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Depot Mayfield

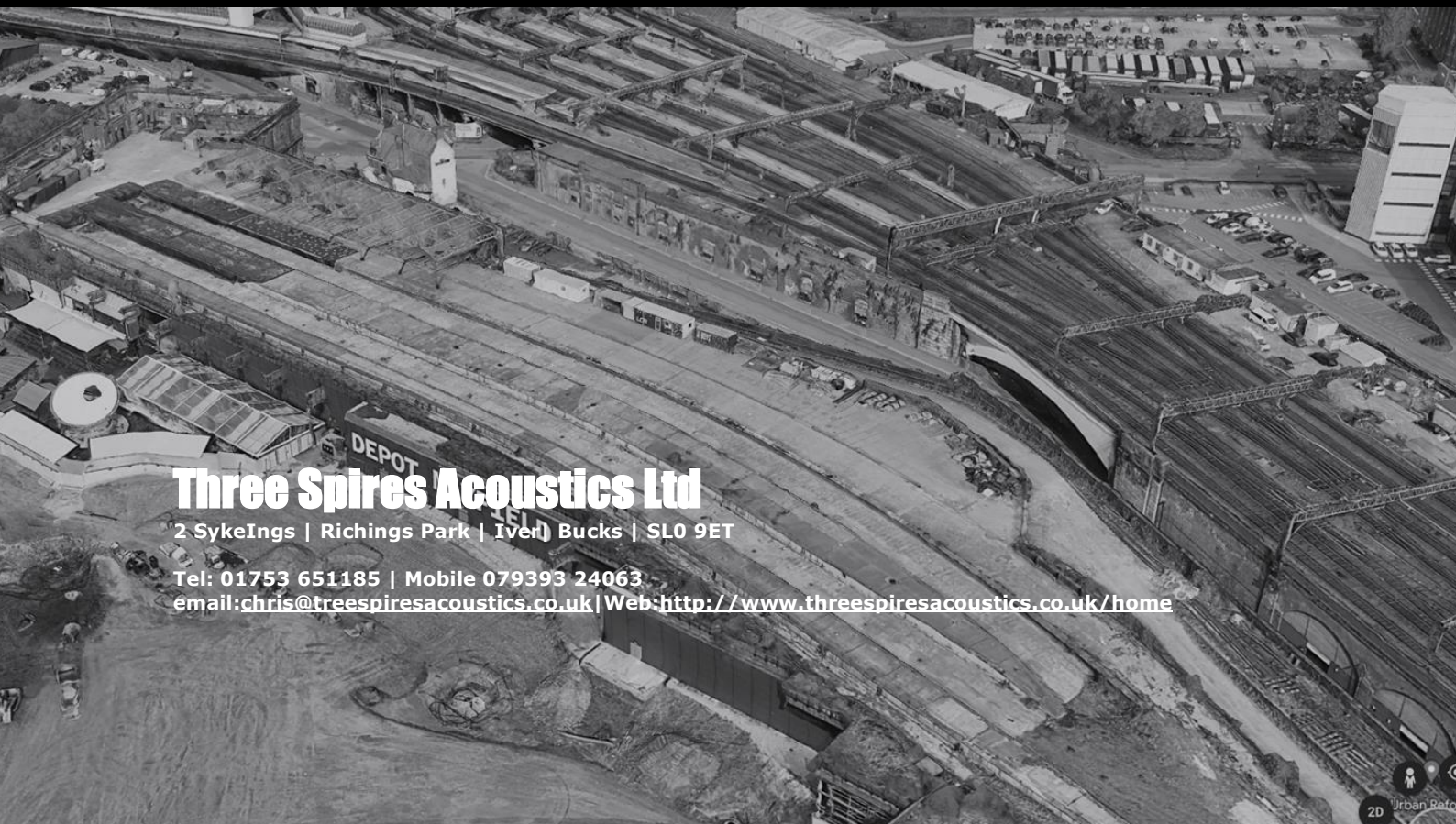
11 Baring Steet

Manchester

M1 2PY

Noise Impact Assessment

For: Broadwick Venues Limited



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DEPOT MAYFIELD

NOISE IMPACT ASSESSMENT

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1. Introduction

- 1.1.1 Three Spires Acoustics Ltd (TSA) have been commissioned by Broadwick Venues Limited to provide a Noise Impact Assessment for the Depot Mayfield , which is a multi space venue located at Depot Mayfield, 11 Baring St, Manchester, M1 2PY.
- 1.1.2 Depot Mayfield was granted temporary (5-year period) planning permission for a “mean time” use of the event space, from 2019-2024 and the use of Platform Area A & B was granted temporary planning permission in 2023. Therefore, the client has requested that a noise impact assessment is provided which will cover all the event spaces to form part of a new temporary use application submission to the local planning authority at Manchester City Council.

1.2 Previous Reports and Decisions Notices

- 1.2.1 Ground floor
- TSA report ref CH/NMP/2019/23 submitted in 2019 for the ground floor.
 - TSA report ref TSA/TN/2021/31 submitted in 2021 to partially discharge the noise condition.
 - MCC notice - partial discharge of the noise condition - stages 1 & 2 only.
 - TSA report ref TSA/VST/2023/01 to discharge stage 3
- 1.2.2 Rooftop
- dBX Rooftop acoustic report ref Mayfield Depot Cinema R01C
 - MCC Rooftop decision notice
 - Rooftop condition discharge TSA - Rooftop your report ref TS/NMP/2023/14

2. Depot Mayfield Event Spaces

- 2.1.1 Depot Mayfield multi-space venue in Manchester’s historic former railway station. The site was transformed in 2019 into a space for arts, music, industry, and culture in the city centre and comprises of the following event spaces.
1. Depot is the main performance space, uses have included concerts, live and electronic music shows, art installations, theatre and cultural events.
 2. Concourse, Depot Mayfield’s second biggest chamber, uses have included live gigs, retail concepts, exhibitions, brand activations, immersive art or theatre, mid-size conferences, film production, photoshoots.
 3. Archive comprises of three railway arches, uses have included smaller performances, events and an exhibition space.

4. Platform is a roof top destination on top of the former railway station and uses have included a temporary cinema operated by Backyard Cinema and an events space, hosting seasonal specific events within a temporary structure.
5. Freight Island- is a predominately a food and drink destination but also includes entertainment.

3. Planning Consent

3.1 Depot Mayfield

- 3.1.1 Planning consent for Depot Mayfield reference 123728/FO/2019 partially discharged condition 4 (acoustics - verification) on 31/10/2022. The LPA decision notice stated.

The condition is discharged with respect to the operation of the areas served by stages 1 and 2 only. This is therefore a partial discharge only and the condition is not discharged for Stage 3 pending further mitigation works and subsequent verification testing to be submitted.

- 3.1.2 The mitigation works for Stage 3 (Archive) were completed in 2022 and the subsequent verification testing is included at Appendix A.

3.2 Platform

- 3.2.1 134588/FO/2022 was issued to Mayfield Development Partnership by the local planning authority at Manchester City Council on 27/01/2023 for.

Part retention and part temporary change of use for a three-year period of rooftop area of Mayfield Depot to allow for use as a cinema (retention), event space and ancillary leisure uses, with supporting food and beverage offer (retention) (Sui Generis use) and installation of temporary structures, including for access and associated works

- 3.2.2 Condition 6 was discharged for area A by the Noise Survey and Noise Impact Assessment submitted by dBX Acoustics and for Area B the noise impact assessment submitted by TSA, details of which are included at Appendix A

3.2.3 MCC Planning and Noise Technical Guidance

- 3.2.4 For all areas the following amplified music noise control requirements, as detailed within the MCC Planning and Noise Technical Guidance October 2022, are considered appropriate for the use of the site and have been agreed with by the Environmental Health Department at MCC. The guidance states.

A planning application for a new entertainment venue that is structurally detached from other building uses should demonstrate that music noise from the proposal will not be 'audible' in nearby residential properties, assuming that the residential properties in question have their windows open. The criterion here is.

