

Odour Assessment

Change of Use to Hot-food Takeaway from Commercial, Business and Service and Installation of Extractor Flue pipe at 30-32, Perry Street, Gravesend, DA11 8RE

This document has been prepared in support of the planning application for the change of use of the above address to a hot food take-away and the evidence given in this document should be read alongside the plans forms and other documents submitted with the application.

1. Introduction and Site Details

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Site Details

This site is located within a parade of shop. The area is a mix of commercial and residential buildings. The site is typical of urban cityscape environment.



Figure 1: Site location

2. Guidance and policy

The following legislation and guidance have been used in this assessment:

Guidance on the Assessment of Odour for Planning, Version 1.1 Institute of Air Quality Management (IAQM), 2018. The IAQM published the 'Guidance on the Assessment of Odour for Planning' document in July 2018. This guidance specifically deals with assessing odour impacts for planning purposes, namely potential effects on amenity. Which refers to the DEFRA report on odours and noise from commercial kitchens now superseded by

EMAQ, (2018) Control of Odour and Noise from Commercial Kitchen Exhaust Systems, an amendment of the original DEFRA document published in 2005, deals specifically with the control of kitchen odours.

The magnitude of odour impact depends on a number of factors and the potential for adverse impacts varies due to the subjective nature of odour perception. The FIDOL acronym is a useful reminder of the factors that can be used to help determine the degree of odour pollution:

- Frequency of detection - frequent odour incidents are more likely to result in adverse impacts;
- Intensity as perceived - intense odour incidents are more likely to result in adverse impacts;
- Duration of exposure - prolonged exposure is more likely to result in adverse impacts;
- Offensiveness - more offensive odours have a higher risk of resulting in adverse impacts; and,
- Receptor sensitivity - (The type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor.)

It is important to note that even infrequent emissions of odours may cause loss of amenity if odours are perceived to be particularly intense or offensive.

3. Assessment Methodology

The assessment of odour takes on the following aspects:

- A qualitative assessment of proposed odour emissions from the change of use development;
- An assessment taking into account the nature of the premises;
- The height and position of any proposed flue;
- The recommended exit velocity from the flue; and
- The distance between the proposed flue and the potential odorous emissions and the distance to the sensitive receptor

Baseline Survey

A desktop survey has been undertaken to review the plans, including the proposed ventilation system and the potential impact on the surrounding properties. This assessment has been carried out using EMAQ (2018) Control of Odour and Noise from Commercial Kitchen Exhaust Systems.

- 30-32, Perry Street, Gravesend, DA11 8RE is proposing a kitchen extraction system.
- Surrounding properties are commercial and residential.
- Plans include the installation of a kitchen extract systems comprising of a wall type canopy extracting through a site safe carbon block before a Helios GBW 560/4 discharging at 1m above the roof ridge at the “Proposed Kitchen Extraction Exhaust” shown in figure 2.
- The Helios GBW 560/4 is a discharge velocity of approximately 11m/s based on volume air flow (with an allowance for flow reduction caused by pressure drop across the filters and long ductwork) of 10000m³/h from the fan extracting from the kitchen.

