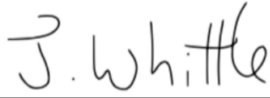
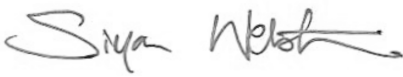




CHALLENGER BUILDING SERVICES LTD
SULBY STREET, MOSTON, MANCHESTER

INTERNAL AMBIENT NOISE LEVEL COMMISSIONING
R2353-REP01-JW
19 DECEMBER 2024

REPORT DETAILS

Project	Sulby Street, Moston , Manchester
Client	Challenger Building Services Ltd 140 Lee Lane Horwich BL6 7AF
Document Reference	R2353-REP01-JW
Date Issued	19 December 2024
Revision	Initial Report
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SULBY STREET, MOSTON, MANCHESTER



CHALLENGER BUILDING SERVICES LTD

INTERNAL AMBIENT NOISE LEVEL COMMISSIONING - R2353-REP01-JW

SUMMARY

Red Acoustics Ltd has been commissioned by Challenger Building Services Ltd to conduct internal ambient noise level verification measurements to confirm that measured daytime and night-time noise levels meet the internal ambient noise level criteria as defined within the Red Acoustics Environmental Noise Assessment report: R2025-REP01A-PC dated 15th March 2022. The internal ambient noise level verification measurement is a planning stage requirement as conditioned by the Local Authority.

The results of the internal ambient noise level measurements have demonstrated compliance with the performance requirements defined in the above referenced report.

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1.0 INTRODUCTION

Red Acoustics Ltd has been commissioned by Challenger Building Services Ltd to conduct internal ambient noise level verification measurements to confirm that measured daytime and night-time noise levels meet the internal ambient noise level criteria as defined within the Red Acoustics Environmental Noise Assessment report: R2025-REP01A-PC dated 15th March 2022. The internal ambient noise level verification measurement is a planning stage requirement as conditioned by the Local Authority. Planning condition 12 of the relevant consent (134715/FO/2022) is repeated below for clarity:

12) The development hereby approved shall only be implemented in accordance with the recommended measures detailed within the Environmental Noise Assessment Page 5 of 13 134715/FO/2022 produced by Red Acoustics (Ref: R2025-REP01A-PC) dated 15 March 2022 and received by the City Council as Local Planning Authority on 16 August 2022. The agreed recommendations shall be implemented in full before any of the units are occupied.

Prior to first occupation of any of the residential units, a Verification Report to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report shall be submitted to and approved in writing by the City Council as Local Planning Authority. The report shall also undertake post completion testing to confirm that acceptable criteria has 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.

The targets relate to noise ingress from external environmental noise source and the measurements were conducted between 13th - 14th December 2024. 24 hour measurements were undertaken in a bedroom and living space in one house and one flat representing 10% or more of each development type in line with standard Red Acoustics commissioning methodology for residential dwelling testing.

2.0 PERFORMANCE REQUIREMENTS

Red Acoustics Environmental Noise Assessment report: R2025-REP01A-PC dated 15th March 2022, Section 5 provides performance requirement for maximum internal ambient noise levels that shall not be exceeded. Section 5 performance standards state:

Design Targets

The noise design targets for internal habitable spaces and gardens are detailed in Table 5.2. The targets are based on the advice provided in BS8233:2014.

Table 5.2: BS8233:2014 Design Targets

Space	L _{Aeq,16hr} (07:00 - 23:00)	L _{Aeq,8hr} (23:00 - 07:00)	L _{Amax} (23:00 - 07:00)
Living Room & Kitchen	35dB	-	-
Dining Room & Study	40dB	-	-
Bedroom	35dB	30dB	≤45dB

As detailed in the BS8233:2014 and WHO (1999) guidance, events exceeding 45dB L_{AFmax} shall occur no more than 10-15 times per night. For the purpose of the commissioning measurements, compliance in this regard has been demonstrated by confirming the 10th highest measured maximum event due to external sources in each bedroom space at night.

