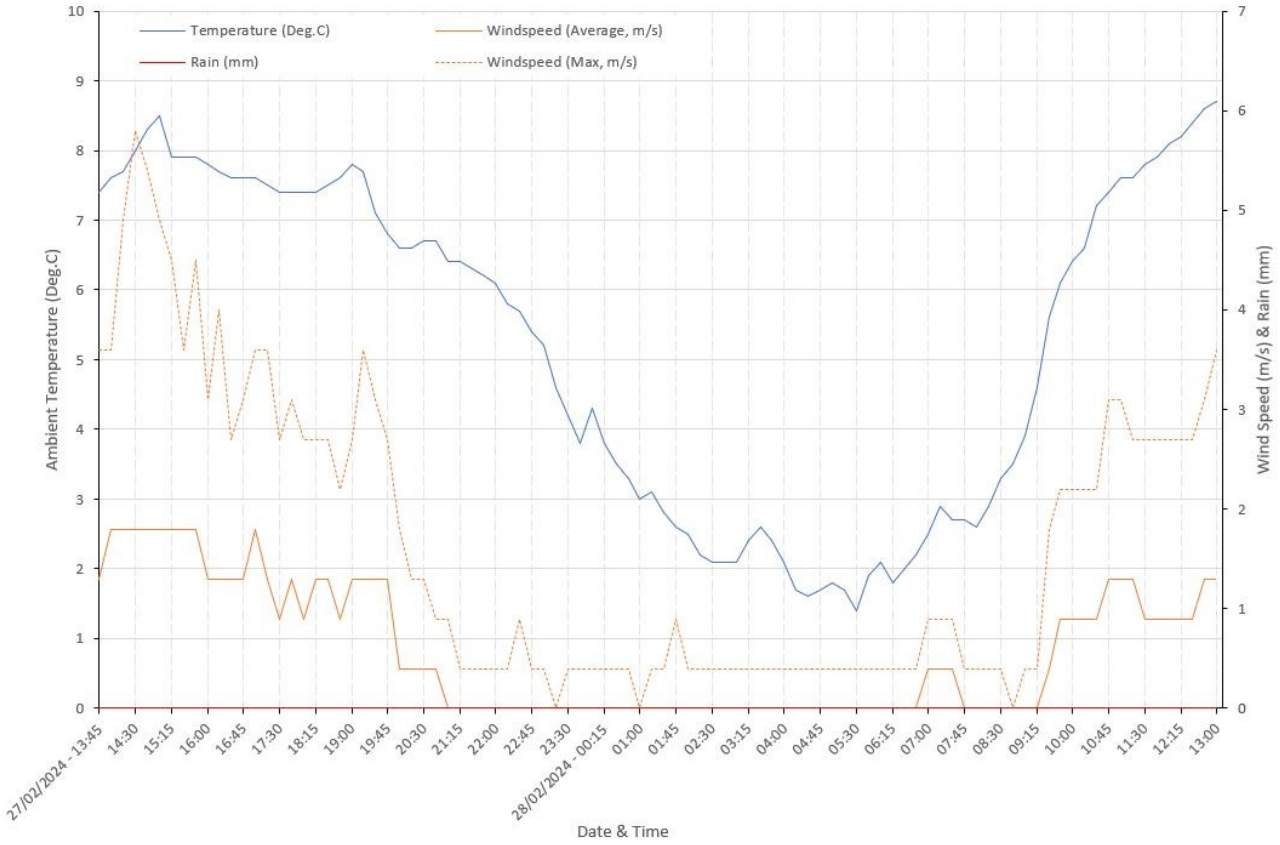
A1.6 **Figure 2.1** presents the survey locations which are considered representative of the nearest NSRs, as described in **Table 1.2.**

A1.1 Noise monitoring was supplemented by continuous weather monitoring at a location chosen as being relatively well exposed to the prevailing weather conditions (**WML1**, **Figure 2.1**), and representative of land within the cavity of the Site, particularly LT1. The time history of the measured temperature, and wind speeds before and during the survey is shown in **Figure A3.1**.

[2] BS EN 61672-1:2013 'Electroacoustics. Sound level meters Specifications' (2013)
[3] BS EN 7445:2003 'Description and measurement of environmental noise. Guide to quantities and procedures' (2003)

A1.2 Attended noise monitoring at ST1 was supplemented by weather observations using a handheld anemometer which found both the average windspeeds and wind gusts were low (<1ms^{-1})

Figure A3.1: Weather Data



A1.3 The prevailing weather was dry, cool (1.5-8.5°C) and calm with average wind speeds below 2ms^{-1}, and wind gusts below 5ms^{-1} during the period in which noise data was used in the assessment. There were no periods of rain. Therefore, no noise data has been excluded from the assessment due to unacceptable weather.

A1.4 There were no construction works or traffic control measures in place during the survey. The local conditions were, therefore, judged to be acceptable for the survey and subsequent assessment.