Odour Assessment

C11047

26A Elm Grove, Hayling Island
Hampshire, PO11 9EF

Prepared for
CPC Planning Consultants Limited,
Unit 5 Clovelly Business Park,
Clovelly Road,
Southbourne,
West Sussex,
PO10 8PW

Omnia ref: C11047/OA/1.0

February 2024

ISO Accredited Certification (UKAS)

Quality Assurance

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Draft			
Date	February 2024			
Prepared by	Callum Cecil Redmore Environmental			
Contractor Ref No	7613			
Issued on behalf of Omnia	R. Bradley			
Signature	R Bradley			
Position	Geo-Environmental Consultant			
Project number	C11047			

North

Office 4, No.3 Fulwood, 3
Caxton Road, Preston
PR2 9ZZ
01772 963 024

Midlands

Office 203, St Nicholas House,
31 Park Row, Nottingham
NG1 6FQ
0115 7043 492

South

Suite 1, Pure Offices, One Port
Way, Pork Solent, Portsmouth
PO6 4TY
01489 808 088

We are a UK wide, truly joined up and fully collaborative multi-disciplinary engineering and environmental consultancy.

Ecology
Acoustics
Geotechnical
Geo-environmental
Air Quality

Executive Summary	
Site Address	**26A Elm Grove, Hayling Island, Hampshire, PO11 9EF**

Omnia was commissioned by CPC Planning Consultants Limited to undertake an Odour Assessment to support a retrospective planning application for the installation of a kitchen extract system and external flue to the rear of the recently permitted hot food takeaway at 26A Elm Grove, Hampshire.

An Odour Assessment of the application site was undertaken by Omnia's partner Redmore Environmental Ltd.

Odour emissions from hot food preparation on the premises have the potential to cause adverse impacts for residents of the dwellings located above the takeaway. As such, an Odour Assessment was undertaken in order to evaluate potential effects, identify the requirement for any additional mitigation to control potential impacts to an acceptable level and document a suitable maintenance schedule.

The results of the assessment indicated the odour risk was classified as very high. This prediction does not infer that the proposed development would result in significant odour impact or affect local amenity levels. However, it does suggest that appropriate mitigation is required to reduce potential effects to an acceptable level.

Subject to the inclusion of fine filtration within the extract system and adherence to the maintenance schedule, potential odour impacts at nearby sensitive receptors are predicted to be reduced to an acceptable level, in accordance with the stated guidance.

Table of Contents

1.0 INTRODUCTION 4
1.1 Background 4
1.2 Proposed Development 4
1.3 Objectives 5
1.4 Acronyms 5
1.5 Confidentiality 5
2.0 ODOUR BACKGROUND 6
2.1 Odour Definition 6
2.2 Odour Impacts 6
2.3 Legislative Control 6
2.4 National Planning Policy 7
2.5 Local Planning Policy 7
3.0 METHODOLOGY 9
3.1 Introduction 9
3.2 EMAQ+ and DEFRA Methodology 9
4.0 ASSESSMENT 11
4.1 Risk Assessment 11
4.2 Odour Control 11
5.0 SUMMARY 13
6.0 ABBREVIATIONS 14

APPENDIX

Appendix I Drawings

1.0 INTRODUCTION

1.1 Background

Omnia was commissioned by CPC Planning Consultants Limited to undertake an Odour Assessment in support of a retrospective planning application for the installation of a kitchen extract system and external flue to the rear of the recently permitted hot food takeaway at 26A Elm Grove, Hampshire.

The Odour Assessment was undertaken by Omnia's partner Redmore Environmental Ltd.

Odour emissions from hot food preparation on the premises have the potential to lead to adverse impacts for residents of the dwellings located above the takeaway. As such, an Odour Assessment was undertaken in order to evaluate potential effects and identify the requirement for any additional mitigation to control potential impacts to an acceptable level.

1.2 Proposed Development

The site is located at 26A Elm Grove, Hayling Island, PO11 9EF, at approximate National Grid Reference (NGR): 472213, 99320. Reference should be made to Figure 1 within Appendix I for a map of the site and surrounding area.

