



# Acoustic and Odour Assessment for Proposed Change of Use to Hot-Food Take-away at 2 Wyre View, Knott End on Sea, FY6 0AE.

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Prepared for:

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January 2024



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## **1. Introduction**

- 1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic and Odour assessment to support a planning application for the conversion of 2 Wyre-View, Knott End on Sea, FY6 0AE to a hot-food take-away.

### **Site Location and Context**

- 1.2. The development site is situated to the east of Wyre View, To the north of the site is a terrace of properties the ground floor of which are retail with accommodation above. A single storey additional is located to the south of the site. On the far side of the road to the west are more retail units and to the rear east of the site an alleyway and residential properties.
- 1.3. An aerial Photograph is enclosed in Figure 1.
- 1.4. Concerns have been raised over the potential impact on the neighbouring land uses from the proposed development hence the request for this report.



## 2. Policy and Guidance

### Noise

- 2.1. The impact of noise can be a material consideration in the determination of planning applications. The planning system has the task of guiding development to the most appropriate locations. It is recognised that on occasions it will be difficult to reconcile some land uses, such as housing, hospitals, or schools, with other activities that generate high levels of noise. However, the planning system is tasked to ensure that, wherever practicable, noise-sensitive developments are separated from major sources of noise (such as road, rail and air transport and certain types of industrial development).
- 2.2. The Government's publication of the National Planning Policy Framework (NPPF), updated in September 2023, states that planning policies and decisions should prevent new and existing development from contributing to or being put at unacceptable risk from, of being adversely affected by unacceptable levels of noise pollution.
- 2.3. The Government have also issued the Noise Policy Statement for England (NPSE). The NPSE clarifies the Government's underlying principles and aims in relation to noise and sets a vision to promote good health and a good quality of life through the effective management of noise while having regard to the Government's sustainable development strategy. The NPSE aims to mitigate and minimise adverse impacts on health and quality of life through the effective management and control of noise.
- 2.4. The NPSE introduces the following terms, although no sound levels are given to represent these, many authorities have identified the sound level criteria in line with the World Health Organisation, BS8233:2014 and BS4142: 2014 levels. The terms introduced by the NPSE are:
  - NOEL – No Observed Effect Level (<30dB(A) inside <50dB(A) outside, 10dB below background)
  - LOAEL – Lowest Observed Adverse Effect Level (30-35dB(A) inside 50-55dB(A) outside, background to +5dB)
  - SOAEL – Significant Observed Adverse Effect Level (>35dB(A) inside, >55dB(A) outside, >+10dB above background)
- 2.5. The sound levels within the brackets of the previous paragraph are those determined as appropriate levels to indicate the relevant effect levels represented by the NPSE.



- 2.6. Other commonly used examples of standards utilised by Local Planning authorities for the consideration of noise impacts include comparison of the likely noise levels to be experienced at a development, with levels that have been recommended by the World Health Organisation (WHO) as Guidelines for the prevention of Community Noise Annoyance and within BS8233: 2014.
- 2.7. The WHO recommended noise levels for outdoor amenity areas (gardens) that should not be exceeded are 55dB(A)  $L_{Aeq,16hr}$  in order to avoid 'Serious Community Annoyance' or 50dB(A)  $L_{Aeq,16hr}$  to avoid 'Moderate Community Annoyance' during the day. For indoor levels WHO set 35dB(A)  $L_{Aeq,16hr}$  during the day to prevent Moderate Annoyance and 30 dB(A)  $L_{Aeq,8hr}$  at night to prevent sleep disturbance.
- 2.8. The WHO guidance also recommends that maximum sound levels at night should not regularly exceed 45dB(A) within bedrooms to prevent sleep disturbance. Regularly is considered to be more than 10 times during any 8-hour night-time period.
- 2.9. BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' also specifies desirable noise levels to be achieved inside dwellings.
- 2.10. BS 8233:2014 'Sound insulation and noise reduction for buildings – Code of Practice' also specifies desirable noise levels to be achieved inside dwellings. BS 8233 presents two levels, the first between the hours of 07:00 – 23:00 and the second between 23:00 -07:00.
- 2.11. The daytime period suggests internal noise levels of 35dB  $L_{Aeq,16hr}$ , for resting in living rooms and bedrooms while for night-time a level of 30dB  $L_{Aeq,8hr}$  is recommended. Criteria for external areas mirrors that within the WHO guidance.
- 2.12. Another commonly used standard is British Standard 4142:2014 'Method for rating industrial and commercial sound' compares the sound predicted by the source in question against the background,  $L_{A90}$  sound levels.



