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ODOUR RISK ASSESSMENT – KITCHEN EXTRACTION SYSTEM

74 MARCHMONT STREET, LONDON WC1N 1AB

FOR

ATLAS LICENSING LTD



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Contents Page

- 1 Executive Summary**
- 2 Initial Assessment**
- 3 Proposed Kitchen Extraction System**
- 4 Recommendations**
- 5 Discussion**
 - 5.1 Principles of Nuisance Control
 - 5.2 Discussion

The preparation of this report by Sound Licensing Ltd. has been undertaken within the terms of the proposal using all reasonable skill and care. Sound Licensing Ltd accepts no responsibility for the data provided by other bodies and no legal liability arising from the use by other persons of data or opinions contained in this report.

1. EXECUTIVE SUMMARY

This report was commissioned to support a planning application related to the installation of a kitchen extraction system at 74 Marchmont Street, London WC1N 1AB. Sound Licensing Ltd have been commissioned to carry out an assessment of the odour controls associated with the premises.

The extraction system has been assessed and recommendations have been made to ensure that the “best practicable means” to mitigate any odour nuisance from the extraction system have been employed and compliance with the requirements of the London Borough of Camden Council and the EMAQ+ Control of Odour and Noise from Commercial Kitchen Exhaust Systems 2018 have been achieved.

Consultants Experience

I confirm that I am the Principal Acoustic Consultant of Sound Licensing Limited, a company whose services include specialising in the fields of noise, acoustics and licensing. I have over 27 years of experience in the field of pollution & noise having worked as a Principal or Lead Environmental Protection Officer in various London Boroughs from 1998 until 2017 and in private consultancy. I am a corporate member of the Institute of Acoustics (IoA) and a corporate member of the Institute of Licensing (IoL). I have a wide range of experience in all technical aspects related to acoustics, noise, planning and licensing. I have managed numerous major projects as well as presenting evidence at licensing and planning committees and appeals. I have a wide range of experience in dealing with odour control systems and the enforcement of Statutory Nuisance under the EPA 1990.

I currently hold a IOA postgraduate diploma in Acoustics & Noise control, the certificate of competence in environmental noise measurement and the BIIAB Level 2 National Certificate for Licensing Practitioners.

2. INITIAL ASSESSMENT

Annex C: Risk Assessment for Odour - Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, 2018, EMAQ+ provides guidance on determining the level of odour control required in a commercial kitchen. The initial assessment is based on this approach.

The proposed kitchen extraction system at 74 Marchmont Street, London WC1N 1AB discharges onto the flat roof at first-floor level. The discharge point of the flue will discharge horizontally. The nearest sensitive residential receptors are the 1st floor residential flats at 74 Marchmont Street at a distance of 1.5m from the discharge point of the flue. The restaurant will serve approximately 70 meals a day so it would be considered to be a medium sized kitchen.

The restaurant serves predominantly café breakfasts and kebabs.

The kitchen equipment includes a grill and a gas fired flat griddle.

This would give a score of 35 as shown in Table 2.1 below:

Table 2.1 Risk Assessment Scores

| Dispersion | Proximity of receptors | Size of Kitchen | Cooking Type | Total Score |
|------------|------------------------|-----------------|--------------|-------------|
| Poor | Close | Medium | High | |
| 15 | 10 | 3 | 7 | 35 |

Based on the guidance shown below there is a high odour control requirement for the system.

Annex C: Risk Assessment for Odour - Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, 2018, EMAQ+

Odour control must be designed to prevent odour nuisance in a given situation. The following score methodology is suggested as a means of determining odour control requirements using a simple risk assessment approach.

| Impact Risk | Odour Control Requirement | Significance Score* |
|----------------------|---|----------------------------|
| <i>Low to Medium</i> | <i>Low level of odour control</i> | <i>Less than 20</i> |
| <i>High</i> | <i>High level of odour control</i> | <i>20 to 35</i> |
| <i>Very high</i> | <i>Very high level of odour control</i> | <i>more than 35</i> |