The development is one of three hot food takeaways located on Elm Grove. The site is bordered to the north by Mobbie's Fish & Chips, which neighbours the Royal Chef, a Chinese Takeaway. Mobbie's Fish & Chips is operational 11:45 to 14:00 and 16:45 to 21:00 Monday to Saturday. The Royal Chef is operational 17:00 to 23:00 Tuesday to Sunday. Each hot food takeaway has an individual extract flue that exhausts to atmosphere within 2m of the flue associated with the development. Reference should be made to Figure 2 in Appendix I for an image of the extraction points associated with all takeaways.

The hot food takeaway prepares food items including burgers, fried and grilled chicken, chips, pizza, garlic bread and desserts. The operational hours are 15:00 to 23:00, Tuesday to Sunday. Emissions are extracted from the food preparation area via a canopy fitted with internal baffle filters for removal of grease from the air stream. Extract air then passes through a carbon filter manufactured by Extraction Canopy Ltd prior to being discharged to atmosphere via a dedicated flue. Reference should be made to Figure 2 in Appendix I for an image of the extraction point.

A planning application for the change of use from existing sui generis (taxi offices) to sui generis (hot food takeaway) establishment was approved by Havant Borough Council (HBC) in April 2022 (reference: APP/22/00408), subject to a number of conditions. This included the following in relation to odour:

> *"4. Equipment shall be installed to suppress and disperse fumes and/or odours produced by cooking and food preparation, and the equipment shall be effectively operated for so long as the use continues. Details of the equipment and any necessary mitigation measures shall be submitted to, and approved in writing by, the Local Planning Authority. The equipment shall be installed and be in full working order to the satisfaction of the Local Planning Authority along with any necessary mitigation measures prior to the commencement of use.*
>
> *Reason: To ensure that unsatisfactory cooking odours outside the premises are minimised in the interests of the amenity of occupiers of nearby properties and having due regard to policies CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2021.*
>
> *5. The extraction equipment and any mitigation measures installed in pursuance to Condition (No.4) above shall be regularly maintained to ensure its continued satisfactory*

operation and the cooking process shall cease to operate if at any time the extraction equipment ceases to function to the satisfaction of the Local Planning Authority and shall not be resumed until the system has been restored to full working order. Documentary evidence including receipts, invoices and copies of any service contracts in connection with the use and maintenance of the extraction equipment, shall be kept and made available for inspection at the premises by officers of the Local Planning Authority, to facilitate monitoring of compliance with this condition.

Reason: To ensure that the use does not result in excessive cooking odours outside the premises and that the amenity of occupiers of nearby properties is protected and having due regard to policy DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2021."

A subsequent retrospective planning application was submitted in September 2023 (reference: APP/23/00782) in order to address the above conditions. Following submission, a consultee response[1] was received from Chima Umunnakwe, Interim Pollution Team Leader at HBC, requesting an Odour Impact Assessment in support of the development. This is provided in the following report.

1.3 Objectives

Odour emissions from hot food preparation at the development have the potential to cause impacts at sensitive locations in the vicinity of the site. As such, an Odour Impact Assessment was undertaken in order to evaluate potential effects and identify the requirement for any additional mitigation to control potential impacts to an acceptable level. This is detailed in the following report.

1.4 Acronyms

All acronyms used within this report are defined in the Abbreviations listings, set out in Section 7.

1.5 Confidentiality

This report has been prepared solely for the use of the Client. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Omnia; a charge may be levied against such approval.

[1] Consultee Response, Environmental Health at HBC, 2023.

2.0 ODOUR BACKGROUND

2.1 Odour Definition

The Institute of Air Quality Management (IAQM) guidance[2] defines odour as:

> *"[…] the human olfactory response (perception followed by psychological appraisal) to one, or more often a complex mixture of, chemical species in the air."*

The stated definition is considered to be relevant in the context of this assessment.

2.2 Odour Impacts

The magnitude of odour impact depends on a number of factors and the potential for complaints varies due to the subjective nature of odour perception. The FIDOL acronym, is a useful reminder of the factors that will determine the degree of odour pollution. These are described by the IAQM[3] as follows:

- 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 the hedonic score; and,
- 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.

