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B&S FAMILY FOOD LIMITED

NOISE IMPACT ASSESSMENT REPORT

1A SPINNERS WAY, MANCHESTER M15 4UY

Client: B&S Family Food Limited

Report Ref: P9294-NA1-V1

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REPORT VERSION CONTROL:

Document Reference	Date	Report Prepared by	Report Authorised by
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1 INTRODUCTION

1.1 Overview

1.1.1 By instruction from B&S Family Food Limited ('the client'), NoiseAir was commissioned to undertake a noise impact assessment (NIA) to support the planning application ref: 144245/FO/2025. The proposal is for a change of use of 1A Spinners Way, Manchester M15 4UY, to Class E, Sale of food and drink, on the premises located on the ground floor.

1.1.2 General limitations with respect to this NIA are outlined in **Appendix A**.

1.2 Site Description

1.2.1 The proposed development site is situated between Spinners Way and Chester Road. Chester Road is a busy arterial route that services Manchester city centre; Spinners Way is a side street.

1.2.2 **Figure 1** presents a plan view of the development site with respect to the local area and its context.

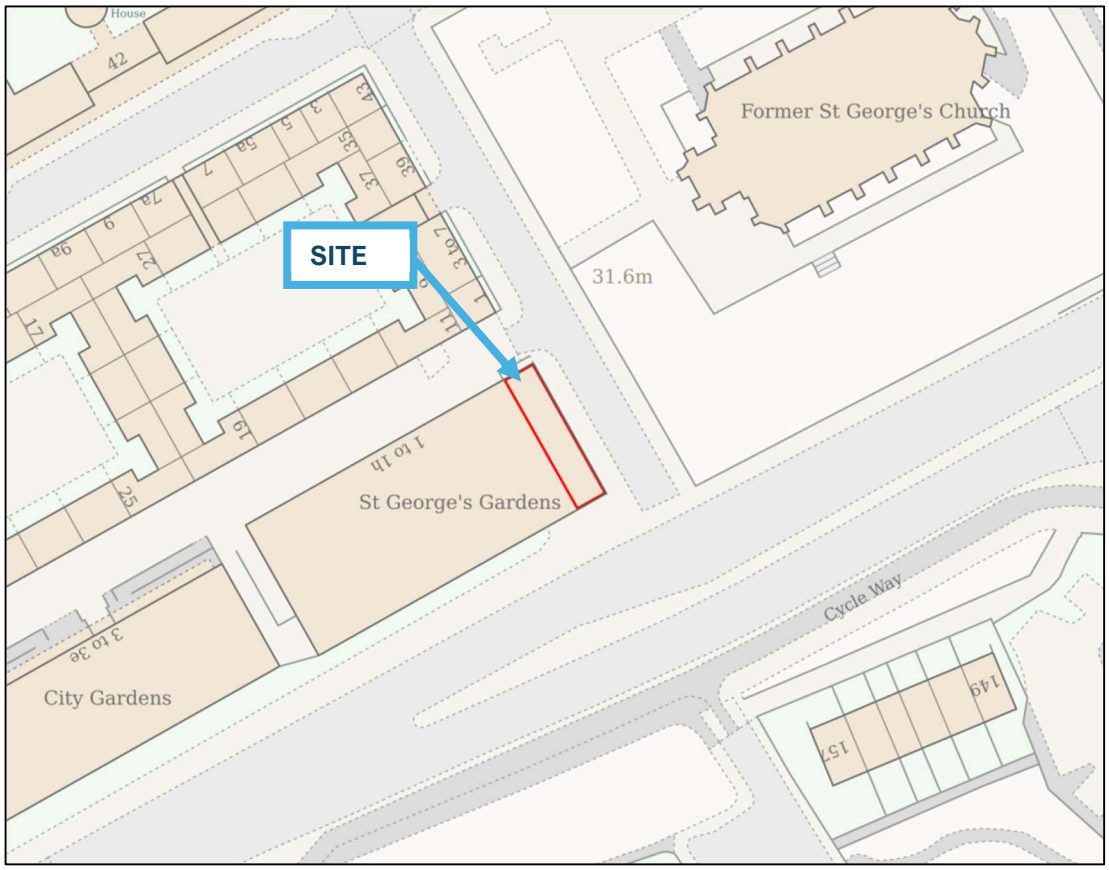


Figure 1: Site in Context – Plan View.

1.3 Development Proposals

1.3.1 The restaurant is proposed to be open for the majority of the daytime period, but not for any of the nighttime period.