Where entertainment noise is proposed the Leq (entertainment noise) shall be controlled to 5dB below the L90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location.

A criterion that would achieve a condition of 'inaudible' / 'virtually inaudible' which is applicable for new residential developments that are structurally connected to entertainment venues (or vice versa) would be:

'Music noise levels in the 63Hz and 125Hz octave centre frequency bands (Leq) should be controlled so as not to exceed (in habitable rooms) 47dB and 41dB (Leq,5min), respectively.

This criterion may also be applicable for new residential developments that are structurally separate from an existing entertainment venue.

3.3 Compliance History

- 3.3.1 There have been over 150 musical events and concerts held within Depot Mayfield since it opened in 2019, with only a handful of noise related communications from residents associated with the venue, details of which are presented at Appendix xx of this report. The council have also undertaken numerous Licensing inspections during this time, and I understand that they have been satisfied and generally provided a positive response to the operation of the venue. This is a good indication that noise has been managed, mitigated and controlled as required by the Licensing Act 2003 objectives and local and national planning requirements.

3.4 Noise Sensitive Receptors (NSR)

- 3.4.1 Depot Mayfield is located on Baring Street, Manchester, M1. It is bounded by Baring Street to the west, Temperance Street to the east, and Fairfield Street to the north. The area surrounding the site is both industrial and commercial in nature with various industrial buildings to the east of the site and some bars and restaurants nearby. Transportation noise sources, including rail noise from Manchester Piccadilly Station and road noise from the A57(M) and A635 Mancunian Way dominate the acoustic environment.
- 3.4.2 The nearest temporary noise sensitive receptors are located at the Unite Students, Piccadilly Point student accommodation building located approximately 125m to the south-west from the mid point of Depot Mayfield. There are other permanent residential receptors to the south at Cotter Street (350m) and Ardwick Green (440m) and to the north at Fair Street (320m).
- 3.4.3 A Google Earth aerial photograph of the site and the closest noise sensitive receptors is presented at Figure 1 below.

Figure 1. Depot Mayfield & Platform Noise Sensitive Receptors



4. Noise Limiting Criteria

4.1 Background Noise Assessment

- 4.1.1 Previous assessments and reports undertaken by TSA and dBX consultants have provided background measurement data for the representative closest locations to Depot Mayfield. Table 1 below provides a summary of the measurement results and the derived Leq octave band limit levels for each location, NSR1 to NSR5.

Table 1. Summary of Measured External Background Noise Levels and Subsequent Limits at NSRs

Location	Noise Metric	Octave Band Centre Frequency (Hz)						
		63	125	250	500	1K	2K	4K
NSR1 Unite Student Day/Eve	L90	56	49	49	50	53	48	37
Derived Limit Day/Eve	Leq	51	44	44	45	48	43	32
NSR1 Unite Student Night	L90	51	46	44	44	45	41	32
Derived Limit Night	Leq	46	41	39	39	40	36	27
NSR2 Ardwick Green	L90	49	44	38	37	37	31	32

Derived Limit Night	Leq	44	40	33	32	32	26	27
NSR3 Cotter Street Day/Eve	L90	61	54	53	54	58	52	40
Derived Limit Day/Eve	Leq	56	49	48	49	53	47	35
NSR3 Cotter Street Night	L90	48	41	42	40	42	37	24
Derived Limit Night	Leq	43	36	37	35	37	32	19
NSR4 Claire Street Day/Eve	L90	65	61	58	54	61	50	43
Derived Limit Day/Eve	Leq	61	56	53	49	56	45	38
NSR4 Claire Street Night	L90	63	59	56	53	58	51	40
Derived Limit Night	Leq	58	54	51	48	53	46	35
NSR5 Chapeltown St Day/Eve	L90	62	59	49	42	42	38	27
Derived Limit Day/Eve	Leq	57	52	44	37	37	33	22
NSR5 Chapeltown St Night	L90	59	52	47	46	45	38	27
Derived Limit Night	Leq	54	47	42	41	40	33	22

4.2 Noise Validation Assessments

4.2.1 Venue validation assessment for the previous uses of Area A and B as well as Depot Mayfield are detailed at Appendix A. All future uses for areas A & B will be expected to comply with the limits levels detailed at Table 1 above .

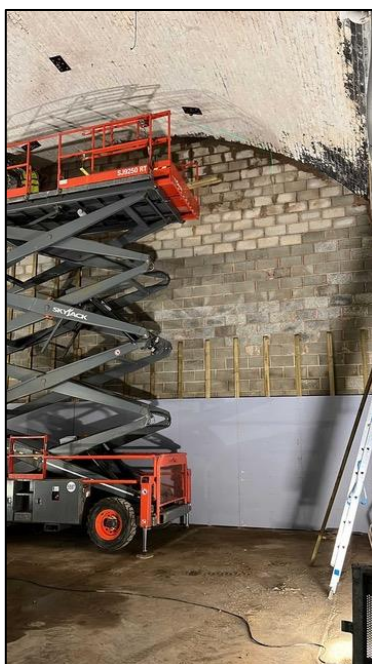
4.3 Arch 10 (Stage 3) Sound Insulation Treatment Works.

4.3.1 In order to improve the sound insulation performance of Arch 10, the existing facade construction has been retained and the following improvements constructed internally.

- high density block work
- 2Nos layers of 15mm acoustic sound bloc plasterboard
- combined R_w 51 dB

4.3.2 The photographs below at Figure 2 present the works that have been undertaken in Arch 10.

Figure 2. Photographs of Construction of Sound Insulation Improvement Works



- 4.3.3 The results from the testing are detailed at Appendix A and indicate that MCC technical requirements have been achieved and noise breakout from Arch 10 should be inaudible at the closest noise sensitive receptors.

4.4 Plant Noise Limiting Criteria

- 4.4.1 MCC Technical planning and noise guidance requires plant noise to be limited to at least no greater than 10dB(A) below the LA90,T (prevailing acoustic environment). Limiting LAeq,T criteria are presented at Table 2.
- 4.4.2 Future users will be required to ensure that all plant adheres to the MCC guidance criteria.

Table 2. Predicted Plant Noise at NSR's

Location	Modal Background L90,T dB(A)	Maximum Plant Noise Criteria LAeq,T dB(A)
NSR1 Unite Student Accommodation	48	38
NSR2 Ardwick Green	43	33
NSR3 Cotter St	49	39

5. Noise Compliance Log

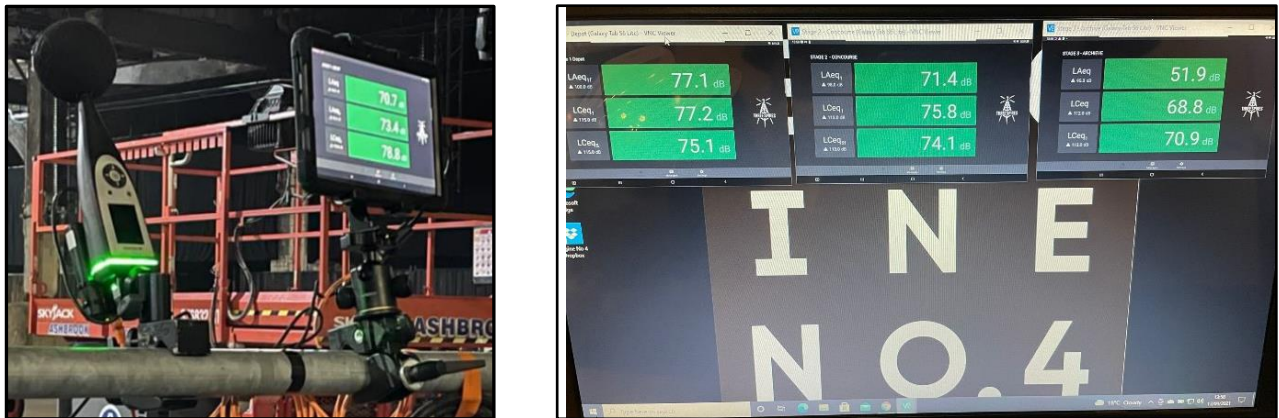
- 5.1.1 A noise compliance log is maintained by the Event Management Team are detailed at Appendix C. The log indicates that a low number of noise communications have been received considered that there have been over 150 events since the venue started operation and provides good evidence that the venue is operated effectively to limit noise breakout from amplified music.

