



**POP-UP FOOD OUTLET – “MABA EATS”
HOLBRROK STREET, MANCHESTER
M1 7DB**

NOISE IMPACT ASSESSMENT

Report by
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Ref: E17329

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Signed:

A handwritten signature in blue ink, appearing to read 'S. B. Mellor', written over a light blue rectangular background.

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1.0 INTRODUCTION

On the instructions of Mr. N. Azar, proprietor of MABA Eats Ltd., SBM Safety Solutions Ltd completed this noise impact assessment to accompany an application to operate a “pop-up food outlet” at Holbrook Street, Manchester M1 7DB.

The assessment would refer to both the existing noise climate at this location and also sources of noise which are to be introduced with this proposed pop-up food outlet and any potential impact.

At the time of preparing the report, the UK is in lockdown due to coronavirus and road and rail traffic levels are reduced. Because of the effect on ambient and background noise levels we will refer to existing noise assessments (in the public domain) for this part of Manchester and also Defra data.

It is understood that the pop-up will operate from 11.00am until 9.00pm 7 days per week.

Acoustic terminology is explained at Appendix 1 of this report; the author’s qualifications and experience are described in Appendix 2; and images of the proposed catering unit at Appendix 3.

2.0 SITE DESCRIPTION

The outlet is to be located on Holbrook Street as shown below. It has been established that the nearest residents are situated off Charles Street (Vita House), at Bracken House (44-48 Charles Street) and 90 Princess Street – all shown below. There is an existing pub, the Lass O 'Gowrie at the site periphery off Charles Street and 38 Charles Street operates as a late-night music venue.

Figure 1 – Plant Location and distances to Nearest Receptors (cottages)

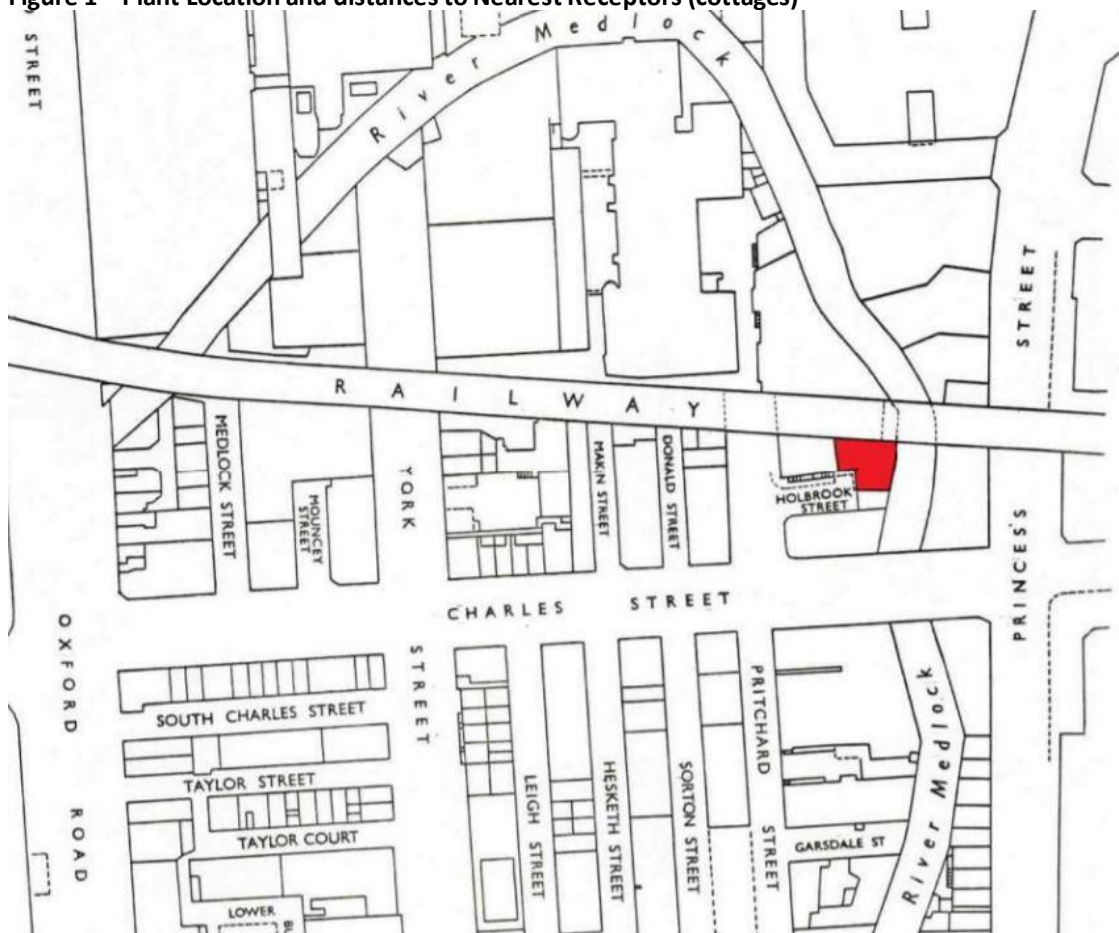
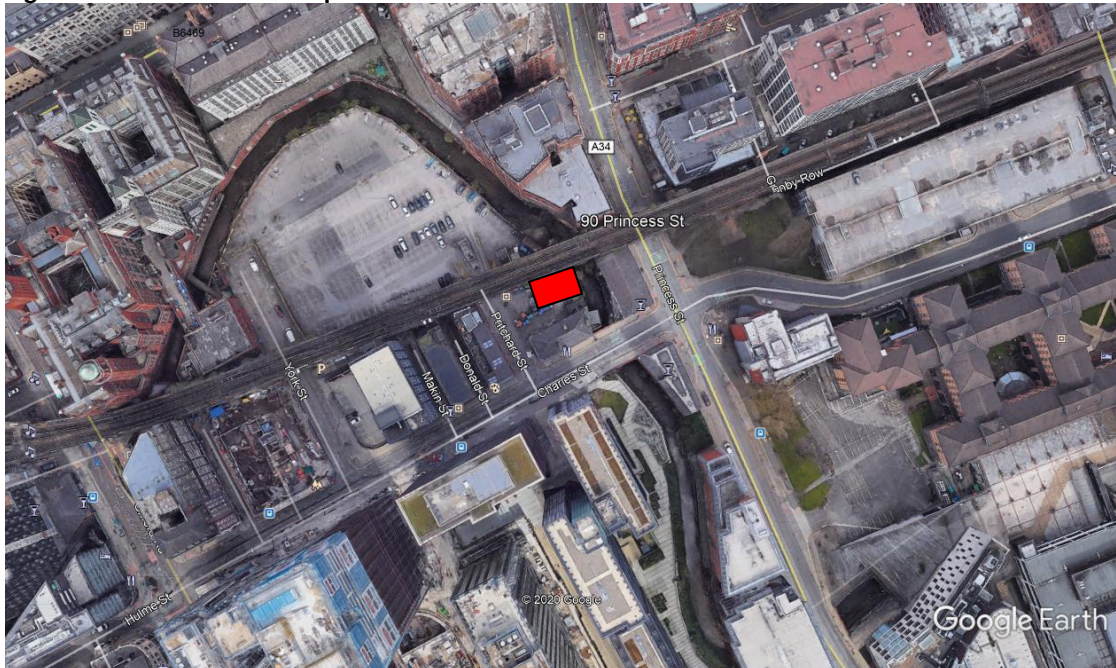