3.0 MEASUREMENT PROCEDURE

Measurements were taken with the microphone mounted on a tripod at the approximate centre of each bedroom or living space. During the measurements all doors and windows were closed and any passive trickle ventilation was set to the open position. The sound level meters were set to measure 5 minute, A-weighted sound pressure levels and were calibrated before and after the survey period - no drift in sensitivity was observed over the survey period. Details of all instrumentation used is given in Appendix A.

A sample of 2 bedroom spaces and 2 living room spaces were selected to provide a representative sample of the development. Table 3.1 contains details of each internal ambient noise measurement conducted.

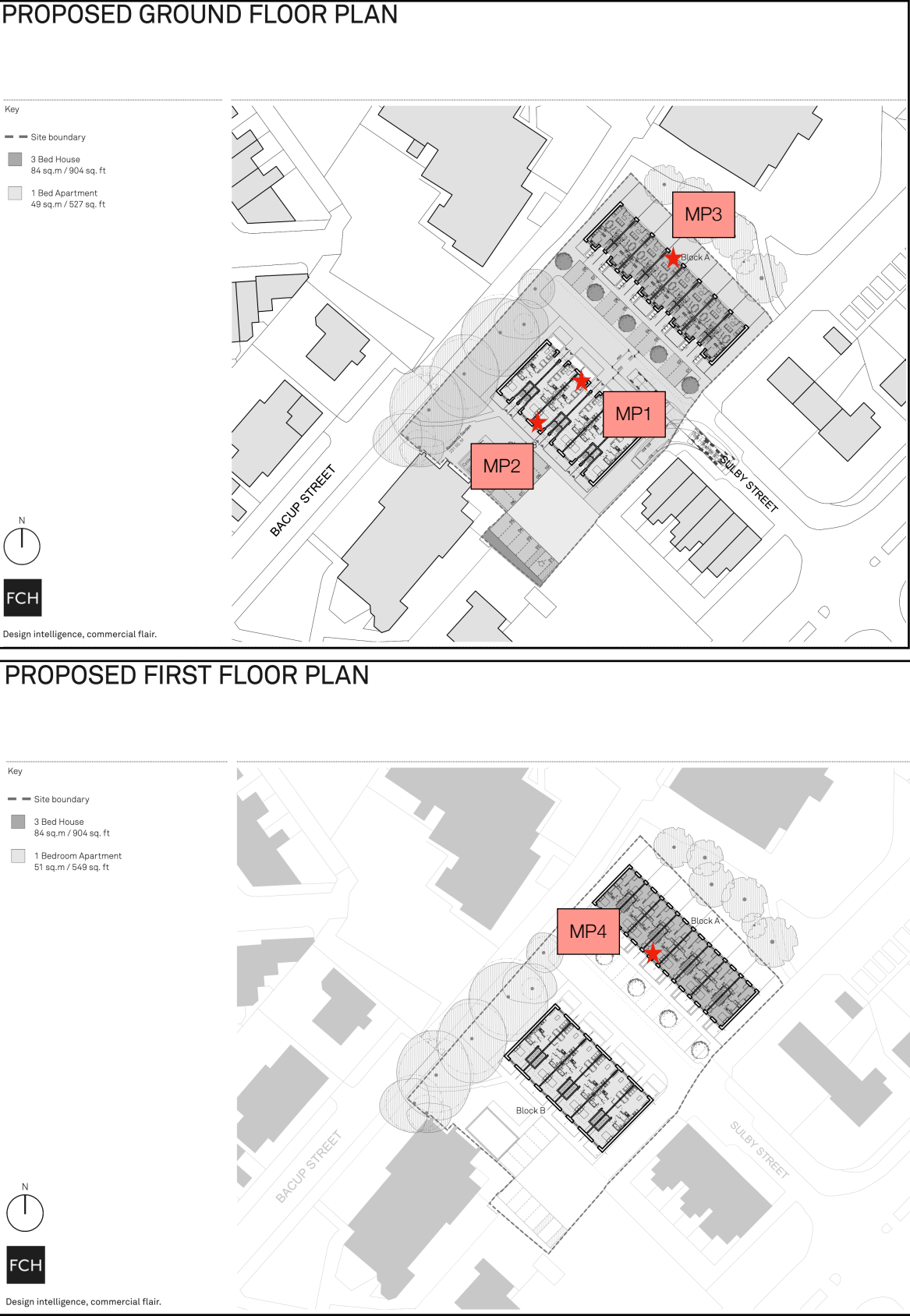
Table 3.1: Internal Ambient Noise Measurements Details