- 2.13. The "residual"  $L_{Aeq}$  measurement is then subtracted from the "ambient"  $L_{Aeq}$  measurement (with the sound source) to calculate the sound level created by the "problem" sound alone -termed the "specific" sound level.
- 2.14. If the "problem" sound is tonal, such as whine or hum, or if it is impulsive such as bangs or clatters or if it is irregular enough to attract attention a correction is added to the "specific level" to produce the "rating level". The "background"  $L_{A90}$  measurement is then compared against the "rating level".
- 2.15. If the "rating level" exceeds the "background" by around 10dB(A) or more this "indicates a significant adverse impact". A difference of around 5dB(A) 'indicates an adverse impact. The lower the commercial noise level is, the lower the likely impact.
- 2.16. In addition, the 'ProPG Planning & Noise, Professional Practice Guidance on Planning & Noise, New Residential Development' provides a 4-staged approach to undertaking a risk assessment in relation to anticipated sound levels at new residential development and the provision of mitigation measures. The guidance is principally aimed at sites exposed predominantly to noise from transportation sources.
- 2.17. The first stage consists of an initial noise risk assessment, based on indicative day and night-time *noise* levels. Simply put, the higher the ambient noise in an area the greater the impact. The levels given are shown below although it should be noted that these are in excess of both the WHO and BS 8233: 2014 guidance.



Noise Risk Category*	Potential Effect if Unmitigated	Pre-Planning Application Guidance
<b>0 – Negligible</b> $L_{Aeq,16hr} < 50dB$ $L_{Aeq,8hr} < 40dB$	May be noticeable but no adverse effect on health and quality of life	In this category the development is likely to be acceptable from a noise perspective, nevertheless a good acoustic design process is encouraged to improve the existing environment and/or safeguard against possible future deterioration and to protect any designated tranquil areas. A noise assessment may be requested to demonstrate no adverse impact from noise. Application need not normally be delayed on noise grounds.
<b>1 – Low</b> $L_{Aeq,16hr} 50-63dB$ $L_{Aeq,8hr} 40-55dB$	Adverse effect on health and quality of life	In this category the development may be refused unless a good acoustic design process is followed and is demonstrated via a Level 1 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised and that a significant adverse impact will not arise in the finished development. Planning conditions and other measures to control noise may be required.
<b>2 – Medium</b> $L_{Aeq,16hr} 63-69dB$ $L_{Aeq,8hr} 55-60dB$ $L_{AFmax} > 80dB^{**}$	Significant adverse effect on health and quality of life	In this category the development is likely to be refused unless good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised, and clearly demonstrates that a significant adverse noise impact will not arise in the finished development. Planning conditions and other measures to control noise will normally be required.
<b>3 – High</b> $L_{Aeq,16hr} > 69dB$ $L_{Aeq,8hr} > 60dB$ $L_{AFmax} > 80dB^{**}$	Unacceptable adverse effect of health and quality of life	In this category the development is very likely to be refused on noise grounds, even if a good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement. Applicants are advised to seek expert advice on possible mitigation measures. Advice on the circumstances when the refusal of a new housing on noise grounds should normally be anticipated is included in the ProPG.

2.18. Stage 2, consists of a full assessment of the prevailing ambient noise and requires 4 elements to be considered:

- I. Element 1 – Good Acoustic Design
- II. Element 2 – Internal Noise Level Guidelines
- III. Element 3 – External Amenity Area Noise Assessment
- IV. Element 4 – Assessment of Other Relevant Issues

2.19. A good acoustic design is implicit in meeting the requirements of the NPPF and can help to resolve many potential acoustic issues.

2.20. Details of the criteria considered suitable are provided above for both internal and external sound levels. Element 4 includes such issues as local and national policy, likely occupants, wider planning objectives.