Figure 2 – Location and Receptors



3.0 NOISE CRITERION

3.1 BS4142:2014 – Rating Industrial Noise Affecting Mixed Residential and Industrial Areas

BS4142:2014 states, *“Response to sound can be subjective and is affected by many factors, both acoustic and non-acoustic.*

The significance of its impact, for example, can depend on such factors as the margin by which a sound exceeds the background sound level, its absolute level, time of day and change in the acoustic environment, as well as local attitudes to the source of the sound and the character of the

neighbourhood...This British Standard describes methods for rating and assessing sound of an industrial and/or commercial nature”.

This British Standard describes a method for assessing whether a specific sound may have an adverse impact. The Standard requires that the ambient noise (***totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far***) including the “specific” sound from the source in question is measured in terms of the equivalent continuous sound level LAeq [see Appendix 1 for acoustic terms], which is then corrected for the residual sound (total LAeq excluding the “specific” sound).

A correction for character is made if ***“a tone, impulse or other characteristic occurs”***. For tonality, a correction of between +2dB and 6dB is considered acceptable and for impulsivity between 3 and 9dB. See Table below.

Table 1

Character	Just Perceptible	Clearly Perceptible	Highly Perceptible
Tonality	+2dB	+4dB	+6dB
Impulsivity	+3dB	+6dB	+9dB

Where the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied. Where tonal and impulsive characteristics are present in the specific sound

within the same reference period then these two corrections can both be taken into account. If one feature is dominant, then it might be appropriate to apply a single correction.

Where both features are likely to affect perception and response, the corrections ought normally to be added in a linear fashion.

Intermittency

“When the specific sound has identifiable on/off conditions...if the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied”.

