

Odour Impact Assessment
Park Street, Cheetham Hill

Client: VIEWS (Holdings) Limited

Reference: 5303r1

Date: 24th February 2022



Report Issue

Report Title: Odour Impact Assessment - Park Street, Cheetham Hill

Report Reference: 5303

Field	Report Version			
	1	2	3	4
Prepared by	Amelia Leatherbarrow-Hurst			
Position	Senior Air Quality Consultant			
Reviewed by	Emily Macey			
Position	Senior Air Quality Consultant			
Authorised by	Ger Parry			
Position	Associate Director			
Date of Issue	24 th February 2022			
Comments	-			

Taylor Road, Urmston, Manchester, M41 7JQ

info@red-env.co.uk | 0161 706 0075 | www.red-env.co.uk

This report has been prepared by Redmore Environmental Ltd in accordance with the agreed terms and conditions of appointment. Redmore Environmental Ltd cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

Executive Summary

Redmore Environmental Ltd was commissioned by VIEWS (Holdings) Limited to undertake an Odour Impact Assessment in support of a planning application for Dark Kitchens on land off Park Street, Cheetham Hill, Manchester.

The development has the potential to cause odour impacts as a result of emissions from the proposed food preparation activities. As such, an Odour Impact Assessment was undertaken in order to evaluate potential effects as a result of the scheme.

An assessment using the standard industry methodology was undertaken in order to identify the odour risk associated with the proposals. This was based on a number of site-specific inputs.

The results of the assessment indicated the odour risk was classified as **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 may be required to reduce potential effects to an acceptable level.

The recommended abatement option has been specified in line with the relevant guidance for kitchens with a **high** risk of impact. It therefore follows that with this mitigation in place, potential odour impacts at nearby sensitive receptors would be reduced to an acceptable level.

Table of Contents

1.0	INTRODUCTION	1
1.1	Background	1
1.2	Site Location and Context	1
2.0	ODOUR BACKGROUND	3
2.1	Odour Definition	3
2.2	Odour Impacts	3
2.3	Legislative Control	4
2.4	National Planning Policy	5
2.5	Local Planning Policy	6
3.0	METHODOLOGY	7
3.1	Introduction	7
3.2	Assessment Methodology	7
4.0	ASSESSMENT	9
4.1	Odour Risk	9
4.2	Odour Control	9
5.0	CONCLUSION	11
6.0	ABBREVIATIONS	12

1.0 INTRODUCTION

1.1 Background

1.1.1 Redmore Environmental Ltd was commissioned by VIEWS (Holdings) Limited to undertake an Odour Impact Assessment in support of a planning application for Dark Kitchens on land off Park Street, Cheetham Hill, Manchester.

1.1.2 The development has the potential to cause odour impacts as a result of emissions from food preparation activities. As such, an Odour Impact Assessment was undertaken in order to evaluate potential effects as a result of the scheme and identify the necessary mitigation measures to prevent adverse impacts.

1.2 Site Location and Context

1.2.1 The site is located on land off Park Street, Cheetham Hill, Manchester, at approximate National Grid Reference (NGR): 383945, 399323. Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The proposed development is located within Manchester city centre and is bordered to the west by Pimblett Street, to the south by Park Street, to the east by Cowburn Street and to the north by a car park. There are a number of existing commercial premises in the vicinity of site including takeaways, retail units and The Booth Centre. Residential properties are distanced from the proposals with the closest situated approximately 120m east of the site within The Hallmark building.

1.2.3 The proposals comprise the redevelopment of the existing two-storey building to provide 13 small preparation kitchens and associated infrastructure.

1.2.4 The proposed kitchens and food preparation areas will be located across ground and first floor levels of the building and cooking methods will include deep fat frying. Reference should be made to Figure 2 for a site layout plan

1.2.5 Emissions from hot food preparation within the kitchens will be removed via extract canopies and transferred through vertical ducting to the roof of the building. The air will

then be discharged to atmosphere horizontally above the ridge of the building.

Reference should be made to Figure 3 for the proposed roof level extraction system.

- 1.2.6 The preparation of hot food at the premises may result in odour emissions. These have the potential to cause impacts at sensitive locations within the vicinity of the site. As such, an Odour Impact Assessment has been undertaken in order to assess potential effects as a result of the scheme and identify the necessary mitigation measures to prevent adverse impacts. This is detailed in the following report.

2.0 ODOUR BACKGROUND

2.1 Odour Definition

2.1.1 The Institute of Air Quality Management (IAQM) guidance¹ 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."

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

2.2 Odour Impacts

2.2.1 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 IAQM² as follows:

- **F**requency - how often an individual is exposed to odour;
- **I**ntensity - the individual's perception of the strength of the odour;
- **D**uration - the overall duration that individuals are exposed to an odour over time;
- **O** 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,
- **L**ocation - 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.