## **Odour**

- 2.21. The Government sets out its policy in relation to planning in the National Planning Policy Framework (NPPF). The NPPF states that planning policies and decisions should “preventing new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability”; and “In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment”.
- 2.22. While Odour is not specifically mentioned in is implied by the above and the Planning Practice Guidance (PPG) note issued by the government on Air Quality states “odour and dust can also be a planning concern, for example, because of the effects on local amenity” it continues to state, “mitigation options where necessary, will depend on the proposed development and should be proportionate to the likely impact”.
- 2.23. Before an odour can be present an adverse effect, there must be exposure to the odour and therefore a source, a pathway, and a receptor without these three links no exposure can occur. In the case of this application the source is the take-away. The pathway is the air, and the receptor are the occupants of the nearby existing dwellings.
- 2.24. In assessing the impact of odour on or from a development the scale of the exposure and therefore impact is determined by the parameters collectively known as the FIDO factors (Frequency, Intensity, Duration and Offensiveness) In addition the sensitivity of the receptor (location) will determine the magnitude of the exposure. Factors that influence the magnitude of a commercial odour problem include the size/volume of the cooking facility, the type of food being prepared, and the type of cooking appliances being used.
- 2.25. Furthermore, updated guidance on assessing the impact of extraction systems from commercial kitchens has been published by EMAQ ‘*Control of Odour and Nose from Commercial Kitchen Extraction Systems*’. This is a revision of the 2005 guidance document ‘*Control of Odour and Nose from Commercial Kitchen Extraction Systems*’ produced by NETCEN and DEFRA which has been withdrawn.





2.26. This document details a methodology which should be followed to assess the potential impact from commercial kitchen extraction systems on nearby land uses and how to identify suitable control and mitigation measures as required.



## **The Assessment**

### **The Proposed Development and surrounding area**

- 3.1 The proposed development will see the conversion of a current newsagent into a hot-food takeaway. As part of the development a new extraction system and external flue will be installed.
- 3.2 The development will operation between 12:00-00:00, selling pizza's, burgers and kababs.
- 3.3 The new extraction system is to exit the building on the southeast side, at a height of 1m above the eaves via a jet cowl. See Figure 2 for the proposed plans.
- 3.4 To the first floor above the site is located a residential flat, this is the nearest sensitive receptor to the development with additional residential properties to the rear (east) of the site.
- 3.5 Within the area are existing food outlets with extraction systems. This includes the neighbouring bakery and Indian restaurant further along the row. A fish and Chip shop s also located opposite the site.

### **Noise Assessment**

#### **New Extraction system**

- 3.6 Given the proposed operating hours the assessment has identified the World Health Organisation internal night-time criterion level of 30dB(A) (8-hrs) as a suitable level to be achieved by the extraction system within habitable rooms.
- 3.7 Given a 15dB attenuation<sup>1</sup> for an open window in order to achieve the required sound internal sound level a level of 45dB(A) at the window façade will be required. Although given the location overlooking the main road the sound levels at this point are likely to be higher.
- 3.8 The first floor of the property has two windows overlooking the extraction system consisting of a kitchen and bathroom (non-habitable rooms) while the second floor has one bedroom window looking over the system. This is located 3m from the extraction system termination point.

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<sup>1</sup> BS8233: 2014; Guidance on sound insulation and noise reduction for buildings



- 3.9 The extraction system will be fitted with a Flaktwood 40 MaxFan Compact has been chosen for the extraction unit. The fan should also be fitted with flexible connectors to each side to reduce vibration and antivibration mounts should be used to fit the extraction system to the wall of the building.
- 3.10 Manufacturers sound emission data has been obtained and Appendix A details the calculations of the potential impact from the system on the identified closest receptor. As a result of the initial assessment the need for additional attenuation has been identified.
- 3.11 This additional attenuation has been identified as two *Acoustica* CP03-C\*P-0400-1D silencers. This will reduce the sound level down to 42 dB(A) at the nearby bedroom window, or 27dB(A) internally, below the identified criterion.
- 3.12 In terms of a BS4142:2014 assessment the octave sound level data presented in Appendix A suggests a slight tone at 250Hz as such a 2dB penalty correction would be applied to the extract sound level raising the façade level to 44dB(A) and the internal sound level to 29dB(A), still below the guidance criterion.
- 3.13 The extraction system will not therefore result in any adverse impact on the nearest receptor location.

