

# Ham Close Regeneration

Planning Application:

Odour Assessment

Author: Entran Ltd

April 2022



**Ham Close**

# **Odour Assessment**



**Ham Close**

# **Odour Assessment**

<b>Revision</b>	<b>Date</b>	<b>Notes</b>	<b>Author</b>	<b>Checked</b>	<b>Approved</b>
1.0	15-04-2022	E3230	EP	ND	Dr Nick Davey
1.1	19-04-2022	E3230	EP	ND	Dr Nick Davey

**Entran Limited**  
**2<sup>nd</sup> & 3<sup>rd</sup> Floors**  
**Northgate House**  
**Upper Borough Walls**  
**Bath**  
**BA1 1RG**

**T: 0117 937 4077**  
**[www.entranltd.co.uk](http://www.entranltd.co.uk)**



---

**CONTENTS**

**PAGE**

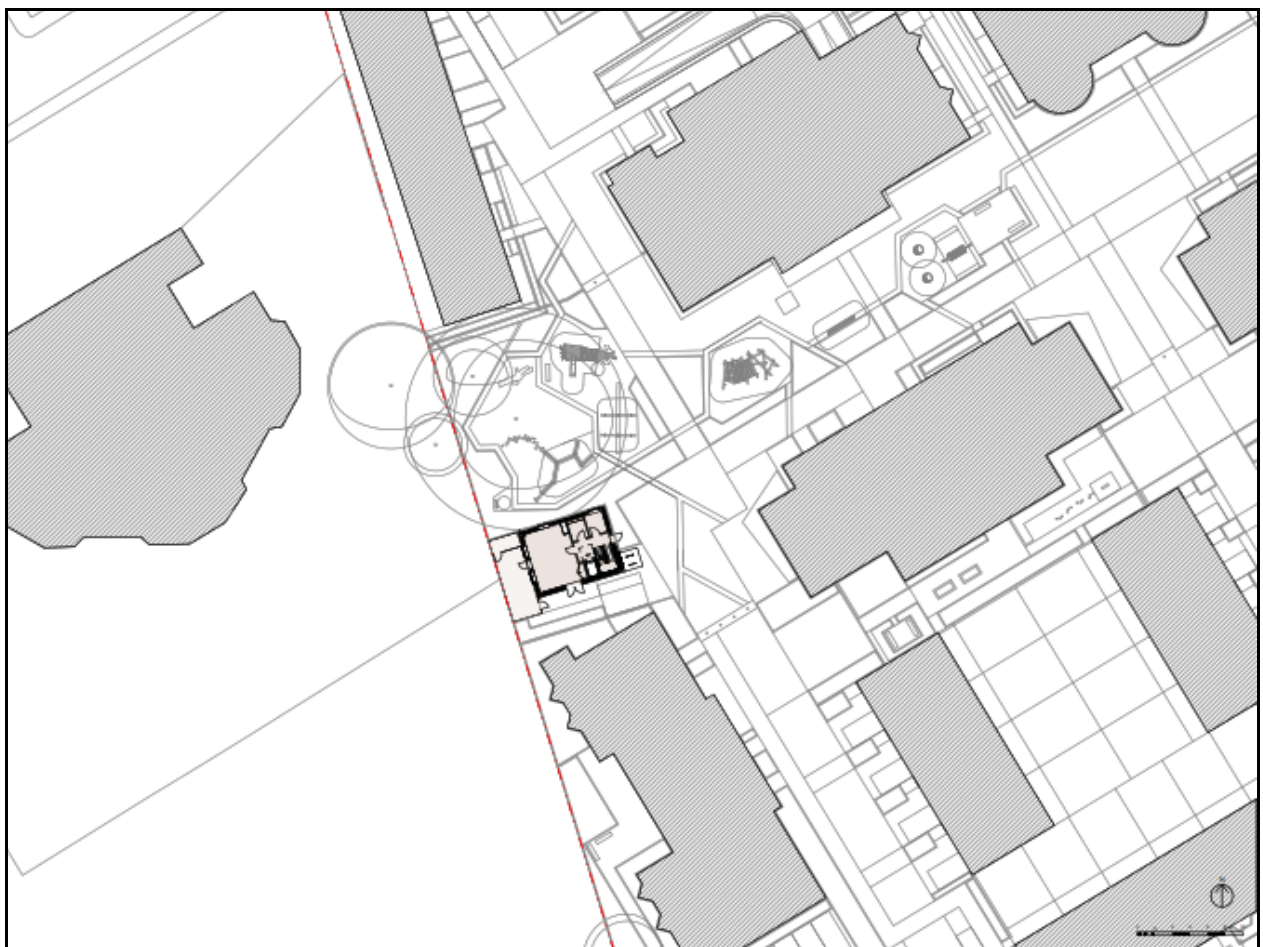
1	Introduction	2
2	Legislation, Policy and Guidance	4
3	Methodology	9
4	Assessment of impact	10
5	Conclusions	12