¹ Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

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

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

2.2.3 The **FIDOL** factors can be further considered to provide the following issues in regards to the potential for an odour emission to cause a 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 nuisance, 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**

2.3.1 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 hot food restaurants and takeaways, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

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

2.3.2 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.

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

2.4 National Planning Policy

- 2.4.1 The revised National Planning Policy Framework³ (NPPF) was published in July 2021 and sets out the Government's planning policies for England and how these are expected to be applied.

- 2.4.2 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."

- 2.4.3 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."

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

³ NPPF, Ministry of Housing, Communities and Local Government, 2021.

2.5 Local Planning Policy

2.5.1 The Core Strategy⁴ was adopted by Manchester City Council (MCC) on 11th July 2012. It is the key document in the Local Development Framework and sets out the long term strategic policies for the Manchester's future development. A review of the Core Strategy indicated the following policy of relevance to this assessment:

"Policy DM 1 - Development Management

All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:

[...]

- Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation [...]."

2.5.2 MCC have also produced a Supplementary Planning Document (SPD) for Hot Food Takeaways within the city. The guidance⁵ was adopted in March 2017 and aims to expand on the policies within Manchester's Core Strategy and relevant national guidance.

2.5.3 The above policy and guidance were taken into consideration throughout the undertaking of the assessment.

⁴ Core Strategy, MCC, 2012.

⁵ Hot Food Takeaways SPD, MCC, 2017.

3.0 **METHODOLOGY**

3.1 **Introduction**

3.1.1 The proposed development has 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 Environment, Food and Rural Affairs (DEFRA)⁶. This document provides an update to the 2005 guidance⁷ produced by DEFRA.

3.1.2 The relevant process is summarised in the following Sections.

3.2 **Assessment Methodology**

3.2.1 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.

3.2.2 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

⁶ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2018.

⁷ Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, DEFRA, 2005.

Criteria	Score	Score	Details
	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

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

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

3.2.4 A suitable odour control system can then be identified from the techniques summarised in the EMAQ+ and DEFRA guidance⁸.

⁸ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2018.

4.0 ASSESSMENT

4.1 Odour Risk

- 4.1.1 The odour risk associated with the proposals was rated in accordance with the EMAQ+ and DEFRA methodology⁹. The results are summarised in Table 3.

Table 3 Odour Risk

Criteria	Score	Score	Notes
Dispersion	Moderate	10	Emissions from cooking processes will be removed via extract canopies and transferred through vertical ducting to the roof of the building. Extract air will then be discharged horizontally above the ridge of the building
Proximity of receptors	Far	1	The closest sensitive receptors are more than 100m from the discharge point and are located within The Hallmark building, east of the site
Size of kitchen	Large	5	Due to the size of the proposed establishment and the number of kitchens proposed, the size was classified as large
Cooking type (odour and grease loading)	Very High	10	The food type to be cooked on the premises has not been finalised. However, cooking methods in a number of the kitchens will include deep fat fryers. Fried food is classified as having a very high odour and grease loading. As such, the maximum score was applied

- 4.1.2 As shown in Table 3, the odour risk from the proposed kitchen facility was scored as 26. The risk was therefore classified as **high**, in accordance with the EMAQ+ and DEFRA criteria.

4.2 Odour Control

- 4.2.1 Based on the assessment results, the development requires mitigation suitable for a **high** level of odour risk. This should include removal of both potential particulate and gaseous

⁹ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2018.

phase pollutants. The following odour control systems are therefore recommended based on the measures outlined in the relevant guidance¹⁰:

- 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. These are suitable for heavy grease loads and would provide a robust control of emissions from the cooking processes within the proposed kitchens;
- Fine dust filter - Bag, fan or High-Efficiency Particulate Arrestance (HEPA) filter;
- Gaseous phase - An activated carbon filter rated with a 0.2 - 0.4 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.

4.2.2 Of the above options, it is recommended that a baffle filter, then fine filter, then carbon filter system is installed on site. This specification is likely to offer the most economical abatement option and is suggested within the EMAQ+ and DEFRA guidance for kitchens with a **high** risk of impact. As such, it is considered a suitable approach to reduce impact within the vicinity of the site.

4.2.3 The above mitigation could be secured through planning condition if deemed necessary by MCC.

¹⁰ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2018.