1.3.2 At the time of writing, proposals outline the re-development of Site to create a ground floor commercial unit. The proposed floor plan is shown below in **Figure 2**.

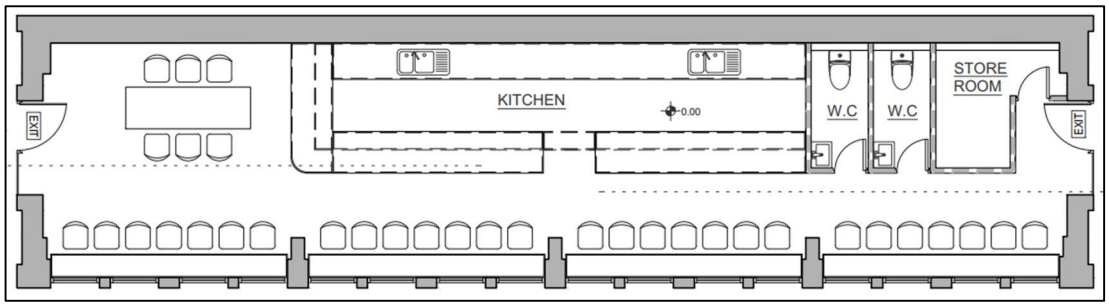


Figure 2: Proposed Ground Floor Layout - Plan View

1.4 Proposed kitchen supply/ extract system

1.4.1 Plan layouts of the proposed supply/ extract system are presented below.

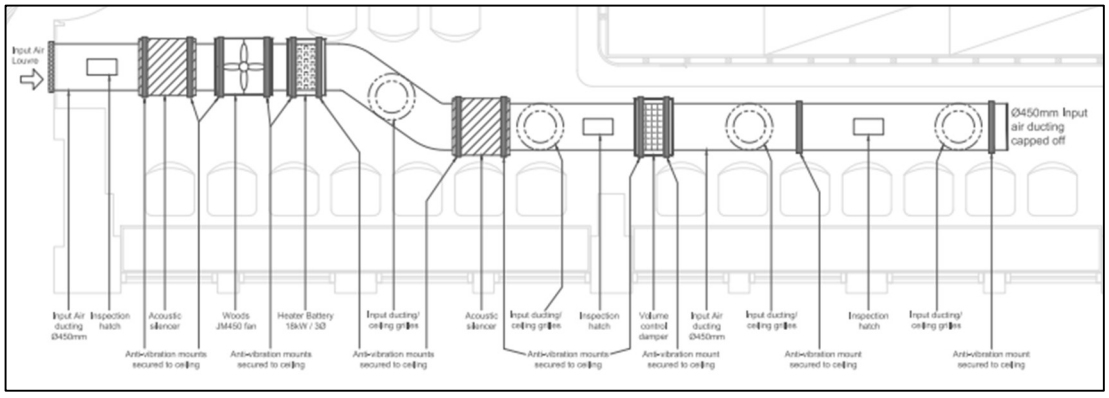


Figure 3: Plan view of supply units and ductwork – Supply from Chester Road

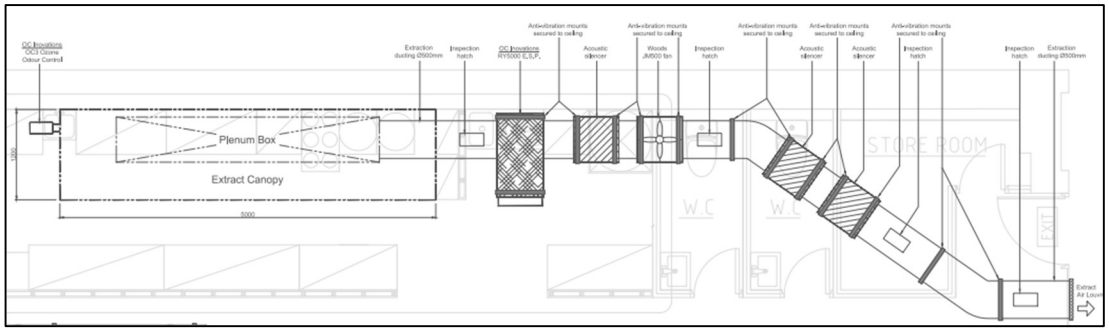


Figure 4: Plan view of Extract units and ductwork – Extract to Spinners Way

1.4.2 In addition to the layout denoted above, there will be decorative louvres fixed to the inlet and outlet

1.4.3 Details of the fan units to be used are presented below.

Table 1: Proposed air handling units		
Detail	**Manufacturer**	**Range**
Supply fan	Woods	Aerofoil JM450
Extract fan	Woods	Aerofoil JM500

1.4.4 We do not have details of the exact models of fan units, within the two Woods ranges. Nor do we have details of the likely air flow that will be required of the supply / extract system.