6. Sound Control Procedures

6.1 Sound Monitoring Control

- 6.1.1 For all Warehouse Project and larger events the music sound levels at the mixing desk position within each stage area is continually monitored using B&K 2245 and Noisy venue noise monitoring system. The system provides the sound engineer with a traffic light display system on a tablet next to the sound meter so they can ensure that performances do not exceed the guideline limit derived from the Foyer noise assessment. Pre and post 23.00 limits can be set, and the system is designed so that limits can change automatically at predetermined times. (see inset for FOH engineer display system).

Figure 3. Venue Noise Monitoring System Set Up



6.2 Community Engagement

- 6.2.1 Should complaints of music noise arise during events, the details will be logged by the onsite Event Management Team who will undertake a spot check (where practicable) to check against guideline criteria. Where an intervention will be necessary to ensure MNL's are compliant, instruction will be relayed to the relevant sound engineer. Details of community comment /complaint information are provided below.

- Tel: 0161 806 1166 (Monitored during events)
- Email: community@depotmayfield.com

6.3 Patron Noise

- 6.3.1 Patron noise during ingress and egress can, if not managed effectively, cause noise disturbance to the surrounding community. Depot Mayfield is very experienced at logistical crowd management and the following measures are a brief overview of some of the measures that will be undertaken to limit impact from patron noise.

- Routing to avoid ingress/egress past residential areas where practicable.
- Marshalling of audience to ensures quick ingress and egress.
- Signage to inform audience of behavioural requirements.
- Training of marshals to encourage good behaviour in audience.

7. Conclusion

- 7.1.1 Three Spires Acoustics Ltd have undertaken a Noise Impact Assessment for the Depot Mayfield and Platform Areas A & B, which are separate event spaces located at Depot Mayfield, 11 Baring St, Manchester, M1 2PY.
- 7.1.2 Noise limiting criteria have been based on MCC Technical requirements and predictions and validation sound tests have been undertaken for previous users which confirm that the venue is a viable location for the proposed events.
- 7.1.3 All outstanding works to Arch 10 have now been completed and validation testing undertaken which indicates compliance with MCC requirements.
- 7.1.4 A noise management system, including sound system design, monitoring and community engagement has been implemented to promote the local authority requirements and the licence holder and promoters are committed to a continual improvement strategy.
- 7.1.5 Over 150 musical events and concerts held within Dept Mayfield since it opened in 2019, with only been a handful of noise complaints associated with the venue. The council have undertaken numerous Licensing inspections during this time, and I understand that they have been satisfied and generally provided a positive response to the operation of the venue.
- 7.1.6 It is therefore considered that the operation of Depot Mayfield including the platform area will comply with planning requirements and promote the Licensing Act 2003 objective of the prevention of public nuisance and Manchester City Council’s Planning and Noise Guidance.

Appendix A: Venue Validation Assessments

7.2 Platform – Area A

- 7.2.1 The predicted noise levels from the previous use as a cinema building are detailed at Table 4 below and reproduced from the dBX assessment which formed part of the previous consented application.

Table 3. Summary of Predicted Worst Case Cinema Noise

Item	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz
Noise Level at NSR1, dB $L_{Aeq,T}$	39	39	36	33	32	27	20
MCC Limit dB $L_{Aeq,T}$	45	40	39	38	38	31	22
Level Difference	-6	-1	-3	-5	-6	-4	-2
Noise Level at NSR2, dB $L_{Aeq,T}$	27	28	25	22	21	16	9
MCC Limit dB $L_{Aeq,T}$	44	39	33	32	32	26	17
Level Difference	-17	-11	-8	-10	-11	-10	-8

- 7.2.2 As can be seen from Table 4, above, the typical cinema ambient noise levels meet MCC's criteria at NSR's at all frequency values. NSR3 Cotter Street is at a greater distance than NSR2, therefore as NSR2 is significantly below the limit levels NSR3 has not been included in the table.
- 7.2.3 It is noted that the dBX assessment included the highest LAeq values for with the quietest film being some 23dB lower than this. The above assessment therefore represents an absolute worst-case assessment.
- 7.2.4 We understand that there have not been any noise complaints received by event management team associated with the previous use as a cinema. Should this use be undertaken again the same design requirements will therefore be implemented.

7.3 Platform – Area B Event and Culture Space

- 7.3.1 Area B is a second event and culture space on the platform and as an example was used in the summer of 2023 for cabaret performances event within a Spigel Tent. Predictive calculations have been based upon those for Cabarete performance detailed in previous TSA reports. We understand that typical usage will be until approximately 23:00.

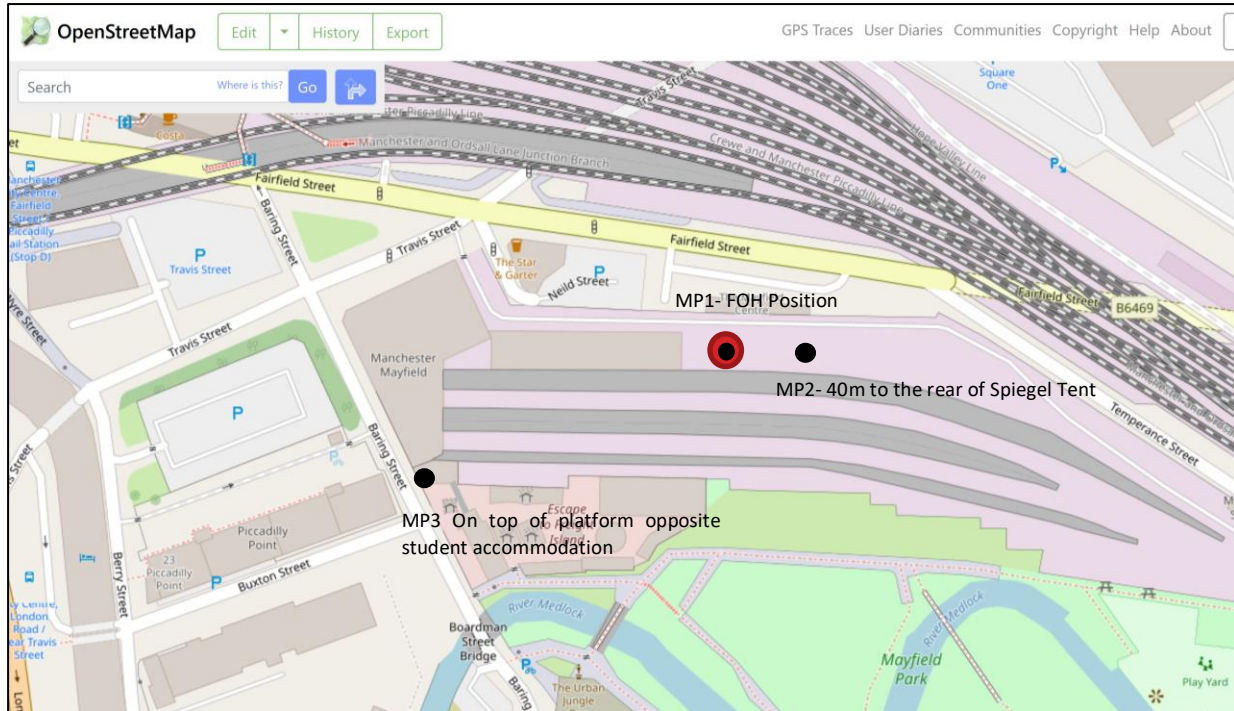
7.4 Venue Validation Testing

- 7.4.1 Venue sound testing was undertaken on the 02/06/2023 using the in-house PA sound system with a representative Cabarete track (*You put a spell on me by Nina Simone*) continually looped at 85dB(A) and 95dB(C) and played within the empty space. Simultaneous measurements were undertaken at the FOH position, at 40m from the centre of the space, externally to the rear Spigel Tent and on the perimeter of Area B opposite the student accommodation.