The final figure, including any character correction is known as the Rating level. This Rating Level is then compared with the measured background [LA90] level. The greater this difference the greater the likelihood of “adverse impact” (See Notes 1 & 2 from BS4142:2014 below).

NOTE 1

- a) Typically, the greater this difference, the greater the magnitude of the impact.
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

NOTE 2

Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.

3.2 National Planning Practice Guidance the National Planning Practice Guidance (PPG)

This web-based resource was launched by the Department for Communities and Local Government (DCLG) to support the NPPF¹ and make it more accessible and advises on how planning can manage potential noise impacts in new development. A summary of the effects of noise exposure (in terms of health and quality of life) associated with both noise generating developments and noise sensitive developments is presented within the PPG and reproduced in the Table below.

Table 2

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect	No Specific Measures Required
Noticeable and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect (NOEL)	No Specific Measures Required
Lowest Observed Adverse Effect Level (LOAEL)			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; closing windows for some of the time because of the noise. Potential for non-awakening sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level (SOAEL)			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. having to keep windows closed most of the time, avoiding certain activities	Significant Observed Adverse Effect	Avoid

¹ National Planning Policy Framework NPPF was published in March 2012 and sets out the Government's planning policies for England and how these are expected to be applied.

	during periods of intrusion. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.		
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Observed Adverse Effect	Prevent

PPG does not provide numerical values for the different effect levels, instead recognising that ‘the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation’. It therefore remains for local authorities to consider the PPG noise exposure hierarchy and seek to align it with significance criteria, having regard to British Standards, World Health Organisation guidance and other relevant sources of information.

3.3 British Standard 8233:2014 (Guidance on Sound Insulation and Noise Reduction for Buildings)

The latest version of BS.8233 “Guidance on Sound Insulation and Noise Reduction for Buildings”, was published in February 2014. BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens and patios. The Standard states that it is “desirable” that the external noise does not exceed 50 dB $L_{Aeq,T}$ with an upper guideline value of 55 dB $L_{Aeq,T}$. Where design standards cannot be

achieved for traditional amenity spaces (e.g. gardens and patios) then the ‘lowest practical levels’ should be achieved.

An extract of the “Design Range” of BS.8233's Table 4 for indoor noise levels (with Notes 4 & 7) appears below and it should also be noted that the assessment period is for the whole of the day (16 hours) or night (8 hours).

Figure 3 – Table 4 from BS8233

Table 4 Indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB $L_{Aeq,16hour}$	—
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	—
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

NOTE 4 regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,P}$ depending on the character and number of events per night. Sporadic noise events could require separate values.

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

“For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$, which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable.”

3.4 WHO “Guidelines for Community Noise”

These guidelines entitled “Guidance for Community Noise”; were approved by the World Health Organisation and consider guideline values for annoyance in the community. These have been set at 50 or 55 dBA, representing daytime levels below which a majority of the adult

population will be protected from becoming moderately or seriously annoyed, respectively. An extract of “*Table 4.1 from Section 4.4*” appears below:

Figure 4

Table 4.1: Guideline values for community noise in specific environments (Extract).

Specific environment	Critical health effect(s)	LAeq [dB]	Time base [hours]	LAm _{ax} , fast [dB]
Outdoor living area	Serious annoyance, daytime and evening Moderate annoyance, daytime and evening	55	16	-
		50	16	-
Dwelling, indoors Inside bedrooms	Speech intelligibility and moderate annoyance, daytime and evening Sleep disturbance, night-time	35	16	
		30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60

The guidelines also suggest that; “*At night, sound pressure levels at the outside façades of the living spaces should not exceed 45 dB LAeq and 60 dB LAm_{ax}, so that people may sleep with bedroom windows open. These values have been obtained by assuming that the noise reduction from outside to inside with the window partly open is 15 dB.*” LAeq for daytime is for 16 h and for nighttime 8h. BS8223 is based on the WHO Guidelines and as can be seen has similar values.

4.0 ASSESSMENT PROCEDURE

As noted above, this assessment was undertaken during a COVID pandemic "lockdown" and it was decided to use existing data from a variety of sources to establish typical ambient and background LA90 dB levels for this location.

This was agreed with Laura Miller from the Environmental Health department of Manchester City Council. Laura was able to assist with identifying the nearest residents and also where we might find data from previous assessments. We will also refer to existing road / rail noise data for this location from Defra.

"In terms of the nearest residents this will be Vita Students (opposite the Lass O'Gowrie) and 90 Princess Street, there also residents a bit further away in Bracken House (44-58 Charles Street). There are no residents at 38 Charles Street as this is a late-night music venue.