#### Internal Sound transfer

- 3.14 A consideration of sound transfer between neighbouring land uses has been undertaken.
- 3.15 The dividing wall between the proposed development and the adjacent taxi office is a cavity brick wall, providing at least 51dB attenuation. Recommended guideline sound levels for an open plan office are between 45-50dB(A)<sup>2</sup>, considered suitable for a taxi office this would allow sound levels of up to 96dB(A) to be produced while still achieving the lower level of 45dB(A).
- 3.16 Given the size and nature of the proposal the above sound level of 96dB(A) will not be achieved, with a more realistic maximum of 75-80dB(A). 80dB A() equivalent to the busy manufacturing site and the lower action level within the Control of Noise at Work Regulations.

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<sup>2</sup> BS8233:2014, Guidance on sound insulation and noise reduction in buildings



- 3.17 Sound transfer to the adjacent office unit will not therefore result in any adverse impact.
- 3.18 Sound transfer between the proposed development and the first floor living accommodation may also result in an adverse impact. It is current unclear on the level of attenuation installed and as such a new separate ceiling specification has been identified. Combined with a basic existing floor (floorboards, joists and a single layer of plasterboard) a new separate ceiling on an independent joist system with insulation and two over lapping layers of 15mm sound block plasterboard will increase the level of attenuation to 66dB R<sub>w</sub>, see Appendix B.
- 3.19 Alternative specifications are available to achieve a similar level of attenuation.
- 3.20 Based on the previously identified 80dB(A) sound level in the proposed development this would equate to a level of 14dB(A) in the living room / kitchen of the first-floor accommodation.
- 3.21 Well below the daytime recommended level of 35dB(A), thus no adverse impact will be experienced.

## **Odour**

### **Prevailing Wind Direction**

- 3.22 The prevailing wind direction for the area, identified from weather stations at Cockerham and Blackpool Airport as westerly, south-westerly, see Appendix C, taking odours away from the nearest receptor but towards those to the east of the site located 10m away.

### **Assessment**

- 3.23 The extraction system is to terminate above the eaves via a jet-cowl, with receptor locations with 20m of the flue. The restaurant is considered small in size serving low numbers of customers.
- 3.24 An assessment of the potential impact on the identified receptors has been undertaken in accordance to the EMAQ guidance document. This assessment is shown in Appendix D and includes the following considerations;
- 3.25 The extraction system will terminate above the eaves via a jet cowl, in line with the guidance a score of 10 is applied.



- 3.26 The nearest residential receptor is located within 20m away, as such a score of 10 is applied.
- 3.27 The business has identified as 'small', and therefore score 1 has been applied.
- 3.28 The odour characteristics from the venue are considered to be very high, in line with the guidance document a scoring of 10 is applied.
- 3.29 This results in a score of 31 or high and as such a high level of odour control is required.
- 3.30 In order to mitigate against this potential impact and to ensure no adverse impact will be experienced by the identified receptors, in line with the guidance, the following measures are recommended as part of the extraction system.
- Prefilters (baffle filters) attached to the extraction hood, reducing grease loading by 65-80%
  - An electrostatic precipitator (ESP) unit to remove 98% of oil, grease and smoke particles.
  - To remove odour from the extracted air an ozone system is recommended to remove odour
  - A jet cowl increasing the velocity of the discharged air vertically into the atmosphere for dispersion.
- 3.31 The system will need to be maintained and cleaned in line with the manufacturer's instructions and a separate cleaning schedule will be produced and maintained once the chosen unit has been installed.
- 3.32 The installation of the above mitigation measures will ensure high level of grease and odour removal from the extraction system.



## **4 Conclusion**

### **Noise**

- 4.1 A consideration of the impact from the extraction system has been undertaken and as a result in order to ensure no adverse impact silencers have been chosen for the system to minimise any sound emissions.
- 4.2 The resulting sound level at the nearest receptor location, located above the proposed development will result in internal sound levels below those recommended by the World Health Organisation and BS8233:2014 for night-time sound levels.
- 4.3 The inclusion of the above mitigation measures will ensure that the internal sound levels are acceptable and will result in a No Observe Effect on the future residents in line with the Noise Policy Statement for England.
- 4.4 A further consideration of sound transfer between adjacent uses has been carried out and this has identified the need to ensure an improved ceiling/floor structure is installed. A suggested specification has been identified, although other options are available to achieve a similar level of attenuation.
- 4.5 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. The development is therefore considered to be acceptable in terms of noise.