1.4.5 There are a number of inline silencers proposed for the supply / extract lines. We propose that, given the range suggested by the client, we will suggest a model that offers an appropriate amount of noise reduction.

2 ASSESSMENT METHODOLOGY AND SCOPE OF WORKS

2.1 Planning application response

2.1.1 The site has been approved by Manchester city council for class E, subject to conditions.

Planning details regarding the site are:

Reference	144245/FO/2025
Alternative Reference	PP-14279239
Application Validated	Fri 10 Oct 2025
Address	1A Spinners Way Manchester M15 4UY
Proposal	Installation of 2no. louvres to ground floor commercial unit.
Status	Decided
Decision	Approved
Decision Issued Date	Mon 17 Nov 2025

2.1.2 Condition(s) attached to this decision and that are relevant to acoustics are:

> *5) a) Prior to the installation of any plant hereby approved, either a scheme that demonstrates that any plant equipment will achieve a rating level of 5dB (LAeq) below the typical background (LA90) level in each octave band at the nearest noise sensitive location, or a scheme showing a method to acoustically treat/insulate any plant equipment so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level in each octave band at the nearest noise sensitive location, shall be submitted to and approved in writing by the Local Planning Authority. The development shall then be carried out in accordance with the approved details.*

2.2 Scope of Works

2.2.1 The noise generated by the supply/ extract system has the potential to create an adverse impact on its immediate neighbours. This report will present an assessment of the noise impact, using details provided to NoiseAir and measured background sound levels as input data. The results of which are presented as evidence to satisfy the relevant conditions of the approved decision notice.

3 ACOUSTIC SURVEY

3.1 Noise Monitoring

3.1.1 NoiseAir conducted noise monitoring on 11th and 22nd December 2025 at the site. Attended noise monitoring was undertaken at the monitoring location, ML1 as presented in **Figure 5**. The microphone was positioned at a distance of 1 m from the boundary railings of the church opposite. Traffic is the primary noise source.

