Government Property Agency

AtkinsRéalis



MANCHESTER DIGITAL CAMPUS

Environmental Statement
Volume 4 - Appendix 16.1:
Noise Assessment

NOVEMBER 2024

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This document has 14 pages including the cover.

Document history

Document title: Environmental Statement Volume 4 - Appendix 16.1 Noise Assessment

Document reference: MDCX-ATR-XX-XX-RP-Z-000044

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Planning submission issue	AM	PW	IE	TC	07/10/2024

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Appendix 16. Noise Assessment

16.1 Noise Survey Positions

Measurements were undertaken at four different positions at the Former Central Retail Park which can be seen in Figure 16.1. The noise measurements were conducted using field-calibrated Class 1 integrating sound level meters positioned at each location, no drift in calibration was observed. The sound level meters were placed at a height of approximately 1.5 metres above the local ground level and positioned in free-field conditions away from any obstructions that could affect the accuracy of the readings.

During the measurement periods, various sources of noise were identified and recorded, including vehicular traffic, construction activities, and commercial operations. Additionally, specific events that could contribute to noise levels, such as deliveries or gatherings, were noted.



Figure 16.1 – Noise measurement positions

Survey Positions

Position 1

Position 1 was located adjacent to Great Ancoats Street, and positioned close to the Site boundary, approximately nine metres from the road edge. The primary noise sources noted at this position were road traffic noise from Great Ancoats Street, nearby construction work noise, and some contribution from pedestrians on the tow path to the north of the Site. During the night-time period, the primary sources of noise were road noise and some noise from plant noise associated with the ALDI building opposite the monitoring position could also be distinguished.



Figure 16.2 – Noise survey Position 1

Position 2

Position 2 was located in the top northwest corner of the Site around 15 metres east of the canal, and 10 metres south from the Co-Op Academy New Islington boundary. The primary noise sources noted at this position were distant road noise from Great Ancoats Street, distant construction works, and typical school playground noise. At night-time the dominant sources of noise were road noise from Great Ancoats Street.



Figure 16.3 – Noise survey Position 2

Position 3

Position 3 was located at the end of the northeast maintenance entrance leading from Old Mill Street and approximately 50m south of the New Islington Marina. The primary noise sources noted at this position were distant construction works and distant school noise. Some noise contributions were noted from people using the Site, predominantly skateboarders. At night-time the main source of noise was road traffic noise from Great Ancoats Street.



Figure 16.4 – Noise Survey Position 3

Position 4

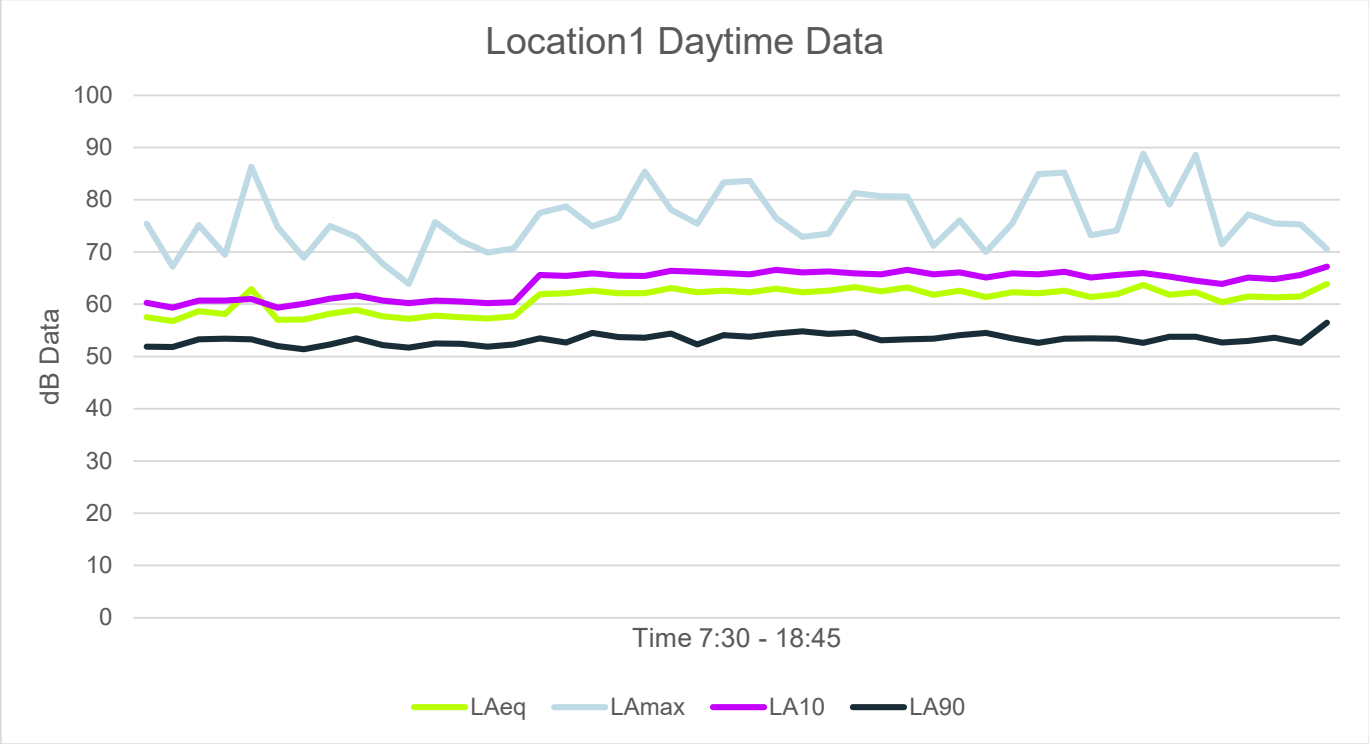
Position 4 was located in the corner of a previous parking bay, parallel to Old Mill Street and adjacent to the newly built Islington Wharf building. The primary noise sources noted at this position were Great Ancoats Street construction works, pedestrians at the nearby local road and distant road traffic from Great Ancoats Street. At night-time the main source of noise was road traffic noise from Great Ancoats Street.



