

SANDY BROWN

Consultants in Acoustics, Noise & Vibration

023295-R09-A

18 July 2025

Jersey Street, Poland St Zone, Manchester

Planning condition 19a discharge report

London, Manchester, Edinburgh, Birmingham, Leeds, Bristol

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Version	Date	Comments	Author	Reviewer
A	18 Jul 25		GM	JA

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Summary

Sandy Brown has been appointed by John Sisk & Son Ltd to provide acoustic advice on the proposed new build Manchester Life Development Company 3 Ltd scheme at 66 Jersey Street in Manchester.

The proposal comprises two 8-storey buildings forming 190 residential apartments and ground floor commercial and amenity spaces.

Planning Permission has been granted under application number 139289/JO/2024. Plant noise egress limits are set out in 023295-R02-A *Planning noise report (Jersey Wharf)* dated 14 February 2024, in line with the MCC criteria and Planning Condition 19a.

This report sets out relevant information to discharge Planning Condition 19a.

The plant noise egress limits for normally operating plant are expected to be achieved with the currently proposed design/equipment selections. This is on the basis that installed and operational plant contains no attenuation catching features (as per Section 3.3.3).

Several emergency smoke extract attenuator options were received from Ameen via email on 7 July 2025. The optimal attenuation packages have been used to inform this assessment. The attenuation packages considered are:

- EF/BA/03 – Option 3
- EF/BA/04 – Option 3
- EF//BB/01 – Option 4.

The plant noise egress limits for emergency plant are expected to be achieved during routine testing. During a life-safety emergency, the limits are expected to be achieved during the day though exceed the criteria at night by up to 6 dB.

Given that low noise equipment has been selected and significant attenuation measures have been adopted, it is proposed that a 6 dB exceedance to the emergency plant noise limits at night during a life-safety emergency may be acceptable to the MCC. This is on the basis that all practical mitigation measures have been included, routine testing is only carried out during the day, and any emergency plant operation at night would be during an actual life safety emergency only. This is subject to agreement with MCC.

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1 Introduction

Sandy Brown has been appointed by John Sisk & Son Ltd to provide acoustic advice on the proposed new build Manchester Life Development Company 3 Ltd scheme at 66 Jersey Street in Manchester.

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Planning Permission has been granted under application number 139289/JO/2024. Plant noise egress limits are set out in 023295-R02-A *Planning noise report (Jersey Wharf)* dated 14 February 2024, in line with the MCC criteria and Planning Condition 19a.

This report sets out relevant information to discharge Planning Condition 19a which relates to plant noise egress.

A plant noise egress assessment has been carried out via 3D environmental noise modelling.

2 Site description

2.1 The site and its surroundings

The site location in relation to its surroundings is shown in Figure 1, outlined in yellow. The proposal comprises two 8-storey buildings forming 190 residential apartments and ground floor commercial and amenity spaces.

Externally terminating noise generating plant is proposed as part of the development which is detailed within this report.

The Site is bounded by Jersey Street to the north, Rochdale Canal to the south, and Flint Glass Wharf (a residential building) to the west, and grassland to the east.

The Site can be accessed by pedestrians via Jersey Street.



Figure 1 Aerial view of the proposed sites (courtesy of Google Earth Pro)

2.2 Adjacent premises

A summary of the nearby noise sensitive premises is set out below in reference to Figure 1:

- Residential premises on Jersey St, Rodney St and Mozart Close to the north east (highlighted in yellow)
- Residential premises at Flint Glass Wharf to the south west (highlighted in light blue)
- Residential premises at Canal Point, Navigation Street, Burgess House, Avro House and 3 New Union St to the south (highlighted in navy blue)
- Trading estate at City Court to the north (highlighted in orange)
- Flint Glass Works, 62-64 Jersey St understood to be commercial to the south west (highlighted in green)
- Pheonix Ironworks (137346/FO/2023) is a proposed development to the north west of the site, to the current warehouse spaces highlighted in pink
- Factories on George Leigh St and Naval St to the north west (highlighted in purple).

In addition to the above existing receptors, there is another Manchester Life Development Company 3 Ltd scheme, Eliza Yard (130354/FO/2021), proposed to the north of the site, across Jersey Street (outlined in red).