In terms of existing reports, the most recent assessments have been undertaken for 42 Charles Street (122844), Bracken House (125535) and the new hotel at 60 Charles Street (122644). There is also data for the former BBC site (where Vita is now) but the background at the time would have been more elevated due to noise breakout from 38 Charles Street before it took on its current use and better acoustic mitigation measures were installed.

If you go to <https://pa.manchester.gov.uk/online-applications/> you will be able to search for the planning applications.

It will be worth using the Defra Road/Rail data too given this site is near some 'normally' busy roads and next to the viaduct connecting Manchester Oxford Road and Piccadilly stations".

Available data detailed below has been used to calculate the resultant noise levels from the proposed outlet activities at these receptors, in

comparison with the existing background (BS4142) and desirable external / internal levels (BS8233).

5.0 AVAILABLE DATA

5.1 Survey Data from Previous Assessments at this Location

Figure 5 – Existing Ambient and Background 60 Charles Street ²

Day / Date	Measurement Time	Period	Measured Noise Level, dB		
			L _{Aeq, T}	L _{Amax, T}	L _{A90, T}
Thursday 30/08/18	13:00 - 23:00*	Daytime	67.2	89.5	53.9 - 66.1
	23:00 - 07:00	Night Time	61.8	87.1	50.2 - 55.8
Friday 31/08/2018	07:00 - 23:00*	Daytime	68.4	97.5	56.2 - 64.3
	23:00 - 07:00	Night Time	62.8	99.4	51.0 - 56.2
Saturday 01/09/2018	07:00 - 23:00*	Daytime	65.8	88.6	55.6 - 64.4
	23:00 - 07:00	Night Time	58.4	80.8	50.7 - 56.4
Sunday 02/09/2018	07:00 - 23:00*	Daytime	62.4	98.3	52.2 - 57.1
	23:00 - 07:00	Night Time	61.3	98	47.4 - 55.8

Note: * During these periods the noise from construction site was contributing in overall L_{Aeq, 15m} value between 08:00 and 18:00.

The daytime LA_{90, T} levels ranged between 52.2dB and 66.1dB. During the night time period, the LA_{90, T} levels ranged between 47.4dB and 56.4dB.

Figure 6 – Existing Ambient and Background 42 Charles Street ³

Noise Levels	dBA	Octave Band Centre Frequencies, Hz					
		125	250	500	1k	2k	4k
Night-time Level (dBL _{A90, T})	50	49	48	46	45	41	34

Night time LA₉₀ level only at 50dB

² Noise and Vibration Impact Assessment for Redevelopment of 60 Charles Street and adjacent car park, Manchester by "Sixsense" 11th January 2019 Ref: 122644

³ One plus restaurant, 42 Charles Street, Manchester, Noise assessment for planning purposes by Acoustic & Engineering Consultants Limited 23rd April 2019 Ref: 122844

Figure 7 – Bracken House, Manchester ⁴



Sixence Survey measurement locations (ref Appendix 8.1 of ES Chapter for Application 122644/FO/2019)

The results of the long-term monitoring in position LT1 are presented below:

Position	Measured Sound Pressure Levels (dB)				
	Daytime (07:00–19:00)		Night-time (23:00–07:00)		
	L _{Aeq,16h}	Lowest 'typical' L _{A90,16min}	L _{Aeq,8h}	Lowest 'typical' L _{A90,16min}	L _{Amax,6min} *
LT1	68	52	62	47	99

*Maximum recorded value

Position	Time	Measured Sound Pressure Levels (dB)		
		L _{Aeq,15min}	L _{Amax,15min}	L _{A90,15min}
ST1	23:02	63	85	52
	05:45	56	70	51
ST2	23:23	61	79	51
	06:02	57	70	53
	16:59	62	84	57
ST4	00:22	61	79	51
	06:37	65	82	57
	16:24	72	85	64

