

MPF/PR0631/L12

23 May 2023

David Rothwell
Vinci Construction Ltd
Ditton Road
Widnes
Cheshire
WA8 0PG

Flint Glass Works
64 Jersey Street
Manchester M4 6JW

0161 605 0905 📞
info@fisheracoustics.co.uk 📧
www.fisheracoustics.co.uk 🌐

Dear David

NEW VICTORIA, MANCHESTER

We write with confirmation of the measured external noise levels due to externally mounted plant at the New Victoria residential development, Corporation Street, Manchester.

INTRODUCTION

Fisher Acoustics Ltd has been commissioned by Vinci Construction Ltd to measure the external noise levels due to operation of external plant installed at New Victoria and to compare the noise levels to the requirements of condition 32 of the planning approval for the development.

PLANNING CONDITION 32

Planning condition 32 of planning approvals 111777/FO/2016/C1 and 128667/JO/2020 states:

- '32) a) Prior to occupation of the development, a scheme for the acoustic insulation of any externally mounted ancillary equipment associated with:

- (i) the residential development; and
 - (ii) any of the commercial uses;

to ensure that it achieves a background noise level of 5dB below the existing background (La90) in each octave band at the nearest noise sensitive location shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the equipment. The approved scheme shall be implemented prior to occupancy and shall remain operational thereafter.

b) Upon completion of the development and before any of the external plant is first operational, a verification report will be required to validate that the work undertaken throughout the development conforms to the above noise criteria. The report shall give the results of post-completion testing to confirm that the proposed noise limits are being achieved once the plant and any mitigation measures have been installed. Any instances of non-conformity with the above criteria shall be detailed along with any measures required to ensure compliance. The report and any necessary measures shall be approved in writing by the City Council as Local Planning Authority and the development shall be implemented in full in accordance with the approved details before the plant is first brought into use.

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.'

Fisher Acoustics' letter reference MPF/PR0631/L10 dated 4 April 2023 responds to part a) of condition 32. The letter advises that compliance with the requirement of the condition is expected.

BUILDING SERVICES PLANT AND LOCATIONS

The locations of the external non-emergency building services plant items at New Victoria are as follows:

- 4 no. corridor extract fans (2 no. duty, 2 no. standby) on roof of Tower 1
- 2 no. supply fans (1 no. duty, 1 no. standby) on roof of Tower 1
- 2 no. Gym condensers at lower ground floor level internal plant enclosure of Tower 1
- 2 no. Gym condensers at lower ground floor level externally located at Tower 1
- 4 no. corridor extract fans (2 no. duty, 2 no. standby) on roof of Tower 2
- 2 no. supply fans (1 no. duty, 1 no. standby) on roof of Tower 2
- 1 no. Amenity space condenser at lower ground floor level externally located at Tower 2
- 2 no. Condensers at lower ground floor level externally located at Tower 2 (tenants fit only)

The external emergency building services plant items are as follows:

- 4 no. smoke extract fans (2 no. duty, 2 no. standby) on roof of Tower 1
- 4 no. smoke extract fans (2 no. duty, 2 no. standby) on roof of Tower 2
- 2 no. supply fans (1 no. duty, 1 no. standby) on roof of Tower 1
- 2 no. supply fans (1 no. duty, 1 no. standby) on roof of Tower 2
- 1 no. Standby Generator at lower ground floor level of Tower 2

Figure 1 shows the building services layout at the lower ground floor levels of Towers 1 and 2.