3 Plant noise egress criteria

3.1 Planning Condition 19a

The wording of Planning Condition 19a as per application number 139289/JO/2024 is as follows:

“(a) Prior to the first occupation of the development, details of any externally mounted ancillary plant, equipment and servicing shall be submitted for approval in writing by the City Council, as Local Planning Authority. For the avoidance of doubt, externally mounted plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating of 5 dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.”

3.2 Standard guidance

BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* (BS 4142) provides a method for assessing noise from items such as building services plant against the existing background sound levels at nearby noise sensitive premises.

BS 4142 suggests that if the noise level is 10 dB or more higher than the existing background sound level, it is likely to be an indication of a significant adverse impact. If the level is 5 dB above the existing background sound level, it is likely to be an indication of an adverse impact. If the level does not exceed the background sound level, it is an indication of having a low impact.

If the noise contains ‘attention catching features’ such as tones, bangs etc, a penalty, based on the type and impact of those features, is applied.

3.3 Plant noise egress limits

The following plant noise egress limits were established following a baseline noise survey at the site between 5 March 2021 and 8 March 2021 and between 3 September 2021 and 7 September 2021, as detailed in 023295-R02-A *Planning noise report (Jersey Street)* dated 14 February 2024.

3.3.1 Normally operating plant items

The cumulative noise levels from the operation of all new plant at 1 m from the worst affected window of the nearest noise sensitive premises shall not exceed the limits set out in Table 1, in line with the MCC criteria and Planning Condition 19a.

These limits do not include any attention catching features. Penalty corrections for attention catching features may be significant and will need to be considered in line with BS4142.

Plant noise egress to external publicly accessible locations shall be limited to be no higher than L_{Aeq} 55 dB.

Table 1 Plant noise limits at 1 m from the nearest noise sensitive premises

Location	Maximum sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)	
	Day (07:00-23:00)	Night (23:00-07:00)
Eliza Yard, Flint Glass Wharf	40	34
Residential premises at Canal Point, Navigation Street, Burgess House, Avro House, 3 Union St	34	30
Flint Glass Works, 62-64 Jersey St	40	-

3.3.2 Emergency plant items

Relaxations of 15 dB over the limits given above have been agreed with MCC for emergency plant items operating for a short period. The limits for emergency plant are provided in Table 2. All routine testing of emergency plant shall be during the day for brief periods.

Table 2 Emergency plant noise limits at 1 m from the nearest noise sensitive premises (Block A&B)

Location	Maximum sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)	
	Day (07:00-23:00)	Night (23:00-07:00)
Eliza Yard, Flint Glass Wharf	55	49
Residential premises at Canal Point, Navigation Street, Burgess House, Avro House, 3 Union St	49	45
Flint Glass Works, 62-64 Jersey St	55	-

3.3.3 Attention catching features

The noise from building services plant and systems shall not contain any distinguishable, discrete, continuous notes (whine, hiss, screech, hum, etc) or distinct impulses (bangs, clicks, clatters or thumps) and shall not be irregular enough to attract attention.

Further guidance on attention catching features is provided in Appendix A.

4 Normally operating plant assessment

4.1 Proposed items of plant

The planning condition specifically relates to externally mounted plant. All normally operating plant units are internally mounted but have atmospheric terminations and so have been considered within the assessment.

The following items of normally operating plant are proposed, based on information received from Ameen (the building services engineer).

- 2 x Ground floor HRU units to both Block A and Block B
- 1 x RRK 160 ground floor extract fan to Block A
- 1 x ENERGISAVA 250CA MVHR unit per apartment

The location of the ground floor HRUs in Block A are shown in red in Figure 2.

