Odour Assessment

Proposed Eating Rooms at The Star Inn, Harbottle

May 2021

1.0 Introduction

1.1 The odour assessment has been prepared in response to comments by Public Protection in relation to planning application reference: 21NP0001.

1.2 The Star Inn is located in the village of Harbottle and within the Northumberland National Park and is located in a prominent position in the centre of the village.

Location Plan

1.3 The pub is in close proximity to residential properties to the south, east and west; the closet is Star Cottage which adjoins the pub's courtyard buildings.

2.0 Guidance

2.1 The following legislation and guidance has been used in this assessment:
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.

2.2 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. 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.

3.0 Assessment Methodology

3.1 Background

A desktop survey has been undertaken to assess the potential impact on the surrounding properties and the requirements for an appropriate ventilation system. This assessment has been carried out using EMAQ (2018) Control of Odour and Noise from Commercial Kitchen Exhaust Systems.

- The proposed restaurant will be separate, but ancillary, to the main public house and located within the outside courtyard buildings.
- Surrounding properties include residential properties.
- The extract duct is within 20 metres of 3 residential properties.
- The kitchen extract flue discharges at a height of approximately 0.30 metre below the ridge of the roof. Designs currently show the flue terminating with a hat type cowl on the top.

3.2 Assessment of Ventilation Requirements

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.

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

Odour Control Requirement Scoring Table

Criteria	Score	Score	Details
Dispersion	Moderate	10	Extract discharges 1.8m above eaves and just below ridge level
Proximity of Receptors	Close	10	Closest sensitive receptor (Fernlea) within 20m of discharge
Size of Kitchen	Medium	3	Between 30 and 100 covers (maximum 40 covers anticipated)
Cooking Type (odour & grease loading)	High	7	Food cooked will mostly be Italian (medium score) but there will also be some fried food including fish & chips (very high score). A score of 'high' is therefore considered to be appropriate.
TOTAL SCORE		**30**	***High Level Odour Control Required***

3.3 Odour Control Recommendations

The initial EMAQ 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.

High level odour control may include:

- The installation of an ESP filter unit
- The installation of a UV Odour Control Unit
- The installation of an Odour Neutralising Unit
- The fitting of an appropriate cowl on top of the extract duct to allow best possible discharge and dispersion

Installation of this equipment along with the ductwork as planned comprises a high level of odour control and will reduce the impact to neighbouring properties.

4.0 Conclusions

4.1 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.

4.2 Considering the dispersion, proximity of receptors, food type and kitchen size the initial risk assessment score was 30 which 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.

4.3 The installation of a suitably designed extraction system which may include an ESP filter unit, UV Odour Control Unit & Odour Neutralising Unit will comply with the EMAQ Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems best practice.

4.4 The fitting of an appropriate cowl on top of the extract duct to allow best possible discharge and dispersion will assist in further reducing any impact.

APPENDIX A

Risk assessment from EMAQ (2018) – Guidance on the control of odour and noise from commercial kitchen exhaust systems.

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. The odour control requirements considered here are consistent with the performance requirements listed in this report.

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

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

Criteria	Score	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 1m above eaves at 10 -15 m/s.
	Good	5	Discharging 1m above ridge at 15 m/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[1].
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[1].
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, Indian, *Japanese, Chinese, steakhouse*
	Medium	4	Cantonese, *Italian, French, Pizza (gas fired),*
	Low	1	Most pubs (*no fried food, mainly reheating and sandwiches etc*), *Tea rooms*[1]