## 1 INTRODUCTION

1.1 Entran Limited has been commissioned to undertake an odour assessment associated with the proposed kitchens in the Makers Lab and Community Centre (the 'Proposed Development') located at Ham Close. The location of the Proposed Development is shown in Figures 1.1 and 1.2.

1.2 This assessment considers the potential for odour arising from the Proposed Development to impact nearby sensitive receptors and assesses the suitability of the Site for its proposed end use.

**Figure 1.1: Site Location Plan (Makers Lab)**



**Figure 1.2: Site Location Plan (Community Centre)**





---

## 2 LEGISLATION, POLICY AND GUIDANCE

### Legislation

#### The Environmental Protection Act 1990

2.1 Section 79 of the Environmental Protection Act (1990) states that where a statutory nuisance is shown to exist, the local authority must serve an abatement notice. Statutory nuisance is defined as:

- ‘Any dust, steam, smell or other effluvia arising on industrial, trade or business premises or smoke, fumes or gases emitted from premises so as to be prejudicial to health or a nuisance’.

2.2 Following this, Section 80 states that where a statutory nuisance is shown to exist, the local authority must serve an abatement notice. Failure to comply with an abatement notice is an offence and if necessary, the local authority may abate the nuisance and recover expenses.

### Planning Policy

#### National Planning Policy Framework

2.3 The National Planning Policy Framework (NPPF)<sup>1</sup> sets out the Government’s planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development. It requires Local Plans to be consistent with the principles and policies set out in the NPPF with the objective of contributing to the achievement of sustainable development.

2.4 The NPPF states that the planning system has three overarching objectives in achieving sustainable development including a requirement to *‘to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.’*

2.5 Under Section 15: Conserving and Enhancing the Natural Environment, the NPPF (paragraph 174) requires that *‘planning policies and decisions should contribute to and enhance the natural and local environment by ...preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable*

---

<sup>1</sup> Ministry of Housing, Communities and Local Government: *National Planning Policy Framework* (July 2021).



---

*levels of soil, air, water or noise pollution or land instability. Development should, wherever possible help to improve local environmental conditions such as air and water quality'*

2.6 In dealing specifically with air quality the NPPF (paragraph 186) states that *'planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan'*.

2.7 Paragraph 188 states that *'the focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively.'*

#### Richmond upon Thames Local Plan

2.8 The Richmond upon Thames Local Plan<sup>2</sup> was adopted in July 2018 and sets out policies and guidance for the development of the borough until July 2033 or until it is superseded. It contains the following policy relevant to odour:

2.9 Policy LP 10 Local Environmental Impacts, Pollution and Land Contamination states:

*'A. The Council will seek to ensure that local environmental impacts of all development proposals do not lead to detrimental effects on the health, safety and the amenity of existing and new users or occupiers of the development site, or the surrounding land. These potential impacts can include, but are not limited to, air pollution, noise and vibration, light pollution, odours and fumes, solar glare and solar dazzle as well as land contamination.*

*Developers should follow any guidance provided by the Council on local environmental impacts and pollution as well as on noise generating and noise sensitive development. Where necessary, the Council will set planning conditions to reduce local environmental impacts on adjacent land uses to acceptable levels. [...]*

---

<sup>2</sup> London Borough of Richmond upon Thames. (2018). Local Plan.





## Odours and Fume Control

*E. The Council will seek to ensure that any potential impacts relating to odour and fumes from commercial activities are adequately mitigated by requiring the following:*

- 1. an impact assessment where necessary;*
- 2. the type and nature of filtration to be used;*
- 3. The height and position of any chimney or outlet;*
- 4. promotion and use of new abatement technologies. [...]*

### Guidance

#### Institute of Air Quality Management Odour Guidance

2.10 On the 20th May 2014, the Institute of Air Quality Management (IAQM) released guidance on the assessment of odour for planning.