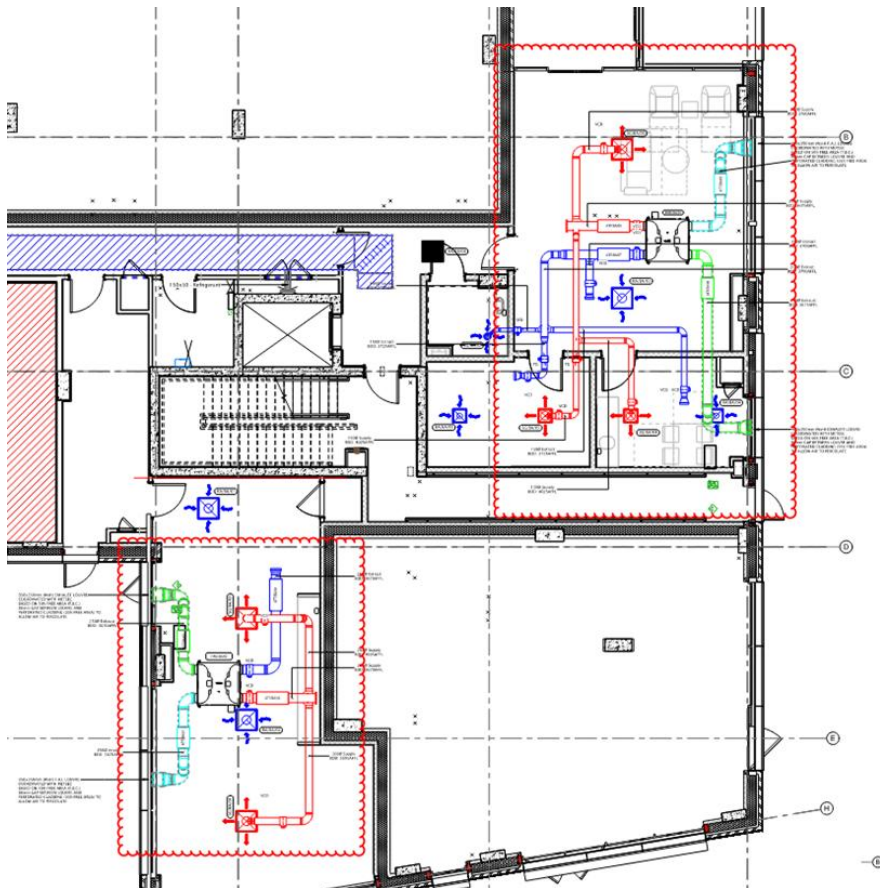


Figure 2 Proposed HRU location (EYJW-AME-BA-00-DR-M-570002)

The locations of HRUs in Block B is shown in red in Figure 3.

