

21002-JT-L06

James Friedman
Eric Wright Construction Ltd
Sceptre House
Sceptre Way
Bamber Bridge
Preston PR5 6AW

08/12/2023

Dear James,

ANCOATS DISPENSARY – PLANNING DISCHARGE -VERIFICATION REPORT

Introduction

dBx Acoustics have undertaken noise measurements at the residential development at the Ancoats Dispensary, Old Mill Street. Manchester, M4 6EB, which comprises 39 apartments over 5 floors.

This letter report has been produced to discharge planning condition 14b- Acoustic Verification, 15a-External Plant Acoustic Insulation, 15b- External Plant Acoustic Verification Report of Manchester City Council' s(MCC) planning application CDN/22/0759.

Criteria

Planning condition 14b- Acoustic Verification

A noise survey is required in order to discharge planning condition 14b contained within planning application re. CDN/22/0759., which states;

“14b- Acoustic Verification- Prior to the first occupation of the development, 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. A verification report and measures shall be agreed until such a time as the development complies with part (a) of this planning condition. 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.

Reason: To secure a reduction in noise from traffic or other sources in order to protect future residents from noise disturbance pursuant to policies SP1, H1 and DM1 of the Core Strategy (2007) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).”

MCC has the following internal noise limits for residential properties.

- Bedrooms (night-time 23:00-07:00) 30dB_{L_{Aeq},8h} (individual noise events should not normally exceed 45dB_{L_{Amax}} more than 15 times); and

- Living Rooms (daytime – 07:00-23:00) 35dBL_{Aeq,16h}

Measurement Procedure

Based on conversations with Laura Miller, Environmental Health Officer at MCC, the following methodology was agreed.

Testing is to be undertaken in 10% of all apartments. On the basis that there are 39 apartments, this therefore relates to 4 apartments in total.

Daytime measurements only are acceptable. Night-time noise levels are to be determined from comparison of the daytime measured commissioning results, and the original daytime and night-time external noise survey undertaken at planning stage.

the assessment was undertaken on the following basis;

1. Measure noise levels in a bedroom on one façade, for around 5 minutes, at a time when construction activity on site has ceased. If average noise levels have not settled, increase the measurement period until it does, up to around 10 minutes. Observations will be made of the source(s) of maximum noise events, where possible. Measurements will be made at a high resolution to assess the range of maximum noise events over the measurement period.
2. Plant must be switched off during these measurements, as the planning condition relates to external noise ingress only. Beeping smoke alarms must also be deactivated to ensure they do not affect the results.
3. Repeat this measurement in the living room of the same apartment.
4. Repeat these measurements in 3 other apartments on the other 3 elevations, on different floors in the building. Noise levels on the Old Mill Street façade will be measured on the third floor to minimise the screening effect of the site boundary hoarding, which currently closes one carriageway of Old Mill Street and provides screening.
5. If deemed necessary, measure noise levels externally at critical locations over similar time periods, for comparative purposes.
6. Using the data obtained, calculate the typical daytime ambient noise level (dBL_{Aeq,16hour}) in each apartment. Noise levels will be corrected for reverberation time (measured as part of the Building Control sound insulation pre-completion testing) where necessary. Noise levels in the rooms facing Old Mill Street will also be corrected for the effects of the site boundary hoarding.
7. By comparison with the original noise survey data, determine the average night-time noise level (dBL_{Aeq,8hour}) in all apartments.
8. Assess the maximum noise data, with reference to MCC's night-time criterion, previous survey data, and contemporary survey data, if considered relevant.
9. Provide a summary of the above in a written report, suitable for submission to the Local Authority.

Previous Noise Survey Data

The following table presents the noise survey data from the noise impact assessment report submitted during planning stages, dBx Acoustics Report Ref: 21002 – *Ancoats Dispensary, Manchester RO1A* dated 12th March 2021.