Depot Mayfield– Noise Impact Assessment

7.4.2 Ambient and background noise was monitored at positions MP2 and MP3 for a representative period before testing was undertaken to determine if there was any contribution to the measured level and to establish the background level at height for the student block. Full audio recording was undertaken at MP2 and MP3 during testing to assist with post measurement analysis.

Figure 4. Venue Testing Monitoring Locations



7.4.3 Music noise was virtually inaudible at location MP3, therefore, the proxy location was used as a reference point to predict levels to the NSR's. Table 5 below presents the predicted level at NSR1.

Table 4. NSR1 Noise Assessment

Student Block	LAeq	LCeq	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz
FOH	82	94	93	86	81	78	77	74	65
Proxy (40m)	58	76	76	67	60	54	53	46	37
Ambient @40m	52	67	60	53	51	48	50	43	32
Music Noise Level	57	76	76	67	60	53	50	43	35
Distance Attenuation 150m 20log(150/40)	11	11	11	11	11	11	11	11	11
NSR1 Level Leq,T	46	65	65	56	49	42	39	32	24
MCC Limit L90,T	52	59	49	46	46	45	47	40	26
Level Diff	-6	6	16	10	3	-3	-8	-8	-2

7.4.4 The audibility element of the MCC technical guide requirement is considered at Table 6 below.

Table 5. Internal Noise Assessment

Audibility Assessment	63 Hz	125 Hz
FOH	93	86
Predicted Level at Student Accom	65	56
Attenuation Open Window 10dB	10	10
Internal Level	55	46
Required Level	47	41
Level Diff	8	5
Max FOH Level =MCC requirements	85	81

- 7.4.5 The outcome of the assessment indicated that a maximum level of 85dB for 63Hz and 81dB for 125Hz should be applied at the FOH mixer position to comply with MCC requirements. This aligns with the predicted levels within the first assessment. During the summer events FOH levels were set at the following levels and these were monitored by the sound engineer.

Table 6. Area B - Lightweight Temporary Structures FOH Maximum Sound Levels

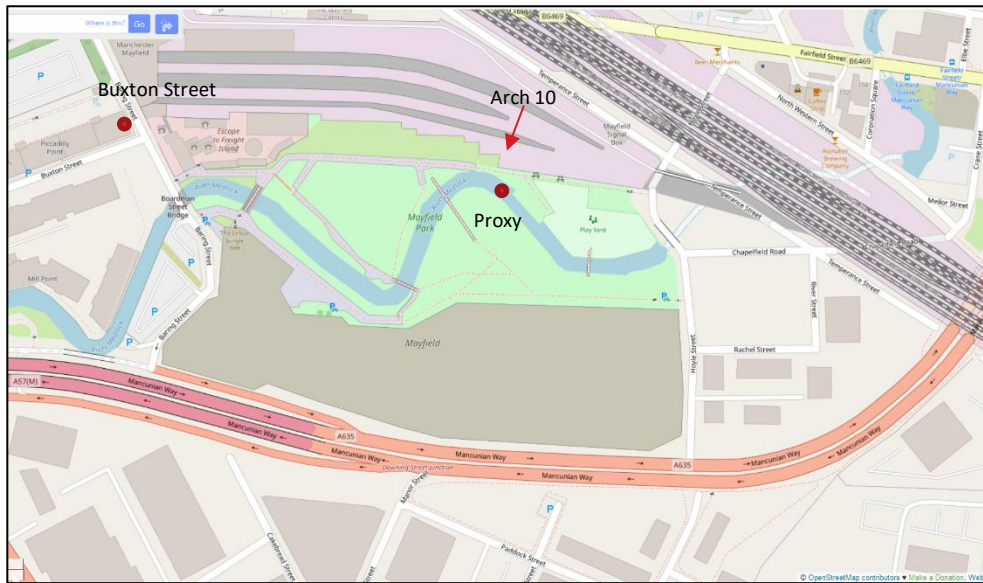
Area B Lightweight Structures FOH Limits				
	LAeq	LCeq	63 Hz	125 Hz
FOH Sound levels	88	90	85	81

- 7.4.6 It is therefore recommended performances within any lightweight temporary event structures are limited to cabaret and theatre type shows. If amplified music was required a more robust structure or reduced internal sound levels or a combination of both, would be required

7.5 Arch 10 Sound Test

- 7.5.1 Arch 10 sound testing was undertaken on Friday 30th December 2022 using the existing in-house PA and sub bass system. High levels of amplified EDM music and pink noise (random noise having equal energy per octave,) were played within the space and simultaneous measurements undertaken in the middle of the event space and at a proxy position 40m from the rear of Arch 10 within Mayfield Park. Aural assessment was also undertaken at the closest NSR's at Cotter Street and Buxton Street and are detailed at Figure 5 below.

Figure 5. Arch 10 Noise Monitoring Locations



7.5.2 Breakout music noise at NSR's can then be calculated applying the following equation.

7.5.3 Equation $SPL2 = SPL1 - 20\log(r2/r1) - B$

Where:

SPL2 = noise level at the receptor location

SPL1 = the noise level at the proxy location

r2 = the distance from the source to the receiver

r1 = the distance from the source to the proxy location

B = Barrier effect (-5dB partial line of sight and -10dB no line of sight)

Depot Mayfield– Noise Impact Assessment

Table 7. Arch 10 Assessment Results – Cotter Street

MP1 Cotter Street	LAeq [dB]	LCeq [dB]	LA90 [dB]	LZ90,T Hertz							
				31.5 [dB]	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1KHz [dB]	2KHz [dB]	4KHz [dB]
Reverberant Internal Level EDM 15:11	100	113	98	98	114	104	94	93	94	92	92
Level at Proxy (40m from Arch 10) 15:11	64	75	62	68	73	67	59	57	62	56	45
Ambient at Proxy (15min)	63	67	61	63	60	53	55	57	61	56	47
Corrected level	64	74	62	66	73	67	57	57	62	56	45
Distance Correction 20lg (220/40)=15dB	15	15	15	15	15	15	15	15	15	15	15
Barrier Correction (partial line of sight) -5dB	5	5	5	5	5	5	5	5	5	5	5
Level at NSR1 Cotter Street	44	54	42	46	53	47	37	37	42	36	25
Night-Time Background at MP2 (Modal L90,15min May 2019)			48	50	51	43	43	41	43	42	31
Level Difference Predicted - L90			-6	-4	2	4	-6	-4	-1	-6	-6
Night-Time Ambient at MP2 (Modal L90,15min May 2019)	59	64		60	61	52	50	52	55	53	40
Level Difference Predicted - LAeq	-15	-10		-14	-8	-5	-13	-15	-13	-17	-15
MP1 Cotter Street	LAeq [dB]	LCeq [dB]	LA90 [dB]	LZ90,T Hertz							
				31.5 [dB]	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1KHz [dB]	2KHz [dB]	4KHz [dB]
Reverberant Internal Level Pink Noise 15:19	101	110	101	100	108	103	97	97	95	95	92
Level at Proxy (40m from Arch 10) 15:19	63	72	62	68	69	66	59	57	61	56	44
Ambient at Proxy (15min)	63	67	61	63	60	53	55	57	61	56	47
Corrected level	63	70	62	66	68	66	57	57	61	56	44
Distance Correction 20lg (220/40)=15dB	15	15	15	15	15	15	15	15	15	15	15
Barrier Correction (partial line of sight) -5dB	5	5	5	5	5	5	5	5	5	5	5
Level at NSR1 Cotter Street	43	50	42	46	48	46	37	37	41	36	24
Night-Time Background at MP2 (Modal L90,15min May 2019)			48	50	51	43	43	41	43	42	31
Level Difference Predicted - L90			-6	-4	-3	3	-6	-4	-2	-6	-7
Night-Time Ambient at MP2 (Modal L90,15min May 2019)	59	64		60	61	52	50	52	55	53	40
Level Difference Predicted - LAeq	-16	-14		-14	-13	-6	-13	-15	-14	-17	-16