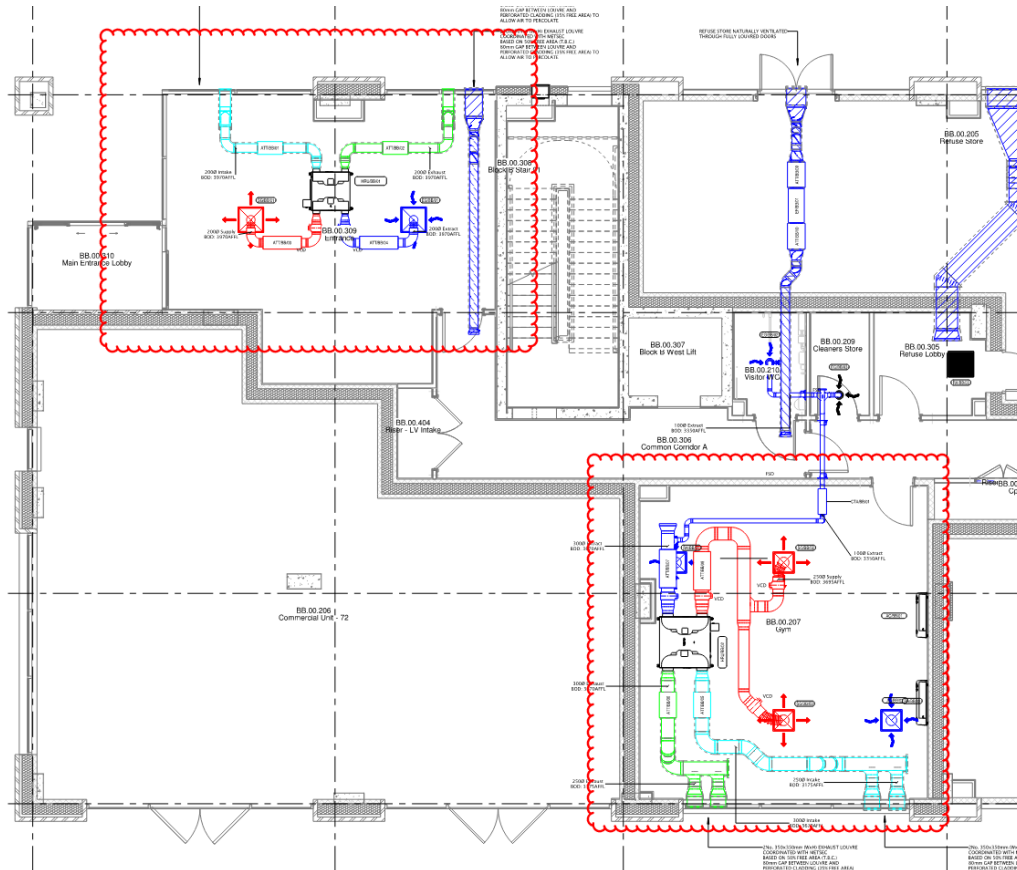


Figure 3 Proposed HRU locations – Block B (EYJW-AME-BA-00-DR-M-570001)

The received sound pressure levels measured at 1.5 m for the proposed HRU units are presented in Table 3.

Table 3 Received HRU sound pressure levels at 1.5 m

Item	Sound pressure level L_{eq} (dB) at 1.5 m ^[1]							
	Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
HRUs Block A	45	48	41	35	33	27	23	21
HRU Gym Block B	46	49	41	39	36	28	22	16
HRU Entrance Block B	41	45	35	30	27	22	15	10

^[1] Sound pressure data from the HRU Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000012-C02)

The location of the Block A ground floor extract fan is shown in red in Figure 4.



Table 4 Received RRK 160 ground floor extract fan sound power levels

[1] Sound power data from Fans Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000009-C01)

[2] 63 Hz value is assumed based on provided sound power at 125 Hz.

Attenuators are proposed to the HRUs and extract fan, the received insertion losses of proposed attenuators are shown in Table 5.

Table 5 Received HRU attenuator insertion losses

Item	Insertion loss L_i (dB) ^[1]							
	Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
HRUs Block A	1	2	6	15	20	15	14	10
HRU Gym Block B	2	3	7	18	25	19	17	13
HRU Entrance Block B	1	2	6	15	20	15	14	10
RRK 160 extract fan	1	1	5	17	25	24	22	17

^[1] Insertion loss data from the Attenuators Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000012-P01)

The sound power levels for proposed MVHRs are shown in Table 6.

Table 6 Received MVHR sound power levels

Item	Sound power level L_w (dB) ^[1]							
	Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
1 Bedroom Inlet	46	45	45	33	25	23	19	20
1 Bedroom Outlet	54	54	46	39	28	29	26	21
2 Bedroom Inlet	48	47	49	37	28	26	21	21
2 Bedroom Outlet	56	57	50	43	32	33	30	23
3 Bedroom Inlet	57	58	50	45	45	38	30	28
3 Bedroom Outlet	56	61	58	55	55	50	43	41

^[1] Sound power data from the MVHR Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000014-P04)

4.2 Assessment

An assessment of plant noise egress from the proposed items of plant to the surrounding noise sensitive receptors has been carried out. A 3D environmental noise model of the site has been generated using CadnaA software by Datakustic.

The software carries out calculations using a ray tracing technique. This takes into account the effects of topography, reflections, screening and distance attenuation for noise sources to predict noise levels in three dimensions. Calculations are carried out in accordance with ISO 9613 *Attenuation of sound during propagation outdoors*.

A screenshot from the model is provided in Figure 5.