2.11 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. Appendix 2 of this guidance provides advice on completing Sniff Test surveys and provides a scale against which the intensity of an odour can be determined and is outlined in Table 2.1 below. This is taken from the German National Standard VDI 3940:1993 Determination of Odorants in Ambient Air by Field Inspection.

**Table 2.1: Odour Intensity Scale**

Odour Strength	Intensity Level	Comments
No odour / not perceptible	0	No odour when compared to clean air
Slight / very weak	1	There is probably some doubt as to whether the odour is actually present
Slight / weak	2	The odour is present but cannot be described using precise words or terms
Distinct	3	The odour character is barely recognisable
Strong	4	The odour character is easily recognisable
Very Strong	5	The odour is offensive. Exposure to this level would be considered undesirable
Extremely Strong	6	The odour is offensive. An instinctive reaction would be to mitigate against further exposure



2.12 The Odour Detection Threshold (ODT) is 1 ou/m<sup>3</sup> and considered to fall between intensity level 0 and 1. The recognition threshold intensity is generally 3-10 times higher than the ODT (i.e. 3-10 ou/m<sup>3</sup>). It is considered to fall between intensity levels 3 and 4.

2.13 The IAQM guidance highlights that the scale of exposure to odour impacts is determined by the parameters collectively known as the FIDO factors (Frequency, Intensity, Duration and Offensiveness). The magnitude of the effect experienced is determined by the scale of exposure (FIDO) and the sensitivity of the receptor (L denoting the location which is often taken to be a surrogate for the sensitivity and incorporates the social and psychological factors that can be expected for a given community. These are outlined in Table 2.2 below:

**Table 2.2: FIDO Factors**

FIDO Factors	Description
Frequency	How often an individual is exposed to odour
Intensity	The individual's perception of the strength of the odour
Duration	The overall duration that individuals are exposed to an odour over time
Odour unpleasantness	Odour unpleasantness describes the character of an odour as it relates to the 'hedonic tone' (which may be pleasant, neutral or unpleasant) at a given odour concentration/intensity. This can be measured in the laboratory as the hedonic tone, and when measured by the standard method and expressed on a standard nine-point scale it is termed hedonic score.
Location	The type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor. The 'Location' factor can be considered to encompass the receptor characteristics, receptor sensitivity, and socio-economic factors.

2.14 Different combinations of the FIDO factors can result in different exposures at a location. For example, odours may occur as a one-off incident, as frequent short bursts or for longer less frequent periods and may be said to give 'acute' or 'chronic' exposures respectively.

2.15 The IAQM guidance also highlights the technical differences between annoyance and nuisance which are defined as follows:

- Annoyance – the adverse effect occurring from an immediate exposure; and
- Nuisance – the adverse effect caused cumulatively, by repeated events of annoyance.

2.16 The loss of amenity or dis-amenity does not equate directly to nuisance and significant loss of amenity will often occur at lower levels of emission than would constitute a statutory nuisance. A person's annoyance and nuisance response can change over time and is influenced by a wide range of factors including history of exposure.



---

#### H4 Odour Management

2.17 The Environment Agency (EA) have published technical guidance for the assessment of odour issues. This guidance<sup>3</sup>, referred to in this report as H4, provides benchmarks against which predicted odour concentrations can be assessed. It also provides guidance for use in modelling emissions of odour and in undertaking qualitative 'sniff test' assessments.

#### Defra Odour Guidance for Local Authorities

2.18 Defra has also published a generic odour guidance for local environmental health practitioners. The guidance is largely a reference document that provides advice on identifying odours, perception, the legal context for addressing odours, the regulatory strategy and potential mitigation and abatement measures.

2.19 This Defra guidance<sup>4</sup> provides further general principles and factors that may be important in assessing when, or if, a specific odour source is likely to constitute a statutory nuisance.

---

<sup>3</sup> Environment Agency (March 2011). Additional guidance for H4 Odour Management. How to comply with your environmental permit.

<sup>4</sup> Department for Environment, Food and Rural Affairs (Defra) (March 2010). Odour Guidance for Local Authorities.



---

### 3 METHODOLOGY

#### Scope of Assessment

3.1 This odour assessment seeks to subjectively determine whether odours arising from the Proposed Development may impact upon nearby receptors and whether any specific mitigation is required.

3.2 The assessment has been undertaken with reference to the appropriate publications as discussed in Section 2.

3.3 To inform the assessment, the following tasks have been completed:

- Review of surrounding area to determine the surrounding sensitive receptors;
- Review of local meteorological data; and
- Review of the proposals.