Notes:

- Values in **blue** have not included correction for contribution from extraneous noise as A Weighted and mid/high frequency content were inaudible at the proxy location. It has been assumed therefore that A Weighted content is not contributing to the ambient noise situation, i.e 10dB below but has been included in the calculations to demonstrate compliance.
- Values in **orange** have included a correction for extraneous noise as they show an increase over the ambient noise which was due to low level low frequency music noise content.
- MP2 background noise monitoring location screened from traffic noise to a greater extent than Cotter Street properties

Table 8. Arch 10 Assessment Results – Buxton Street

MP1 Buxton Street	LAeq [dB]	LCeq [dB]	L90 [dB]	LZ90,T Hertz							
				31.5 [dB]	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1KHz [dB]	2KHz [dB]	4KHz [dB]
Reverberant Internal Level EDM 15:11	100	113	98	98	114	104	94	93	94	92	92
Level at Proxy (40m from Arch 10) 15:11	64	75	62	68	73	67	59	57	62	56	45
Ambient at Proxy (15min)	63	67	61	63	60	53	55	57	61	56	47
Corrected level	64	74	62	67	73	67	57	57	62	56	45
Distance Correction 20lg (230/40)=15dB	15	15	15	15	15	15	15	15	15	15	15
Barrier Correction (no line of sight) -10dB	10	10	10	10	10	10	10	10	10	10	10
Level at NSR Buxton Steet	39	49	37	42	48	42	32	32	37	31	20
Night-Time Background at MP1 (Modal L90,15min May 2019)			56	51	52	45	45	46	51	49	29
Level Difference Predicted - L90			-19	-9	-4	-3	-13	-14	-14	-18	-9
Night-Time Ambient at MP1 (Modal L90,15min May 2019)	57	64		60	59	52	49	50	55	51	37
Level Difference Predicted - LAeq	-18	-15		-18	-11	-10	-17	-18	-18	-20	-17
MP1 Buxton Street	LAeq [dB]	LCeq [dB]	L90 [dB]	LZ90,T Hertz							
				31.5 [dB]	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1KHz [dB]	2KHz [dB]	4KHz [dB]
Reverberant Internal Level Pink Noise 15:19	101	110	101	100	108	103	97	97	95	95	92
Level at Proxy (40m from Arch 10) 15:19	63	72	62	68	69	66	59	57	61	56	44
Ambient at Proxy (15min)	63	67	61	63	60	53	55	57	61	56	47
Corrected level	64	70	62	66	68	66	57	57	61	56	44
Distance Correction 20lg (230/40)=15dB	15	15	15	15	15	15	15	15	15	15	15
Barrier Correction (no line of sight) -10dB	10	10	10	10	10	10	10	10	10	10	10
Level at NSR Buxton Steet	39	45	37	41	43	41	32	32	36	31	19
Night-Time Background at MP1 (Modal L90,15min May 2019)			56	51	52	45	45	46	51	49	29
Level Difference Predicted - L90			-19	-10	-9	-4	-13	-14	-15	-18	-10
Night-Time Ambient at MP1 (Modal L90,15min May 2019)	57	64		60	59	52	49	50	55	51	37
Level Difference Predicted - LAeq	-18	-19		-19	-16	-11	-17	-18	-19	-20	-18

Notes:

Values in **blue** have not included correction for contribution from extraneous noise as A Weighted and mid/high frequency content were inaudible at the proxy location. It has been assumed therefore that A Weighted content is not contributing to the ambient noise situation, i.e 10dB below but has been included in the calculations to demonstrate compliance. Values in **orange** have included a correction for extraneous noise as they show an increase over the ambient noise which was due to low level low frequency music noise content

- 7.5.4 The results for the Cotter Street location indicate that that for both pink noise and EDM music with FOH levels of up to 101dB(A) and 113dB(C), received music noise will be below LAeq, LA90 and LCeq noise levels and below single octave band LZeq ambient single octave band levels and below LZ90 background single octave band levels with the exception of 63Hz and 125Hz which show a marginal increase. The September 2019 background results have been applied and it is considered that these will be lower than the actual levels at Cotter Street properties which are exposed to higher levels of road noise. Therefore, it can be considered that music noise from Arch 10 should be inaudible at the Cotter Street location.
- 7.5.5 The results for the Buxton Street Cotter Street location indicate that that for both pink noise and EDM music with FOH levels of up to 101dB(A) and 113dB(C), received music noise will be below LAeq, LA90 and LCeq noise levels and below single octave band LZeq and LZ90 background single octave band levels. Therefore, it is considered that music noise breakout from Arch 10 should be inaudible at the Buxton Street location.

7.6 Depot Mayfield Validation Testing

- 7.6.1 Venue sound testing was undertaken on Thursday 16th September 2021 between 7pm and 9pm before the programmed event for that night. Weather conditions were conducive for monitoring with dry conditions and still wind conditions throughout the measurement period. Further validation testing was undertaken during weekend on Friday 17th and Saturday 18th September 2021 during the programmed performances.
- 7.6.2 All three sound systems (Stages 1 to 3) were operated simultaneously, playing a representative electronic dance music track which contained suitable dynamic range for low, mid and high frequencies. Measurements were undertaken at the Front of House (FOH) positions at all three stages. Sound systems were simultaneously operated at levels between 98/100dB(A) and 112/113dBC (63Hz 110 dB(Z) and 125Hz 108dB(Z))throughout the assessment periods.
- 7.6.3 External measurements were undertaken on a rotational basis at the five receptor locations whilst music was played through the sound systems in the venue. Music was then turned off at all stages and ambient noise measurement were undertaken for several minutes. This provided a more consistent assessment against the underlying acoustic environment conditions. Measurements were undertaken of single figure A and C Weighted levels as well as centre octave band Leq and L90 levels.
- 7.6.4 Further background noise measurements were undertaken during Thursday evening and night and used for validation assessment against the measurements undertaken on Friday and Saturday during Warehouse Project events, which allowed for comparison of the day, evening and night-time situations.
- 7.6.5 Internal noise monitoring was also undertaken within a Macdonald Hotel room overlooking Mayfield Depot and external monitoring within the “grub” area was also undertaken.

7.7 Results

- 7.7.1 NSR1 Student Accommodation (Non-Permanent Accommodation)
- 7.7.2 The results indicate that music bass music is audible at low level with a marginal increase in LCeq and 31.5Hz and 63Hz single octave band frequencies of up to 4dB. Mid and high frequencies from music are inaudible with no noticeable level difference in objective measurements. The aural perception was that low level bass is audible/discernible externally with all mid and high frequency components from the music noise source inaudible throughout the assessment periods.