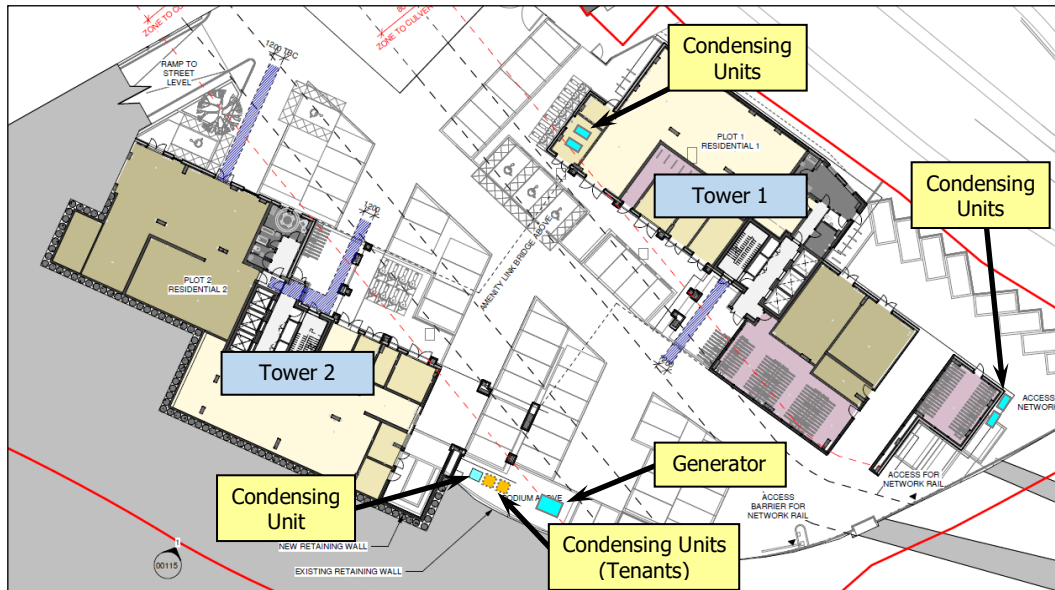


Figure 1: Site location plan - Lower Ground Floor

Figure 2 shows the building services layout at the roof top levels of Towers 1 and 2.

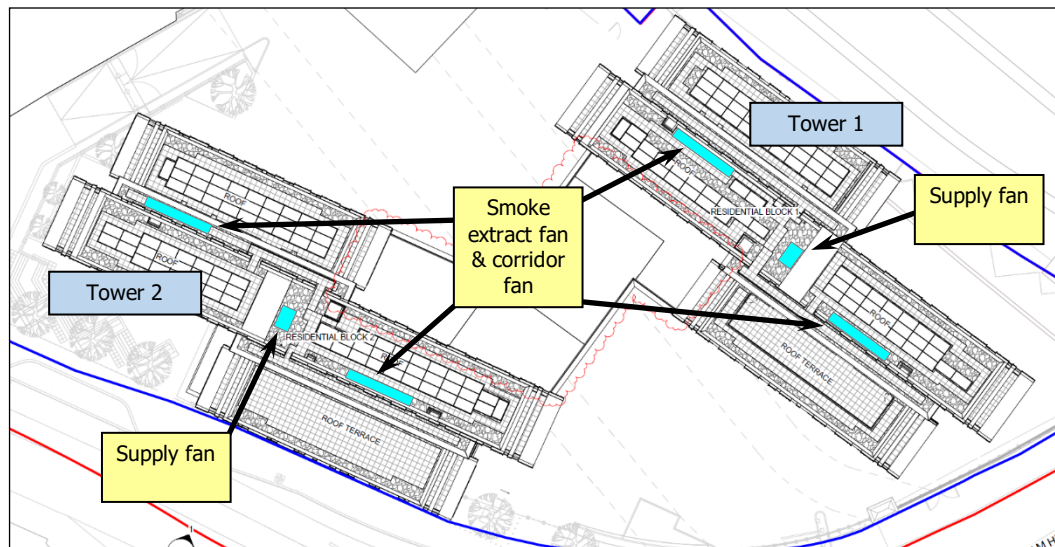


Figure 2: Site location plan – Roof top level

Tower 1 is a 26-storey building. Tower 2 a 21-storey building. A number of upper floor apartments of Tower 1 therefore have line of sight to the roof plant at Tower 2, although roof parapets at Tower 2 provide some acoustic screening of the plant.

NOISE LIMITS FOR NON-EMERGENCY BUILDING SERVICES PLANT

With reference to Fisher Acoustics' letter reference MPF/PR0631/L10 dated 4 April 2023, Table 1 identifies the maximum allowable noise levels at the nearest pre-existing noise sensitive receptors to comply with the noise criterion of Condition 32a in relation to non-emergency building services plant.

Location	Rating Level (dB LAeq)	
	Daytime (07:00 hrs to 23:00 hrs)	Night time (23:00 hrs to 07:00 hrs)
Parkers Hotel	53	38
Hotel Indigo (Formerly City Buildings)	54	42
North elevation Tower 1	59	47
NW elevation Tower 1	50	41
NE elevation Tower 1	53	47
SW elevation Tower 1	46	46
NE & SE elevation Tower 2	53	47
South elevation Tower 1 & Tower 2	46	46
NW elevation Tower 2	46	46

Table 1: Environmental noise limits for non-emergency building services plant

NOISE LIMITS FOR EMERGENCY BUILDING SERVICES PLANT

With reference to Fisher Acoustics' letter reference MPF/PR0631/L10 dated 4 April 2023, Table 2 identifies the maximum recommended allowable noise levels due to the emergency plant.