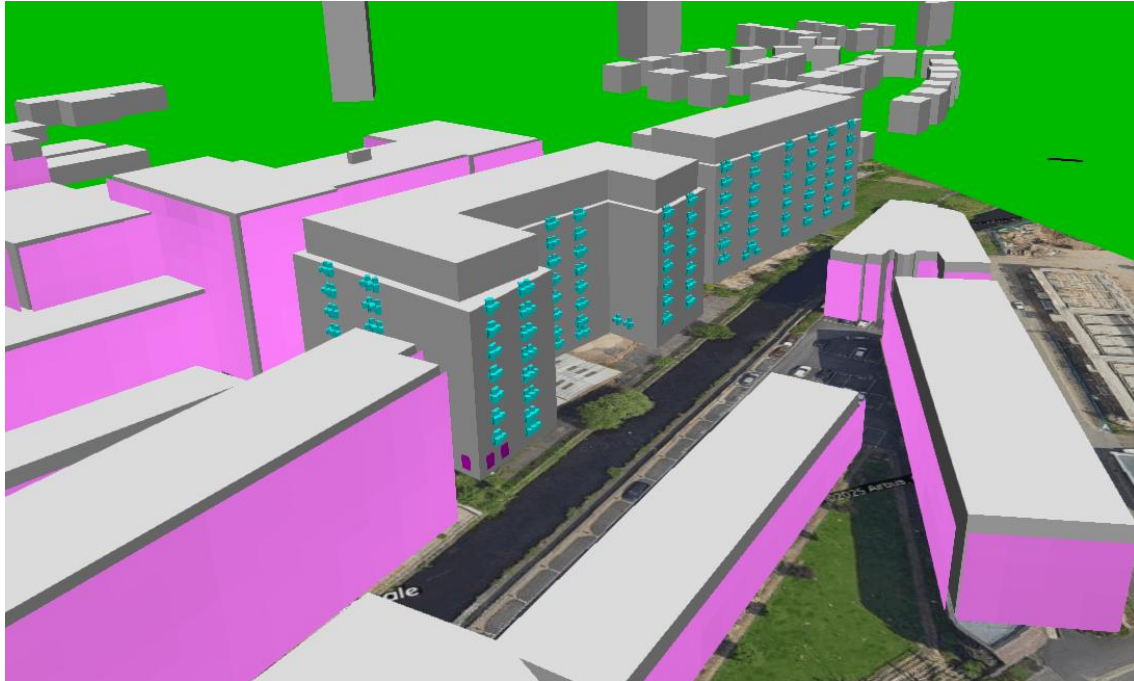


Figure 5 Screenshot of CadnaA acoustic model

Additionally, based on typical apartment ventilation layouts provided by Ameen, this assessment considers worst case losses of 2 bends, and a 3 m duct length applied to the MVHR units. An end reflection loss has also been applied. A summary of predicted normally operating plant noise egress levels is presented in Table 7.

Table 7 Normally operating plant noise egress predicted levels and criteria

Receptor	Predicted normally operating noise egress level, L_{Aeq} (dB)	Normally operating plant noise criteria, L_{Aeq} (dB)
Eliza Yard, Flint Glass Wharf	33	40 (day), 34 (night)
Residential premises at Canal Point, Navigation Street, Burgess House, Avro House, 3 Union St	27	34 (day), 30 (night)
Flint Glass Works, 62-64 Jersey St	26	40 (day)

Plant noise egress due to normally operating plant is predicted to comply with the noise criteria at all nearby noise sensitive receptors. This is on the basis that installed and operational plant contains no attenuation catching features (as per Section 3.3.3).

Any future tenant plant would need to be controlled to at least 10 dB below the overall plant noise egress limits.

5 Emergency plant assessment

5.1 Proposed items of plant

The following items of emergency plant are proposed:

- Emergency generator to Block A
- 2 x RS-LCS063F2-A6/18 Smoke extract fans to Block A (fan no. BA/03 and BA/04)
- 1 x RS-LCS056P2-A6/24 Smoke extract fans to Block B (fan no. BB/01)
- 1 x RS-LCS031J2-A3/10 Smoke extract fans to both Block A and Block B (fans no. BA/01 and BB/02)

The layout of the generator room is shown in Figure 6.