Table 1: Previous Noise Survey Data -Façade Noise Levels

Facade	Daytime Ambient Noise Level (dBL _{Aeq,16hr})	Night-time Ambient Noise Level (dBL _{Aeq,8hr})	Typical Maximum Noise Level (night time) (dBL _{AF,max})
North West	65	58	78
North East	62	55	72
South West	59	47	66
South East	62	55	72

Figure 1, below, identifies the façade references used throughout this letter.

Figure 1 : Façade References



Noise Survey

Noise Survey

Based on the method statement presented above, indoor ambient noise level measurements were undertaken in selected bedrooms and living rooms on 01st December 2023. Additional spot check measurements were undertaken outside the building, approximately 1m away from Old Mill Street.

Noise levels were at ground and third floors on the north-west façade to determine the barrier effect of the 2.3m site hoarding.

Across the site, the dominant source of noise was road traffic from Old Mill Street, Great Ancoats Street, and the surrounding road network.

The equipment used during the environmental noise survey is detailed in Table 2, below.

Table 2: Equipment Used in the Environmental Noise Survey

Equipment	Manufacturer & Part No.	Serial Number
Sound Level Meter	CR:171C	G300656
Preamplifier	MV:200F	9136F
Microphone	MK:224	215619A
Calibrator	CR:515	87921

The sound level meter was calibrated before and after measurements, with no significant drift recorded. An accredited laboratory calibrated the equipment not more than two years prior to the measurements being made, with the exception of the calibrator, which had been calibrated not more than one year prior to the survey.

Noise Survey Results

Table 3 below presents the results of the noise measurements carried out. All measurements were of 5 mins duration.

Table 3: Measured Noise Levels

Location	Façade	Time (hh:mm)	$L_{Aeq, T}$ (dB)	$L_{A10, T}$ (dB)	$L_{Amax, F, T}$ (dB)
External -Old Mill Street	North West	13:50	67	72	84
3 rd Floor-Unit 24- Living/Kitchen	North West	15:05	28	30	45
3 rd Floor-Unit 24-Bedroom	North West	15:14	25	26	44
Ground Floor-Unit 4- Living/ Kitchen	North West	16:19	29	29	38
3 rd Floor-Unit 26- Bedroom	North East	15:27	25	27	41
4 th Floor-Unit 31-Bedroom	North East	16:43	25	27	38
Ground Floor- Unit 6 Living/ Kitchen	South East	15:57	28	29	38
Ground Floor- Unit 6 Bedroom	South East	16:11	25	26	43
4 th Floor-Unit 35-Bedroom	South West	16:35	24	27	35
4 th Floor-Unit 30-Bedroom	South West	14:35	24	24	40
External -Old Mill Street	North West	16:58	67	71	83

For living rooms on North East and South West elevations where access was not available or without glazed windows, alternate measurements were undertaken within the bedrooms on the same elevations.

The results of the external noise measurements undertaken at Old Mill Street ($67\text{dB}L_{Aeq, T}$) before and after the internal noise measurements carried out indicates that the road traffic noise was consistent throughout the survey period. This is slightly (2dB) higher than the measurements undertaken in 2021, and hence represents a worst case assessment.

As can be seen from the measurements undertaken at ground and third floor levels of the north-west façade. This suggests there is no significant screening effect provided by the barrier. Noise levels affecting this façade were a combination of many sources around the site, including Great Ancoats Street, and hence were not significantly affected by the barrier.

Assessment

The noise levels measured have been used to calculate the typical daytime and night-time ambient noise levels, and night-time maximum noise levels.

Daytime Ambient Noise Level Assessment

The short-term measurements have been converted to the overall daytime ambient noise levels ($L_{Aeq,16hr}$), generally in accordance with the CRTN methodology.