Table 9. NSR1 Venue Validation Measurements

MP2 Buxton Street			Leq											Observations
Measurement	Start Time	Elapsed Time	LAeq	LCeq	LAF90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:54	00:05:01	61	68	59	66	63	58	57	58	51	42		Local Traffic noise, noise from Piccadilly station customers at Freight island and passers by dominate acoustic environment
Music Prop Test	16/09/2021 19:55	00:05:11	61	70	59	68	66	60	57	57	58	51	44	Music noise just audible during lulls in traffic noise, Piccadilly station train noise, Freight Island
		Level Diff	0	2	0	2	3	2	0	-2	0	0	1	Marginal increase in 31.5 & 63Hz due to LF music noise no other significant change in level difference between two situations
Ambient	17/09/2021 01:11	00:03:10	59	70	56	68	68	59	56	55	56	50	39	Local Traffic noise, noise from Piccadilly station customers at Freight island and passers by dominate acoustic environment
WP Event	19/09/2021 01:09	00:05:01	60	72	57	70	69	59	57	56	57	50	41	Music and bass audible at low level, traffic and piccadilly station, noise taxis picking up from Depot dominates the acoustic environment.
WP Event	19/09/2021 02:52	00:05:04	58	70	55	68	69	58	56	54	55	48	41	Music and bass audible at low level, traffic and piccadilly station, noise taxis picking up from

			L90											Observations
Measurement	Start Time	Elapsed Time	LAeq	LCeq	LA90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:54	00:05:01	61	68	59	60	58	55	55	55	55	48	39	Local Traffic noise, noise from Piccadilly station customers at Freight island and passers by
Music Prop Test	16/09/2021 19:55	00:05:11	61	70	59	61	62	57	55	55	56	49	41	Music noise just audible during lulls in traffic noise, Piccadilly station train noise, Freight Island
		Level Diff	0	2	0	1	4	2	0	0	1	1	2	Marginal increase in 31.5 & 63Hz due to LF music noise no other significant change in level
Ambient	17/09/2021 01:11	00:05:10	59	70	56	61	64	56	53	53	52	46	37	Local Traffic noise, noise from Piccadilly station customers at Freight island and passers by
WP Event	19/09/2021 01:09	00:05:01	60	72	57	63	65	56	53	53	53	47	37	Music and bass audible at low level, traffic and piccadilly station, noise taxis picking up from
WP Event	19/09/2021 02:52	00:05:04	58	70	55	60	61	56	54	52	51	45	37	Music and bass audible at low level, traffic and piccadilly station, noise taxis picking up from

7.7.3 NSR3 Cotter Street - Permanent Residential

7.7.4 This is the closest permanent residential location to the venue. The results in Table 10 indicate that there was no significant change in the single figure LAeq, LCeq and LA90 measurement results between the music noise situation and the ambient noise situation during the propagation test. This is also reflected in the Leq and L90 octave band results and correlates with the on-site aural assessment which indicated that all low, mid and high frequency components from the music were inaudible throughout the propagation test assessment periods, which was dominated by road traffic noise on the A635. During the event testing low frequency noise was just discernible on one occasion and it has been recommended that FOH levels are reduced by 3dB(C) after 1.30am when traffic flows start to reduce.

Table 10. NSR3 Venue Validation Measurements

NSR 3 Cotter Street		Leq											Observations
Measurement	Start Time	LAeq	LCeq	LAF90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:14	74	77	69	68	71	67	68	69	72	66	55	Traffic noise from A635 Mancunian Way dominates the acoustic environment
Music Prop Test	16/09/2021 19:17	72	76	68	67	73	66	66	67	70	64	53	Music noise inaudible traffic completely dominates acoustic environment.
	Level Diff	-2	-1	-1	-1	2	-1	-2	-2	-2	-2	-2	No significant change in level difference between two situations
Ambient	16/09/2021 23:50	71	74	61	65	68	66	66	66	68	62	53	Traffic noise from A635 Mancunian Way dominates the acoustic environment
WP Event	19/09/2021 01:24	70	74	58	69	70	61	62	63	67	62	51	Traffic noise dominates acoustic environment . LF bass noise just discernible
WP Event	19/09/2021 02:34	67	71	50	63	67	60	60	61	65	60	49	Music noise inaudible traffic completely dominates acoustic environment.
NSR3 Cotter Street		L90											Observations
Measurement	Start Time	LAeq	LCeq	LA90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:14	74	77	69	62	64	61	64	63	67	61	49	Traffic noise from A635 Mancunian Way dominates the acoustic environment
Music Prop Test	16/09/2021 19:17	72	76	68	63	66	60	62	62	66	60	48	Music noise inaudible traffic completely dominates acoustic environment.
	Level Diff	-2	-1	-1	1	2	-1	-2	-1	-1	-1	-1	No significant change in level difference between two situations
Ambient	16/09/2021 23:50	71	74	61	59	61	55	54	54	58	53	38	Traffic noise from A635 Mancunian Way dominates the acoustic environment
WP Event	19/09/2021 01:24	70	74	58	62	66	53	50	50	56	52	36	Traffic noise dominates acoustic environment . LF bass noise just discernible
WP Event	19/09/2021 02:34	67	71	50	57	61	49	45	43	46	42	29	Music noise inaudible traffic completely dominates acoustic environment.

7.7.5 NSR4 Claire Street - Permanent Residential

7.7.6 The results indicate that there was no significant change in the single figure LAeq, LCeq and LA90 measurement results between the music noise situation and the ambient noise situation. This is also reflected in the Leq and L90 octave band results and correlates with the on-site aural assessment which indicated that all low, mid and high frequency components from the music were inaudible throughout the assessment period which was dominated by road traffic noise on the A635.

Table 11. NSR4 Venue Validation Measurements

NSR4 Clare Street		Leq											Observations
Measurement	Start Time	LAeq	LCeq	LAF90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:35	66	75	63	69	73	65	62	58	64	57	46	Traffic noise dominates acoustic environment
Music Prop Test	16/09/2021 19:38	66	75	63	70	72	66	62	60	64	58	47	Music inaudible traffic dominates acoustic environment
		1	0	0	0	-1	1	1	1	0	1	1	No significant change in level difference between two situations
Ambient	17/09/2021 00:42	66	71	60	67	68	62	60	57	62	60	57	Traffic noise dominates acoustic environment
WP Event	18/09/2021 00:05	64	72	61	68	70	64	61	57	62	55	44	Music inaudible traffic dominates acoustic environment
WP Event	19/09/2021 02:21	63	71	59	66	68	62	59	56	60	55	47	Music inaudible traffic dominates acoustic environment
NSR4 Clare Street		L90											Observations
Measurement	Start Time	LAeq	LCeq	LA90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:35	66	75	63	64	65	61	58	54	61	50	43	Traffic noise dominates acoustic environment
Music Prop Test	16/09/2021 19:38	66	75	63	65	67	61	58	55	61	53	42	Music inaudible traffic dominates acoustic environment
		0	0	0	1	2	0	0	1	0	3		No significant change in level difference between two situations
Ambient	17/09/2021 00:42	66	71	60	61	63	59	56	53	58	51	40	Traffic noise dominates acoustic environment
WP Event	18/09/2021 00:05	64	72	61	62	62	58	56	53	58	51	40	Music inaudible traffic dominates acoustic environment
WP Event	19/09/2021 02:21	63	71	59	62	63	58	55	52	56	51	40	Music inaudible traffic dominates acoustic environment

7.7.7 NSR5 Chapeltown Street - Permanent Residential

- 7.7.8 The results indicate that there was no significant change in the single figure LAeq, LCEq and LA90 measurement results between the music noise and the ambient noise situations. This is also reflected in the Leq and L90 octave band results and correlates with the on-site aural perception that all low, mid and high frequency components from the music noise were inaudible throughout the assessment period, which was dominated by distant road traffic noise, noise from Piccadilly Station and periodic tram movements. Note that the increase in the 31.5Hz level for the prop test was due to tram noise during the measurement.