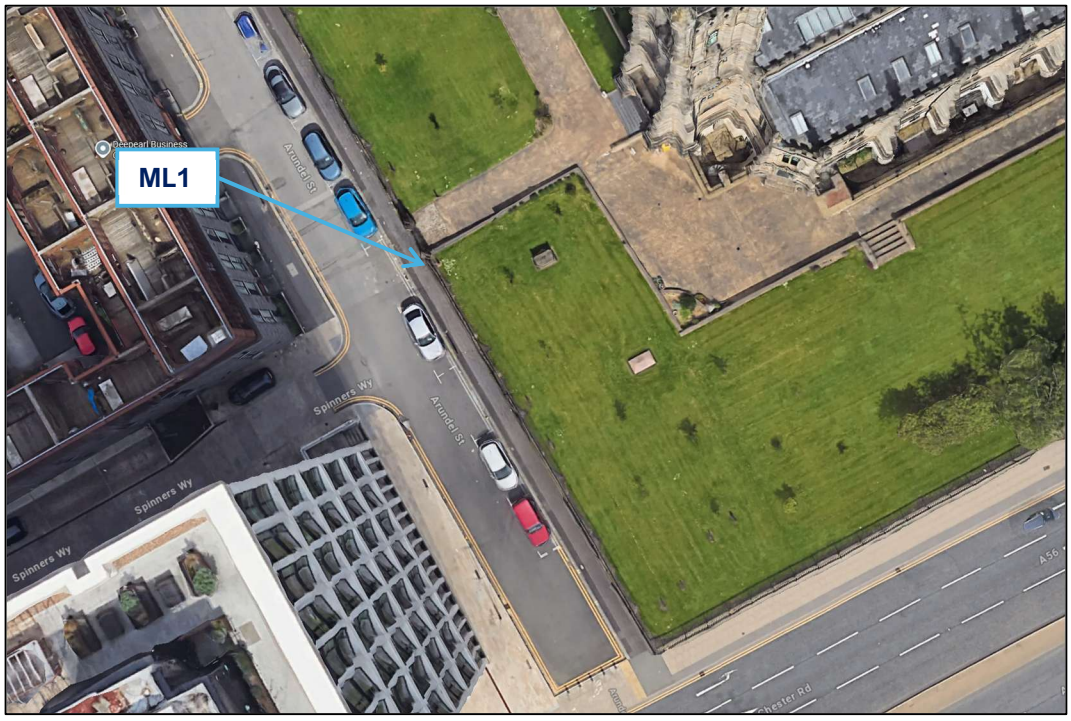


Figure 5: Noise Monitoring Location – ML 1

3.1.2 The noise measurements were made using a Class 1, integrating sound level meter (SLM).

3.1.3 The acoustic equipment was calibrated to comply with Section 4.2 of BS 7445-1:2003[1], before and after the noise monitoring periods. The results are summarised in **Table 2**.

Table 2: Summary of SLMs used for survey and associated field calibration

SLM (Serial No.)	Preamp (Serial No.)	Microphone (Serial No.)	Calibrator (Serial No.)	Start Calibration	End Calibration	Drift
NOR140 (1405015)	NOR1209 (14242)	NOR1225 (118503)	B&K 4231 (2431761)	-26.5	-26.5	nil
LD 831 (40654)	PRM821	377B02	n/a	-25.6	-25.6	nil

3.1.4 Weather conditions were noted and monitored during the attended survey duration. Weather conditions were considered to be within recommended requirements.

[1] BS 7445-2003 "Description and measurement of environmental noise – Part 1: Guide to quantities and procedures.

3.2 Measured Sound Levels

3.2.1 Attended measurements were made during quieter periods of the daytime. The site is not proposed to be open during the nighttime. We consider these periods to represent a moderately conservative assessment of the background sound levels in the locality.

3.2.2 The measurement position, ML1 is likely to be less exposed to traffic noise from Chester road, compared to the site façade that fronts Chester road.

3.2.3 All measurements taken at ML1 are free field. They are presented in **Table 3** below.

Table 3: Measured background sound at ML1 – L_{90t}

Time (hh:mm)	dB, LA90,T	Octave band (Hz) levels (dB)							
		63	125	250	500	1k	2K	4K	8K
12:00	57	62	55	54	51	55	49	38	30
12:15	57	62	55	54	51	55	49	37	28
12:30	58	63	56	55	52	56	50	40	32
12:45	57	63	56	54	51	55	49	38	30
13:00	58	63	56	54	51	55	50	38	30
13:15	57	63	56	54	50	54	49	37	28
13:30	58	63	56	55	52	55	50	39	32
13:45	57	62	55	54	50	54	49	37	29
14:00	57	62	56	54	51	54	48	37	28

3.3 Background sound level limits

3.3.1 The mode of each octave band will be used as the typical value and in turn the limits used for this assessment. The limits / levels are presented below.

Table 4: Typical background sound at ML1 / Baseline limits– L_{A90t}

Period	dBA	Octave band (Hz) levels (dB)							
		63	125	250	500	1k	2K	4K	8K
Day (0700 – 2300)	57	63	56	54	51	55	49	37	30

4 ASSESSMENT OF KITCHEN SUPPLY / EXTRACT

4.1.1 Condition 5a states that

> *" the rating level of the plant is 5dB below the typical background level in each octave band at the nearest noise sensitive location."*

4.1.2 The use of the term "rating level" reasonably suggests the use of BS4142 as a method of providing a relative assessment of the noise impact from the kitchen supply/ extract system. In BS 4142, the rated level is the source noise level, as a broadband single figure value, (denoted the specific sound) plus any character corrections that are applied to account for the character of the noise source. Such an assessment is normally undertaken using broadband noise levels, not octave band levels. One of the reasons the penalty system is used, is to account for excessive character of the noise source, the nuance of which is not reflected by a single figure broadband value.

4.1.3 One of the character corrections, often applied to fan, is tonality. A tonality correction represents an overall, broadband correction for a specific and far narrower range of frequencies. Therefore, an assessment that uses the resolution of octave bands will tend toward including tonality, by virtue of the frequency spectrum bands being compared individually.

4.1.4 Another BS4142 character correction is for the noise source being readily distinguishable against the residual sound. In a similar manner, a noise source will likely be distinguishable because a given octave band is of considerably greater level than the residual level, in that same band, whilst the remaining octave bands are not. Such a situation is further evidence that a broadband character correction to an octave band analysis is not appropriate.

