12-14 High Street, Gravesend

Odour Assessment

1st March 2023

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1. INTRODUCTION

1.1. Overview

inacoustic has been commissioned by the Casa Julia Restaurant in Gravesend to undertake an odour assessment pursuant with a view to assisting in the discharge of the requirements of the Appeal Decision (ref: APP/K2230/W/22/3297812) imposed on this development by the Planning Inspectorate. The odour assessment is required to provide details of the ventilation and extraction system and odour eliminating equipment to ensure that the system provides sufficient odour control to prevent odour effects at nearby receptors.

A site plan showing the location of the development is provided in Figure 1.

The Site occupies a town centre location and there are a mix of retail and residential uses in the vicinity of the Site. To the east of the Site are a number of retail units at ground floor level including Julis Creations Ltd and Hair Supermarket. There are residential flats located above these units at 1st and 2nd floor level. To the north is the Gravesend Model Centre and to the south is Allsorts Antiques and Collectables, both of which have residential flats above. To the rear (east) there is a residential complex with flats located from the ground floor up to the 2nd floor level.

The existing building consists of a three-storey premises comprising the restaurant at ground floor level and residential flats at 1st and 2nd floor. The restaurant serves Italian food 6 days a week between 12-11pm, incorporating a commercial kitchen fitted with an extract and ventilation system incorporating the following:

- Kitchen extract hood incorporating baffle filters for grease extraction with an air extraction rate of approximately 7 m/s (Figure 2).
- Internal extraction ducting leading to external façade of restaurant within the rear courtyard (Figure 3).
- External extract duct leading up the external façade of the building within the rear courtyard terminating 2 m above roof height (Figure 4 and Figure 5)

FIGURE 1: LOCATION OF SITE

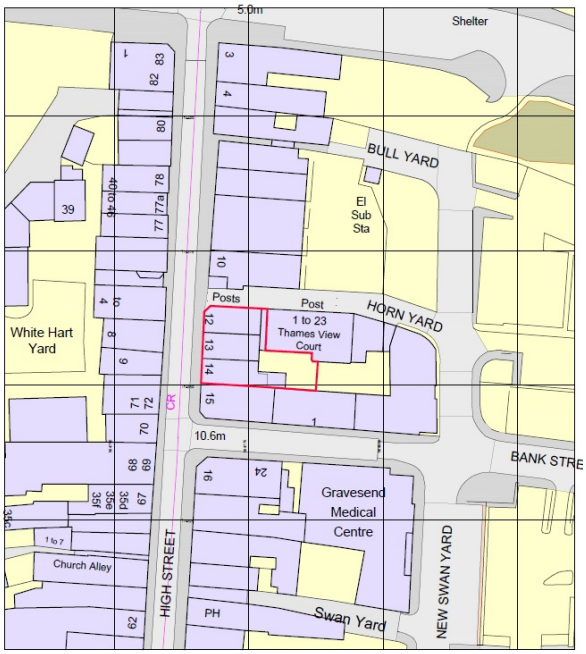

Figure 2: kitchen hood with baffle filters

Figure 3: internal ducting

Figure 4: external ducting

Figure 5: external extract flue 1m above roof

2. Policy Context

2.1. Environmental Protection Act 1990

Part III of the Environmental Protection Act (1990)[1] contains the main legislation on statutory nuisance and allows local authorities and individuals to take action to prevent statutory nuisance. Section 79 of the Act defines, amongst other things, dust, steam, smell or other effluvia emitted from industrial, trade or business premises so as to be prejudicial to health or a nuisance. Statutory nuisance is defined as:

- *Fumes or gases emitted from a premises so as to be prejudicial to health or a nuisance; and*
- *Any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance.*

Statutory nuisance is not intended to secure a high level of amenity but rather to act as a basic safeguard standard that is intended to deal with excessive emissions. The test for considering whether a process presents a statutory nuisance relies upon considering a range of factors including the character of the locality, the frequency, duration and intensity of the impact.

Local Authority Environmental Health/Environmental Protection Officers have a duty to inspect their districts from time to time for statutory nuisance. They also have a duty to investigate any complaint of an alleged dust nuisance from the public. Once the authorised officer has formed the view that a statutory nuisance exists, the local authority has a statutory duty to serve an abatement notice on those responsible for the nuisance, requiring the nuisance to be abated.