3.4 Details of the assessment methodology and specific issues considered are provided below.

#### Methodology of Assessment

3.5 There are a number of different approaches to assessing odour impact; these are generally divided into two categories: predictive methods (such as dispersion modelling) and observational methods (such as monitoring or sniff tests). It is acknowledged that the appropriate tool to use will be dependent on the particular situation, for example for a new odour source it would not be possible to use observational methods therefore a predictive method would be most suitable. For situations, where new exposure is proposed in the vicinity of an existing source either observation methods or a combination of observational and predictive methods can be used. In this instance, the predicted odour levels have been determined with a qualitative impact assessment of the proposed facilities.

## 4 ASSESSMENT OF IMPACT

### Potential Odour Sources

4.1 As these are new build facilities, the building fabric will be sufficient that fugitive odour emissions are unlikely. Doors to the buildings will also be self-closing to prevent the escape of any odours.

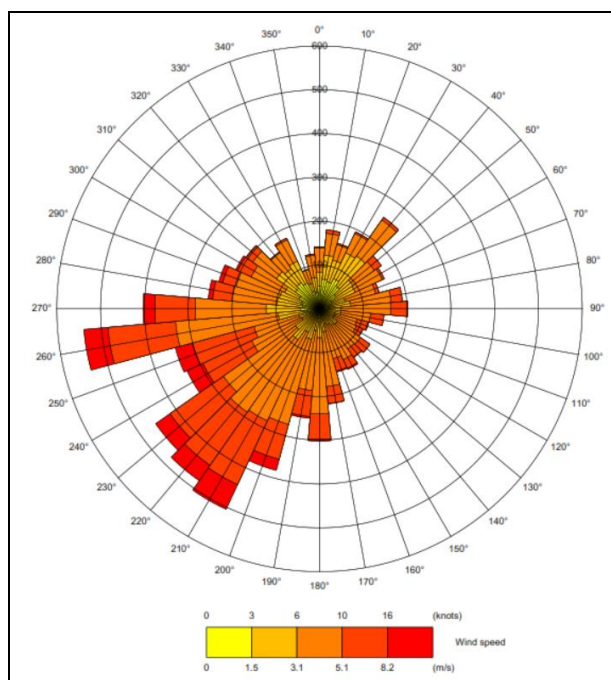
4.2 Air will be extracted from the buildings by means of mechanical extraction. Carbon filtration media will be used to further abate potential odours.

### Assessment of Potential Odour Impact

#### Frequency

4.3 Wind direction determines the approximate direction in which an odour will disperse. The closest meteorological station to the Site is located at Heathrow Airport which is approximately 11.0km to the northwest of the Site. A wind rose for this site is displayed in Figure 5.1.

**Figure 5.2: Wind Rose for Heathrow Airport Meteorological Station**



4.4 A wind rose from Heathrow, shown above, identifies that the prevailing wind is from the southwest. There are proposed residential properties located to the north, northeast, east, southeast and south of the Site.



---

#### Intensity, Offensiveness and Duration

4.5 The intensity of the odour extracted from the buildings is considered to be low due to the proposed abatement plants.

4.6 As the kitchens are relatively small, it is unlikely that odour unpleasantness and intensity will be a concern.

4.7 In terms of duration, the building extraction would be operational during normal business hours as required.

#### Odour Exposure

4.8 Residential dwellings are located adjacent to the Site and therefore in accordance with the IAQM guidance, as reproduced in Table 3.2 above, the sensitivity of the receptors is considered to be high.

#### Potential for Odour Effects

4.9 Based on the proposed odour abatement and the extraction system as well as the size of the proposed kitchens, it is considered highly unlikely there will be a noticeable odour at the surrounding receptors. Odour effects from the Proposed Development are therefore considered to be negligible.



---

## **5 CONCLUSIONS**

5.1 A qualitative odour assessment has been undertaken for proposed kitchens in the Makers Lab and Community Centre at Ham Close. The assessment considered the potential for odour arising from the Proposed Development to affect surrounding sensitive receptors.

5.2 The odour assessment has been undertaken with reference to the IAQM's Odour Guidance for Planning Applications, the Environment Agency's H4 Odour Guidance and Defra's Odour Guidance for Local Authorities.

5.3 The building extraction systems will be equipped with carbon filtration to mitigate odour. Based on this and the size of the Proposed Development, it is considered the odour effects will be negligible. The Proposed Development is therefore considered acceptable with regards to odour in this location.