4.1.5 Intermittency is not normally frequency specific. However, if the assessment stipulates that the source noise level is 5 dB less than the typical background, then the turning on/ off of the source will likely not be noticeable.

4.1.6 In conclusion, it is our opinion that the protocol of assessing using individual octave bands, renders the application of BS4142 penalties inappropriate. Therefore, no penalties are applied, and the rated level is the specific level.

4.2 Supply/ Extract requirements

4.2.1 Details made available to NoiseAir indicate that one of the Woods JM450 / JM500 Aerofoil range of fans will be used for the supply / extraction of air. Woods JM Aerofoil fan units have a diameter of 450 and 500 mm respectively. We have not been supplied with the actual model, within the JM450 / JM500 range, nor do we know what the likely air flow rate that will be required, is likely to be. Consequently, it is not possible to say what the noise level from the fan unit will be.

4.2.2 The calculation of required air flow for a kitchen supply /extract system is beyond the scope of this acoustic report and would normally be the responsibility of the installers. In the absence of this information, we can only provide an indicative view, based on the limited information we have.

4.2.3 The code of practice: HVCA DW172 - Specification for Kitchen Ventilation Systems, method 1, uses rates of 30 – 40 Air changes per hour in a given space to gauge what ventilation is required in a commercial kitchen. Plans supplied to NoiseAir indicate that the floor area of the kitchen is approximately 24 m^2 and the ceiling height is approximately 3.5 m, therefore the volume of the kitchen is 84 m^3. A volume of 84 m^3 is calculated to require between 2520 – 3360 m^3 of air to be changed per hour, or 0.7 – 0.93 m^3/s. For our calculations, we will use the upper rate of 0.93 m^3/s to evaluate the likely fan model that will be used and the respective manufacturers noise levels.

4.3 Supply details

4.3.1 Normally the supply side of a mechanical ventilation system will supply 60 – 80 % of the air flow required by the extract side. 80 % of 0.93 m^3 is 0.75 m^3/s. This value will be used to find the noise level of the supply fan.

4.3.2 A suitable model within the Woods JM450 range, that can comfortably supply 0.75 m^3/s and for which manufacturers data is provided is the 45JM/20/6/3. The sound power levels for this unit at this flow rate are presented below.

Table 5: Noise impact at NSR, due to Supply

Fan unit	Single figure level (dBA)	Octave band (Hz) - Sound power levels (dB)							
		63	125	250	500	1k	2K	4K	8K
JM45/20/6/3 (0.75m3/s at 40 degrees)	73	69	67	66	63	61	57	53	49

4.3.3 1 No. inline silencer is proposed between the inlet terminal and the supply fan unit. A model from the CP03 range by Vent direct is proposed. There are four types of inline silencer within this range. We propose that the CP03 - CA - 0315 - 1D is fitted.

4.3.4 The supply intake fronts onto Chester Road. The closest and therefore worst affected NSR to the intake is the nearest 1st floor flat to the terminal location, which is approximately 8 m away.

4.4 Noise impact at NSR from Supply

4.4.1 The noise impact at the NSR has been calculated and is presented below.

Table 6: Noise impact at NSR, due to Supply

Supply	Octave band (Hz) levels (dB)							
	63	125	250	500	1k	2K	4K	8K
Fan unit - sound power	69	67	66	63	61	57	53	49
Attenuation due to inline silencer	1	2	4	9	11	10	9	7
Attenuation due to duct length (2 m / 450 mm diameter)	0	0	0	0	0	0	0	0
Attenuation due to end reflection	8	4	1	0	0	0	0	0
Sound power of supply inlet	60	61	61	54	50	47	44	42
Attenuation due to distance and Sound power to pressure difference: supply inlet to NSR (8 m)	26							
Calculated Sound pressure level at NSR façade	34	35	35	28	24	21	18	16
Calculation tolerance	3							
Calculated Sound pressure level at NSR façade with tolerance	37	38	38	31	27	24	21	19
Typical Background sound levels - Day	63	56	54	51	55	49	37	30
Excess over background	-26	-18	-16	-20	-28	-25	-16	-11
Typical Background sound levels - Night	54	53	51	47	52	47	30	15
Excess over background	-17	-15	-13	-16	-25	-23	-9	4

4.5 Extract details

4.5.1 It is suggested that the extracts air flow rate will be approximately 0.93 m^3/s. This value will be used to find the noise level of the extract fan

4.5.2 A suitable model within the Woods JM500 range, that can comfortably supply 0.93 m^3/s and for which manufacturers data is provided is the 50JM/20/6/3. The sound power levels for this unit at this flow rate are presented below.

