Victoria Riverside Manchester

Condition Discharge Report 21(b)
Tower B, Midrise B & Tower C

28499/RP3

23 June 2025

For:
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Hann Tucker Associates

Condition Discharge Report 21b – Landlord Plant Noise Levels 28499/RP3

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This report has been prepared by Hann Tucker Associates Limited (HTA) with all reasonable skill, care and diligence in accordance with generally accepted acoustic consultancy principles and the purposes and terms agreed between HTA and our Client. Any information provided by third parties and referred to herein may not have been checked or verified by HTA unless expressly stated otherwise. This document contains confidential and commercially sensitive information and shall not be disclosed to third parties. Any third party relies upon this document at their own risk.

Hann Tucker Associates

Landlord Plant Noise Levels Test Report
28499/RP3

Document Control

Rev	Date	Comment	Prepared by	Checked by	Authorised by
0	23/06/2025	-	[redacted]		

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1.0 Introduction

Hann Tucker Associates Limited (Hann Tucker) has been commissioned by FEC Development Management Ltd to undertake validation measurements and prepare supplementary evidence to assist with the discharge of planning condition 21(b) on Tower Block B, Midrise B & Tower Block C for the development referred to as Victoria Riverside, Manchester. The development was granted Planning Permission in January 2021 (*Planning Reference: 126944/FO/2020*).

The tests were carried out across the development for validation of landlord plant, in association with Tower B, Midrise B and Tower C. Measured plant noise levels are provided in Appendix A.

It should be noted that this Report relates to "Tower B, Midrise B & Tower C" only as the practical completion date for Tower A means it is not yet ready to undertake measurements (i.e. phased construction). As such a supplementary Report will be provided to capture Tower A to follow.

2.0 Planning Conditions

Planning Conditions 21, part (b), requests that evidence of the noise mitigation measures installed are capable of achieving the required acoustic verification and satisfy agreed limits be submitted to the local planning authority. The conditions are below with relevant text highlighted in bold.

21. Notwithstanding the Chapter 12 Noise and Vibration, prepared by ARUP of the ES stamped as received by the City Council, as Local Planning Authority, on the 17 May 2020.

(b). Prior to the first occupation of each phase of the development (save for the enabling works phase), a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.

3.0 Condition 21(b) Commissioning Details

3.1 Overview

Condition 21(b) relates to noise from fixed building services plant and this section of the report sets out the measured landlord plant egress from the ground floor systems.

The plant which has been measured relate to the following:

- Mechanical extract ventilation for bin store areas, fan located internally and ducted to the façade;
- Heat Recovery units which serve ancillary rooms, fan located internally and ducted to close to the car park entrance.

3.2 Project Criteria

The project criteria have been set out in report referenced *'28499-NIA-RP1-Rev1-NJM Condition Discharge Noise Report'* which related to the Employers Requirements Report produced by ARUP (document reference: *VRS-ARP-ZZ-ZZ-SP-D-00006_P01*). The document sets limits at 5dB below the measured background sound level for nearby residential developments including North View (adjacent to the northwest boundary), and Angel Meadows (south).

The following plant noise emission limits for the development and surrounding developments are to be achieved at 1 metre from noise sensitive windows, resultant from proposed plant operating cumulatively.

Location	BS 4142 Plant Noise Rating Limit, $L_{Ar,Tr}$ (dB)	
	Daytime (07:00 to 23:00)	Night-time (23:00 to 07:00)
Victoria Riverside Development (on-site receptors)	44	41
North View Development (off-site receptors)	44	41
Angel Meadows Development (off-site receptors)	48	38

NB: In most areas the nearest noise sensitive receptors are likely to be apartment windows within the development site.

3.3 Noise Sensitive Receptors

Externally, the nearest noise sensitive receptors to proposed plant areas are the adjacent Tower Blocks which form part of the Victoria Riverside, Manchester development (Tower A, Tower B, and Tower C). Within this Report these can be regarded as “on-site” receptors.

The other off-site receptors that could be affected are the North View consented development (Receptor D) and Angel Meadows (Receptor E), though given their increased distance from the Riverside development are not considered to be the “worst affected” given that on-site receptors are being considered in this case.

The following image, presented below, highlights the location of each of the noise sensitive receptors.

Satellite image highlighting the location of Receptor A to E (Map Data, Google Maxar Technologies © 2024)

3.4 Summary of Installed Landlord Building Services

3.4.1 Introduction

The following assessments will be split up into separate plant items and concluded with an assessment of cumulative noise impact assessment. The plant item categories are as follows:

Unit Ref	Plant Description	Location	Plant Make/Model	Serving	Nearest Noise Sensitive Receptor
MEV-B-01	Extract Ventilation	First Floor (Level 01)	Elta Fans SH250-1LC	Tower B Refuse Bin Store	Receptor: B Apartment TB-02-001
MEV-C-01	Extract Ventilation	Ground Floor (Level 00)	Elta Fans SH315-1LC	Tower C Refuse Bin Store	Receptor: C Apartment TC-01-001
MEV-C-02	Extract Ventilation	Ground Floor (Level 00)	Elta Fans SH200-1LC	Midrise B Refuse Bin Store	Receptor: C Apartment TC-01-001
HRU-C-01	Heat Recovery Unit	Tower C Ground Floor	Elta Fans HRH 05	Staff room, Staff office, Parcel room, Acc W/C	Receptor: C Apartment TC-02-001

3.4.2 Installation Locations

The commissioned plant is generally installed at Ground and First floor locations. Exact layouts and duct runs are outlined in our discharge note for Condition 21(a) Report referenced *'28499-NIA-RP1-Rev1-NJM Condition Discharge Noise Report'.*

3.5 Survey

3.5.1 Methodology

Hann Tucker Associates attended site on 12 June 2025 and 19 June 2025 to take measurements of the installed building services plant. Measurements were generally taken at 1m from the unit or grille.

