



Report No. DLW/7544

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for
Sponmech Safety Systems Limited
Haysech Road
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Dated: 17 July 2024

**ENVIRONMENTAL SOUND SURVEY
AIR DRYING AND AIR CONDITIONING
EQUIPMENT ENCLOSURES
LIDL, WOOLSTON
SOUTHAMPTON**

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1. INTRODUCTION

Sound level measurements were made by Acoustic Consultants Ltd of plant noise at the Lidl Food Store in Woolston, Southampton and reported by them in their report reference 8936/LN, Noise Impact Assessment, Plant Noise Assessment, Lidl Food Store, Woolston dated 23 April 2021.

Since that report Sponmech Safety Systems Limited has installed enclosures for the air drying and air conditioning equipment.

This report is of sound level measurements made on 11 July 2024, in and around the enclosed plant locations, at "Monitoring Location 1" and at "Monitoring Location 2" in the Acoustic Consultants Ltd Report.

2. SOUND LEVEL MEASUREMENTS

The instrumentation detailed at Appendix A was used to measure sound levels at the site during the evening of 11 July 2024.

For each measurement, the sound level meter was mounted on a tripod so that the microphone was 1.2 to 1.5 metres above local ground level. Each measurement was of 15 minutes duration with the sound level stored every second across a range of parameters including one third octave frequency bands. Some audio recordings were also made.

Figure 1 is reproduced from the Acoustic Consultants Ltd report. Measurements were made at the positions marked "Monitoring Location 1" and "Monitoring Location 2".

Instead of measurements at “Monitoring Location 3”, a 15 minute measurement was made inside the new plant enclosure and a further 15 minute measurement at 1 metre outside the louvered opening next to the access door. The position at 1 metre outside can be seen in the photograph at Figure 2.

Figure 1 – Site Image (as reproduced from Acoustic Consultants Ltd Report)



Figure 2 – Photograph of Measurement 1 metre Outside Enclosure

3. SOUND LEVEL MEASUREMENT RESULTS

Table 1 sets out the sound level measurement results for each of the 4, 15 minute measurements made in terms of L_{Aeq} and L_{A90} (i.e. the same parameters as reported by Acoustic Consultants Ltd).

Table 1 – Sound Level Measurement Results at Lidl Food Store, Woolston on 11 July 2024.			
Position	Start of 15 Minute Period	Sound Level in dB	
		L_{Aeq}	L_{A90}
Inside Enclosure	19:36	49.6	45.3
1m Outside Enclosure	19:51	48.6	42.7
“Monitoring Position 1”	20:13	50.8	37.4
“Monitoring Position 2”	20:29	44.6	35.3

There was no audible plant noise at Monitoring Position 1 or 2 noted whilst on site or detectable when replaying the recordings made at these locations.

General sounds audible at all locations included motorbikes, aircraft, birds, children playing and passing cars.

It was noticeable that birdsong and children playing had subsided by the time of the last measurement.

4. CONCLUSIONS

This report has presented the results of sound level measurements made in and around the Lidl Food Store at Woolston, Southampton during the evening of 11 July 2024. The measurements were made following the installation of enclosures for air drying and air conditioning equipment.

Plant noise was not audible at Monitoring Positions 1 and 2. The measured sound levels at all external locations have been dominated by general ambient sound, not plant noise.

Given that plant noise was not audible or measurable at the external measurement locations, it is presumed the enclosures would be judged successful. In the circumstances it was not possible to objectively determine the plant noise level at the external measurement points and by extension the reduction in sound level made by the enclosures.

Report Approved by:

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APPENDIX A – MEASUREMENT INSTRUMENTATION

Table A1 - Schedule of Noise Instrumentation		
Use	Type	Serial No.
Measuring System	Norsonic 140	1406786
Microphone	GRAS 40AE	27058
Microphone Pre-amplifier	GRAS 26AK	26575
Sound Level Calibrator	Norsonic 1251	29213

CALIBRATION

AIRO is accredited by the United Kingdom Accreditation Service as a UKAS testing laboratory No. 0483 and although the measurements carried out for this survey are not listed on our schedule of accreditation, all of AIRO's noise and vibration measurement equipment is routinely calibrated as part of the calibration regime in our Quality Manual and these calibrations are traceable to National Standards.

In addition, the calibration level of the measuring equipment was checked at the start and the end of each survey period using the appropriate calibrator for the relevant meter.

Table A2 - Weather Conditions – 11 July 2024	
Temperature °C	18
Relative Humidity %	75
Wind Speed m/s	< 1
Wind Direction	SW