Daytime LA90 levels 52-64dB

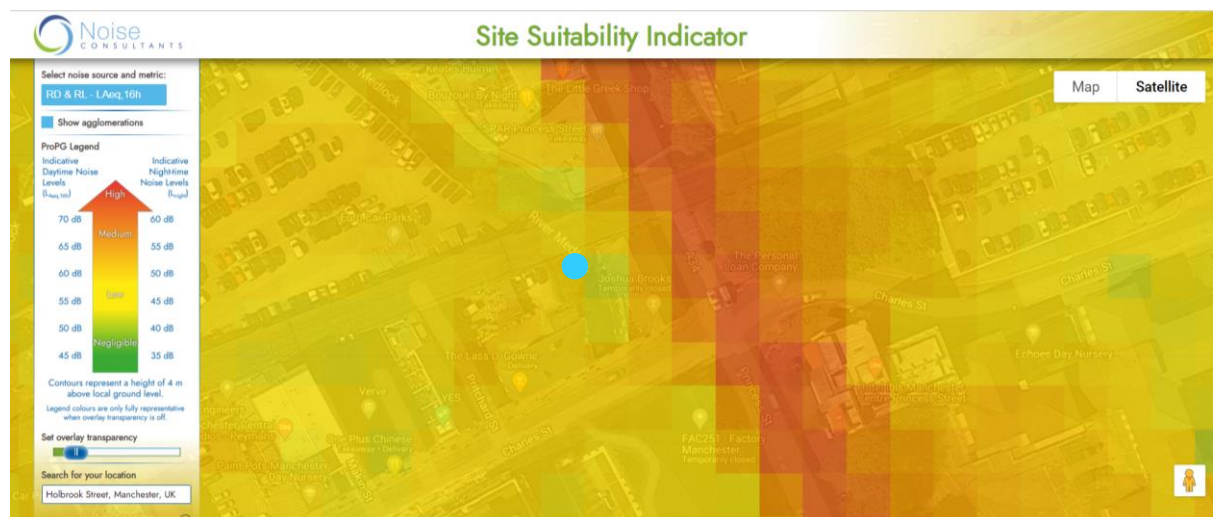
Therefore, the likely background range for this location as derived from the above would be between 52dB and 66dB.

⁴ Noise Impact Assessment Report (replacement of cladding) by Hann Tucker Associates 01 October 2020 for Will Hindle and Partners Ref: 125534

5.2 DEFRA Data Traffic Noise

We can also compare the measured noise levels with synthetic data available from DEFRA for road / rail traffic noise at this location, for the reasons stated above. The noise levels from the DEFRA data⁵ are reproduced below.

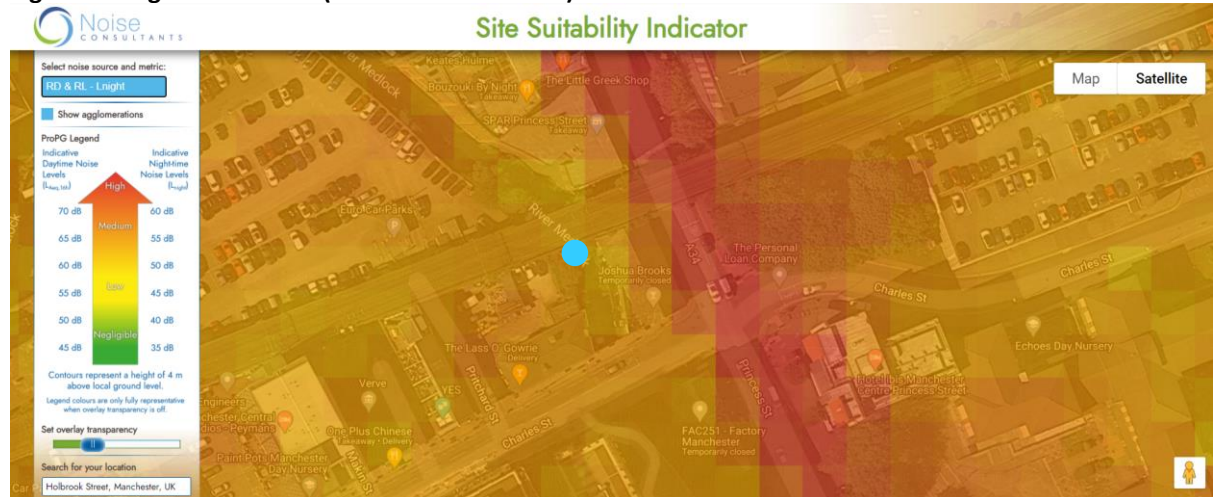
Figure 8 – Daytime Noise Levels (Pre-COVID lockdown)



⁵ *Site Suitability Indicator (SSI) For New Residential Development 1st June 2020*

Member company, Noise Consultants Limited has developed a [Site Suitability Indicator](#) (SSI) which brings together strategic noise mapping data in England as prepared by the Department for Environment, Food and Rural Affairs (Defra) with the Initial Risk Assessment approach as advocated in ProPG.

Figure 9 – Night time Levels (Pre-COVID lockdown)



The DEFRA suggests that LAeq, 16hr levels range between 60dB and 70dB and LAeq, 8hr levels between 50dB and 60dB.

6.0 OBSERVATIONS

From the previous assessments, as noted above:

“The noise environment at this location was observed to be influenced by train noise, cars parking between the York Street and Mallard Street and road traffic noise from Charles Street. During night time the ventilation system from Building located at Oxford Rd was audible”.

“People chatting, traffic on Charles Street, trains pass by. Max due to truck pass by.”

