[redacted] Extension
[redacted]S Samlesbury

Acoustic Survey Report
1166/AS1

20 February 2025

For:

Wilson Mason LLP
Upland House
Spring Lane
Samlesbury
PR5 0UX

LIGHTHOUSE ACOUSTICS

2nd Floor 3 Hardman Square
Spinningfields Manchester M3 3EB

☏ 0161 457 0515 ▪ 07415 151 901
✉ Enquiry@LighthouseAcoustics.co.uk
🌍 www.LighthouseAcoustics.co.uk

Acoustic Survey Report
1166/AS1

Contents

Appendices

Lighthouse Acoustics is the trading name of Lighthouse Enterprises UK Limited
Registered Office: 2nd Floor 3 Hardman Square Spinningfields Manchester M3 3EB
Registered in England and Wales Company No. 09085491

1.0 Introduction

A new extension building is proposed towards the north west of the [redacted] Samlesbury site.

This report outlines the acoustic surveys undertaken for the proposed extension. The survey methodologies and results are presented in this report.

2.0 Objectives

To visit site to undertake a detailed environmental sound survey in order to establish existing environmental sound levels.

To determine the highest L_{Aeq} environmental sound level incident upon the facades of the proposed development for use in all subsequent analysis to establish sound performance specifications for the external building fabric elements.

To determine the lowest L_{A90} background sound levels at the nearest noise sensitive receptors for use in all subsequent analysis of plant sound emissions and operational sound breakout to the nearest noise sensitive receptors.

3.0 Site Description

The new extension building is situated towards the north west of the site. The new extension is bound by a car park to the north east, access road to the south east and existing buildings to the south west and north west.

It is understood that the nearest noise sensitive receptors are residential properties situated to the north and north west opposite Myerscough Smithy Road (A59).

The site plan overleaf indicates the extent of the site and the surrounding environment.

Site plan indicating the extent of the site and the surrounding environment

4.0 Environmental Sound Survey

4.1 Measurements

Automated environmental sound measurements were undertaken from 10:00 hours on Wednesday 12 February 2025 to 10:00 hours on Thursday 13 February 2025. During this period the L_{Amax}, L_{Aeq} and L_{A90} sound pressure levels were measured continuously over 15 minute periods.

4.2 Weather Conditions

At the start of the survey period there was a gentle easterly breeze (<5m/s) and the sky was overcast. There was no rainfall and road surfaces were dry. The temperature was approximately 4°C.

At the end of the survey period there was a gentle easterly breeze (<5m/s)and the sky was overcast. There was no rainfall and road surfaces were dry. The temperature was approximately 3°C.

Based on publicly available weather data for the survey period it is understood that weather conditions remained similar for the duration of the survey with no periods of significant rainfall or strong breezes. The weather conditions during the survey period are therefore considered to be suitable for undertaking measurements of sound levels.

4.3 Measurement Position

Environmental sound levels were measured at a single position on-site as described in the table below.

Position	Description
A	Microphone situated to the north west of the site at 1.5m above ground level in free field conditions.

The measurement position is shown on the site plan below.

Site plan showing measurement position

The measurement position was selected in order to assess typical environmental sound levels incident upon the facades of the proposed development. In addition, the measurement position may also be used in order to assess typical background sound levels at the nearest noise sensitive receptors.

4.4 Equipment

The following equipment was used to undertake the environmental sound survey.

Equipment	Manufacturer	Model	Serial No.	Calibration Date
Class 1 Sound Level Meter	Casella	633C	2811231	25/07/2023
Preamplifier	Casella	495	001239	25/07/2023
Microphone	Casella	251	1841	25/07/2023
Class 1 Sound Calibrator	Casella	120/1	3864878	31/10/2024
Environmental Noise Kit	Casella	6847	-	-
Microphone Extension Cable	Casella	C6717/5	-	-
Weather Protection System	Casella	6737	-	-

Field calibration checks were performed on the sound level meter prior to and on completion of the survey and were found to be within acceptable tolerance limits.

4.5 Results

4.5.1 Time History Graph

The results of the environmental sound survey are presented on Time History Graph 1166/THG1 enclosed at the rear of the report.

4.5.2 L_{Aeq} Environmental Sound Levels

The highest $L_{Aeq,1hour}$ environmental sound level during the survey period has been calculated from the measured $L_{Aeq,15min}$ environmental sound levels using the following formula:

$$L_{Aeq,T} = 10\,log_{10}\left(\frac{1}{N}\sum_{i}^{N} 10^{L_{Aeq,15min}{}^{i}/10}\right)$$

The calculated highest $L_{Aeq,1hour}$ environmental sound level is presented in the table below along with the L_{eq} octave band sound levels.

L_{eq} Sound Pressure Level (dB) at Octave Band Centre Frequency (Hz)								**dBA**
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	
61	57	53	47	52	46	40	32	55

These levels will be used in all subsequent analysis to establish sound performance specifications for the external building fabric elements.

4.5.3 L_{A90} Background Sound Levels

The lowest daytime and night-time $L_{A90,15min}$ background sound levels measured during the survey period are detailed in the table below.

Lowest $L_{A90,15min}$ Background Sound Levels (dB)	
Daytime (07:00 – 23:00 hours)	**Night Time (23:00 – 07:00 hours)**
47	31

These levels will be used in all subsequent analysis of plant sound emissions and operational sound breakout to the nearest noise sensitive receptors.

4.5.4 Discussion of Sound Climate

At the start and end of the survey period the dominant sound source was noted to be distant road traffic along the surrounding road network.

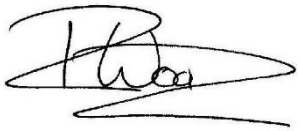
Whilst we are unable to comment on dominant sound sources or individual sound events during the survey period, based on the surrounding environment it is likely that road traffic remained the dominant sound source.

5.0 Conclusions

A detailed environmental sound survey has been undertaken in order to establish existing environmental sound levels.

The highest L_{Aeq} environmental sound level incident upon the facades of the proposed development has been determined for use in all subsequent analysis to establish sound performance specifications for the external building fabric elements.

The lowest L_{A90} background sound levels at the nearest noise sensitive receptors have been determined for use in all subsequent analysis of plant sound emissions and operational sound breakout to the nearest noise sensitive receptors.



Robin Wood
LIGHTHOUSE ACOUSTICS

1166/THG2

[redacted] Extension, [redacted]S, Samlesbury

Time History Graph - Wednesday 12 February 2025 to Thursday 13 Fenruary 2025

$L_{Amax,15min}$, $L_{Aeq,15min}$ & $L_{A90,15min}$ Noise Levels at Position A