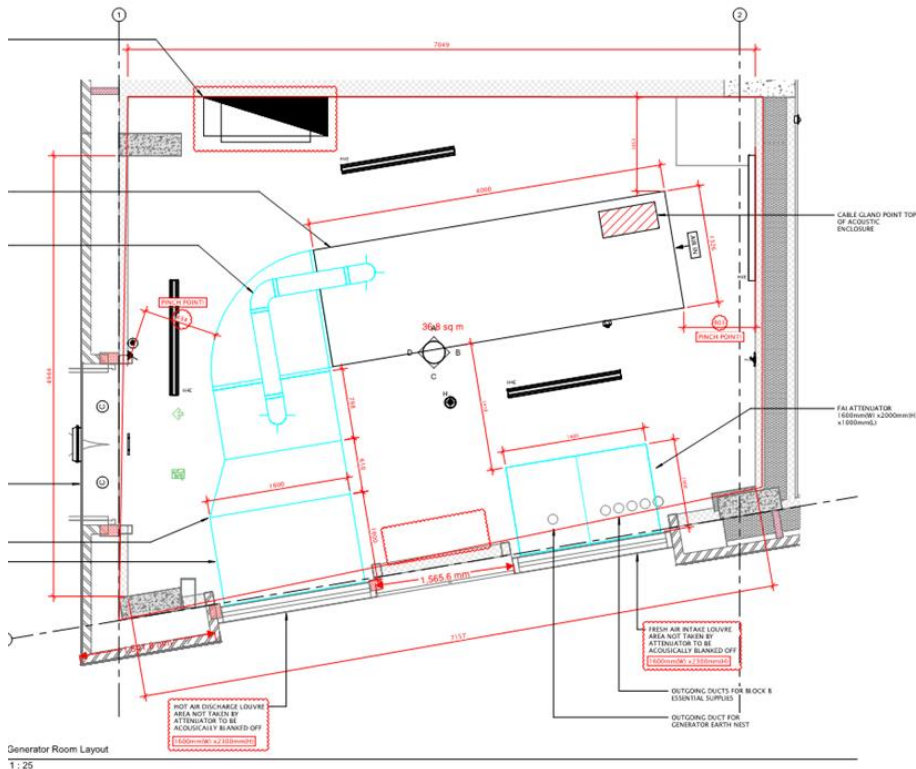


Figure 6 Generator room layout (EYJW-AME-BA-00-DR-E-610007-P03)

The location of smoke extract outlets in Block A are shown in Figure 7.

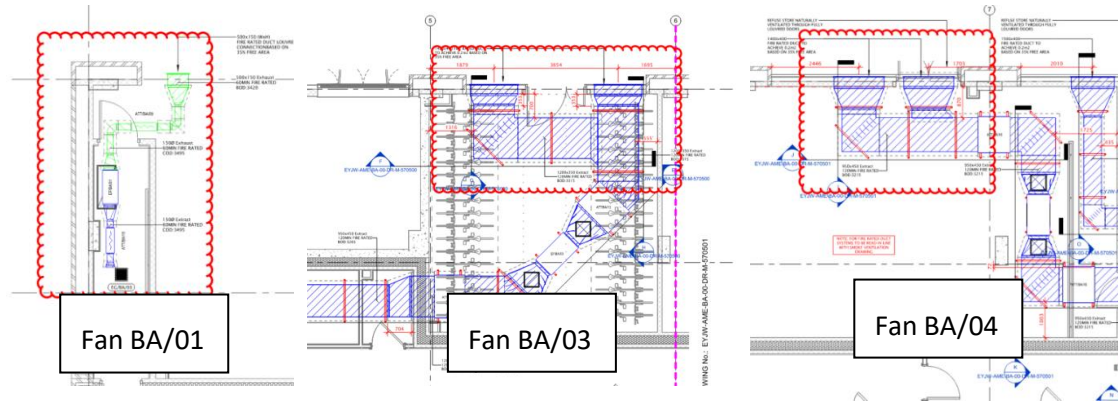


Figure 7 Block A smoke extract layout (EYJW-AME-BA-00-DR-M-570500-P01 & EYJW-AME-BA-00-DR-M-570501-P01)

The location of smoke extract outlets in Block B are shown in Figure 8.

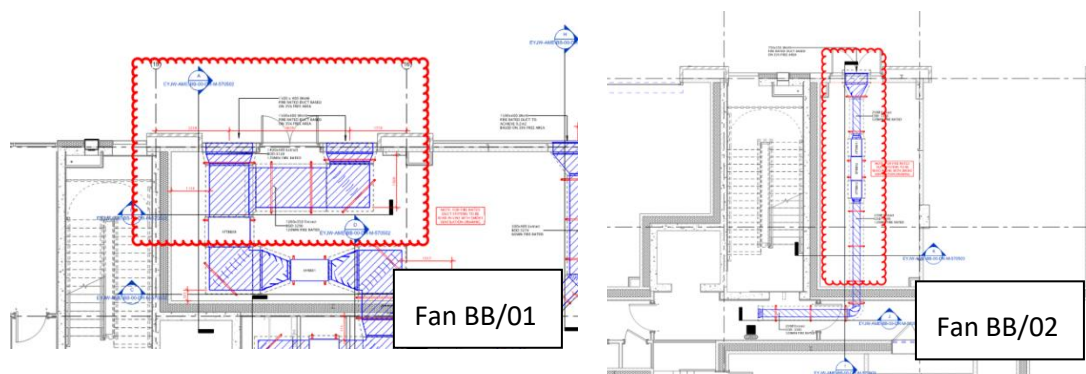


Figure 8 Block B smoke extract layout (EYJW-AME-BB-00-DR-M-570502-P01 & EYJW-AME-BB-00-DR-M-570503-P01)