“The general noise environment at and around the [Former BBC] Site is principally determined by road traffic on Oxford Road and Charles Street. Oxford Road is a major route into Manchester city centre and is heavily trafficked by passenger vehicles, LGVs, buses and motorbikes. Charles Street is a reasonably busy minor road. Typical maximum noise levels along Oxford Road are generated by buses. Typical maximum noise levels along Charles Street are generated by passenger vehicles and train movements. Low-level music noise from Factory 251 is audible towards the centre of the Site, where traffic noise levels are lower. Low-level music noise from Factory 251 is audible towards the centre of the Site, where traffic noise levels are lower.”

7.0 ASSESSMENT OF RESULTS

7.1 Levels from the proposed pop-up restaurant

Figure 10

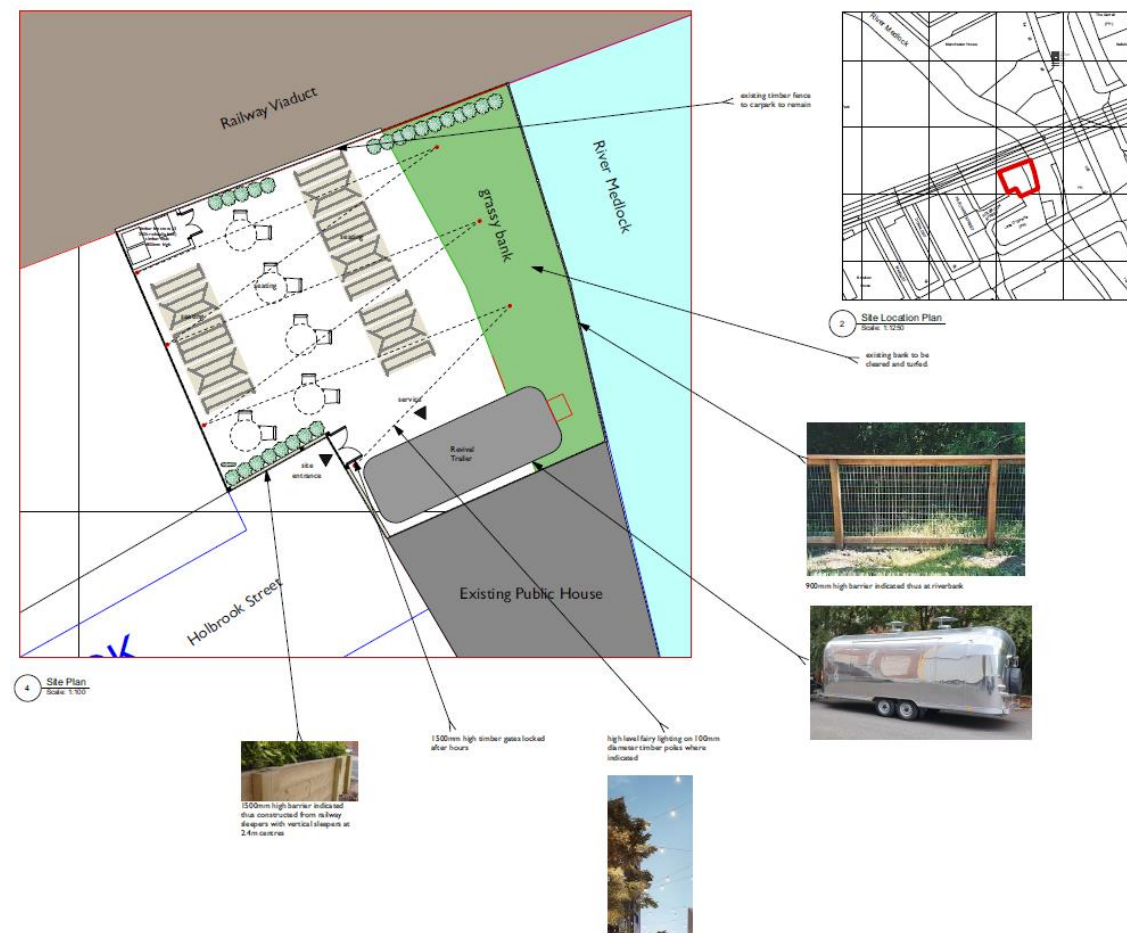


Table 3

Plant / Activity	Source of Noise	Details	Noise level (dBA)
Patrons Ordering Food and Seated	Chatting, raised voices, laughter	Up to 30 persons	See data below
Extraction System	Fans	TBC	System specifications to be informed by background levels

The restaurant can only be accessed by foot therefore vehicle noise will not be an issue. It is understood that there will be no amplified music. There may be occasional impact noise from kitchen utensils and the disposal of glass.