Failure to comply with an abatement notice is an offence and if necessary, the local authority may abate the nuisance and recover expenses.

2.2. Odour Guidance for Local Authorities

The Defra Odour Guidance for Local Authorities[2] provides guidance on preventing, investigating and managing odours. Guidance on odour assessment and control for facilities regulated under the Environmental Permitting Regulations 2010 is contained in the relevant Sector and Process Specific Guidance Notes and Horizontal Guidance documents. However, there are many other activities that fall outside of these specific environmental regimes and 'odour' from these premises are 'regulated' by local authorities under the statutory nuisance provisions of Part III of the Environmental Protection Act (EPA) 1990.

The aim of this guidance document is to provide a toolkit for local authorities to assist them in providing a consistent, effective and fair approach to their regulatory duties with regard to odours and therefore endeavours to:

- Explain the basic properties of odour;
- Explain the legal and regulatory framework for preventing and controlling odours;
- Identify the most common sources of odour and the methods that can be used to investigate and assess them; and
- Explain the administrative and practical control measures available to local authorities and to provide guidance on how best to implement the service.

[1] Secretary of State, The Environment Act 1990 HMSO
[2] Defra (2010) Odour Guidance for Local Authorities

2.3. IAQM Odour Guidance

On 20th May 2014 the Institute of Air Quality Management released guidance on the assessment of odour for planning[3].

The guidance is for assessing odour impacts for planning purposes. It provides background information relating to requirements for odour impact assessments and suitable impact criteria and draws from other sources of information such as that described in EPR H4 horizontal odour guidance. It also sets out guidance on undertaking and reporting sniff tests to assess ambient odour levels arising from an identified source.

2.4. Control of Odour and Noise from Commercial Kitchen Exhaust Systems

Problems associated with nuisance odour from commercial kitchen exhausts are a common problem, particularly in urban areas where housing may be adjacent to a catering premises. The Control of Odour from Commercial Kitchens guidance document published by EMAQ+ in September 2018 (version 2 update May 2022)[4] and which updates the 2005 DEFRA guidance, provides best practice techniques to minimise odour from kitchen exhaust systems.

The guidance provides a background into odour, the potential sources and effects of odour from kitchens and the regulatory roles is assessing and controlling odour. The document also sets out the best practice for the design and operation of commercial ventilation systems and the control of grease odour and noise emissions.

Appendix 3 of the Guidance sets out a risk assessment that can be used to identify the likelihood of odour nuisance occurring from a commercial kitchen facility and to assist in determining appropriate odour control requirements based on the operations carried out at the selected premises.

[33] IAQM (2014) Guidance on the Assessment of Odour for Planning
[44] Ricardo EMAQ+ (2022) Control of Odour and Noise from Commercial Kitchen Exhaust Systems Version 2, May 2022

3. METHODOLOGY

3.1. Introduction

A risk assessment of the activities carried out at the Restaurant has been undertaken to identify the likely potential for odour to arise from the Site during operation.

Unlike other air pollutants, odour impacts cannot be easily monitored either at the point of emission or at the point of impact. Furthermore, odour impacts are highly subjective; a level of odour which can lead to complaints from one resident may be acceptable to a neighboring resident. This makes it less straight forward to determine what level of emission is acceptable or what constitutes a significant impact. However, current guidance has been used to undertake the risk assessment and a level of professional judgement used to determine whether the proposed extract system is sufficient to prevent odour effects at neighbouring residential properties.

3.2. Methodology

An odour risk assessment of the on-site catering facilities has been carried out according to the methodology given in the EMAQ+ guidance, as recommended in the Defra Odour Guidance for Local Authorities. A simple risk assessment has been undertaken using the criteria set out in Appendix 3 of the guidance, which is reproduced in Table 1 below. This provides an indication of the level of odour likely to occur from the on-site kitchen facilities and allows a significance score to be calculated based on the identified level of risk of odour impacts at adjacent receptors.

The significance score is used to identify the Impact Risk as set out in Table 2. The identified risk has been used to ascertain the best practice design for the proposed ventilation system to prevent odour effects at nearby receptors.

Based on the outcome of the risk assessment the EMAQ+ guidance has been used to inform the OMS for the Site to prevent odour effects at adjoining residential receptors (existing and proposed).