Sound pressure levels at 1m from the generator room inlet and discharge have been provided by Central Power on behalf of Ameen (received from Ameen via email 6 May 2025). The provided sound pressure levels are shown in Table 8.

Table 8 Received generator sound pressure levels

Item	Sound pressure level L_{eq} , (dB), at 1 m ^[1]							
	Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Inlet	86	80	64	45	40	39	37	56
Discharge	86	82	67	50	40	39	40	59

^[1] Includes losses from proposed attenuators

Noise data has been provided for smoke extract fans for 30% and 100% duty. It is understood this corresponds with routine testing and life safety emergency operation, respectively.

The sound power levels of the proposed smoke extracts outlet are shown in Table 9.

Table 9 Received smoke extract sound power levels

Item	Sound power level L_w (dB)							
	Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
LCS063F2-A6/18 Outlet (30%)	74	73	72	73	68	65	60	52
LCS063F2-A6/18 Outlet (100%)	95	94	95	100	105	99	94	88
LCS056P2-A6/24 Outlet (30%)	72	71	66	67	62	56	53	46
LCS056P2-A6/24 Outlet (100%)	99	99	98	95	95	94	92	86
LCS031J2-A3/10 Outlet (30%)	65	64	54	52	66	46	38	33
LCS031J2-A3/10 Outlet (100%)	79	85	86	83	78	71	69	66

Attenuation is proposed to the generator and smoke extracts, the insertion losses of proposed attenuation is shown in Table 10.

A number of attenuator options were provided for smoke extract fans BA/03, BA/04, and BB/01 as per the 92736Q14 and 92736Q15 Performance Schedules received from Ameen via email 7 July 2025. These have been assessed in combination with the fan noise data, and the most effective attenuators have been used within this assessment.

Table 10 Received attenuator insertion losses

Item	Insertion loss, D_i (dB)							
	Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Generator Inlet ^[1]	5	9	16	30	39	39	31	26
Generator Discharge ^[1]	8	11	17	26	33	38	39	34
LCS063F2-A6/18 (fan BB/03) ^[2]	5	10	18	28	36	28	24	14

Item	Insertion loss, D_i (dB)							
	Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
LCS063F2-A6/18 (fan BB/04) ^[3]	5	10	17	26	33	25	21	12
LCS056P2-A6/24 (fan BB/01) ^[4]	4	7	14	22	29	22	19	11
LCS031J2-A3/10 (fan BA/01) ^[5]	2	4	8	16	32	29	26	15
LCS031J2-A3/10 (fan BB/02) ^[5]	5	9	14	22	34	31	25	18

^[1] These losses have been accounted for in the generator inlet and discharge sound pressure levels shown in Table 8.

^[2] Based on Attenuator option 3 (EF/BA/03) in 92736Q14 Performance Schedule received from Ameen via email 7 July 2025

^[3] Based on Attenuator option 3 (EF/BA/04) in 92736Q14 Performance Schedule received from Ameen via email 7 July 2025

^[4] Based on Attenuator option 4 (EF/BB/01) in 92736Q15 Performance Schedule received from Ameen via email 7 July 2025

^[5] Based on attenuator technical submittal EYJW-AME-ZZ-XX-TQ-M-000002-P05 received from Ameen via email on 12 June 2025.

5.2 Assessment

This assessment considers that the external door to the generator is solid and provides at least R_w+C_{tr} 37 dB. Any unused areas of louvre would need to be blanked off with material around 30 kg/m² (eg, 2 layers of 15 mm Fermacell, or 3 mm steel).

5.2.1 Routine testing

This assessment considers noise from the generator and from the smoke extract fans operating at 30% capacity (this is understood to correspond to routine testing conditions). This assessment assumes all plant is operating simultaneously. In practice, the plant items may be tested individually, therefore, this assessment considers the worst-case scenario.