7.2 Patron Noise

The outdoor seating area will be used by customers for consuming food and drink and noise levels may be similar to a busy pub garden at times. As we have no data available for the site as it is a new business, we will use data we have previously obtained for a busy pub garden and estimate any possible impact from this type of outdoor dining situation.

The author has previously attended a large public house (The Holly Bush Inn at Winterley – with a substantial beer garden at the rear).

The Winterley site was attended during one of the busiest periods that the staff anticipated i.e. a weekend lunchtime and dinner time during a spell of good weather, and then again at the potentially most sensitive time before the pub closed between 11.00pm and midnight. The site was attended for 1-hour periods.

The weather was very good, warm, and sunny and therefore it was also anticipated that the beer garden and terrace would also be busy. This turned out to be the case, as anticipated.

At lunchtime, customer numbers started with 14 people (first visit) with children in the beer garden and terrace and numbers increased steadily towards the teatime period (second visit) when the beer garden and terrace became very busy indeed and almost all tables were in use and children were using all the play equipment. During the teatime attendance, it was observed that there was 40+ adults and children using the terrace, beer garden and play equipment. The area was at near capacity. Levels then began to gradually taper off and progressively reduce from around 7pm until the garden was near empty at 9pm. **There is anticipated to be no more than 20 patrons using the pop-up restaurant, at maximum, therefore noise levels are likely to be towards the lower measured level of the range at this site.**

The highest (beer garden) levels at Winterley were from 4.00pm through to 6.00pm (meals were also eaten outside) and ranged between **49dB and 53dB** – measurements were taken at the beer garden boundary (rear) approximately 5m from the nearest table and with other tables located at various distances in the large garden.

Background levels (LA90) later into the evening and night for this pop-up restaurant are anticipated to be between **52dB to 66dB from the available data**. LAeq, 16hr levels are estimated to be between **60dB and 70dB**.

Noise from any outdoor seating area will be most likely due to their conversation and raised voices. There will **no alcohol** served which can increase the likelihood of raised voices. **No glassware** will be used or **metal cutlery** which can also introduce impact noise.

The table below shows the level for raised voices at 66dBA at 1m⁶.

Table 4

Vocal effort	^L S, A, 1m dB
Relaxed	54
Normal	60
Raised	66
Loud	72
Very loud	78

The distances to the nearest receptors are shown below and the anticipated noise reduction due to distance.

Table 5

Location	Distance (m)	Noise Reduction Distance (Pub Garden Type Noise) @5m	Resultant Level dBA	Noise Reduction Distance - Raised Voices @1m	Resultant Level dBA
90 Princess Street	20	-6	47	-13	53
Vita Students	30	-8	45	-15	51
Bracken House	50	-10	43	-17	49

A raised voice at 1m would equate to 53dBA at 20m (Princess Street) and pub garden hubbub 47dBA; then 51dBA and 45dBA at the Vita Students accommodation and 49dBA and 43dBA at Bracken House,

⁶ ISO 9921 [2] male speaker

respectively. Therefore, general chatting and the occasional raised voice is not likely to attract attention being within the range of background levels at the receptors. Any loud or very loud voices may be noticeable above the lowest background levels L90 (52dBA) later into the evening when traffic has subsided, but these incidents can be managed by the proprietors.

7.3 Extraction

The specification for any extraction system has yet to be established, but anticipated background levels L90 and LAeq, 16hr levels can be used to inform the specification.

LA90 52dB to 66dB

LAeq, 16hr 60dB to 70dB

Therefore, depending on the final position of external extraction plant noise levels propagating from the plant should not exceed these background levels to ensure that there is no adverse impact – considering also any noticeable tones e.g. “hums” or “whines”. We will consider the lowest background level L90 at 52dB.

Table 6

Location	Distance from Extraction System	Distance to Receptors (m)	Noise Reduction due to Distance	Background Level dBA	Max level for plant dBA @2m to achieve 5dBA below background
90 Princess Street	2m	20	-20	52	65
Vita Students	2m	30	-24	52	69
Bracken House	2m	50	-28	52	75

Therefore, for example, if the plant was screened from Princess Street but visible from the Vita Student accommodation the noise levels from the system should not exceed 69dBA at 2m to avoid adverse impact (after adjusting for the reduction in noise due to distance i.e. 5dBA below the existing background level and +2dB penalty for “tone”). The LA90 level target at 45dBA at the receptors $[52-5-2=47]$ is also well below the typical LAeq,16hr level of around 60dB, so road / rail traffic noise is likely to mask the extraction noise for much of the time even at closer proximity.