Table 7: Noise impact at NSR, due to Extract									
Fan unit	SIngle figure level (dBA)	Octave band (Hz) - Sound power levels (dB)							
		63	125	250	500	1k	2K	4K	8K
JM50/20/6/3 (0.75m3/s at 40 degrees)	76	73	70	69	67	65	61	58	55

4.5.3 Two inline silencers are proposed between the outlet terminal and the supply fan unit. A model from the CP03 range by Vent direct is proposed. There are four types of inline silencer within this range. We propose that two CP03 - CA - 0315 - 1D are fitted.

4.5.4 The extract fronts onto Spinners Way. The closest and therefore worst affected NSR to the outlet is the flat directly above which is at a distance of 8 m away.

4.6 Noise impact at NSR

4.6.1 The noise impact at the NSR has been calculated and is presented below.

Table 8: Noise impact at NSR, due to Extract								
Extract	Octave band (Hz) levels (dB)							
	63	125	250	500	1k	2K	4K	8K
Fan unit - sound power	73	70	69	67	65	61	58	55
Attenuation due to 2 No. inline silencers	2	4	8	18	22	20	18	14
Attenuation due to duct length (10 m / 500 mm diameter)	0	0	0	0	0	0	0	0
Attenuation due to end reflection	8	4	1	0	0	0	0	0
Sound power of Extract outlet.	63	62	60	33	35	35	34	35
Attenuation due to distance and Sound power to pressure difference: Extract to NSR (8 m)	26							
Calculated Sound pressure level at NSR façade	37	36	34	7	9	9	8	9
Calculation tolerance	3							
Calculated Sound pressure level at NSR façade with tolerance	40	39	37	10	12	12	11	12
Typical Background sound levels - Day	63	56	54	51	55	49	37	30
Excess over background	-26	-20	-20	-44	-46	-40	-29	-21
Typical Background sound levels - Night	54	53	51	47	52	47	30	15
Excess over background	-17	-17	-17	-40	-43	-38	-22	-6

4.6.2 **Table 7** and **Table 8** indicate that the measured background sound levels are not exceeded by more than -5 dB, in any octave band during the daytime and only in the 8 KHz octave band during the night.

4.6.3 The marginal exceedance of 4 dB, in the 8 KHz octave band only occurs during the nighttime (2300-0700) at the front. The proposed opening hours of the site do not include being open during the night. Therefore, this should prove to be of negligible consequence.

5 CONCLUSIONS

5.1 Overview

5.1.1 By instruction from B&S Family Food Limited, NoiseAir was commissioned to undertake a noise assessment of 1A Spinners Way, Manchester M15 4UY in support of discharging the relevant planning conditions, contained within decision notice 144245/FO/2025, from Manchester City Council.

5.1.2 NoiseAir have conducted a noise survey to establish the typical background sound level at the site. The data has been used to assess the noise impact of the proposed on the nearest NSR.

5.1.3 From a noise point of view, this is deemed possible, given adequate consideration to the attenuation of noise from the kitchen supply / extract system.

5.1.4 In the absence of details of required airflow for the supply / extract system, we present our calculations as being indicative of what the likely requirements are; on the likely air changes per hour requirements for the volume of the kitchen area, as shown in plans supplied.

5.1.5 Further calculations of air flow requirements will need to be undertaken by a suitable professional and the results re assessed before installation ensues.

5.2 Conclusions

5.2.1 We have specified that the following elements are used as part of the kitchen supply / extract system:

Supply fan unit	Woods	45JM/20/6/3
Extract fan unit	Woods	50JM/60/5/3
Inline duct silencers	Vent Direct	CP03 - CA - 0315 - 1D

5.2.2 There will be some attenuation provided by the louvres because the airflow is directed away from the NSR window. Details of this attenuation have not been provided to us but will likely be more evident in the higher frequencies.

APPENDIX A - REPORT LIMITATIONS

This Report is presented to B&S Family Food Limited and may not be used or relied on by any other person or by the client in relation to any other matters not covered specifically by the scope of this report.

Notwithstanding anything to the contrary contained in the report, NoiseAir Limited is obliged to exercise reasonable skill, care and diligence in the performance of the services required by B&S Family Food Limited and NoiseAir shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.

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The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from who it has been requested and that such information is accurate. Information obtained by NoiseAir Limited has not been independently verified by NoiseAir Limited unless otherwise stated in the report and should be treated accordingly.