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

The FIDOL factors can be further considered in relation to the following and the potential for an odour emission to cause loss of amenity, annoyance or nuisance:

- The rate of emission of the compound(s);
- The duration and frequency of emissions;
- The time of the day that this emission occurs;
- The prevailing meteorology;
- The sensitivity of receptors to the emission i.e. whether the odorous compound is more likely to cause an impact, such as the sick or elderly, who may be more sensitive;
- The odour detection capacity of individuals to the various compound(s); and,
- The individual perception of the odour (i.e. whether the odour is regarded as unpleasant). This is greatly subjective and may vary significantly from individual to individual. For example, some individuals may consider some odours as pleasant, such as petrol, paint and creosote.

2.3 Legislative Control

The main requirement with respect to odour control from premises not controlled under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments, such as commercial kitchens, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

[2] Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.
[3] Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

> *"Any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance."*

Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the Local Authority is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practicable means.

The legislative controls described above were considered as necessary throughout the undertaking of the assessment.

2.4 National Planning Policy

The revised National Planning Policy Framework[4] (NPPF) was published in December 2023 and sets out the Government's planning policies for England and how these are expected to be applied.

The purpose of the planning system is to contribute to the achievement of sustainable development. In order to ensure this, the NPPF recognises three overarching objectives including the following of relevance to odour:

> *"c) An environmental objective - 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."*

Chapter 12 of the NPPF details objectives in relation to achieving well-designed place. It states that:

> *"Planning policies and decisions should ensure that developments*
>
> *f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesions and resilience."*

The implications of the NPPF have been considered throughout this assessment.

2.5 Local Planning Policy

The Havant Borough Core Strategy[5] was adopted by HBC in March 2011 and sets out the spatial vision through to 2026. A review of the document identified the following policy in relation to odour:

> *"DM5 Control of Class A3, A4 and A5 Food, Drink and Entertainment Uses*
>
> *Planning Permission will only be granted for the construction of new entertainment and hot food uses falling within Use Classes A3, A4, A5 and D2 of the Use Classes Order 1987 (as amended) or the change of use of existing premises to a Class A3, A4, A5 or D2 use where it can be demonstrated that all the following criteria are met:*
>
> 1. *Measures are incorporated, where a proposal includes the preparation of hot food, to mitigate the effect on nearby properties.*

[4] NPPF, Ministry of Housing, Communities and Local Government, 2023.
[5] Havant Borough Core Strategy, HBC, 2011.

[…]

2. The measures proposed in respect of criterion 1 are suitable for the range and nature of hot food to be prepared on the premises.

[…]"

The above policy has been considered throughout the undertaking of the assessment.

3.0 METHODOLOGY

3.1 Introduction

The proposals have the potential to cause odour impacts as a result of emissions from cooking processes. An assessment has therefore been undertaken in accordance with guidance document 'Control of Odour and Noise from Commercial Kitchen Exhaust Systems' prepared by EMAQ+ for the Department for Environmental, Food and Rural Affairs (DEFRA)[6]. This document provides an update to the 2005 guidance[7] produced by DEFRA. The methodology was agreed with Chima Umunnakwe, Interim Pollution Team Leader at HBC, on 13th February 2024.

The relevant process is summarised in the following Sections.

3.2 EMAQ+ and DEFRA Methodology

The EMAQ+ and DEFRA methodology provides an approach for identifying the risk of odour impact associated with food preparation premises and defining an appropriate level of mitigation to control potential effects to an acceptable level.

The first stage in the process is to score the proposed premises in accordance with the criteria outlined in Table 1.

Table 1 Risk Scoring Criteria

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 10m/s
	Moderate	10	Discharging 1m 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 takeaway
	Medium	3	Between 30 and 100 covers or medium sized takeaway
	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, Indian, Japanese, Chinese or steakhouse
	Medium	4	Cantonese, Italian, French, Pizza (gas fired)
	Low	1	Most pubs (no fried food, mainly reheating and sandwiches etc) or Tea rooms

The score obtained using the values shown in Table 1 was subsequently used to define the associated risk and odour control requirement. The relevant criteria are summarised in Table 2.