Table 12. NSR5 Venue Validation Measurements

NSR5 Chapel Town St		Leq											Observations
Measurement	Start Time	LAeq	LCEq	LA90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 20:14	53	69	46	67	67	61	52	49	50	43	36	Distant traffic noise, Piccadilly station and periodic tram rumble and car passes dominate acoustic environment
Music Prop Test	16/09/2021 20:07	52	72	48	73	68	60	51	48	48	43	36	Music inaudible Distant traffic noise, Piccadilly station and periodic tram rumble at 31.5Hz and car passes dominate acoustic environment
		-1	3	1	6	1	-1	-1	-1	-2	-1	0	Change at 31.5Hz due to tram noise - no other significant change in level difference between two situations
Ambient	17/09/2021 00:47	53	67	49	65	65	59	51	48	50	45	39	Distant traffic noise, Piccadilly station and periodic car passes dominate acoustic environment
WP Event	18/09/2021 00:22	50	64	48	62	61	57	49	46	47	40	32	Music inaudible Distant traffic noise, Piccadilly station and periodic tram and car passes dominate acoustic environment
WP Event	19/09/2021 00:54	54	69	49	66	68	57	53	49	51	44	38	Music inaudible Distant traffic noise, Train leaving Piccadilly station LF rumble and periodic tram and car passes dominate acoustic environment
NSR5 Chapel Town St		L90											Observations
Measurement	Start Time	LAeq	LCEq	LA90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 20:14	53	69	46	62	59	49	42	42	42	38	27	Distant traffic noise, Piccadilly station and periodic tram rumble and car passes dominate acoustic environment
Music Prop Test	16/09/2021 20:07	52	72	48	61	61	49	44	43	43	36	28	Music inaudible Distant traffic noise, Piccadilly station and periodic tram rumble at 31.5Hz and car passes dominate acoustic environment
		-1	3	1	-1	2	0	2	1	1	-2	1	No significant change in level difference between two
Ambient	17/09/2021 00:47	53	67	49	59	59	52	47	46	45	38	27	Distant traffic noise, Piccadilly station and periodic tram rumble and car passes dominate acoustic environment
WP Event	18/09/2021 00:22	50	64	48	57	56	51	45	43	44	36	26	Music inaudible Distant traffic noise, Piccadilly station and periodic tram and car passes dominate acoustic environment
WP Event	19/09/2021 00:54	54	69	49	58	61	51	47	44	46	34	27	Music inaudible Distant traffic noise, Piccadilly station and periodic tram and car passes dominate acoustic environment

7.7.9 Macdonald Hotel

- 7.7.10 The results indicate that there was no noticeable change in the single figure LAeq, LCEq and LA90 measurement results between the music noise on and the ambient noise situations. The on-site aural perception was that all mid and high frequency components from the noise source were inaudible throughout the assessment period with low level low frequency noise periodically perceptible, with concentration required to distinguish LF component over the prevailing ambient sound and is therefore considered to be inaudible internally.

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Table 13. MacDonald Hotel Venue Validation

MacDonald Hotel													Observations
Measurement	Start Time	LAeq	LCeq	LAF90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:48	62	79	59	76	77	62	60	57	59	53	49	Traffic noise, noise from Piccadilly station and commercial extract noise dominate acoustic environment
Music Prop Test	16/09/2021 19:48	66	76	58	73	74	61	59	61	63	57	56	Music noise inaudible, train at station, traffic screech noise at 4min, commercial extract and pedestrian noise dominates acoustic environment. Music noise considered inaudible within Hotel.
		4	-2	-1	-2	-3	-1	0	3	5	4	7	LAeq change due to train screech noise from station. no other significant change in level difference between two situations
Ambient	17/09/2021 02:27	58	71	54	69	70	59	57	53	54	48	48	Traffic noise, train at station LF rumble when pulling off, dominate acoustic environment.
WP Event	18/09/2021 00:14	61	70	57	64	67	64	58	57	57	54	47	Music noise virtually inaudible concentration required to discern any music noise. Traffic noise, Piccadilly station noise and commercial extract noise dominates acoustic environment. Music noise considered inaudible within Hotel.
WP Event	19/09/2021 02:22	58	71	54	70	69	58	57	54	54	49	42	Music noise virtually inaudible concentration required to discern any music noise. Traffic noise, Piccadilly station noise and commercial extract noise dominates acoustic environment. Music noise considered inaudible within Hotel.
MacDonald Hotel													Observations
Measurement	Start Time	LAeq	LCeq	LA90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	
Ambient	16/09/2021 18:48	62	79	59	63	62	58	57	53	55	49	42	Traffic noise, noise from Piccadilly station and commercial extract noise dominate acoustic environment
Music Prop Test	16/09/2021 19:48	66	76	58	63	64	58	56	53	54	49	40	Music noise inaudible, train at station pulling off screeching on tracks, general traffic noise dominant.
		4	-2	-1	0	2	0	-1	0	-1	0	-2	LAeq change due to train screech noise from station. no other significant change in level difference between two situations
Ambient	17/09/2021 02:27	58	71	54	57	64	54	54	50	50	44	39	Traffic noise, Piccadilly Station noise and commercial extract noise dominate acoustic environment.
WP Event	18/09/2021 00:14	61	70	57	60	64	56	55	51	53	47	40	Music noise virtually inaudible concentration required to discern any music noise. Traffic noise, Piccadilly station noise and commercial extract noise dominates acoustic environment. Music noise considered inaudible within Hotel.
WP Event	19/09/2021 02:22	58	71	54	60	65	54	50	50	50	44	37	Music noise virtually inaudible concentration required to discern any music noise. Traffic noise, Piccadilly station noise and commercial extract noise dominates acoustic environment. Music noise considered inaudible within Hotel.

7.7.11 Internal measurements undertaken on 1st October 2021 in a hotel room overlooking the Mayfield indicated that music was inaudible and compliant with MCC technical guidelines.

Table 14. MacDonald Hotel Internal Noise Assessment

MacDonald Hotel									Leq						Observations
Measurement	Start Time	Elapsed Time	LAeq	LCeq	LAF90	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz		
Internal	01/10/2021 20:59	00:01:59	29	50	28	45	43	37	29	27	22	20	15	Music inaudible. Air Handling on low level background ventilation.	
Internal	01/10/2021 21:36	00:01:45	34	50	29	44	42	43	31	26	26	26	27	Music inaudible Air handling on operational level.	
Internal	01/10/2021 22:53	00:02:01	29	50	27	45	46	38	32	24	20	17	14	Music inaudible. Air Handling on low level background ventilation. Voices in street just audible.	
Internal	02/10/2021 00:20	00:02:32	25	47	23	42	40	38	26	17	13	11	11	Music inaudible. Air Handling off completely.	

7.8 Freight Island

- 7.8.1 Live and recorded amplified music is played within the Freight Island restaurant area on a regular basis. In order to set a maximum internal limit level for this area, a music noise breakout assessment has been undertaken applying the limiting criteria detailed in Table 1 above and predictive inside to outside calculations.
- 7.8.2 We have assumed the glazed element of the building facade along Bearing Street to be the weakest element. Tables 15 and 16 below details the breakout calculations for the daytime and nighttime situations at the closest NSR which is the Student Accommodation.

Table 15. Freight Island Noise Breakout – Daytime Situation

Calculation of Noise Transfer from Inside to Outside (1)												
Reverberant field to direct field, via up to four building elements												
L2 = L1 - R + 10logS - 20logr -SD (source directivity) - SC (barrier screening) - 14												
Glazing	Octave Band Centre Frequency (Hz)									Overall	Overall	
Roof 1 closest to residents	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(C)	
Reverberant Source Level, L ₁	95	109	101	95	95	95	90	85	86	99		
A-weighting	-39	-26	-16	-9	-3	0	1	1				
L _{1A}	56	83	85	86	92	95.01	91	86				
Sound Reduction Index, R	-15	-18	-21	-25	-29	-33	-31	-35	-38			
Area (m ²)	48	17	17	17	17	17	17	17	17			
Distance (m)	20	-26	-26	-26	-26	-26	-26	-26	-26			
Source Directivity, SD	0	0	0	0	0	0	0	0	0			
Barrier Screening, SC	0	0	0	0	0	0	0	0	0			
Geo spreading and in/out	-14	-14	-14	-14	-14	-14	-14	-14	-14			
L ₂	57	68	57	47	43	39	36	27	25	47	68	
A-weighting	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1			
L _{2A}	17	42	41	38	40	39	37	28	24			
C-weighting	-3.0	-0.8	-0.2	0.0	0.0	0.0	-0.2	-0.8	-3.0			
L _{2C}	54	67	57	47	43	39	36	26	22			
L2	57	67	51	34	45	30	20	17	15			
MCC at L2	55	51	44	44	45	48	43	32	28			
Level Difference	-2	-16	-7	10	0	18	23	15	13			

