

Odour Assessment

Barlow Moor Road, Manchester

Client: Mialex Construction Mcr Ltd

Reference: 8254r1

Date: 23rd July 2024



Report Issue

Report Title: Odour Assessment - Barlow Moor Road, Manchester

Report Reference: 8254

Field	Report Version			
	1	2	3	4
Prepared by	Aaron Poole			
Position	Graduate Air Quality Consultant			
Reviewed by	Ceri Haines			
Position	Senior Air Quality Consultant			
Authorised by	Ger Parry			
Position	Director			
Date of Issue	23 rd July 2024			
Comments	-			

Building 7, Serendipity Labs, Exchange Quay, Salford, M5 3EP

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 Mialex Construction Mcr Ltd to undertake an Odour Assessment in support of a proposed restaurant at 579-581 Barlow Moor Road, Manchester.

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

An assessment using 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 **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 may be required to reduce potential effects to an acceptable level.

A design specification and associated maintenance schedule for a suitable odour control system has been developed for the scheme by a specialist technology supplier. The proposed abatement system has been specified in line with the relevant guidance for kitchens with a **very 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	10
5.0	CONCLUSION	12
6.0	ABBREVIATIONS	13

1.0 INTRODUCTION

1.1 Background

1.1.1 Redmore Environmental Ltd was commissioned by Mialex Construction Mcr Ltd to undertake an Odour Assessment in support of a planning application for the change of use of a commercial property to a restaurant at basement level and seven residential units at first and second floor at 579-581 Barlow Moor Road, Manchester.

1.1.2 The development has the potential to cause odour impacts as a result of emissions from food preparation activities on the premises. As such, an Odour 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 proposed development is located at 579-581 Barlow Moor Road, Manchester, at approximate National Grid Reference (NGR): 381697, 393951. Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The development is bordered to the east and south by Barlow Moor Road and Silverwood Avenue, respectively, and is situated in a predominantly residential area. The closest residential properties are located on Silverwood Avenue, approximately 12m west of the development.

1.2.3 The proposals comprise the change of use of the existing commercial property to a restaurant at basement level and seven residential units at first and second floor. Two kitchens will service the restaurant, one on the lower ground floor and the other on the ground floor. Both kitchens will be located towards the front of the property. The kitchen on the lower ground floor is designated for preparation, whilst the kitchen on the ground floor is for serving and cooking and will include a gas grill and rotational oven. Reference should be made to Figure 2 for a site layout plan.

1.2.4 The operational hours of the kitchens will be between 08:30 and 23:00, Monday to Sunday.

1.2.5 Emissions from food preparation and cooking activities within the kitchens will be removed via individual extraction canopy systems located above the respective preparation areas. The air will then be transferred via internal ducting and discharged vertically to atmosphere via two flues which terminate approximately 8m above ground level. Reference should be made to Figure 2 for the site layout plan.

1.2.6 Planning consent for the development was withheld by Manchester City Council (MCC) in May 2024 (planning reference: 140033/FO/2024), for the following reason in relation to odour¹:

"2) Please supply an Odour Impact Assessment. This should outline that any extraction system meets the minimum guidance in the DEFRA guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems (2005) and Odour Guidance for Local Authorities (2010)."

1.2.7 An Odour Assessment has been undertaken in order address the stated comments, evaluate potential effects as a result of scheme and identify any necessary mitigation to reduce impacts to an acceptable level. This is detailed within the following report.

¹ Consultation response to 135649/FO/2022, Julie Roscoe, November 2023.

2.0 ODOUR BACKGROUND

2.1 Odour Definition

2.1.1 The Institute of Air Quality Management (IAQM) guidance² 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 IAQM³ 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.

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.

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 in relation to the following and 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 restaurants, 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 Framework⁴ (NPPF) was published in December 2023 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 air quality:

"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 places. 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.

⁴ NPPF, Ministry of Housing, Communities and Local Government, 2023.

2.5 Local Planning Policy

2.5.1 The Core Strategy⁵ was adopted by MCC on 11th July 2012. 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 The above policy was taken into consideration throughout the undertaking of the assessment.

⁵ Core Strategy, MCC, 2012.