Where assessments of works or costs identified in this report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

Where / if estimates and projects are made within this report, are made based on reasonable assumptions as of the date of this report, such statements however by their very nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. NoiseAir Limited specifically does not guarantee or warrant any estimates or projects contained in this report.

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APPENDIX B – GLOSSARY

A-weighted sound pressure, p_A	Value of overall sound pressure, measured in pascals (Pa), after the electrical signal derived from a microphone has been passed through an A-weighting network. *NOTE: The A-weighting network modifies the electrical response of a sound level meter with frequency in approximately the same way as the sensitivity of the human hearing system.*
A-weighted sound pressure level, L_{pA}	Quantity of A-weighted sound pressure in decibels (dBA).
Acoustic environment	Sound from all sound sources as modified by the environment [BS ISO 12913-1:2013].
Ambient sound	Totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far. *NOTE: The ambient sound comprises the residual sound and the specific sound when present.*
Ambient sound level, $L_a = L_{Aeq,T}$ (BS 4142:2014)	Equivalent continuous A-weighted sound pressure level of the totally encompassing sound in a given situation at a given time, usually from many sources near and far, at the assessment location over a given time interval, T *NOTE: The ambient sound level is a measure of the residual sound and the specific sound when present.*
Background sound	Underlying level of sound over a period, *T*, which might in part be an indication of relative quietness at a given location.
Background sound level, $L_{A90,T}$ (BS 4142:2014)	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time weighting F and quoted to the nearest whole number of decibels.
Break-in	Noise transmission into a structure from outside.
Break-out	Noise transmission from inside a structure to the outside.
Cross-talk	Noise transmission between one room and another room or space via a duct or other path.
C_{tr}	Correction term applied against the sound insulation single-number values (R_w, D_w, and $D_{nT,w}$) to provide a weighting against low frequency performance. *NOTE: The reference values used within the C_{tr} calculation are based on urban traffic noise.*
Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$	Value of the A-weighted sound pressure level in decibels (dB) of a continuous, steady sound that, within a specified time interval, T, has the same mean-squared sound pressure as the sound under consideration that varies with time.
Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$ (BS 4142:2014)	Value of the A-weighted sound pressure level in decibels of continuous steady sound that, within a specified time interval, $T = t_2 – t_1$, has the same mean-squared sound pressure as a sound that varies with time.
Equivalent sound absorption area of a room, A	Hypothetical area of a totally absorbing surface without diffraction effects, expressed in square metres (m2), which, if it were the only absorbing element in the room, would give the same reverberation time as the room under consideration

Facade level	Sound pressure level 1 m in front of the façade. *NOTE: Facade level measurements of L_{pA} are typically 1 dB to 2 dB higher than corresponding free-field measurements because of the reflection from the facade.*
Free-field level	Sound pressure level away from reflecting surfaces. *NOTE: Measurements made 1.2 m to 1.5 m above the ground and at least 3.5 m away from other reflecting surfaces are usually regarded as free-field. To minimize the effect of reflections the measuring position has to be at least 3.5 m to the side of the reflecting surface (i.e. not 3.5 m from the reflecting surface in the direction of the source). Estimates of noise from aircraft overhead usually include a correction of 2 dB to allow for reflections from the ground.*
Impact sound pressure level, L_i	Average sound pressure level in a specific frequency band in a room below a floor when it is excited by a standard tapping machine or equivalent.
Indoor ambient noise	Noise in a given situation at a given time, usually composed of noise from many sources, inside and outside the building, but excluding noise from activities of the occupants. *NOTE: The location(s) within the room at which the ambient indoor noise is to be measured or calculated ought to be considered.*
Measurement time interval, T_m (BS 4142:2014)	Total time over which measurements are taken. *NOTE: This may consist of the sum of a number of non-contiguous, short-term measurement time intervals.*
Noise criteria	Numerical indices used to define design goals in a given space.
Noise rating, NR	Graphical method for rating a noise by comparing the noise spectrum with a family of noise rating curves.
Normalised impact sound pressure level, L_n	Impact sound pressure level normalized for a standard absorption area in the receiving room. *NOTE: Normalised impact sound pressure level is usually used to characterize the insulation of a floor in a laboratory against impact sound in a stated frequency band.*
Octave band	Band of frequencies in which the upper limit of the band is twice the frequency of the lower limit.
Percentile level, $L_{AN,T}$	A-weighted sound pressure level obtained using time-weighting “F,” which is exceeded for *N*% of a specified time interval.
Reference time interval, T_r (BS 4142:2014)	Specified interval over which the specific sound level is determined. *NOTE: This is 1 h during the day from 07:00 h to 23:00 h and a shorter period of 15 min at night from 23:00 h to 07:00 h.*
Residual sound (BS 4142:2014)	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Residual sound level, $L_r = L_{Aeq,T}$ (BS 4142:2014)	Equivalent continuous A-weighted sound pressure level of the residual sound at the assessment location over a given time interval, T.
Rating level, $L_{Ar,Tr}$	Equivalent continuous A-weighted sound pressure level of the noise, plus any adjustment for the characteristic features of the noise. *NOTE: This is used in BS 7445 and BS 4142 for rating industrial noise, where the noise is the specific noise from the source under investigation.*
Reverberation time, *T*	Time that would be required for the sound pressure level to decrease by 60 dB after the sound source has stopped.
Sound exposure level, *L*AE	Level of a sound, of 1 s duration, which has the same sound energy as the actual noise event considered.