It is understood that the MEV-B-01 unit was commissioned at a higher duty rate than required, and therefore there may be scope to reduce the system duty, which should be reviewed by the M&E engineer. This however potentially affected the results and subsequent assessment as detailed in Section 3.6.1.

The surveys were carried out by Nick Mitchell BSc (Hons), AMIOA and Will Robertson BSc (Hons) TechIOA.

3.5.2 Results

The following table outlines the results of the measurements taken on site. Where units could not be switched ON/OFF, these do not account for background corrections. Where units could be turned ON/OFF, these have been highlighted with (*) to account for background corrections.

Unit	Measurement Type	Measurement Distance	Measured Level (L_{Aeq})
MEV-B-01	Source	1m	56 *
MEV-C-01 & MEV-C-02	Source	1m	53
HRU-C-01	Source	1m	57

Full octave band data collected on site is present in Appendix A at the end of this report.

3.6 Assessment

3.6.1 Extract Fans

We understand that the proposed extract fans could operate 24/7, and so a night-time assessment is necessary.

It should be noted that the proposed plant is not anticipated to exhibit any tonal or impulsive characteristics provided it is well maintained.

Worst-case plant noise emission levels from the proposed extract fans are detailed in the table below. It should be noted that for the sake of brevity, the results from more favourable receptors, i.e. where the extract fans are significantly below the requirements, have not been included. Where extract fans are fully screened from receptors on adjacent Tower Blocks, these have not been cumulatively summed and are denoted as a '-'.

MEV Ref	Predicted SPL at 1m from each Receptor	
	Tower B Apartment TB-02-001	Tower C Apartment TC-01-001
MEV-B-01, L_p at 1m, dBA	56	-
Distance Loss (2m), dB	-6	-
Directivity, dB	-6	-
MEV-B-01 Noise Level at 1m from Receptor, dBA	**44**	-
MEV-C-01 & MEV-C-02, L_p at 1m, dBA	-	57
Distance Loss (10m), dB	-	-20
Directivity, dB	-	-6

MEV Ref	Predicted SPL at 1m from each Receptor	
	Tower B Apartment TB-02-001	Tower C Apartment TC-01-001
MEV-C-01 & MEV-C-02 Noise Level at 1m from Receptor, dBA	-	**31**
Cumulative Level at 1m from Receptor, dBA	**44**	**31**
Daytime/Night-time Criteria	**44/41**	**44/41**

As shown in the table above, the plant noise emissions from the proposed extract fans for Tower C are expected to comply with the specified limits at all nearby noise-sensitive receptors. However, the extract fan for Tower B currently exceeds the night-time limit set out in the ARUP Employer Requirements Report by 3 dB.

As mentioned in Section 3.5.1, it is understood that the unit was commissioned at a higher duty rate than required. Notwithstanding, when assessed against the guidance in BS 4142, the noise rating level at the receptor is 2 dB below the background level, which typically indicates a low impact. Furthermore, the affected unit only exceeds the criteria at one apartment, with calculations suggesting compliance with noise limits in adjacent apartments.

Taking this context into account, the unit is considered likely to comply with BS 4142. However, this remains subject to confirmation and acceptance by Manchester City Council (MCC).

3.6.2 Heat Recovery Units (HRUs)

We understand that the proposed heat recovery units could operate 24/7, and so a night-time assessment is necessary.

It should be noted that the proposed plant is not anticipated to exhibit any tonal or impulsive characteristics provided it is well maintained.

The following table outlines our assessment of the measured on-site plant noise levels with reference to distance and directivity corrections.

HRU Ref	Predicted SPL at 1m from each Receptor
	Tower C Apartment TC-02-001
HRU-C-01	53
Distance Loss (10m)	-20

HRU Ref	Predicted SPL at 1m from each Receptor
	Tower C Apartment TC-02-001
Directivity	-6
HRU-C-01 Noise Level at 1m from Receptor	**27**
Cumulative	**27**

As indicated above, it is predicted that installed plant items should be compliant with the agreed criteria during daytime and night-time periods.

3.7 Conclusion

It is considered that all landlord plant is likely to achieve a low impact in accordance with BS 4142 and therefore can be discharged for Phase 1 of the development.

Additionally, with the façade panels closed, the engineer was unable to hear the MEV-B-01 unit when positioned at the centre of the room. When the panels were open, the unit was only audible when standing directly next to the façade.

Therefore, it is recommended the suitability of MEV-B.01 unit is subject to confirmation by MCC.

Appendix A

Plant Noise Data

Extract Fan Noise Data

Noise data for the installed units is provided in the table below:

Unit Ref	Measurement Ref.	Z weighted Sound levels (dB) at octave band frequencies (Hz)							
		63	125	250	500	1000	2000	4000	8000
MEV-B-01	Operational	55	55	54	52	50	52	48	39
	Background	55	51	47	46	45	45	37	24
MEV-C-01 & MEV-C-02	Operational	54	54	54	49	47	46	44	37

HRU Noise Data

Noise data for the installed units is provided in the table below:

Unit Ref	Measurement Reference	Z weighted Sound levels (dB) at octave band frequencies (Hz)							
		63	125	250	500	1000	2000	4000	8000
HRU-C-01	Operational	57	59	56	53	50	49	49	40