### **Odour**

- 4.6 An odour assessment has been undertaken in line with the EMAQ/CIEH “Control of Odour and Noise from Commercial Kitchen Exhaust Systems”. This has identified a high potential for odour to impact on nearby residents and as such a high standard of mitigation has been identified in the form of grease removal and odour treatment within the extraction system.
- 4.7 The inclusion of the above mitigation measures will ensure that No Observe Effect on the future residents or neighbouring properties will be experienced.



4.8 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. The development is therefore considered to be acceptable in terms of odour

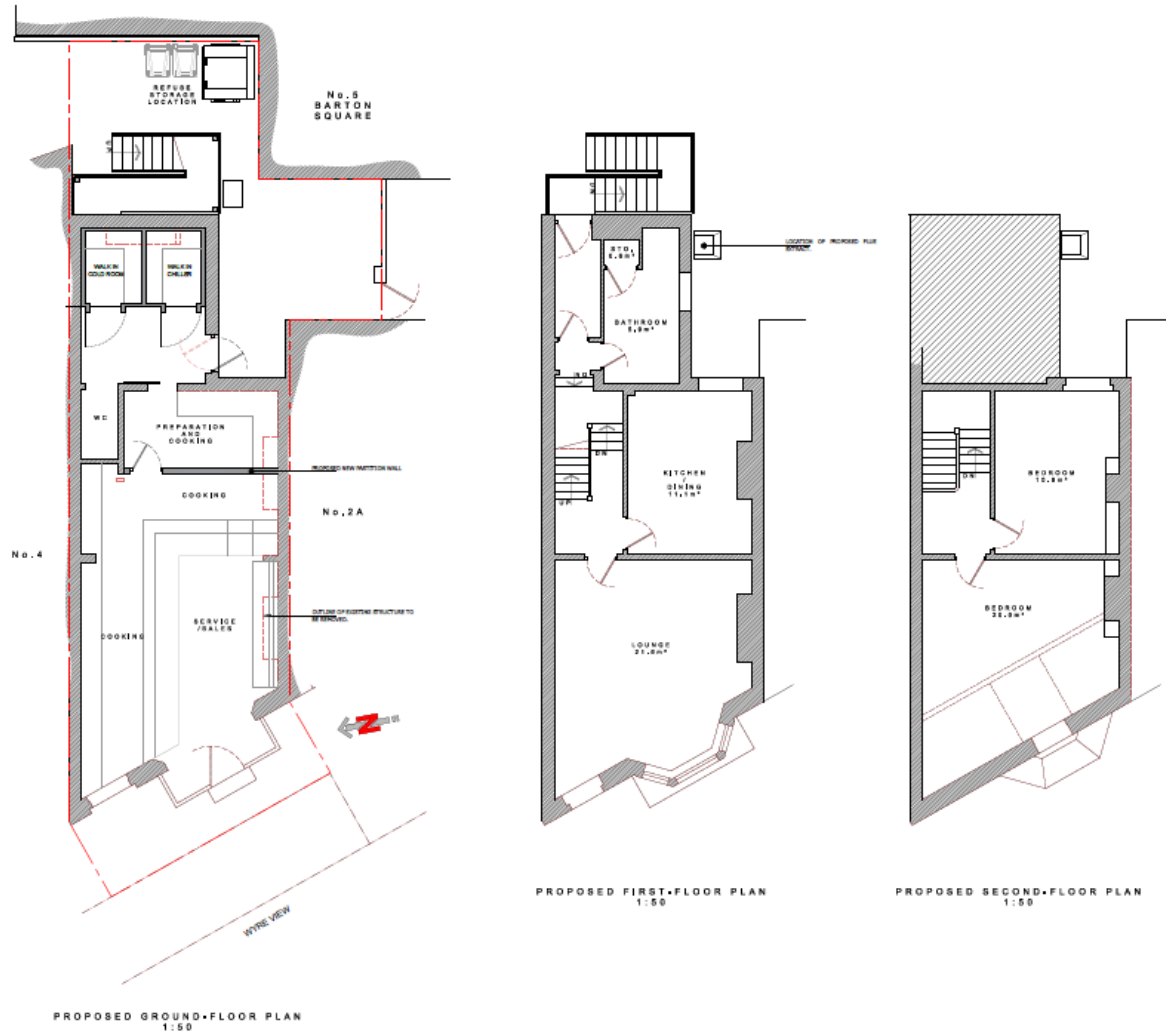
**Figure 1 - Aerial Photograph**

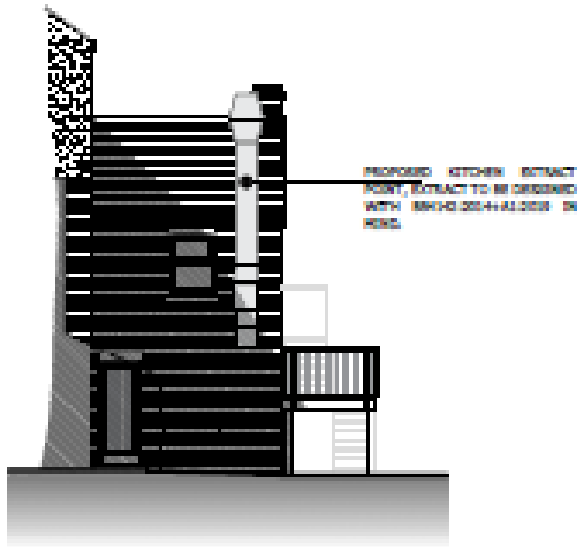






**Figure 2 – Proposed Development**





PROPOSED SIDE  
(SOUTH) ELEVATION  
1:100

## Appendix A – Impact from Extraction System

### Manufacturers Data

#### SOUND DATA - 40 Maxfan Compact

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3m**
Inlet*	75	76	82	79	78	77	74	70	86	63
Outlet*	77	77	85	80	79	77	75	71	88	64
Breakout*	67	62	65	59	53	48	50	48	70	40

\*Lw dB re 10<sup>-12</sup> W

Ps Sound data at 1.32m3/s @ 200Pa (static)

\*\*dBA re 2x10<sup>-5</sup> PA

### Calculations, including silencers

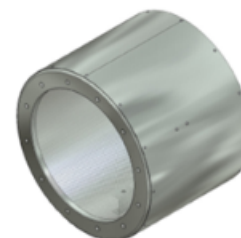
	63	125	250	500	1000	2000	4000	8000	Lw	Lp@3m
40 Maxfan Compact	77	77	85	80	79	77	75	71	88	64
silencer - Type C*P 400-1D	3	7	9	15	23	25	21	17		
