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27 May 2022

Michelle Rothwell
Watch This Space (Constantine) Limited
This is The Space
68 Quay Street
Manchester
M3 3EJ



2nd Floor 3 Hardman Square
Spinningfields Manchester M3 3EB

☎ 0161 457 0515 ■ 07415 151 901
✉ Enquiry@LighthouseAcoustics.co.uk
🌐 www.LighthouseAcoustics.co.uk

By email to: michelle@watchthisspace.property

Dear Michelle

RICHMOND STREET, MANCHESTER POST COMPLETION REPORT

Further to our site visit on 27 May 2022 to undertake an inspection of the above development our findings are presented below.

1.0 Introduction

The construction of 7No. townhouses is nearing completion. Lighthouse Acoustics has been commissioned to undertake an inspection of the development in order to determine whether or not the acoustic requirements of the Local Authority are achieved. This report presents the findings of the inspection.

2.0 Objectives

To visit site to undertake an inspection of the development in order to determine whether or not the acoustic requirements of the Local Authority are achieved.

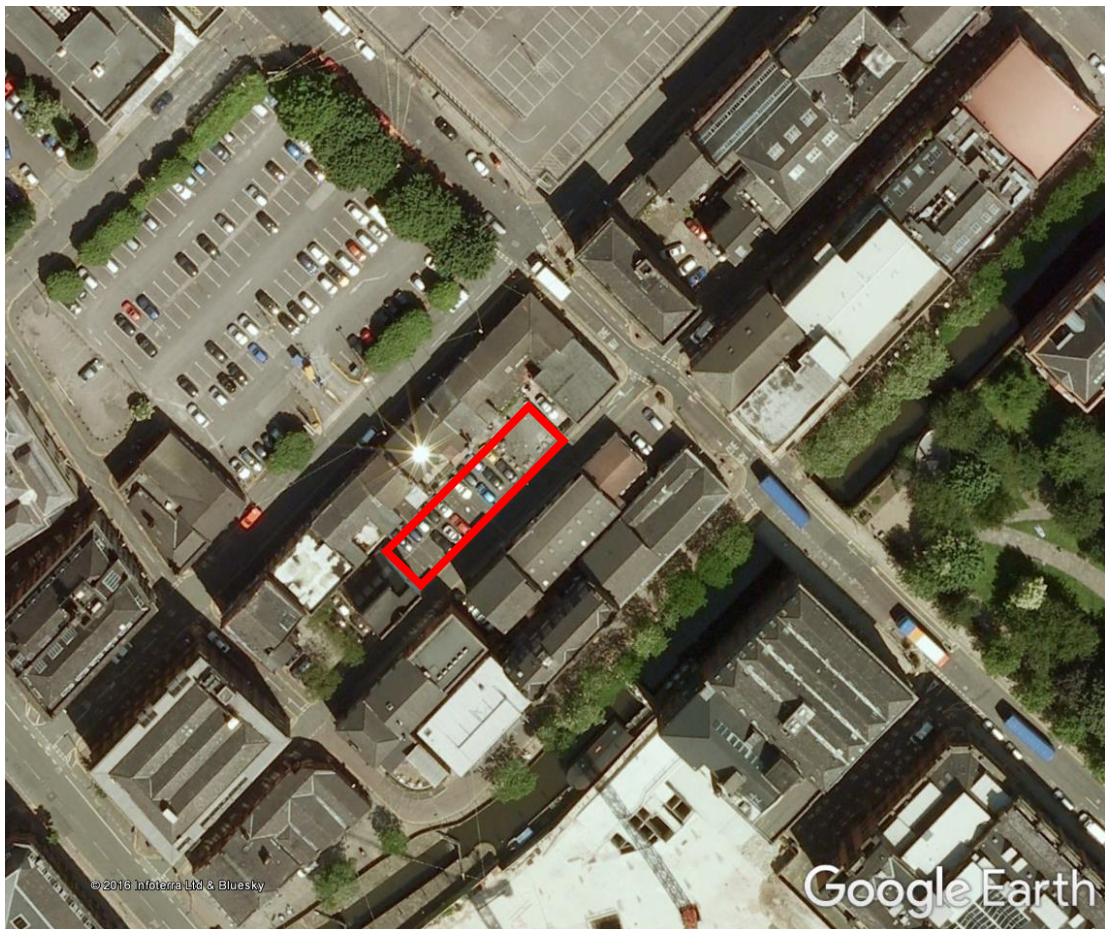
If required, to propose mitigation measures in order to achieve the acoustic requirements of the Local Authority.

3.0 Site Description

The development is situated on Richmond Street, Manchester and comprises 7No. 4 storey townhouses.

The site is bound by the rear facades of commercial premises to the north east, Richmond Street to the south east, side façade of commercial premises to the south west and the rear facades of commercial premises to the north west.