Measurement Position	Date	Equipment Number	Measurement Location
1	13-14 December 2024	RED08	Flat 53 Ground Floor Living Room
2	13-14 December 2024	RED13	Flat 53 Ground Floor Bedroom
3	13-14 December 2024	RED14	House 24 Ground Floor Living Room
4	13-14 December 2024	RED09	House 24 First Floor Bedroom

Measurements were undertaken in each residential dwelling following practical completion of the dwellings, however external landscaping and surfacing works were ongoing at the time of commissioning and so measurements were undertaken between 23:00 on Friday 13th December 2024 and Saturday 14th December 2024 to capture a full 24 hour period without contamination by external construction works. Noisy events due to the thermostat activation in each room producing an audible click have been excluded from the measurements.

Figure 3.1 below shows the general arrangement plans detailing the measurement locations.

Figure 3.1: Internal Ambient Noise Measurements



4.0 INDOOR AMBIENT NOISE LEVEL MEASUREMENT RESULTS

Measurement results for each of the 24 hour measurements at poisons 1 - 4 are presented in Table 4.1 below.

Table 4.1: Internal Ambient Noise Measurement Results

Measure ment Position	Room Type	Daytime $L_{Aeq,16hour}$ (dBA)	Night-time $L_{Aeq,8hour}$ (dBA)	Night-time 10th Highest L_{AFmax} (dBA)	Compliance with Target
1	Living Room	24.3	18.1	30.0	YES
2	Bedroom	28.7	21.5	32.8	YES
3	Living Room	27.8	26.4	30.6	YES
4	Bedroom	32.9	24.7	34.8	YES

The measurement results above taken in each space demonstrate that the targets outlined in the planning stage noise report and planning condition 12 have been met, and that no further mitigation is needed.

5.0 CONCLUSION

The results confirm compliance with the performance standards defined within Red Acoustics Environmental Noise Assessment report: R2025-REP01A-PC dated 15th March 2022. The relevant target noise levels due to environmental noise break-in have been met.

The requirements of planning condition 12 have therefore been met and verified.

APPENDIX A: TEST DETAILS

Location

Sulby Street, Moston, Manchester

Date of Measurements

13-14 December 2024

Personnel

Simon Webster BEng (Hons) MIOA

Instrumentation

Table A1 below presents the instrumentation used during the surveys.

Methodology

Before and after the measurements the sound level meters were check calibrated to an accuracy of $\pm 0.3\text{dB}$ using their associated Class 1 Calibrators. No drift in the instruments' sensitivities were noted across any of the survey periods.

Calibration Certificates

Copies of all calibration certificates are kept on file by Red Acoustics Ltd and can be supplied if requested.

Instrumentation Used

Table A1: List of Instrumentation Used

Kit No	Equipment Description	Type Number	Manufacturer	Serial Number	Date of Last Calibration	Calibration Certificate Number
RED08	Sound Level Meter	XL2	Nti Audio	A2A-2206 2-F0	16/03/2023	UK-23-033
RED13	Sound Level Meter	Type 140 Type 1	Norsonic	1402994	01-May-24	47691
RED14	Sound Level Meter	CR:171B Type 1	Cirrus	G300554	09-May-24	47689
RED09	Sound Level Meter	Type 140 Type 1	Norsonic	1402793	01-May-24	47694
NA	Sound Calibrator	Type 1251 Class 1	Norsonic	34390	01-May-24	47685
NA	Sound Calibrator	CR:515 Type 1	Cirrus	88023	29-Oct-24	49120