** based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type:*

| Criteria | Score | Score | Details |
|--|------------------|--------------|--|
| <i>Dispersion</i> | <i>Very poor</i> | 20 | <i>Low level discharge, discharge into courtyard or restriction on stack.</i> |
| | <i>Poor</i> | 15 | <i>Not low level but below eaves, or discharge at below 10m/s</i> |
| | <i>Moderate</i> | 10 | <i>Discharging 1m above eaves at 10-15m/s</i> |
| | <i>Good</i> | 5 | <i>Discharging 1m above ridge at 15 m/s</i> |
| <i>Proximity of receptors</i> | <i>Close</i> | 10 | <i>Closest sensitive receptor less than 20m from kitchen discharge.</i> |
| | <i>Medium</i> | 5 | <i>Closest sensitive receptor between 20 and 100m from kitchen discharge.</i> |
| | <i>Far</i> | 1 | <i>Closest sensitive receptor more than 100m from kitchen discharge.</i> |
| <i>Size of kitchen</i> | <i>Large</i> | 5 | <i>More than 100 covers or large sized take away.</i> |
| | <i>Medium</i> | 3 | <i>Between 30 and 100 covers or medium sized take away.</i> |
| | <i>Small</i> | 1 | <i>Less than 30 covers or small take away</i> |
| <i>Cooking type (odour and grease loading)</i> | <i>Very high</i> | 10 | <i>Pub (high level of fried food), fried chicken, burgers or fish & chips.</i> |
| | <i>High</i> | 7 | <i>Kebab, Vietnamese, Thai or Indian.</i> |
| | <i>Medium</i> | 4 | <i>Cantonese, Japanese or Chinese.</i> |
| | <i>Low</i> | 1 | <i>Most pubs, Italian, French, Pizza or steakhouse.</i> |

The guidance gives examples of what may constitute a high level of odour control:

High level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.2 - 0.4 second residence time).
2. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.

3. PROPOSED KITCHEN EXTRACTION SYSTEM

The proposed extraction system will comprise of a stainless-steel canopy above the cooking equipment which is be fitted with removable baffle filters. The air will then be ducted to an ESP unit and through activated carbon filters with a minimum dwell time of 0.2s. Following the activated carbon filters the air is ducted via a silencer to the Helios Gigabox 400/4 which is mounted on anti-vibration mounts. The air is ducted via another silencer and terminating through 350mm ducting on the flat roof at first-floor level.

The extraction system as proposed would comply with the recommendations in EMAQ+ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, 2018, as set out in Section 2.

4. RECOMMENDATIONS

The fan should be set at a level so that it produces a minimum face velocity at the canopy of 0.5 m/s and a minimum discharge velocity at the duct terminus of at least 10m/s.

5 DISCUSSION

5.1 Principles of Nuisance Control

Cooking on a commercial basis causes the air to become laden with odours, grease, fumes and products of combustion. There needs to be sufficient air movement through the ventilation system to remove the contaminated air from the restaurant area. No single abatement technology is capable of removing all of the above-mentioned contaminants. It is necessary to use a combination of treatments to ensure that the air discharged to atmosphere does not adversely affect surrounding properties.

5.2 Discussion

The system as recommended would meet the requirements in the EMAQ+ guidance provided that the fan is set at a level so that it produces a minimum face velocity at the canopy of 0.5 m/s and a minimum discharge velocity at the duct terminus of 10m/s. The system would provide a high level of odour control and would ensure that odour nuisance or loss of amenity to local residents would not occur.

The recommended system should provide a high level of odour control in accordance with the recommendations in the EMAQ+ Control of Odour and Noise from Commercial Kitchen Exhaust Systems 2018.

Maintenance

Manufacturers' instructions with respect to system maintenance and cleaning must be adhered to. Good maintenance is a prerequisite for ensuring that a system complies with Best Practicable Means under statutory nuisance provision and will form a key element of any scheme designed to minimise harm to the amenity under planning regulation. Good maintenance is required by the food hygiene regulations and will also minimise the risk of fire.

Detailed guidance on the maintenance of commercial kitchen extraction systems can be found in guidance document NAAD-21 Edition 1 2021 from the National Association of Air Duct Specialists UK.

For the efficient operation of a kitchen ventilation system the following maintenance procedures shall be implemented. For detailed requirements refer to the HVCA publication TRI19 Guide to Good Practice – Cleanliness of Ventilation Systems.

The interval between visual inspections of elements of the system incorporated in the kitchen should be determined by the particular cooking process, but shall never be more than once a week. All metal surfaces shall be checked to ensure that there is no accumulation of grease or dirt and that there is no surface damage.

Checks shall be made to ensure that the stiffening channel is free from debris and that installed lights are working. Filters shall be easily removable and the inside of all housings and grease collection drawers, where fitted, should be cleaned regularly.

Typically, the minimum cleaning period for baffle type self-draining filters and collection drawers is once each week, for secondary mesh filters at least twice each week. By the nature of their construction, secondary mesh type filters have a limited life and shall be replaced when necessary. However, specific manufacturers' information should be complied with.

It should be considered that the area immediately above any cooking appliances, including extract plenums, pose the greatest risk of the ignition of any accumulated grease. Extract plenums for both canopies and ventilated ceilings are considered as a specific section of the grease extract system; in the course of a scheduled specialist duct clean, extract plenums should be included by them as part of the clean. Frequency of cleaning is defined in TRI19 Guide to Good Practice —Cleanliness of Ventilation Systems.