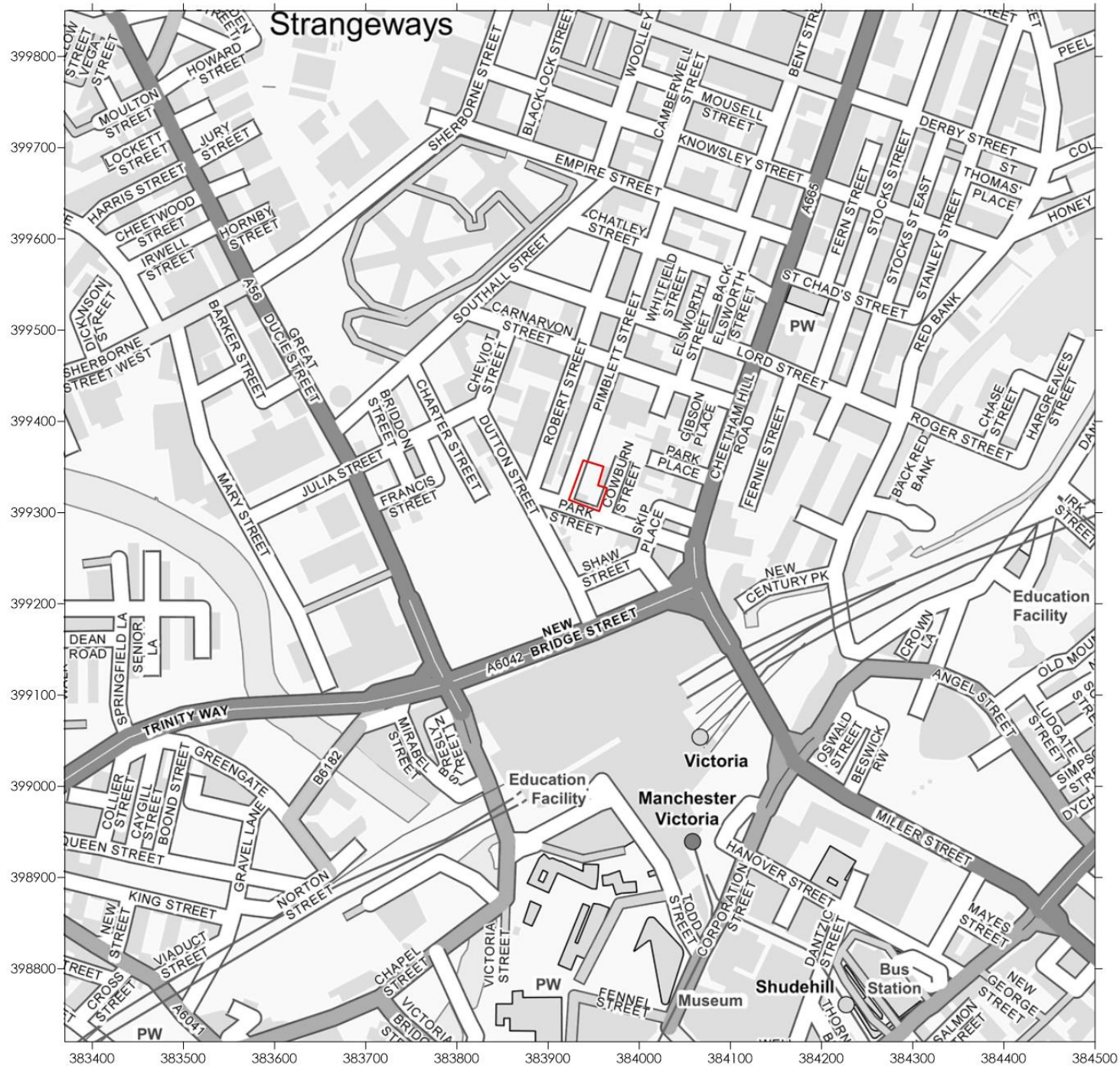
5.0 CONCLUSION

- 5.1.1 Redmore Environmental Ltd was commissioned by VIEWS (Holdings) Limited to undertake an Odour Impact Assessment in support of a planning application for Dark Kitchens on land off Park Street, Cheetham Hill.
- 5.1.2 The development has the potential to cause odour impacts as a result of emissions from food preparation activities. As such, an Odour Impact Assessment was undertaken in order to assess potential effects as a result of the scheme and identify the necessary mitigation measures to prevent adverse impacts.
- 5.1.3 An assessment using standard methodology was undertaken in order to identify the odour risk associated with the proposals. This was based on a number of site-specific inputs.
- 5.1.4 The results of the assessment indicated the odour risk was classified as **high**. It should be noted that 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 may be required to reduce potential effects to an acceptable level.
- 5.1.5 The odour abatement strategy has been specified in line with EMAQ+ and DEFRA guidance for kitchens with a **high** risk of impact. It therefore follows that with this mitigation in place, potential odour impact would be reduced to an acceptable level. As such, the proposed mitigation is considered to be suitable for a development of this nature.