silencer - Type C*P 400-1D	3	7	9	15	23	25	21	17		
a-weighting	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1		
resulting sound level	44.8	46.9	58.4	46.8	33	28.2	34	35.9	59.2	42

#### Silencer data

##### CP03 - CA - 0400 Silencer

Available in two standard lengths C Series silencers have excellent attenuation properties, achieved with sound absorbing infill retained in the attenuator casing by a perforated liner. The central pod (code P) is an option to increase the insertion loss, however it will add resistance.

- Fits directly onto 400mm diameter fans
- Standard lengths 400mm (1D) & 800mm (2D)
- Use up to 70°C (standard construction)
- Systems up to 1000 Pascals
- Special lengths on request



##### Insertion Loss (dB) - Centre Band Frequency

Product Code	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
CP03 - C* - 0400 - 1D	2	3	5	10	13	11	9	8
CP03 - C* - 0400 - 2D	3	4	8	14	18	14	11	9
CP03 - C*P - 0400 - 1D	2	7	9	15	23	25	21	17
CP03 - C*P - 0400 - 2D	3	10	14	24	30	29	28	21

## Appendix B – Structural attenuation

### Dividing wall

#### Sound Insulation Prediction (v9.0.24)

Program copyright Marshall Day Acoustics 2017  
 Margin of error is generally within  $R_w \pm 3$  dB  
 Martin Environmental Solutions Ltd - Key No. 2594  
 Job Name:  
 Job No.: Initials:info  
 Date:27/01/2024  
 File Name:insul



Notes:



$R_w$  51 dB  
 C -1 dB  
 Ctr -3 dB

Mass-air-mass resonant frequency = 32 Hz  
 Panel Size = 2.7 m x 4.0 m  
 Partition surface mass = 257 kg/m<sup>2</sup>