[6] Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2022.
[7] Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, DEFRA, 2005.

Table 2 Odour Control Requirement

Significance Score	Impact Risk	Odour Control Requirement
Less than 20	Low to Medium	Low level odour control
20 to 35	High	High level odour control
More than 35	Very high	Very high level odour control

A suitable odour control system can then be identified from the techniques summarised in the EMAQ+ and DEFRA guidance.

4.0 ASSESSMENT

4.1 Risk Assessment

The odour risk associated with the proposals was rated in accordance with the EMAQ+ and DEFRA methodology[8]. The results are summarised in Table 3.

Table 3 Odour Risk

Criteria	Score	Score	Notes
Dispersion	Very Poor	20	Under the current proposals, emissions are extracted from the food preparation area within the kitchen via a canopy fitted with internal baffle filters for removal of grease from the air stream. Extract air then passes through a carbon filter manufactured by Extraction Canopy Ltd prior to being discharged to atmosphere via a dedicated flue. The exhaust point is located above the eaves but below the ridge of the associated building. The arrangements at the point of discharge to atmosphere include the use of a capped flue to prevent rain and debris ingress to the extract system. This has the potential to restrict dilution and dispersion of emissions. As such, a score of 'very poor' has been applied. Reference should be made to Figure 2 for the extract exhaust location
Proximity of receptors	Close	10	The closest sensitive receptors are located directly above the hot food takeaway, within 20m of the development. As such, a score of 'Close' has been applied
Size of kitchen	Medium	3	Based on the layout and area of the proposed kitchen, the size was classified as 'medium'
Cooking type (odour and grease loading)	Very High	10	The cooking methods include the use of a deep fat fryer, charcoal grill, a cooker and a double-deck pizza oven. Very high levels of grease and odour are anticipated to be produced. The cooking type was therefore categorised as 'very high'

As indicated in Table 3, the odour risk for the proposed development was scored as 43. The risk was therefore classified as **very high**, in accordance with the EMAQ+ and DEFRA criteria.

4.2 Odour Control

Based on the assessment results, the development requires mitigation suitable for a **very high** level of odour risk. There are a number of options for abatement identified within the EMAQ+ and DEFRA guidance[9] that provide this level of control. These include:

- Emission collection - Odour should be collected via extraction hoods situated above the hot food preparation area;
- Grease filtration system - Mesh type grease filters, such as baffle or cartridge filters, should be included for the purpose of grease filtration;

[8] Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2022.
[9] Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2022.

- Fine dust filter - Bag, fan or High-Efficiency Particulate Arrestance (HEPA) filters;
- Gaseous phase - An activated carbon filter rated with a 0.4 - 0.8 second residence time should be included for odour removal. Alternatively, an oxidation system such as ultraviolet light or ozone may be used; and,
- Dispersion - Emissions should be discharged vertically through a stack, high enough to ensure adequate dilution. The location of the stack should be positioned no less than 1m above the eaves of the building and at least 2m from any openable window.

As stated previously, emissions from hot food preparation areas are extracted via a canopy fitted with internal baffle filters for removal of grease from the air stream. Consultation with the Applicant indicated that the extract arrangements will be modified to include a fine dust filter in order to remove particulate from the air stream.

Extract air then passes through a carbon filter manufactured by Extraction Canopy Ltd prior to being discharged to atmosphere via a dedicated capped flue. The capped flue has been utilised in order to prevent rain and debris ingress to the extract system. As the discharged air is treated prior to exhaust by a grease filter and gaseous phase filter, it should contain little to no residual odour or particulate. Retaining the capped flue is therefore considered appropriate in order to prevent unnecessary costs to the Applicant associated with modifications to the system. Additionally, the abatement system has been specified to provide **very high** odour control. The ensured the effects of the restricted discharge were included in the requirements.