Figure 16.5 – Noise Survey Position 4

16.2 Noise Survey Data

Position 1



File	Date	Time	L_{Aeq}	L_{Amax}	L_{Amin}	L_{A1}	L_{A10}	L_{A50}	L_{A90}	L_{A99}
28	22/06/2023	21:57	61.0	70.6	44.1	68.6	64.8	59.3	49.0	45.8
32	22/06/2023	23:37	61.1	73.1	43.3	69.5	65.5	57.2	47.6	44.4
35	22/06/2023	00:56	59.2	76.0	41.0	69.4	63.0	54.7	46.9	42.6
39	23/06/2023	02:20	57.1	76.0	39.9	68.3	60.7	49.3	42.3	40.7
43	23/06/2023	03:38	57.2	75.0	40.6	69.5	60.1	51.2	44.1	41.9
Average			*59.5*	*76.0*	*39.9*	*69.1*	*62.8*	*54.3*	*46.0*	*43.1*

Position 2

File	Date	Time	L_{Aeq}	L_{Amax}	L_{Amin}	L_{A1}	L_{A10}	L_{A50}	L_{A90}	L_{A99}
Daytime Data										
1	22/06/2023	07:40	53.2	64.7	44.2	59.9	56.0	52.1	48.2	46.0
4	22/06/2023	08:53	51.8	64.6	45.7	56.9	54.1	51.0	48.7	47.1
7	22/06/2023	10:00	51.7	64.6	44.1	57.0	54.0	51.1	47.7	45.5
10	22/06/2023	11:27	51.3	67.1	44.6	56.9	53.5	50.4	47.6	45.7
13	22/06/2023	12:26	53.2	67.9	46.6	59.8	55.2	52.3	49.9	48.6

File	Date	Time	L_{Aeq}	L_{Amax}	L_{Amin}	L_{A1}	L_{A10}	L_{A50}	L_{A90}	L_{A99}
16	22/06/2023	14:14	52.9	63.2	44.7	60.2	55.6	51.6	48.7	46.3
19	22/06/2023	15:24	53.4	65.4	46.6	59.4	56.0	52.3	49.4	48.0
22	22/06/2023	16:36	51.2	62.5	45.4	57.7	53.5	50.2	47.9	46.5
25	22/06/2023	17:45	50.4	63.6	43.2	56.5	52.7	49.4	47.0	44.6
29	22/06/2023	22:20	48.8	66.7	39.7	57.7	50.2	47.0	43.4	41.1
	Average		*52.0*	*67.9*	*39.7*	*58.2*	*54.1*	*50.7*	*47.9*	*45.9*
Night-Time Data										
33	22/06/2023	23:57	46.6	63.4	38.3	53.6	49.2	45.1	41.1	39.4
36	23/06/2023	01:19	46.1	77.0	36.1	51.0	46.9	42.8	39.4	37.2
40	23/06/2023	02:40	42.7	52.1	35.3	50.1	45.9	41.2	37.7	36.2
Average			*45.4*	*77.0*	*35.3*	*51.6*	*47.3*	*43.0*	*39.4*	*37.6*