Table 16. Freight Island Noise Breakout – Night-Time Situation

Calculation of Noise Transfer from Inside to Outside (2)												
Reverberant field to direct field, via up to four building elements												
L2 = L1 - R + 10logS - 20logr -SD (source directivity) - SC (barrier screening) - 14												
Glazing	Octave Band Centre Frequency (Hz)									Overall	Overall	
Roof 1 closest to residents	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(C)	
Reverberant Source Level, L ₁	95	109	101	95	95	95	90	85	86	99		
A-weighting	-39	-26	-16	-9	-3	0	1	1				
L _{1A}	56	83	85	86	92	95.01	91	86				
Sound Reduction Index, R	-15	-18	-21	-25	-29	-33	-31	-35	-38			
Area (m ²)	48	17	17	17	17	17	17	17	17			
Distance (m)	20	-26	-26	-26	-26	-26	-26	-26	-26			
Source Directivity, SD	0	0	0	0	0	0	0	0	0			
Barrier Screening, SC	0	0	0	0	0	0	0	0	0			
Geo spreading and in/out	-14	-14	-14	-14	-14	-14	-14	-14	-14			
L ₂	57	68	57	47	43	39	36	27	25	47	68	
A-weighting	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1			
L _{2A}	17	42	41	38	40	39	37	28	24			
C-weighting	-3.0	-0.8	-0.2	0.0	0.0	0.0	-0.2	-0.8	-3.0			
L _{2C}	54	67	57	47	43	39	36	26	22			
L2	57	67	51	34	45	30	20	17	15			
MCC at L2 Night	50	46	41	39	39	40	36	27	25			
Level Difference	-7	-21	-10	5	-6	10	16	10	10			

7.8.3 Applying the outcome of the Tables above the recommended maximum single figure A Weighted and 63Hz and 125Hz octave band internal limit levels for each situation are detailed at Table 17 below.

Table 17. Maximum Internal Music Limits

Period	dB(A)	63Hz	125Hz
Day 12:00-23:00	95	93	94
Night 23:00-01:00	90	88	91

Appendix B: Plant Noise Validation

7.9 Plant Noise Validation

- 7.9.1 Validation assessment was undertaken for the air conditioner plant used for temporary event space structure. Manufacturers specification is detailed at Appendix B. There is no spectral data available for the plant, however a single figure A Weighted level of 75dB(A) at 3m is specified and has been applied in predictive calculations for the night-time situation at the NSR's. This has included 10dB of barrier attenuation for NSR1 as plant will be obscured (no line of sight) by the event structure and the cinema structure, and no barrier attenuation for NSR2 and NSR3. The resultant plant noise is presented in Table16 below.
- 7.9.2 The results indicate that in all situations that plant noise will be between 11 and 17dB(A) below the background noise levels and therefore will achieve MCC technical requirements.

Table 18. Predicted Plant Noise at NSR's

Location	Plant Noise	Distance	Barrier	Resultant	Background	Level
		Attenuation	Attenuation	Level	Modal	Diff
NSR1 Student Accommodation 150m	75	34	-10	31	48	-17
NSR2 Ardwick Green 440m	75	43	0	32	43	-11
NSR3 Cotter St 350m	75	41	0	34	49	-15

Appendix C: Noise Communications Log

Table 19. Depot Mayfield Noise Communication Log 2021-2023

Date	Details	Actions
16 th October 2021	Resident from Ardwick sent an email to the Mayfield Partnership informing them that a noise complaint had been submitted to MCC.	Email not passed on to the Event Management Team until after the event, so not immediate response or investigation could be undertaken. No other complaints received.
5 th July 2022	Email complaint regarding noise from Freight Island from resident on Berry Street	These complaints were as a result of the PA configuration, which was rectified, and no further complaints have been received from residents on these streets.
22 nd July 2022	MCC Licensing Dept visited Freight after receiving further noise complaints from residents on Berry Street with noise audible on Wadeson Street.	
2 nd October 2022	Complaint received on the Community Line from a resident in Ardwick Green.	Event Management Team investigated, and the source of the noise was from an event taking place in an arch further down Temperance Street, which was unrelated to Depot's events. No noise from the Depot event was inaudible on Cotter Street.
3 rd June 2023	Email received by the Event Management Team on the 3 rd June from a resident on Whitworth Street about the noise from the Platform Cabaret.	Event Management Team responded by email offering to have a phone call to discuss and best investigate. Complainant responded on 31 st July (approx 7 weeks later). He had no further complaints during that period and commented on how well-run events at Depot are generally.
11 th November 2023	MCC Licensing contacted the venue by phone to notify the Event Management Team that they had received a noise complaint from a resident in Ardwick Green.	Intervention to alter configuration of the levels in Archive. No further complaints received.

Appendix D: Glossary of Terms

‘A’ weighting (dB(A)): A frequency dependent correction which weights sound to correlate with the sensitivity of the human ear to sounds of different frequencies.

Ambient Noise: A measure of the typical noise (excluding any unusual events) present at a site, or in a room. This is usually described in terms of $LA_{eq,T}$.

Audible: Sound that can be heard or is perceptible by the human ear.

Background Noise: A measure of the underlying noise (excluding any unusual events) which is present at a site before a new noise source is introduced. This is usually described in terms of the LA_{90} level: the sound pressure level exceeded for 90% of the time.

Decibel (dB): A unit used for many acoustic quantities to indicate the level of sound with respect to a reference level.

External Amenity Space: An outdoor area near to a residential building which is designed and intended primarily for leisure and recreational use by the occupants of the dwelling. This will include gardens, patios, balconies, roof gardens and terraces.

Hertz: The tonal quality of a sound is described and measured in terms of the frequency content and is commonly expressed as octave or third octave bands, the latter being the division of the octave bands into three for finer analysis, across the frequency spectrum. The smaller the octave band or third octave band centre frequency number defined in terms of Hz, the lower the sound. For example 63 Hz is lower than 500 Hz and is perceived as a deeper sound. The attenuation due to air absorption and natural barriers increases with frequency i.e. low frequencies are always the most difficult to control

Inaudible: Sound that cannot be heard or is imperceptible to the human ear.

$LA_{90,T}$: Sound pressure level exceeded for 90% of the measurement period “T” or ‘background level’.

$LA_{eq,T}$: Equivalent continuous sound pressure level measured over the time period “T”

L_{Amax} : The maximum RMS A weighted sound pressure level

Music Noise Level (MNL): The Leq of music noise measured at a particular location.

Noise: Unwanted sound.

Noise assessment: A basic evaluation of an acoustic environment by a suitably qualified person to assist in the determination of a planning application..

Noise impact: the noise level of the source under consideration, and/or any change in noise levels due to the scheme, and/or the relationship between the noise level of the source under consideration and a descriptor of the existing noise climate; at a receptor or group of receptors.

Noise effect: the consequence of the noise impact e.g. annoyance, sleep disturbance, speech interference, disruption of learning/teaching, health consequences, fauna displacement etc. Noise

impact and noise effect are related to each other and the noise effect is related to the magnitude of the noise impact as well as other factors e.g. sensitivity of the receptor, duration of the noise, how frequently it occurs, the time of day or night it occurs, whether the noise is temporary, reversible or permanent etc.

Noise level (Lp): the logarithmic measure of the RMS sound pressure of a sound relative to a reference value that represents the threshold of hearing. It is measured in decibels (dB) e.g. $L_p = 20 \lg(p/p_0)$ dB re 20 μ Pa for air.

Noise sensitive premises / developments: Principally comprising residential premises, hospitals, schools and hotels. Other premises and sites may be deemed to be noise sensitive depending upon circumstances.

Typical sound pressure levels