Location	Daytime Noise Level (dB LAeq)
Parkers Hotel	68
Hotel Indigo (Formerly City Buildings)	69
NW Façade Tower 1	65
NE Façade Tower 1	74
SW Façade Tower 1 & Tower 2	61
NE & SE façade Tower 2	68
Courtyard Facades Tower 1 & Tower 2	61

Table 2: Environmental noise limits for emergency building services plant

EXTERNAL NOISE MEASUREMENTS

At the time of the measurements, the condensers listed above were not operational. Measurements of the rooftop fans and the emergency generator were therefore carried out. Figure 3 shows the measurement location position employed for the emergency generator. In particular, this measurement location was on the roof terrace above the link bridge. The link bridge roof terrace is at the same level as the closest apartment to the emergency generator.

The measurement location sits at a greater distance from road traffic on Corporation Street than the closest apartment to the generator and thus is less affected by traffic noise. The measurement location therefore allows more reliable measurements of noise from the generator than at the closest apartment to the generator. Given the greater distance of the measurement location from the generator, a correction must be applied to the measured noise level to determine the specific noise level at the closest apartment due to operation of the generator.

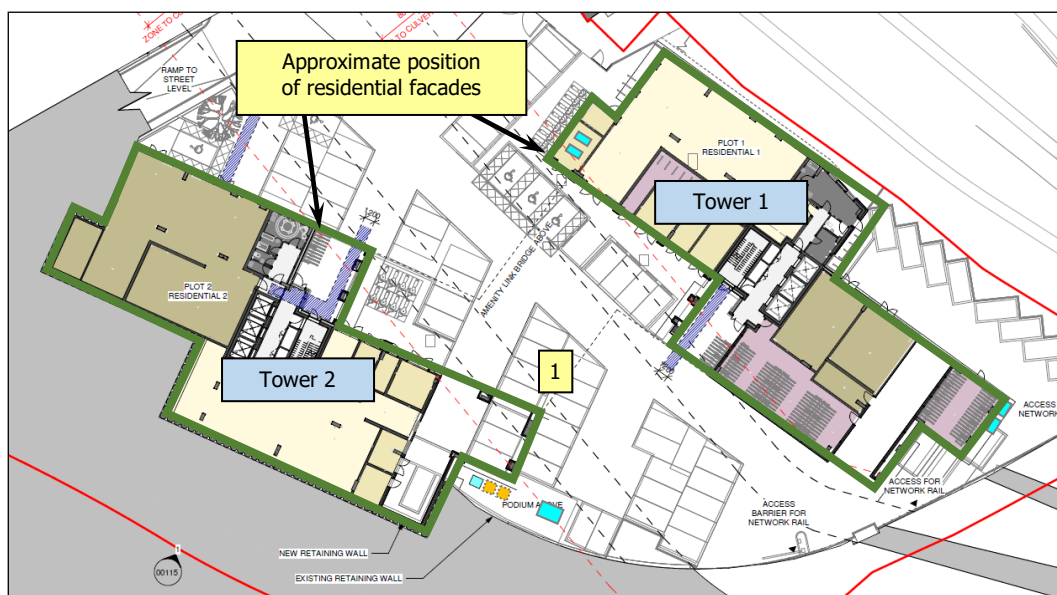


Figure 3: Measurement location position on roof of Link Bridge

Figure 4 shows the measurement locations employed for the rooftop fans. In particular, measurement location 2 was on the roof terrace at Level 24 of Tower 1 and is representative of the closest residential windows to the rooftop plant. Measurement location 3 was on the roof of Tower 1, at a distance of 7m from the outlet of the closest extract fan.

The rooftop plant at Tower 2 was not operational at the time of the measurements. However, the fan installations on the roof of Tower 2 are the same as those on Tower 1 in terms of both airflow, acoustic treatment and distance from the closest residential dwellings. Measurements of noise at location 2 are therefore representative of the noise from the rooftop fan installations on Tower 1 and Tower 2.