It is understood that routine testing will only occur during the day. On this basis, the emergency plant noise egress for routine testing has only been assessed against the criteria for day.

A summary of predicted emergency plant noise egress levels during routine testing is presented in Table 11.

Table 11 Routine testing - emergency plant noise egress predicted levels and criteria

Receptor	Predicted emergency plant noise egress level, L_{Aeq} (dB)	Maximum emergency plant noise criteria, L_{Aeq} (dB)
Eliza Yard, Flint Glass Wharf	50	55 (day)
Residential premises at Canal Point, Navigation Street, Burgess House, Avro House, 3 Union St	48	49 (day)
Flint Glass Works, 62-64 Jersey St	35	55 (day)

It is predicted that noise levels due to routine testing of emergency plant will comply with the criteria for day at all nearby sensitive receptors.

5.2.2 Life safety emergency

This assessment considers noise from the generator and from the smoke extract fans operating at 100% capacity (this is understood to correspond to emergency conditions).

A summary of predicted emergency plant noise egress levels during a life safety emergency is presented in Table 12.

Table 12 Life safety emergency - emergency plant noise egress predicted levels and criteria

Receptor	Predicted emergency plant noise egress level, L_{Aeq} (dB)	Maximum emergency plant noise criteria (day), L_{Aeq} (dB)
Eliza Yard	55	55 (day), 49 (night)
Flint Glass Wharf	50	55 (day), 49 (night)
Navigation Street	48	49 (day), 45 (night)
Residential premises at Canal Point, Burgess House, Avro House, 3 Union St	40	49 (day), 45 (night)
Flint Glass Works, 62-64 Jersey St	46	55 (day)

At Eliza Yard, the emergency plant noise egress limits are predicted to be achieved during the day, though a 6 dB exceedance is predicted during the night.

At receptors on Navigation Street, the emergency plant noise egress limits are predicted to be achieved during the day, though a 3 dB exceedance is predicted during the night (this is driven by the emergency generator). Similarly, a 1 dB exceedance is predicted during the night at Flint Glass Wharf due to the generator.

Given that low noise equipment has been selected and significant attenuation measures have been adopted, it is proposed that a 6 dB exceedance to the emergency plant noise limits at night may be acceptable to MCC. This is on the basis that all practical mitigation measures have been included, routine testing is only carried out during the day, and any emergency plant operation at night would be during an actual life safety emergency only. This is subject to agreement with MCC.

Appendix A

BS 4142 corrections for attention catching features

The following applies where plant noise is assessed in accordance with BS 4142:2014+A1:2019.

If the proposed plant noise contains attention catching features (such as tonal elements, whines, whistles, bangs etc), penalty corrections should be applied based on the type and impact of the features.

If appropriate, a subjective assessment of the plant features can be adopted. Where the plant noise contains tonal elements, the following corrections can be made depending on how perceptible the tone is at the noise receptor:

- 0 dB where the tone is not perceptible
- 2 dB where the tone is just perceptible
- 4 dB where the tone is clearly perceptible
- 6 dB where the tone is highly perceptible.

Where the plant noise is impulsive, the following corrections can be made depending on how perceptible the impulsivity is at the noise receptor:

- 0 dB where the impulse is not perceptible
- 3 dB where the impulse is just perceptible
- 6 dB where the impulse is clearly perceptible
- 9 dB where the impulse is highly perceptible.

For noise which is equally both impulsive and tonal, then both features can be accounted for by linearly summing the corrections for both characteristics.

If the plant has other distinctive characteristics, such as intermittency, then a 3 dB correction can be made.

If a subjective assessment of tonality is not appropriate, an objective assessment can be made by analysis of time-averaged, third-octave band sound pressure levels. A noise source is deemed to be tonal if the level in a third-octave band exceeds the level in adjacent third-octave bands by the level differences given below:

- 15 dB in the low frequency third-octave bands (25 Hz to 125 Hz)
- 8 dB in the mid frequency third-octave bands (160 Hz to 400 Hz)
- 5 dB in the high frequency third-octave bands (500 Hz to 10000 Hz).

If an objective assessment identifies the plant noise to be tonal then a 6 dB correction must be made.