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 Site Visit

4.1 Inspection

Lighthouse Acoustics visited site on Friday 27 May 2022 to undertake an inspection of the installed glazing and ventilation systems within No.40 Richmond Street. Since the installed glazing and ventilation differed from that detailed in the previous acoustic reports, indicative manned measurements of internal sound levels were undertaken in order to determine whether or not the acoustic requirements of the Local Authority were likely to be achieved.

4.2 Measurements

Indicative manned measurements of internal sound levels were undertaken between 13:00 and 14:00 hours on Friday 27 May 2022 at a height of 1.2m above floor level and at a distance of at least 1m from other surfaces. All rooms were finished but unfurnished.

Measurements of L_{Aeq} sound pressure levels were undertaken over periods of 5 minutes in each room of No.40 Richmond Street. Atypical noises were excluded as far as reasonably possible.

4.3 Weather Conditions

During the measurement period there was a light westerly breeze (<3m/s) and the sky was scattered cloud. There was no rainfall and road surfaces were dry. The temperature was approximately 14°C.

The weather conditions during the measurement period are therefore considered to be suitable for undertaking measurements of sound levels.

4.4 Equipment

The following equipment was used to undertake the indicative manned measurements of internal sound levels.

Equipment	Manufacturer	Model	Serial No.	Calibration Date
Class 1 Sound Level Meter	Brüel & Kjær	2250	2626230	26/10/2020
Preamplifier	Brüel & Kjær	ZC-0032	21309	26/10/2020
Microphone	Brüel & Kjær	4189	2621208	26/10/2020
Class 1 Sound Calibrator	Casella	120/1	3864878	02/11/2021

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

The results of the indicative manned measurements of internal sound levels are presented in the table below.

Room	Measured L _{Aeq} (dB)	Notes
3 rd Floor Study	33	Sealed double glazing and attenuated ventilator (open) with openable double glazing (closed) to front
2 nd Floor Living/Kitchen Rear	31	Sealed double glazing and attenuated ventilator (open)
2 nd Floor Living/Kitchen Front	29	Openable double glazing (closed)
1 st Floor Bedroom Rear	33	Openable double glazing (closed) and attenuated ventilator (open)
1 st Floor Bedroom Front	30	Openable double glazing (closed)
Ground Floor Bedroom Rear	32	Openable double glazing (closed) and attenuated ventilator (open)

5.0 Local Authority Requirements

Based on the requirements of the Local Authority the following internal sound limits have been assessed to.

Room Type	07:00 to 23:00	23:00 to 07:00
Living Room/Dining Room/Kitchen	35dB L _{Aeq,16hour}	-
Bedroom	35dB L _{Aeq,16hour}	30dB L _{Aeq,8hour} 45dB L _{Amax} *

* should not be exceeded more than 15 times per night.

6.0 Assessment

The table below details the results along with the required internal sound limits.

Room	Measured L _{Aeq} (dB)	Required L _{Aeq} (dB)	Pass/Fail	Notes
3 rd Floor Study	33	35	Pass	-
2 nd Floor Living/Kitchen Rear	31	35	Pass	-
2 nd Floor Living/Kitchen Front	29	35	Pass	-
1 st Floor Bedroom Rear	33	35/30*	Pass/Fail	The openable double glazing was the main transmission path
1 st Floor Bedroom Front	30	35/30*	Pass/Pass	-
Ground Floor Bedroom Rear	32	35/30*	Pass/Fail	The openable double glazing was the main transmission path

* Daytime/night-time

The assessment indicates that the daytime L_{Aeq} internal sound limits are likely to be achieved in all rooms whilst the night-time L_{Aeq} internal sound limits are likely to be achieved in bedrooms to the front façade but exceeded in bedrooms to the rear façade.

7.0 Mitigation Measures

The bedrooms to the rear façade at ground and 1st floor levels of all 7No. townhouses should be fitted with secondary glazing with a glass thickness of at least 6mm and a cavity width of at least 100mm in order to reduce external noise break-in levels to achieve the acoustic requirements of the Local Authority. Opening frames should be fitted with acoustic seals. Detailed proposals should be forwarded for review prior to installation.

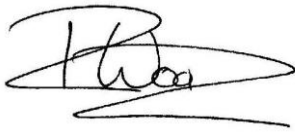
8.0 Conclusions

A site visit has been undertaken to inspect the development in order to determine whether or not the acoustic requirements of the Local Authority are achieved.

The assessment indicates that the daytime acoustic requirements of the Local Authority are likely to be achieved in all rooms whilst the night-time acoustic requirements of the Local Authority are likely to be achieved in bedrooms to the front façade but exceeded in bedrooms to the rear façade.

Mitigation measures have been proposed in order to achieve the acoustic requirements of the Local Authority.

Yours sincerely
for LIGHTHOUSE ACOUSTICS

A handwritten signature in black ink, appearing to read 'Robin Wood', with a stylized flourish underneath.

Robin Wood