TABLE 1: RISK ASSESSMENT OF ODOUR FROM ON-SITE KITCHEN FACILITIES

Criteria	Descriptive Score	Significance Score	Details
Dispersion	Very Poor	20	Low level discharge, discharge into courtyard or restriction on stack
	Poor	15	Not low level but below eaves, or discharge below 10 m/s
	Moderate	10	Discharging 1 m above eaves at 10-15 m/s
	Good	5	Discharging 1 m above ridge at 15 m/s
Proximity of Receptors	Close	10	Closest sensitive receptor less than 20 m from kitchen discharge
	Medium	5	Closest sensitive receptor between 20

Criteria	Descriptive Score	Significance Score	Details
			and 100 m from kitchen discharge
	Far	1	Closest sensitive receptor more than 100 m from kitchen discharge
Size of Kitchen	Large	5	More than 100 covers or large sized take away.
	Medium	3	Between 30 and 100 covers or medium sized take away.
	Small	1	Less than 30 covers or small take away.
Cooking type (odour and grease loading)	Very high	10	Pub (high level of fried food), fried chicken, burgers or fish & chips.
	High	7	Kebab, Vietnamese, Thai, Indian.
	Medium	4	Cantonese, Japanese or Chinese.
	Low	1	Most pubs, Italian, French, Pizza or steakhouse.

TABLE 2: ODOUR IMPACT RISK AND LEVEL OF CONTROL

Impact Risk	Odour Control Requirement	Significance Score[1]
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

[1] based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type, as set out in Table 1.

4. Odour Risk assessment

Details of the restaurant and extraction/ventilation system are discussed in Section 1.1.

A risk assessment of the potential for odour to occur from the proposed kitchen facilities, carried out in accordance with the EMAQ+ guidance, is provided below in Table 3.

Table 3: Risk Assessment of Odour from kitchen facilities

Criteria	Descriptive Score	Significance Score	Description
Dispersion	Good	5	Discharge point is located 2m above roof height, 11-12 m above ground level and information provided by the installers indicates an expected discharge rate of 10-12 m/s therefore dispersion is considered to be good.
Proximity of Receptors	Close	10	The nearest sensitive receptors are adjacent residential flats that are within 20m of the restaurant and extract unit.
Size of Kitchen	Medium	3	Based on the size of the restaurant it is anticipated that there would be 12-60 covers per day
Cooking Type	Low	1	The restaurant provides Italian food which is considered to have a low odour and grease content.
Total Score	**Low**	**19**	**The overall score indicates a low level of odour at adjacent receptors**

Based on the risk assessment criteria (Table 1), the proposed kitchen facility is identified as having a Low Risk of producing odour impacts at adjacent receptors. Although there are sensitive receptors in close proximity to the restaurant, the food served is considered to have a low odour content. Furthermore, the kitchen extract is discharged 9-10 m above ground level, above 1 m above the eaves at the top of the building ensuring good dispersion of emissions.

The proposed ventilation system includes fine filtration in the form of a baffle filter, with extract rate of 7 m/s, followed by a discharge point 11-12 m above ground level terminating 2 m above roof level and above the height of all buildings within 20 m of the restaurant.

The restaurant employs a regular cleaning programme with the filters being cleaned weekly and the flue cleaned twice per year.

The ventilation and extraction system is considered to provide adequate odour control which is confirmed by the fact the restaurant has not received any odour complaints from nearby residents.

5. Conclusion

inacoustic has been commissioned to prepare an odour assessment of the operational restaurant at 12-14 High Street, Gravesend, DA11 0BQ to determine whether the current extraction and ventilation system is sufficient to control odour and prevent effects on nearby receptors.

This technical assessment has been produced for submission to Kent County Council as part of a Planning Condition Discharge, with respect to Odour.

The risk of odour effects from the operational restaurant has been assessed using the risk assessment approach set out in the EMAQ+ 2022 guidance.

The risk assessment concluded a risk score of 19, due to the restaurant providing food with a low odour and grease content and the ventilation and extraction system discharging at a very high level, 2m above roof height and 11-12 m above ground level.

The ventilation system includes fine filtration to remove grease via a baffle filter with an extraction rate of 7 m/s, followed by the internal ducting and external ducting located in the rear courtyard, terminating at roof level. No complaints have been received by the restaurant in relation to odour. Regular cleaning of the filters is undertaken on a weekly basis and the flue is cleaned twice a year.

The kitchen ventilation and extraction system is considered to provide sufficient odour control to prevent odour effects at adjacent properties.