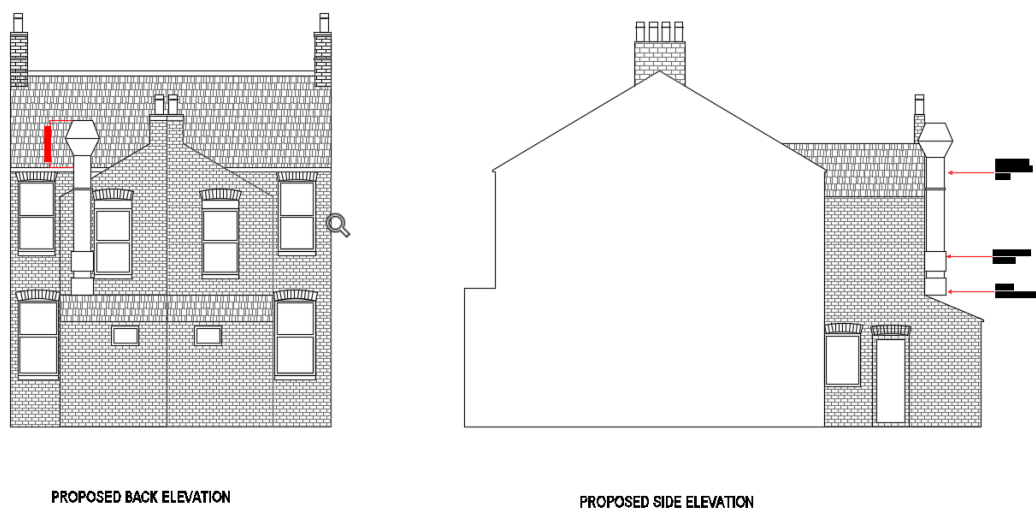


Figure 2: Proposed elevations showing Extractor flue ductwork

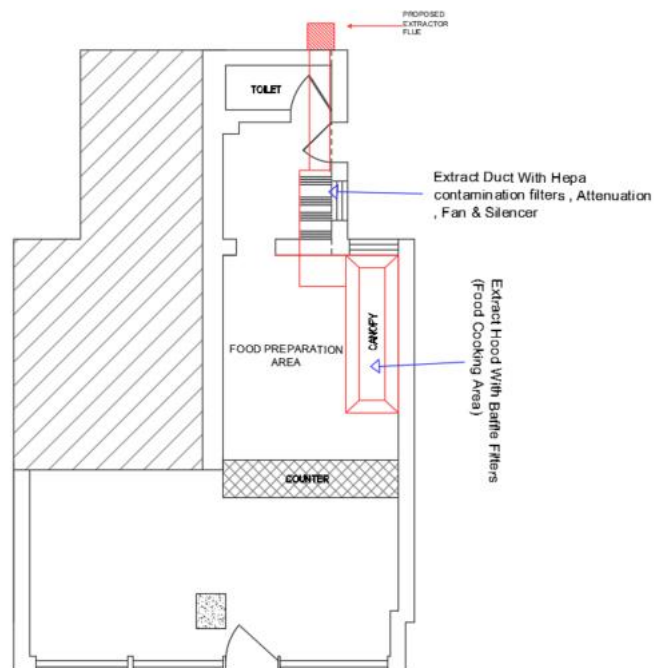


Figure 3 : Proposed Ground Floor Plan

Assessment Criteria of Planned Kitchen Extract Vent.

From the available information contained in the plans the risk of odour impact on nearby receptors has been assessed using the guidance in the EMAQ, (2018) Control of Odour and Noise from Commercial Kitchen Exhaust Systems as referred to in the IAQM.

Impact Risk	Odour Control Requirement	Significance Score*
Low/Medium	Low Level Odour Control	Less than 20
High	High Level Odour Control	20-35
Very High	Very High-Level Odour Control	More than 35

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

Criteria	Rating	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 at below 10 m/s
	Moderate	10	Discharging 1 m above eaves at 10-15m/s
	Good	5	Discharging 1m above ridge at 15m/s
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Far	1	Closest sensitive receptor more than 100m 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. Turkish, middle eastern or any premises cooking with solid fuel
	High	7	Vietnamese, Thai or Indian, Japanese, Chinese, Steakhouse
	Medium	4	Cantonese, Italian, French, Pizza (gas fired)
	Low	1	Most pubs (no fried food, reheating, sandwiches), Coffee shop.

Below is an evaluation for the site based on the above criteria

Criteria	Rating	Score	Details/ Comments
Dispersion	Good	5	Discharging 1m above the ridge
Proximity of Receptors	Close	10	NSR is 2m away from discharge
Size of Kitchen	Small	1	Small Takeaway
Cooking Type	Very High	10	Fried chicken

Impact Risk	Odour Control Requirement	Significance Score
High	High Level odour requirement	26

A High Level of odour control is required.

Odour Control Recommendations

The risk assessment suggests that a High level of odour control is needed in order to reduce the risk of odour impact on the nearby receptors.

Based on the technical specifications from the suppliers of the fan and carbon filter the following is recommended on each kitchen extraction system:

- Canopy with grease filters
- Fine filtration – such as a panel filter, this will remove grease particles not removed by the canopy filter and protect the carbon.
- Actuated Heavy Duty Carbon Filter with V Pleat pre -Filter
- Helios GBW 560/4 Discharging vertically at 11m/s 1m above roof ridge.

Installation of this equipment constitutes as a high level of odour control.

Maintenance must be carried out to ensure these performance levels are always achieved.

4. Maintenance

Proprietors of commercial kitchens have a duty to ensure that the ventilation system serving their kitchen are maintained and operated effectively. 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 and minimise noise. The recommended cleaning period for grease extract system ductwork is:

Grease Loading		Daily Uses	Cleaning Interval (months)
Heavy Use	Heavy/continuous Grease Production	6 – 12 hours	3-6 months
		12-16 hours	2-3 months
Moderate Use	Moderate Grease Production	6 – 12 hours	6-12 months
		12-16 hours	3-4 months
Light Use	No significant Grease Production	6 – 12 hours	12 months
		12-16 hours	6 months

Recommendations for maintenance of odour control system include:

- Change fine filters every two weeks
- A visual inspection of the ventilation system be carried out at least once a week. All metal surfaces should be checked to ensure that there is no accumulation of grease or dirt and that there is no surface damage;
- Cooker hoods and grease filters should be cleaned on a daily basis;
- Change carbon filters every 4 to 6 months

Daily cleaning keeps the filters working at their optimum efficiency and will greatly reduce the number of service visits required throughout the year. It will be important that the odour control methods are fully implemented and additionally, that the proposed management measures and frequency of servicing is complied with.

With respect to the servicing and maintenance regime, audit and service records should be maintained and made available to the Local Authority on demand. These time frames may increase or reduce for extreme or very light applications.

5. Conclusions

- This odour impact assessment has carried out to support a planning application for the installation of extractor flue system.
- The risk of odour impact on nearby receptors has been assessed using the guidance in the EMAQ (2018) Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems.
- Considering the dispersion, proximity of receptors, food type and kitchen size, without the installation of odour abatement equipment, the risk assessment score is 26. This suggests that a high level of odour control is needed in the proposed kitchen in order to reduce the risk of odour impact on the nearby receptors.
- The planned kitchen ventilation system – Helios GBW 500/4 extraction fan , with a with fine filtration and carbon filters and discharging 1m over the roof ridge would provide a high level of odour control. This complies with the EMAQ Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems best practice.