



Odour Assessment for Proposed conversion of property to bakery on the ground floor and residential accommodation on the first at 69 King Street, Whalley, BB7 9SW.

Prepared for:

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Summary

An assessment has been undertaken using the EMAQ '*Control of Odour and Noise from Commercial Kitchen Extraction Systems*' 2018 guidance document.

This has identified a high risk of odour affecting nearby properties prior to the inclusion of any mitigation measures.

The system has been designed to include the following to treat emissions;

- Baffle filters within the canopy hoods
- ESP system to remove and grease
- Ozone system to eliminate 99% of odours, see Appendix B for details of each unit.
- Jet cowl on the final exit from the flue to increase dispersion vertically.

The above measures will adequately treat emissions to remove grease and odour, the units chosen are among the industry leading manufacturers of such equipment and are used extensively across the country to adequately control odour and grease emissions.



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1. Introduction

- 1.1. Martin Environmental Solutions has been commissioned to undertake an assessment of the potential odour impact of a development for the conversion of 69 King Street, Whalley, BB7 9SW from retail to bakery on the ground floor, with staff accommodation to the first floor.

Site Location and Context

- 1.2. The development site is situated on the corner of King Street and George Street. To the north of the development site is George Street, with retail units to the ground floor and accommodation to the first. King Street to the east, with a small park, bus stop and public toilet. To the south and adjoining the building at a ground floor level is the Whalley Wine Bar. To the north more retail units on the ground floor of a large converted building within residential to the upper floors.
- 1.3. An aerial Photograph is enclosed in Figure 1, together with a proposed layout drawing in Figure 2.
- 1.4. The report has been produced to clarify the potential impact on the proposed development and to identify mitigation measures if required to ensure the development is appropriate in terms of odour impact.



2. Policy and Guidance

- 2.1. 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”.
- 2.2. 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”.
- 2.3. 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.
- 2.4. 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.
- 2.5. Furthermore, guidance on assessing the impact of extraction systems from commercial kitchens has been published by EMAQ ‘*Control of Odour and Noise from Commercial Kitchen Extraction Systems*’ 2018.



- 2.6. 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.
- 2.7. Given the nature of the development some consideration to this guidance and the methodology and control measures within it is considered appropriate.



3. The Assessment

The development

- 3.1 The proposed development consists of an extension to the rear of the ground floor and the change of use from retail to a bakery. This will include the installation of an extraction system to the rear of the site. The first floor of the site is also to be converted into staff accommodation.
- 3.2 Proposed operating hours of the bakery will be 05:00-18:00 Monday to Saturday, and 06:00-16:00 on Sundays. The shop will be open to the public from 08:00-18:00 Monday to Saturday and 09:00-16:00 on Sundays.
- 3.3 Figure 2 below provides an overview of the proposed development.

Assessment

- 3.4 The proposed venue has the potential to emit odours from the cooking/baking to be undertaken onsite and as such a potential for odour emissions, suitable control measures are required to eliminate any potential adverse impact on neighbouring properties’.
- 3.5 The prevailing wind direction for the area is west, south-westerly, obtained from the long-term monitoring station at Lea Town. Taking any odours over the main road and bus stop and away from adjacent neighbours.
- 3.6 An assessment has been undertaken in line with the EMAQ ‘*Control of Odour and Noise from Commercial Kitchen Extraction Systems*’ 2018 guidance document.
- 3.7 The new extraction system is to terminate 1m above the eaves of the building via a jet cowl, but below 10m/s, with sensitive receptor locations within 20m of the flue. The size of the development is considered to be medium.
- 3.8 Finally, the “cooking type” or potential for odour emissions has been identified as Low.
- 3.9 The assessment is shown below and the resulting score is 29 or high has been awarded, as such a high level of odour control is required.