Manchester City Council require that *‘The development should be designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location’*.⁷ We have considered this for the extraction system above.

7.4 BS4142 Calculation

Table 7: BS4142:2014

BS4142 – Extraction	At Receptors
LAeq, T dB Levels	45
Impulsive Sound Characteristics (impact sounds)	0
Tonal Sound Characteristics	2
Other Sound Characteristics	0
Intermittency Correction	0
Rating Level	47
Background Noise Level L90 (Typical Range)	52-66
Excess over Background [Rating – Background]	-19 to -5dB

+2dB added for tonality in respect to the extraction system to err on the side of caution – it may not be audible at all in operation.

⁷ Manchester City Council, Planning & Noise Technical Guidance December 2015

7.5 BS8233 / WHO

From BS8233, desirable levels for gardens range from between 50-55dB (LAeq, 16hr). With existing levels ranging between 60 and 70dB i.e. already exceeding this range then the anticipated levels from the pop-up restaurant from patrons and extraction at 45-53dB are not likely to be impactful.

7.6 Uncertainty

The following factors have a bearing on the uncertainty of the assessment:

- The BS4142 assessment above has included correction for tonal noise from the extraction system. This may overestimate the potential for impact if the sound is rendered inaudible once installed.
- It was not possible to carry out any background measurements during this pandemic, but a range of sources have been used to establish what might be the typical range for this part of Manchester.
- The beer-garden noise levels used to inform this assessment included families and children and up to 40 persons which may overestimate the noise levels for this location.

- There may be some local screening which may reduce noise levels (to a degree) e.g. where the sources of noise are only partially visible then noise may be reduced by 5dBA.

Overall, it is considered that the assessment is sufficiently robust.

8.0 CONCLUSION

8.1 BS4142

“Low Impact” depending on context.

8.2 LOAEL / SOAEL

It is likely that there will be **“No Observed Adverse Effect (NOEL)”**

8.3 Noise Management

- Doors and windows should be kept closed where possible (mobile catering van).
- Staff should be instructed to keep noise levels to a minimum in respect of nearby residents as part of their induction.
- Visiting patrons should also be instructed to keep noise to a minimum in respect of nearby residents – signage can be used as a reminder – e.g. shouting.

- The extraction system should be specified so that noise levels do not exceed those as noted in Table 7 at 2m (dependent on which receptor may be affected and if the equipment is screened).

APPENDIX 1

EXPLANATION OF ACOUSTIC TERMS

The dB or the decibel, is the unit of noise. The number of decibels or the level, is measured using a sound level meter. It is common for the sound level meter to filter or 'weight' the incoming sound so as to mimic the frequency response of the human ear. Such measurements are designated **dB(A)**.

A doubling of the sound is perceived, by most people, when the level has increased by 10 dB(A). The least discernible difference is 2 dB(A). Thus, most people cannot distinguish between, say 30 and 31 dB(A).

The Background level of noise is most commonly represented by the level which is exceeded for 90% of the time i.e. the LA90.

If a noise varies over time then the **equivalent continuous level, or LAeq**, is the notional constant level of noise which would contain the same amount of acoustic energy as the time varying noise.

The following table gives an indication of the comparative loudness of various noises expressed in terms of the A weighted scale:

Source of noise	dB(A)	Nature of Noise
Inside Quiet bedroom at night	30	Very Quiet
Quiet office	40	
Rural background noise	45	
Normal conversational level	60	
Busy restaurant	65	
Typewriter @ 1m	73	
Inside suburban electric train	76	
Alarm clock ringing @ .5m	80	
Hand clap @ 1m	80	
HGV accelerating @ 6m	92	Very Loud

APPENDIX 2

QUALIFICATIONS AND EXPERIENCE OF M. S. MELLOR

My full name is Steven Brian Mellor. I am the principal consultant at the firm of SBM Safety Solutions Ltd, a consultancy company that specialises in health, safety and environmental services including noise assessment and control.

I hold a Master's degree in Health, Safety and Environmental Law, British Occupational Health Society (BOHS) M104 certificate in Noise and Vibration and Institute of Acoustics Certificate of Competence in Environmental Noise Measurement (Derby University), plus Diploma in Acoustics and Noise Control (Bristol University). I am member of the professional body for noise and vibration specialists, the Institute of Acoustics, MIOA.

I have some 19 years' experience of dealing with problems caused by noise and vibration, both regarding noise and vibration in the environment, the workplace, and the home. The firm of SBM Safety Solutions Ltd. was formed 17 years ago. During that time, we have advised many groups including employers, residents, and developers about the problems of noise and vibration in the workplace and environment.

APPENDIX 3

Mobile Catering Unit