As the rooms were unoccupied and unfurnished at the time of testing, the measured internal noise levels have been corrected for reverberation time ($10 \cdot \log(T/T_0)$), where T is the measured reverberation time (RT) and T_0 is the reference reverberation time (0.5s for dwellings). Based on measurements in several rooms, the average RT in living rooms was 1.4s and in bedroom 0.9s, which result in corrections of -5dB in living rooms, and -3dB in bedrooms.

Although the measurements indicate that the site hoarding does not have any significant effect on noise levels affecting the north-west façade, a correction for the barrier effect has been undertaken for the rooms facing Old Mill Street.

Table 4, below, presents the results of the assessment undertaken for the daytime ambient noise levels in each apartment.

Table 4: Daytime Indoor Ambient Noise Levels (IANL) in Rooms

Location	Façade Direction	Measured $L_{A10,T}$ (dB)	$L_{10,18hr}$ (dB)	$L_{Aeq,16hr}$ (dB)	RT Correction (dB)	Barrier Correction (dB)	Calculated Daytime IANL (dB)
3 rd Floor-Unit 24- Living/Kitchen	North West	30	29	27	- 5	+11	33
3 rd Floor-Unit 24-Bedroom	North West	26	25	23	- 3	+11	31
Ground Floor-Unit 4- Living/ Kitchen	North West	29	28	26	-5	+11	32
3 rd Floor-Unit 26- Bedroom	North East	27	26	24	- 3	+11	32
4 th Floor-Unit 31-Bedroom	North East	27	26	24	- 3	+11	32
Ground Floor-Unit 6 Living/ Kitchen	South East	29	28	26	- 5	+11	32
Ground Floor-Unit 6 Bedroom	South East	26	25	23	- 3	+11	31
4 th Floor-Unit 35-Bedroom	South West	27	26	24	- 3	+11	32
4 th Floor-Unit 30-Bedroom	South West	27	26	24	- 3	+11	32

It can be seen from Table 4 that the corrected daytime ambient noise levels meet MCCs daytime criteria of 35dB_{L_{Aeq,16h}}.

Night-time Ambient and Maximum Noise Level Assessment

Ambient

Night-time noise levels have been determined by comparison of the daytime measured commissioning results, and the original night-time external noise survey undertaken at planning stage.

Similar to the above daytime assessment, appropriate corrections have been applied for the reverberation time. The hoarding was not present at the time of the original survey and hence no screening correction has been made.

The table below presents ambient noise levels in bedrooms of each apartment.

Table 5: Night- Time Indoor Ambient Noise Levels (IANL) in Bedrooms

Location	Façade Direction	Measured External Noise Levels at Old Mill Street L _{Aeq, 5minutes} (dB)	Measured Indoor Ambient Noise L _{Aeq, 5minutes} (dB)	Difference (dB)	Nighttime IANL from Original Survey (dB)	RT Correction (dB)	Calculated Night-time IANL (dB)
3 rd Floor-Unit 24-Bedroom	North West	67	25	-42	58	- 3	13
3 rd Floor-Unit 26- Bedroom	North East	67	25	-42	55	- 3	10
4 th Floor-Unit 31-Bedroom	North East	67	25	-42	55	- 3	10
Ground Floor-Unit 6 Bedroom	South East	67	25	-42	55	- 3	10
4 th Floor-Unit 35-Bedroom	South West	67	24	-43	47	- 3	1
4 th Floor-Unit 30-Bedroom	South West	67	24	-43	47	- 3	1

It can be seen from the above Table 5 that the calculated night-time ambient noise levels also meet MCCs night-time criterion of 30dB_{L_{Aeq,8h}}.

Maximum Noise Levels

Table 6, below, presents the results of the assessment undertaken for the daytime maximum noise levels in bedrooms of each apartment.