The following maintenance schedule has been identified for the abatement system:

- The extraction system will be serviced at intervals between one and three months, dependant on usage. The cell within the unit will be replaced in situ and the housing and inside of the casing will be cleaned;
- Carbon filters will be replaced annually with fresh units;
- A visual inspection of the ventilation system will be carried out at least once per week to check for grease build up and surface damage;
- Cooker hoods and grease filters will be cleaned on a daily basis; and,
- All fans will be maintained on a regular basis as recommended by the fan manufacturer.

Subject to the inclusion of the fine dust filter and implementation of the maintenance schedule, it is considered that potential odour impacts would be reduced to an acceptable level. As such, the proposed mitigation is considered to be suitable for a development of this nature.

5.0 SUMMARY

Omnia was commissioned by CPC Planning Consultants Limited to undertake an Odour Assessment to support a retrospective planning application for the installation of a kitchen extract system and external flue to the rear of the recently permitted hot food takeaway at 26A Elm Grove, Hampshire.

Odour emissions from the hot food preparation on the premises have the potential to cause adverse impacts for residents of the dwellings located above the takeaway. As such, an Odour Assessment was undertaken in order to evaluate potential effects, identify the requirement for any additional mitigation to control potential impacts to an acceptable level and prepare a suitable maintenance schedule.

The results of the assessment indicated the odour risk was classified as **very high**. This prediction does not infer that the proposed development would result in significant odour impact or affect local amenity levels. However, it does suggest that appropriate mitigation options are required to reduce potential effects to an acceptable level.

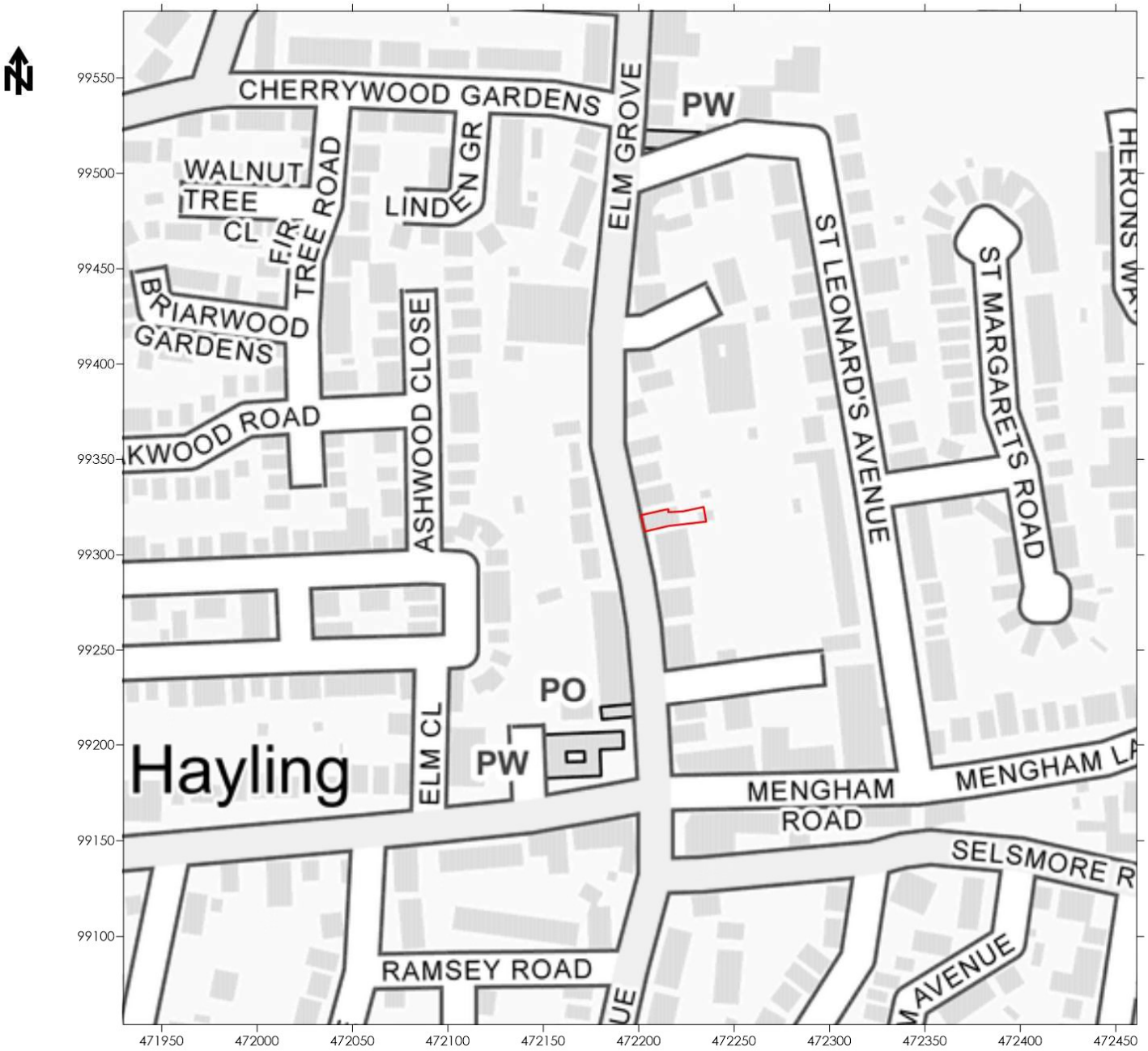
Subject to the inclusion of fine filtration within the extract system and adherence to the maintenance schedule, potential odour impacts at nearby sensitive receptors are likely to be reduced to an acceptable level, in accordance with the stated guidance.