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 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	Very Poor	20	Emissions from cooking operations within the kitchens will be removed via extraction canopy systems located above the respective preparation areas. Air will then be transferred via internal ducting and discharged vertically to atmosphere via two separate flues which terminate approximately 8m above ground level. The proposed arrangements at the point of discharge include the use of high velocity jet cowls with rain collectors to prevent rain and debris ingress. As score of 'very poor' was applied in line with the criteria outlined in the EMAQ+ and DEFRA guidance in order to ensure a worst-case assessment
Proximity of receptors	Close	10	The closest existing sensitive receptors are situated approximately 12m from the flue outlets. These include residential properties along Silverwood Avenue to the west of the development. In addition, the development will introduce sensitive receptors directly above the restaurant on the first and second floor of the property. As such, a score of 'close' was applied in accordance with the EMAQ+ and DEFRA criteria
Size of kitchen	Large	5	The kitchen is anticipated to serve more than 100 covers a day. As such, the size of the kitchen is considered to be 'Large' in line with the EMAQ+ and DEFRA guidance
Cooking type (odour and grease loading)	Very High	10	The food type to be cooked on the premises will include Middle Eastern food. As such, the maximum score of 'very high' was applied in accordance with the EMAQ+ and DEFRA criteria

4.1.2 As shown in Table 3, the odour risk from the proposed kitchen facility was scored as 45. The risk was therefore classified as **very high**, in accordance with the EMAQ+ and DEFRA

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

criteria¹⁰. This was utilised to inform the wider mitigation strategy for the scheme which is discussed further in the following Section.

4.2 **Odour Control**

4.2.1 Based on the assessment results, the development requires mitigation suitable for a **very high** level of odour risk. This should include removal of both potential particulate and gaseous phase pollutants. There are a number of options for abatement identified within the EMAQ+ and DEFRA guidance¹¹ 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. Alternatively, Electrostatic Precipitators (ESPs) may be used;
- Fine dust filter - Bag, fan or High-Efficiency Particulate Arrestance (HEPA) filters. Alternatively, ESPs may be used; and,
- 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.

4.2.2 Consultation has been undertaken with Purified Air, specialist suppliers of kitchen extraction and emission control systems, in order to identify a specific mitigation strategy for the development which aligns with the stated EMAQ+ and DEFRA guidance¹² requirements. This is summarised in the following Sections:

Lower Ground Floor Kitchen

- Purified Air ESP1500 - ESP to remove oil, grease and smoke particles from the air stream. The unit is designed with an integral sump to collect the oil and grease. The Purified Air specifications indicate that the ESP will remove up to 98% of particle sizes down to 0.01µm. The unit also produces Ozone, reducing malodours; and,

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

¹¹ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2022.

¹² Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2022.

- MFU 1200 A1 - Multi Filter Unit (MFU) containing two panel filters and six Site Safe carbon filters sized to achieve a 0.4s dwell time in order to remove residual particulates, grease and odorous compounds prior to discharge to atmosphere.

Ground Floor Kitchen

- 2X Purified Air ESP1500 in a double pass formation; and,
- One MFU 1200 A1.

4.2.3 Reference should be made to Appendix 1 for the Purified Air technical specifications.

4.2.4 The following maintenance schedule has been identified for the proposed abatement systems:

- The ESPs 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;
- The panel and carbon filters will be checked regularly for any signs of disrepair and will be maintained and replaced in accordance with the manufacturer's recommendations;
- A visual inspection of the ventilation systems 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.

4.2.5 The proposed odour control systems and associated maintenance schedule have been specified in line with the EMAQ+ and DEFRA guidance¹³ for cooking activities with a **very high** risk of impact. As such, they are considered suitable to reduce potential effects associated with the scheme to an acceptable level.

¹³ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2018.