6.0 ABBREVIATIONS

DEFRA	Department for Environment, Food and Rural Affairs
HEPA	High-Efficiency Particulate Arrestance
IAQM	Institute of Air Quality Management
MCC	Manchester City Council
NGR	National Grid Reference
NPPF	National Planning Policy Framework
SPD	Supplementary Planning Document

Figures



Legend



Site Boundary

Title

Figure 1 - Site Location Plan

Project

Odour Impact Assessment
Park Street, Cheetham Hill

Project Reference

5303

Client

VEWS (Holdings) Limited

Contains Ordnance Survey Data
© Crown Copyright and Database Act 2019



www.red-env.co.uk | 0161 7060075



First Floor Level



Ground Floor Level

Legend

Title

Figure 2 - Site Layout Plan

Project

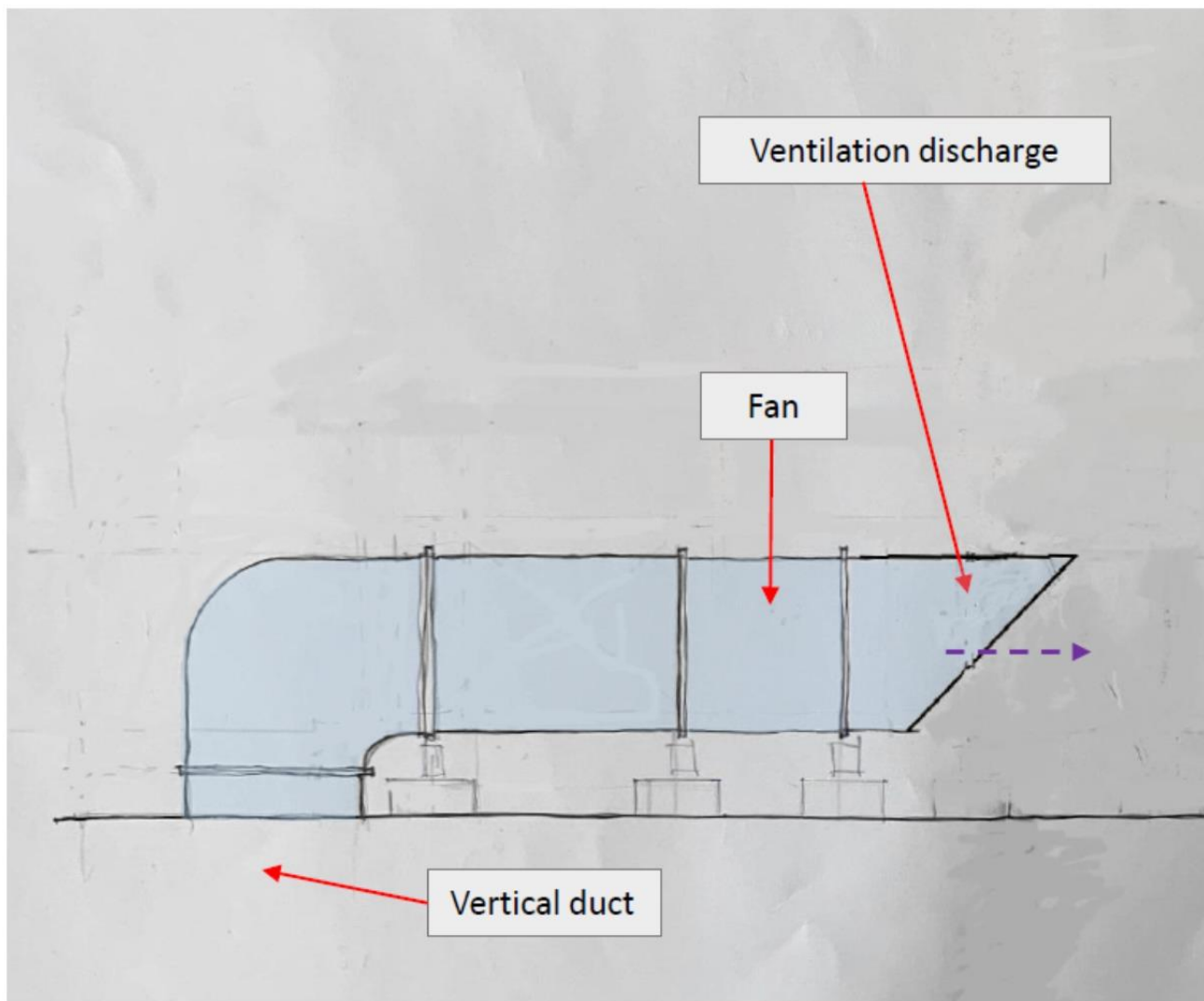
Odour Impact Assessment
Park Street, Cheetham Hill

Project Reference

5303

Client

VIEWS (Holdings) Limited



Legend

Title

Figure 3 - Proposed Roof Level Extraction System

Project

Odour Impact Assessment
Park Street, Cheetham Hill

Project Reference

5303

Client

VIEWS (Holdings) Limited