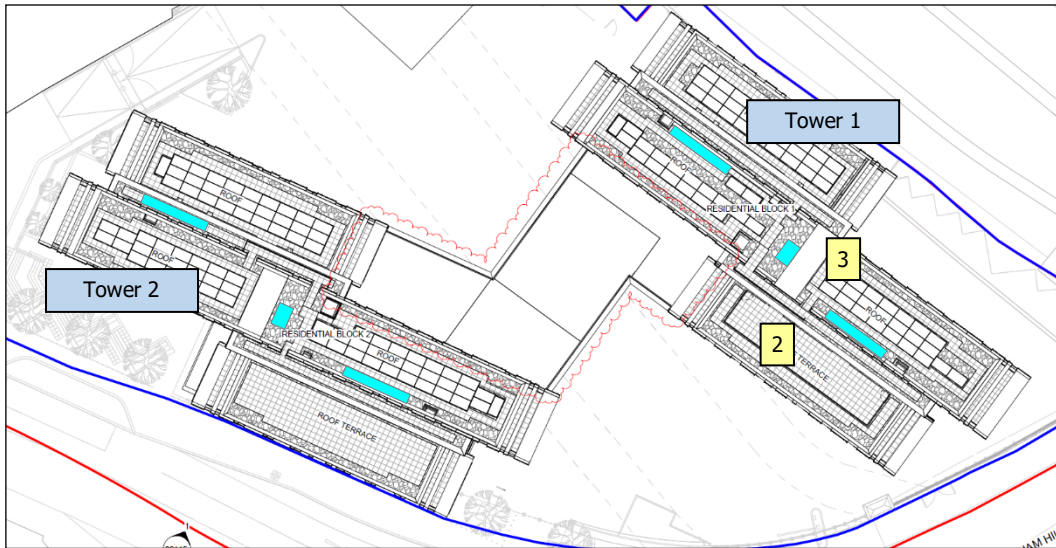


Figure 4: Measurement location position on Level 24 roof terrace

During the site visit, both the total noise level during operation of the plant and the ambient noise level in the absence of noise from the plant was measured. The specific noise level due to operation of the plant has then been derived.

At the time of the measurements, the rooftop supply and extract fans could only be operated in emergency mode. However, Fisher Acoustics has been provided with the sound power of the fans when operating in both emergency ventilation mode and in non-emergency 'environmental' ventilation mode. Therefore, the external sound level in non-emergency 'environmental' ventilation mode has been estimated using the published sound power data.

Table 3 identifies the measured specific plant noise levels.

Location	Specific plant noise level (LAeq)
1	63 dB
2	< 37 dB (Emergency mode)
3	72 dB (Emergency mode)

Table 3: Specific noise level due to New Victoria plant operation

It will be noted that the plant noise level at location 2 is identified as 'less than 37dB LAeq'. There was no change in the measured noise level at location 2 of 47dB LAeq with the emergency rooftop plant switched on or off. Plant noise was inaudible and unmeasurable at location 2. Therefore, the contribution of noise from the rooftop plant at location 2 must be no greater than 37dB LAeq, although the precise plant noise level cannot be determined.

From the measurement results, the plant noise level at the closest residential receptor to the generator has been determined. In addition, the expected sound level at the closest residential receptors due to the rooftop ventilation plant operating in non-emergency mode has been determined. From an acoustic perspective, the closest dwellings to the rooftop plant at Tower 2 are the apartments at Level 25 of Tower 1, as these apartments benefit from only limited acoustic screening from the plant.

Table 4 identifies the derived worst-case noise levels for non-emergency plant.

Location	Specific plant noise level (LAeq)
Closest dwellings at Level 25 of Tower 1 to rooftop plant at Tower 2	12 dB

Table 4: Specific noise level due to New Victoria plant operation

Table 5 identifies the derived worst-case noise levels for emergency plant.

Location	Specific plant noise level (LAeq)
Closest dwelling to Generator (Level 1, Tower 2)	68 dB
Closest dwellings at Level 25 of Tower 1 to rooftop plant at Tower 2	52 dB

Table 5: Specific noise level due to New Victoria plant operation

The plant noise levels at all other noise sensitive receptors at and around the site will be lower than the values identified in Table 4 and 5 due to increased distance and acoustic screening from the plant.

It can be seen that the derived non-emergency plant noise levels identified in Table 4 comply with the noise limits given in Table 1.

It can also be seen that the measured emergency plant noise levels identified in Table 5 comply with the noise limits given in Table 2.

Compliance with the requirements of planning condition 32a has therefore been achieved in relation to the assessed building services plant.

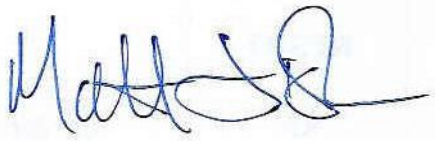
CONCLUSION

The derived noise levels at the noise sensitive properties due to the non-emergency building services plant on the roof of the New Victoria development comply with the requirements of planning condition 32a of the planning approval.

The measured noise levels at the nearest noise sensitive properties due to the operation of all emergency building services plant at New Victoria comply with the appropriate noise such that residential amenity can be maintained.

If there is any aspect of the above that you would like to discuss then please do not hesitate to contact the undersigned.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Matt Fisher', with a stylized flourish at the end.

MATT FISHER BEng(Hons) CEng MIOA
For and on behalf of Fisher Acoustics Limited