

Project	70 Great Bridgewater Street – Planning Condition 15C		
Document Number	MCP2390/PC15C/TN1	BWB Ref	MCP2390
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Checked	Mike Barrett, MIOA	Revision	1
Approved	Mike Barrett, MIOA	Date	03/05/2024

1 Introduction

1.1 This report has been prepared by BWB Consulting Limited (BWB) in relation to the proposed mixed-use development at 70 Great Bridgewater Street. This report constitutes a verification report as required by Planning Condition 15 Part C. Parts A and B of the condition have already been discharged.

1.2 The wording of Planning Condition 15 Part C is included below for ease of reference:

“c) Within one month of the completion of the development and before first occupation of the completed development hereby approved, a verification report shall be undertaken to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that above criteria is met. Any instances of nonconformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the noise criteria. This report shall be submitted to and approved in writing by the City Council as local planning authority before the use becomes operational along with a timescale that confirms when any necessary changes will be implemented.”

1.3 It is evident from Part B of the condition, and the noise impact assessment prepared for the discharge of Part B (the previous report), that the condition relates to noise breakout from the gym at ground floor level to offices above.

1.4 The noise impact assessment report submitted to discharge Part B of the condition included predictions for noise break-out from the gym space. The table below details the sound insulation performances for the separating floor (300 mm concrete floor slab) included in the previous report.

Table 1: Sound Insulation Performance of 300 mm Concrete Floor Slab

Octave Band (Hz) Sound Reduction Index (dB)							R _w + C _{tr} (dB)
63	125	250	500	1000	2000	4000	
48	47	54	61	67	71	76	59

1.5 It can be seen from **Table 1** that the single figure performance of the floor detailed in the previous report was 59 dB R_w + C_{tr}. As the predictions undertaken accounting for this performance were accepted by the local authority when discharging Part B of the condition, 59 dB R_w + C_{tr} has been adopted as a performance requirement.

1.6 In order to determine whether this performance was achieved on site, sound insulation testing was undertaken within the completed development.

- 1.7 The sound insulation performance of the floor between the gym and offices above was tested on 11th April 2024. The testing was undertaken in accordance with BS EN ISO 16283-1:2014: *Acoustics — Field measurement of sound insulation in buildings and of building elements Part 1: Airborne sound insulation* (ISO16283-1:2014). The measurement equipment used is detailed in **Table 2**.

Table 2: Measurement Equipment

Equipment	Make and Model	Serial Number	Calibration Due Date
Sound Level Meter	SVAN 971A	113221	21/02/2026
Microphone	ACO 7052E	80629	
Preamplifier	SV18	113722	
Calibrator	Svantek SV33A	90275	21/02/2025

- 1.8 The results of the sound insulation testing are included in **Appendix A**.
- 1.9 From the results in **Appendix A**, it can be seen that an on-site performance of 59 dB $R'_w + C_{tr}$ was achieved between the gym and office spaces above. Therefore, the performance requirement of 59 dB $R_w + C_{tr}$ from the previous report was achieved on site.
- 1.10 The gym/yoga room is at basement level with no external windows, therefore, no requirement for noise breakout via the building structure to the outside was included in the previous report.
- 1.11 Given that the requirements from the previous report have been shown to be achieved, Planning Condition 15 should be discharged without delay.

Appendix A: Sound Insulation Test Results

Apparent sound reduction index measured in accordance with ISO 16283-1 Field measurements of airborne sound insulation between rooms																																													
Client: Bridgewater Manchester (Luxembourg) Holding SARL Date of test: 11/04/2024 Description and identification of the building construction and test arrangement, direction of measurement: 300 mm Concrete Floor. Test from Office to Gym below.																																													
<table> <tr> <th>Frequency f Hz</th><th>R' (one-third octave) dB</th></tr> <tr><td>50</td><td>45.0</td></tr> <tr><td>63</td><td>42.4</td></tr> <tr><td>80</td><td>38.9</td></tr> <tr><td>100</td><td>45.8</td></tr> <tr><td>125</td><td>44.4</td></tr> <tr><td>160</td><td>49.0</td></tr> <tr><td>200</td><td>51.9</td></tr> <tr><td>250</td><td>52.8</td></tr> <tr><td>315</td><td>59.6</td></tr> <tr><td>400</td><td>62.8</td></tr> <tr><td>500</td><td>63.3</td></tr> <tr><td>630</td><td>65.0</td></tr> <tr><td>800</td><td>71.9</td></tr> <tr><td>1000</td><td>65.1</td></tr> <tr><td>1250</td><td>68.1</td></tr> <tr><td>1600</td><td>67.5</td></tr> <tr><td>2000</td><td>66.6</td></tr> <tr><td>2500</td><td>65.8</td></tr> <tr><td>3150</td><td>68.4</td></tr> <tr><td>4000</td><td>68.5</td></tr> <tr><td>5000</td><td>69.6</td></tr> </table>	Frequency f Hz	R' (one-third octave) dB	50	45.0	63	42.4	80	38.9	100	45.8	125	44.4	160	49.0	200	51.9	250	52.8	315	59.6	400	62.8	500	63.3	630	65.0	800	71.9	1000	65.1	1250	68.1	1600	67.5	2000	66.6	2500	65.8	3150	68.4	4000	68.5	5000	69.6	
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Rating according to ISO 717-1 $R'_w(C; C_{tr}) = 64 (-1; -5)$ dB $C_{50-3150} = -2$ dB $C_{50-5000} = -1$ dB $C_{100-5000} = -1$ dB Evaluation based on field measurement results obtained by an engineering method $C_{tr,50-3150} = -9$ dB $C_{tr,50-5000} = -9$ dB $C_{tr,100-5000} = -6$ dB																																													
No. of test report: 0642024-001 Name of test institute: BWB Date: 03/05/2024 Signature: A Barr																																													