#### System description

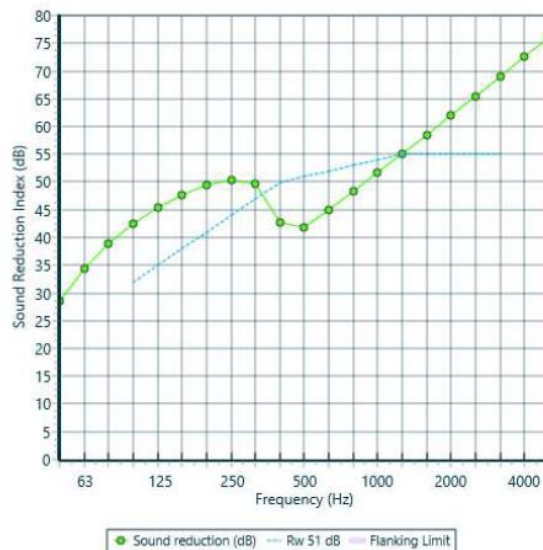
Panel 1 : 1 x 10 mm Sand/Cement render (plaster)

+ 1 x 70 mm Brick

Frame: Butterfly Tie (50 mm x 45 mm), Stud spacing 600 mm; Cavity Width 50 mm  
 Panel 2 : 1 x 70 mm Brick

+ 1 x 10 mm Sand/Cement render (plaster)

freq.(Hz)	R(dB)	R(dB)
50	28	
63	34	32
80	39	
100	42	
125	45	45
160	48	
200	49	
250	50	50
315	50	
400	43	
500	42	43
630	45	
800	48	
1000	52	51
1250	55	
1600	58	
2000	62	61
2500	65	
3150	69	
4000	72	72
5000	76	



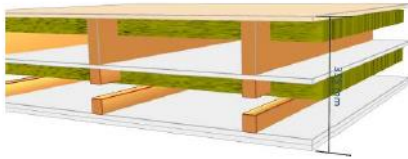
## Proposed Ceiling Improvements

### Sound Insulation Prediction (v9.0.24)

Program copyright Marshall Day Acoustics 2017  
 Margin of error is generally within  $R_w \pm 3$  dB  
 Martin Environmental Solutions Ltd - Key No. 2594  
 Job Name:  
 Job No.: Initials: info  
 Date: 27/01/2024  
 File Name: insul



Notes:



**R<sub>w</sub> 66 dB**  
 C -7 dB  
 Ctr -16 dB

Mass-air-mass resonant frequency = 51 Hz, 102 Hz

Panel Size = 2.7 m x 4.0 m

Partition surface mass = 38.4 kg/m<sup>2</sup>

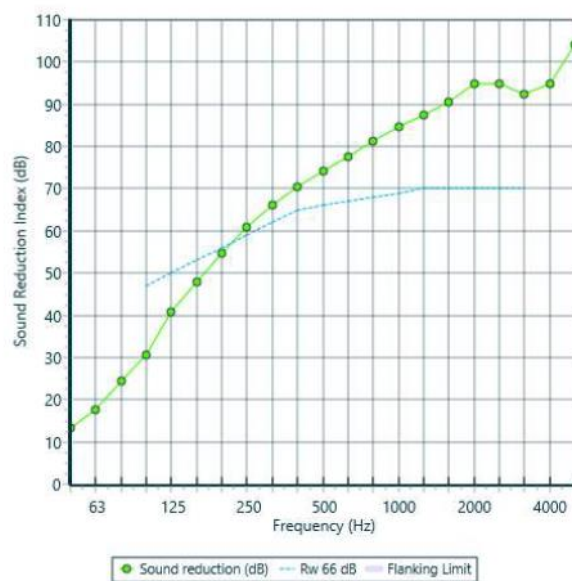
### System description

Panel 1 : 1 x 12.5 mm SofBoard

Frame: Timber stud (1.5E2 mm x 45 mm), Stud spacing 600 mm, Cavity Width 150 mm, 1 x Fibreglass (10kg/m<sup>3</sup>) Thickness 60 mm  
 Panel 2 : 1 x 12.5 mm Gyproc Wallboard 12.5mm