Sound level difference, *D*	Difference between the sound pressure level in the source room and the sound pressure level in the receiving room.
Sound pressure, *p*	Root-mean-square value of the variation in air pressure, measured in pascals (Pa) above and below atmospheric pressure, caused by the sound.
Sound pressure level, L_p	Quantity of sound pressure, in decibels (dB).
Sound reduction index, *R*	Laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.
Specific sound level, $L_s = L_{Aeq,Tr}$ (BS 4142:2014)	Equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r.
Specific sound source (BS 4142:2014)	Sound source being assessed.
Standardised impact sound pressure level, L'_{nT}	Impact sound pressure level normalized to a reverberation time in the receiving room of 0.5 s.
Standardised level difference, D_{nT}	Difference in sound level between a pair of rooms, in a stated frequency band, normalized to a reference reverberation time of 0.5 s for dwellings.
Ground borne noise	Audible noise caused by the vibration of elements of a structure, for which the vibration propagation path from the source is partially or wholly through the ground. *NOTE Common sources of ground-borne noise include railways and heavy construction work on adjacent construction sites.*
Structure-borne noise	Audible noise caused by the vibration of elements of a structure, the source of which is within a building or structure with common elements. *NOTE Common sources of structure-borne noise include building services plant, manufacturing machinery and construction or demolition of the structure.*
Third octave band	Band of frequencies in which the upper limit of the band is 2% times the frequency of the lower limit.
Weighted level difference, D_w	Single-number quantity that characterizes airborne sound insulation between rooms, but which is not adjusted to reference conditions. *NOTE Weighted level difference is used to characterize the insulation between rooms in a building as they are. Values cannot normally be compared with measurements made under other conditions (see BS EN ISO 717-1).*
Weighted normalised impact sound pressure level, $L'_{n,w}$	Single-number quantity used to characterize the impact sound insulation of floors over a range of frequencies.
Weighted sound reduction index, R_w	Single-number quantity which characterizes the airborne sound insulating properties of a material or
Weighted standardised impact sound pressure level $L'_{nT,w}$	Single-number quantity used to characterize the impact sound insulation of floors over a range of frequencies.
Weighted standardised level difference, $D_{nT,w}$	Single-number quantity that characterizes the airborne sound insulation between rooms.

Symbols

D_w	Weighted level difference (dB)
D_{nT}	Standardized level difference (dB)
$D_{nT,w}$	Weighted standardized level difference (dB)
L_{Amax}	Maximum noise level (dB)
$L_{Ar,Tr}$	Rating level (dB)
L_n	Normalised impact sound pressure level (dB)
L'_{nT}	Standardised impact sound pressure level (dB)
$L'_{nT,w}$	Weighted standardised impact sound pressure level (dB)
$L'_{n,w}$	Weighted normalised impact sound pressure level (dB)
L_p	Sound pressure level (dB)
L_{pA}	A-weighted sound pressure level (dB)
$L_{AN,T}$	Percentile level (dB)
L_{AE}	Sound exposure level (dB)
$LAeq,T$	Equivalent continuous A-weighted sound pressure level (dB)
p	Sound pressure (Pa)
p_A	A-weighted sound pressure (dB)

$p_{A(t)}$	Instantaneous A-weighted sound pressure (Pa)
R	Sound reduction index (dB)
R_w	Weighted sound reduction index (dB)
T	Time interval (also used for reverberation time) (s)
t_0	Reference time interval (s)

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