Table 6: Daytime Indoor Maximum Noise Levels in Bedrooms

Location	Façade Direction	Measured Indoor Maximum Noise Levels $L_{AF,Max, 5minutes}$ (dB)	RT Correction (dB)	Barrier Correction (dB)	Calculated Night-time (dB)
3 rd Floor- Unit 24- Bedroom	North West	44	-3	+11	52
3 rd Floor- Unit 26- Bedroom	North East	41	-3	+11	49
4 th Floor- Unit 31- Bedroom	North East	38	-3	+11	46
Ground Floor- Unit 6 Bedroom	South East	43	-3	+11	51
4 th Floor- Unit 35- Bedroom	South West	35	-3	+11	43
4 th Floor- Unit 30- Bedroom	South West	40	-3	+11	48

It can be seen from the above Table 6 that the calculated daytime maximum noise levels exceeds the MCCs night-time criteria of $45dB_{LA_{max,F}}$ on most elevations.

However, it should be noted that these daytime and night-time maximum noise levels are not directly comparable. The measured external maximum noise levels at the Old Mill Street during the noise survey were around $83-84dB_{LA_{max,5minutes}}$, predominantly due to regular heavy truck movements. Furthermore, MCC's criteria is $45dB_{LA_{max,F}}$, not to be exceeded more than 10-15 times per night, based on WHO guidance. It is therefore not appropriate to consider the absolute worst case daytime maximum noise level as representative of the typical night-time maximum noise levels.

Based on the initial noise survey data, the typical measured night-time maximum noise level is $78dB_{LA_{max,F}}$. On this basis, and based on the level difference correction calculated above for night-time ambient noise levels, an assessment has been undertaken to determine the night-time maximum noise levels in bedrooms, as shown in Table 7, below.

Table 7: Night-time Indoor Maximum Noise Levels in Bedrooms

Location	Façade Direction	Night-time Maximum Noise Levels from Original Survey (dB)	Difference (dB)	RT Correction (dB)	Barrier Correction (dB)	Calculated Daytime Maximum Noise Levels (dB)
3 rd Floor- Unit 24- Bedroom	North West	78	-42	- 3	+11	44
3 rd Floor- Unit 26- Bedroom	North East	72	-42	- 3	+11	38
4 th Floor- Unit 31- Bedroom	North East	72	-42	- 3	+11	38
Ground Floor- Unit 6 Bedroom	South East	72	-42	- 3	+11	38
4 th Floor- Unit 35- Bedroom	South West	66	-43	- 3	+11	31
4 th Floor- Unit 30- Bedroom	South West	66	-43	- 3	+11	31

It can be seen from the above Table 7 that the calculated night-time maximum noise levels will meet the MCCs night-time criteria of 45dB_{L_{Amax,F}}.

It can be concluded from the above assessments that the *Planning condition 14b- Acoustic Verification* can be discharged.

External Plant Planning Conditions

It is understood that there are following planning conditions associated with the external plant.

15a - External Plant Acoustic Insulation

"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 level of 5 db(Laeq) below the typical background (La90) level at the nearest noise sensitive location".

Reason: To secure a reduction in noise from traffic or other sources in order to protect future residents from noise disturbance pursuant to policies SP1, H1 and DM1 of the Core Strategy (2007) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

15b - External Plant Acoustic Verification Report

"Prior to the first occupation of the development, 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. A verification report and measures shall be agreed until such a time as the development complies with part (a) of this planning condition. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority. Any measures shall thereafter retained and maintained in situ".

Reason - To minimise the impact of plant on the occupants of the development pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

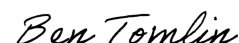
It is understood that there is no external building service plant associated with the development, and therefore the above planning conditions can be discharged.

I trust this is acceptable. Should you have any queries or comments, please do not hesitate to contact me.

Yours Sincerely,


Joseph Tony (Dec 8, 2023 15:48 GMT)

Joseph Tony, Senior Acoustic Consultant



Checked By: Ben Tomlin, Associate

21002 -L06-JT-Ancoats Dispensary - Dicharge PLanning Conditions

Final Audit Report

2023-12-08

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