Frame: Separate Joists (50 mm x 45 mm), Stud spacing 600 mm, Cavity Width 150 mm, 1 x Fibreglass (10kg/m<sup>3</sup>) Thickness 60 mm  
 Panel 3 : 2 x 15 mm Gyproc SoundBloc 15mm

freq.(Hz)	R(dB)	R(dB)
50	13	
63	18	17
80	24	
100	31	
125	41	35
160	48	
200	55	
250	61	58
315	66	
400	70	
500	74	73
630	78	
800	81	
1000	85	84
1250	88	
1600	91	
2000	95	93
2500	95	
3150	92	
4000	95	95
5000	104	

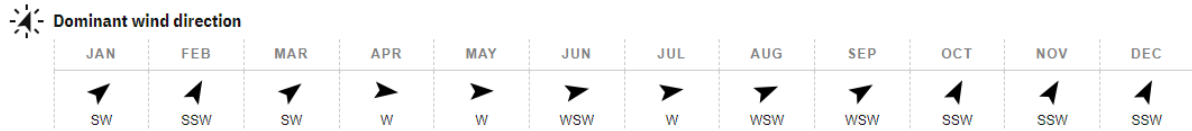




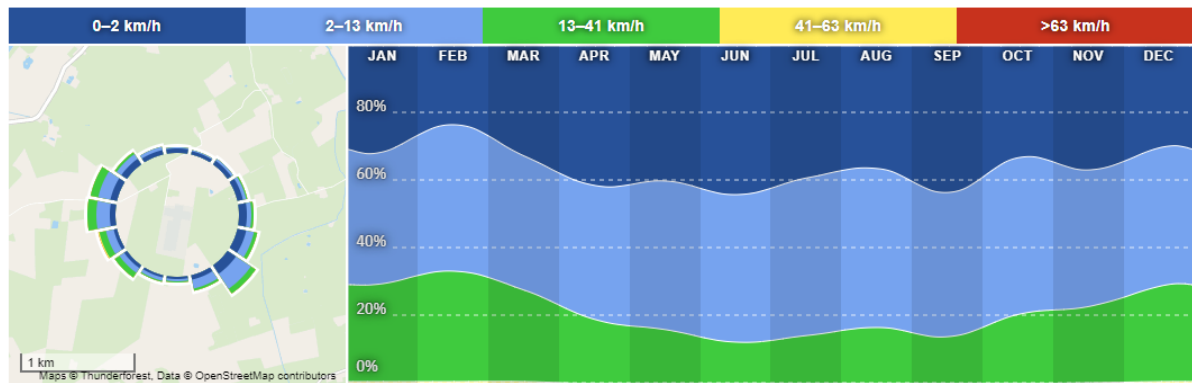
## Appendix C – Prevailing Weather Data

Cockerham

### Monthly wind speed statistics and directions for Cockerham



### Monthly wind direction and strength distribution



Blackpool Airport



### Monthly wind direction and strength distribution





## Appendix D – EMAQ Odour Risk Assessment

Impact Risk	Odour Control Requirement	Significance Score*
Low to Medium	Low level odour control	Less than 20
High	High level odour control	20 to 35
Very high	Very high level odour control	more than 35

Criteria	Score	Score	Details
<b>Dispersion</b>	Moderate	10	Discharging 1m above the eaves
<b>Proximity to Receptors</b>	Medium	10	Closest sensitive receptor 3m from kitchen discharge
<b>Size of Kitchen</b>	Small	1	Small takeaway
<b>Cooking type</b>	V.High	10	Fast food
<b>Total</b>		<b>31</b>	



## **Appendix E - Report Author Details**

This report has been produced by Neil Martin, BSc (Hons), PGDip, CEnvH MCIEH, MIOA.

Neil is the principal acoustic consultant at Martin Environmental Solutions Ltd, a consultancy company specialising in Environmental Health disciplines including environmental noise assessment and control. He holds a Bachelor's degree in Environmental Health and Diploma in Acoustics. He is a Chartered Member of the Chartered Institute of Environmental Health and a Full member of the Institute of Acoustics and Institution of Environmental Sciences.

Neil has over 20year's experience working within a Local Authority Environmental Health setting, principally in the Environmental Protection and Public Health areas and has been working as an acoustic consultant since 2011.

Since its formation, Martin Environmental Solutions has advised and assisted many groups including residents, developers and local authorities about the problems of noise & vibration and odour control within the environment and the possible solutions. Neil also acts as an expert witness in the area of acoustics.