6.0 ABBREVIATIONS

DEFRA	Department for Environment, Food and Rural Affairs
IAQM	Institute of Air Quality Management
HBC	Havant Borough Council
HEPA	High-Efficiency Particulate Arrestance
NGR	National Grid Reference
NPPF	National Planning Policy Framework

APPENDIX I

Drawings



Legend

Site Boundary

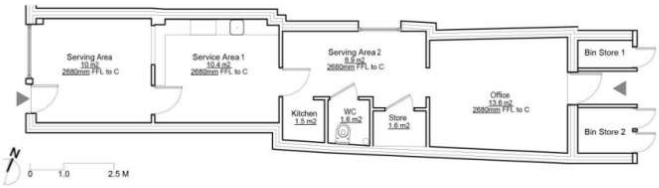
Title

Figure 1 - Site Location

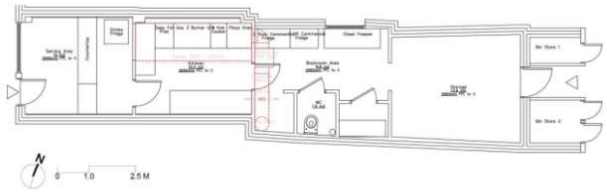
Project

Odour Assessment
Elm Grove, Hayling Island

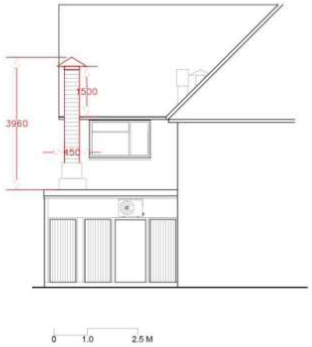
Contains Ordnance Survey Data
© Crown Copyright and Database Act 2023



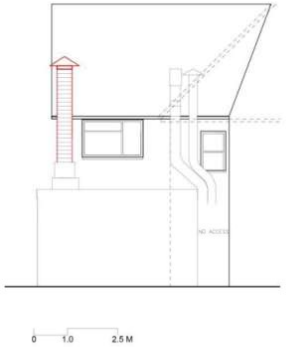
Scale: 1:100
Ground Floor Plan (Pre-Existing)



4 Scale: 1:100
Ground Floor Plan (Proposed-retrospective as works carried out)



5 East Elevation (Proposed)
Scale: 1:100



6 Recessed East Elevation (Proposed)
Scale: 1:100

7 South Elevation (Poposed)
Scale: 1:100

Legend

Title
Figure 2 - Site Layout Plan

Project
Odour Assessment
Elm Grove, Hayling Island

Contains Ordnance Survey Data
© Crown Copyright and Database Act 2023