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
Dispersion	Poor	15	Discharging above the eaves, via jet cowl
Proximity to Receptors	Close	10	Closest sensitive receptor 20m away
Size of Kitchen	Medium	3	Small bakery
"Cooking type"	Low	1	bakery.
Total	High	29	

- 3.10 The extraction system has been independently designed, see Appendix B and the following control measures have been included.
- Baffle filters within the canopy hoods
 - ESP system to remove and grease
 - Ozone system to eliminate 99% of odours, see Appendix B for details of each unit.
 - Jet cowl on the final exit from the flue to increase dispersion vertically.
- 3.11 The above units are among the leading products on the market.
- 3.12 The system will need to be maintained in line with the manufacturer's instructions and a separate maintenance schedule will be produced once the chosen filter has been installed.
- 3.13 The installation of the above mitigation measures will ensure high level of odour removal from the extraction system, preventing any adverse impact on the identified receptors.



4 Conclusion

- 4.1 A consideration of the potential odour emissions from the site has been undertaken and as a result it is recommended that a high degree of grease and odour control are include within the design of the extraction system.
- 4.2 This will include the use of an ESP system to deal with any grease or particulate emissions and ozone to remove any odour within the extracted air.
- 4.3 The inclusion of the above mitigation measures will ensure that there is no significant adverse impact is experienced by nearby sensitive receptors from any potential odour emissions and the development is therefore considered to be acceptable.

Figure 1 – Aerial Photograph



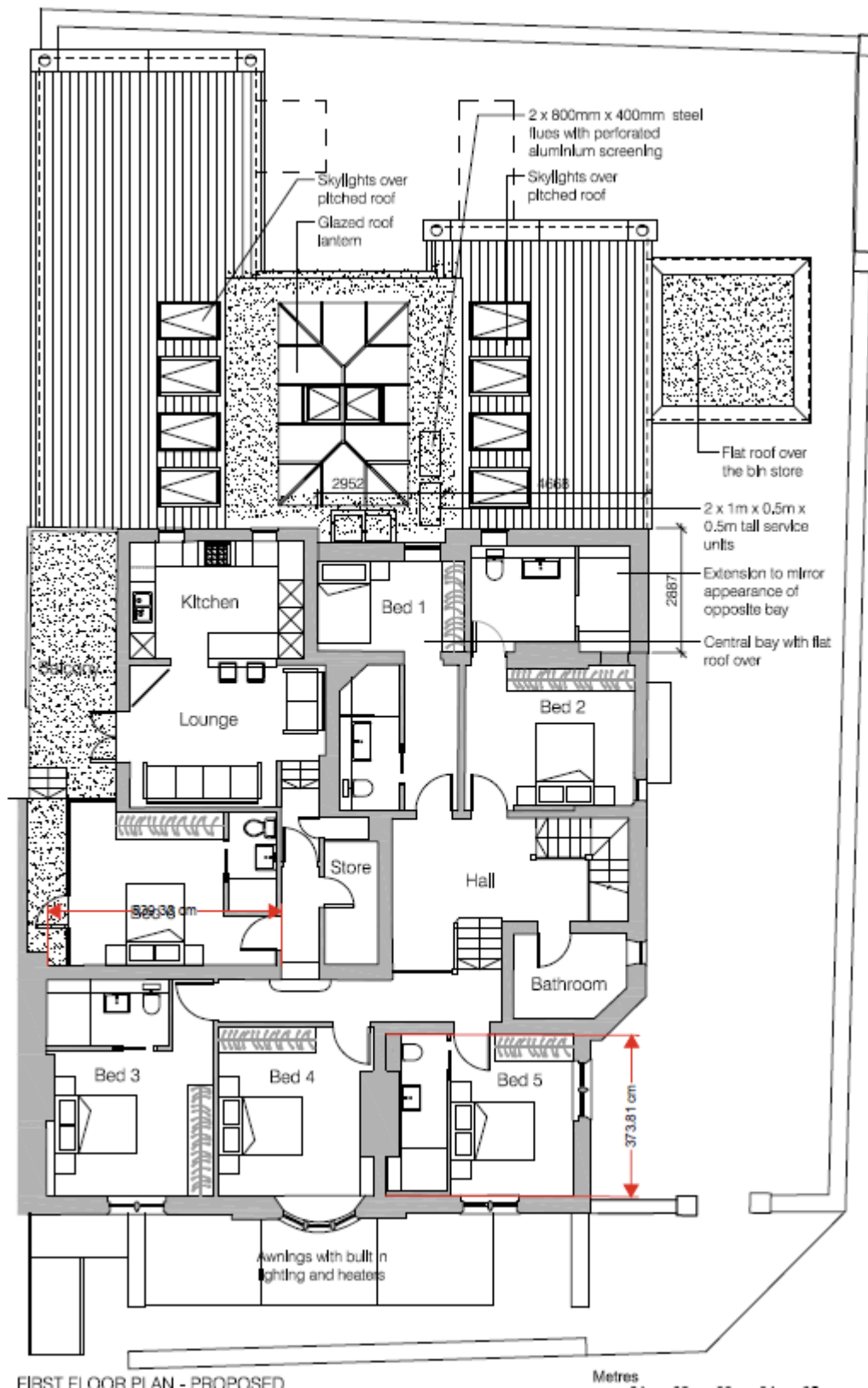
The ground floor plan shows a building with a total width of 10344 and a total depth of 3200. The plan includes the following rooms and features:

- Entrance:** Located at the bottom left, with a new glazed screen/door and a new access ramp.
- Outdoor seating:** Located at the bottom, with planters and awnings with built-in lighting and heaters.
- Lounge:** Located in the bottom right, with seating and a planter.
- Chocolatier:** Located in the middle right, with a lobby and stairs.
- Unisex toilets:** Located in the middle right, with an access to the basement store.
- Acc. W.C.:** Located in the middle right, with an access to the basement store.
- Servery:** Located in the middle left, with a new glazed screen/door.
- Kitchen:** Located in the middle left, with a part obscured glazed screen with sliding doors.
- Goods in:** Located in the top right, with a Luton truck and a 1.2m high sliding steel gate.
- Goods out:** Located in the top left, with projecting canopies.
- Walk in cold room:** Located in the top right, with a bin store.
- Dry store:** Located in the top right, with a bin store.
- Glazed roof lantern:** Located in the top left, with a projecting canopy.
- Stone boundary wall:** Located at the top, with a 1.2m high sliding steel gate.
- Uplighting:** Located at the base of trees, with two points of uplighting.

Dimensions and other features include:

- Overall width: 10344
- Overall depth: 3200
- Room dimensions: 5000, 4065, 5000, 3200, 1499, 2098, 2222
- Planters, raised slightly to allow surface water to run under
- Awnings with built-in lighting and heaters

GROUND FLOOR PLAN - PROPOSED



Appendix A – Prevailing Wind Direction

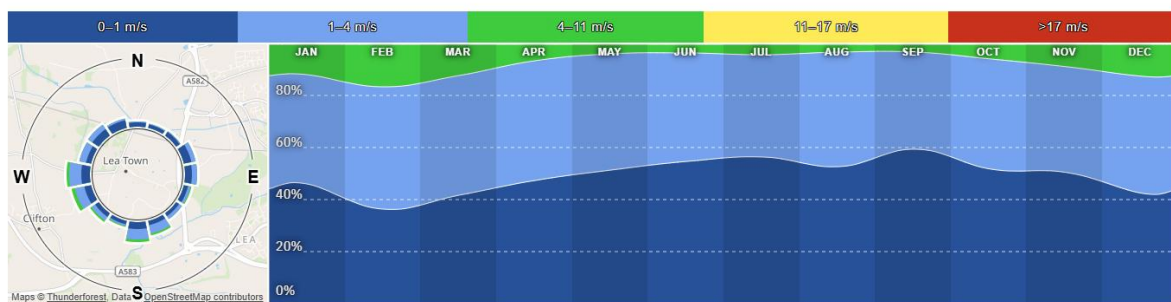
Lea Town

Monthly wind speed statistics and directions for Lea Town

☀ Dominant wind direction

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
↙ SW	↙ SW	↙ SW	↙ SSW	↘ WSW	↘ WSW	↘ WSW	↘ WSW	↙ SW	↙ SSW	↙ SSW	↙ SSW

Monthly wind direction and strength distribution





Appendix B – Kitchen extraction Design

Separate Document



Appendix C - 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. 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.

Neil has over 20 years' 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 odour emissions in the environment and the possible solutions.