Position 3

Daytime Data										
File	Date	Time	L_{Aeq}	L_{Amax}	L_{Amin}	L_{A1}	L_{A10}	L_{A50}	L_{A90}	L_{A99}
2	22/06/2023	08:09	54.1	68.8	45.7	63.4	57.0	51.7	49.3	47.6
5	22/06/2023	09:15	53.9	74.7	47.3	61.6	55.9	52.5	50.3	49.0
8	22/06/2023	10:20	53.0	69.1	46.7	60.1	55.0	51.9	49.8	48.2
11	22/06/2023	11:44	51.3	67.0	45.2	55.8	53.3	50.7	47.8	46.5
14	22/06/2023	12:44	51.7	63.8	45.6	58.0	53.5	51.0	48.9	47.2
17	22/06/2023	14:34	58.1	74.7	47.8	67.3	61.8	54.7	51.9	49.4
20	22/06/2023	15:43	55.3	73.8	48.0	63.7	57.6	53.3	50.9	49.5
23	22/06/2023	16:53	57.9	76.9	47.0	69.0	60.3	53.9	50.7	49.3
26	22/06/2023	18:05	55.7	73.0	47.0	64.3	58.8	53.1	50.1	48.4
30	22/06/2023	22:42	49.2	69.5	40.0	57.1	50.7	47.7	44.0	41.5
Average			*54.8*	*76.9*	*40.0*	*62.0*	*56.4*	*52.1*	*49.4*	*47.7*
Night-Time Data										
34	23/06/2023	00:17	47.0	66.7	37.8	52.7	49.8	45.8	42.1	39.7
37	23/06/2023	01:41	43.0	59.0	35.0	49.1	46.1	41.3	37.7	36.2
41	23/06/2023	02:59	42.1	52.2	35.9	48.4	44.6	41.1	37.9	36.7
Average			*44.6*	*66.7*	*35.0*	*50.1*	*46.8*	*42.7*	*39.2*	*37.5*

Position 4

Daytime Data										
File	Date	Time	L_{Aeq}	L_{Amax}	L_{Amin}	L_{A1}	L_{A10}	L_{A50}	L_{A90}	L_{A99}
3	22/06/2023	08:26	60.5	80.7	50.3	73.4	60.8	56.5	53.8	51.3
6	22/06/2023	09:34	60.2	72.8	50.1	68.4	62.5	59.1	55.4	52.7
9	22/06/2023	10:37	58.5	73.0	51.5	66.0	60.9	56.8	54.6	52.9
12	22/06/2023	12:01	56.6	66.8	50.9	62.2	59.1	55.7	53.3	52.2
15	22/06/2023	13:02	57.4	71.7	50.8	67.0	58.8	56.0	53.7	52.3
18	22/06/2023	14:52	60.1	69.7	50.6	67.0	64.4	56.8	54.0	52.1
21	22/06/2023	16:00	55.6	66.1	48.2	61.2	57.5	55.1	52.0	49.9
24	22/06/2023	17:15	55.9	71.2	48.3	63.1	57.9	55.0	52.5	49.7
27	22/06/2023	18:22	56.4	74.8	47.7	66.1	57.9	54.5	51.1	48.9
Average			*58.3*	*80.7*	*47.7*	*66.0*	*60.0*	*56.2*	*53.4*	*51.3*
Night-Time Data										
31	22/06/2023	23:17	54.3	76.0	41.4	65.3	56.0	51.7	46.4	43.2
38	23/06/2023	02:00	49.5	72.3	37.2	58.6	52.7	46.4	39.8	38.0
42	23/06/2023	03:18	48.7	62.0	37.6	57.2	52.1	46.4	41.5	38.9
Average			*51.6*	*76.0*	*37.2*	*60.4*	*53.6*	*48.2*	*42.6*	*40.0*

16.3 Example Sound Power Levels (SWLs) and Sound Pressure Levels (SPLs)

Sound Power Level of some Common Sources[1]

Sound Power Level dB	Source
195	Saturn Rocket
170	Ram Jet Turbo jet engine with after burner
160	Turbo Jet Engine 3200 kg thrust
150	4 Propeller air liner
140	
130	75 Piece Orchestra Pipe Organ Small aircraft engine

[1] Woods Practical Guide to Noise Control page 12

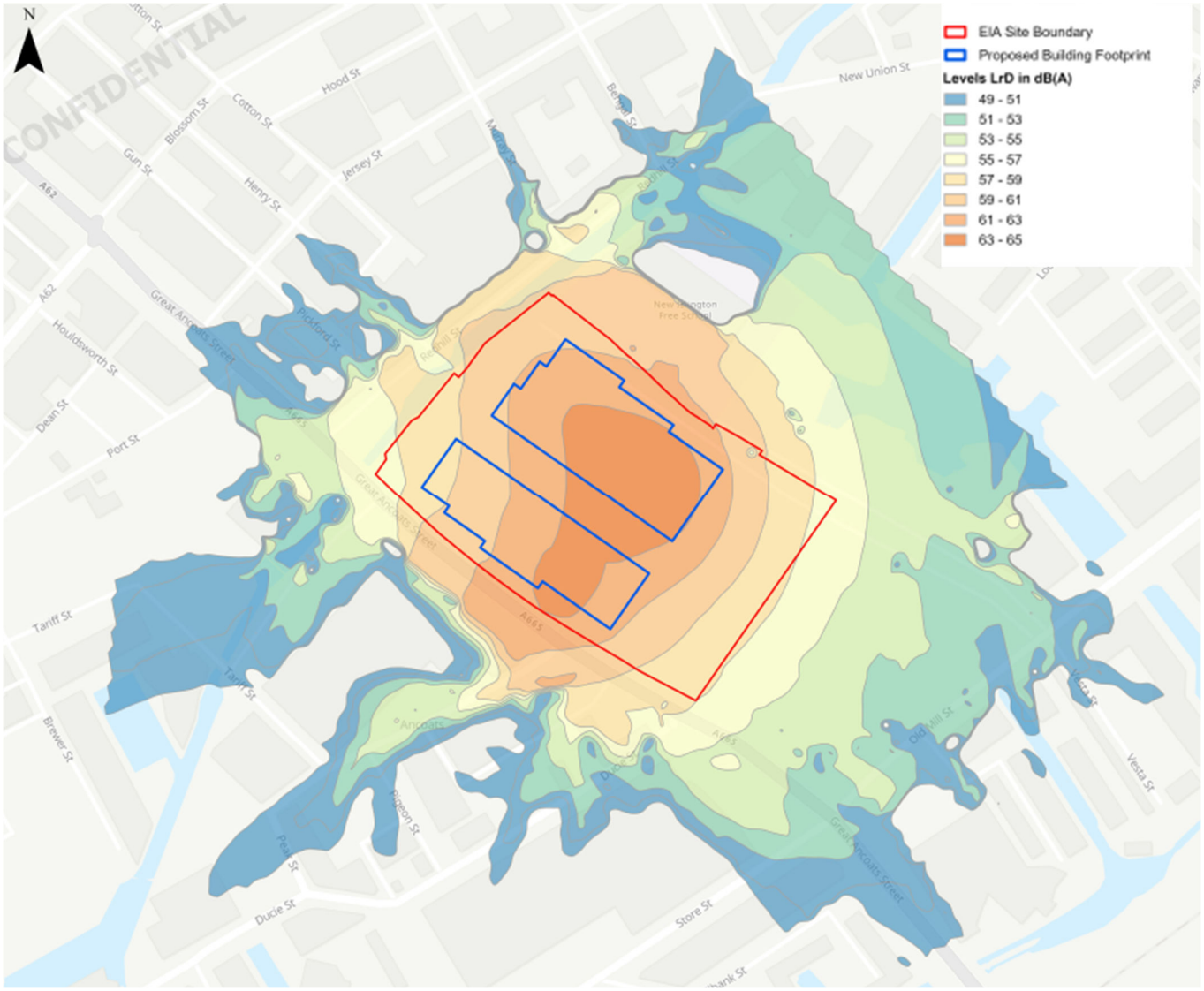
Sound Power Level dB	Source
120	Large Chipping Hammer B-flat Tuba
110	Blaring Radio Centrifugal fan (22,000m3/h)
100	1m loom Car on Motorway
90	Vaneaxial ventilation fan (2500 m3/h) Voice – Shouting (average long term RMS)
80	
70	Voice – conversational level (average long term RMS)
60	
50	
40	
30	Voice – very soft whisper

Average Sound Pressure Levels to be Expected in Some Common Environments

Sound Pressure Level, dB	Source	Average Subjective Description
140	30m from military aircraft at take off	Intolerable
130	Pneumatic chipping riveting (operators position)	
120	Ship Engine Room (full speed)	
110	Automatic punch press (operators position) Textile weaving room	Very Noisy
100	Automatic lathe shop Printing press room	
90	Heavy lorry at 6m Construction Site – pneumatic drilling	
80	Kerbside of busy street	Noisy
70	Loud Radio (in average domestic room)	
60	Restaurant Department store	
50	Conversational speech at 1m General office	Quiet
40	Average Suburban area Whispered Conversation at 2m Residential area at night	

Sound Pressure Level, dB	Source	Average Subjective Description
30	Background in a Classroom	Very Quiet
20	Background in TV and Recording studio	
10		
0	Normal Threshold of Hearing	

16.4 Operational Noise Contours



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