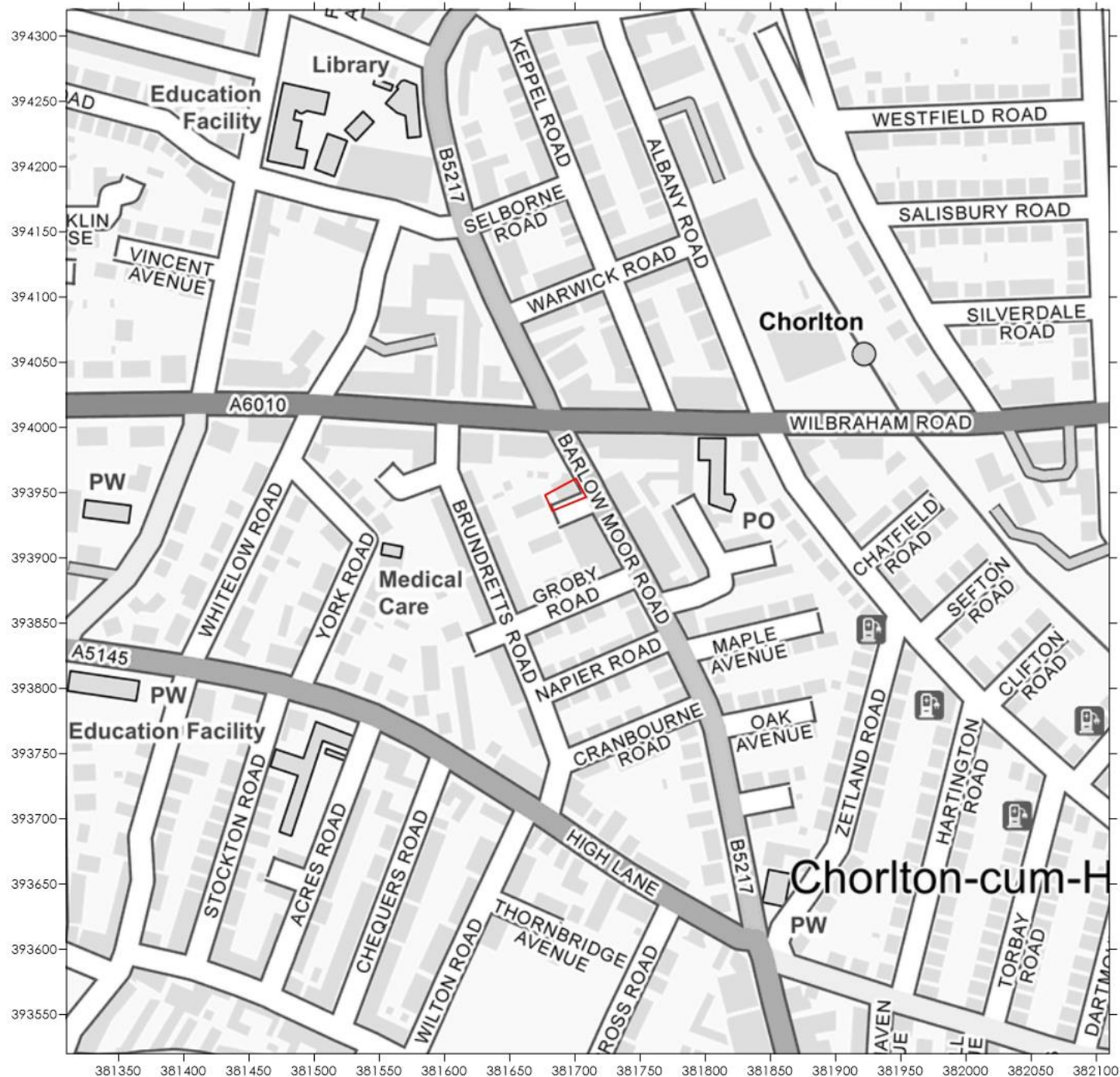
5.0 CONCLUSION

- 5.1.1 Redmore Environmental Ltd was commissioned by Mialex Construction Mcr Ltd to undertake an Odour Assessment in support of a planning application for the change of use of a commercial property to a restaurant at basement level and seven residential units at first and second floor at 579-581 Barlow Moor Road, Manchester.
- 5.1.2 The development has the potential to cause odour impacts as a result of emissions from food preparation activities on the premises. As such, an Odour Assessment was undertaken in order to assess potential effects as a result of the scheme and identify any necessary mitigation measures to prevent adverse impacts.
- 5.1.3 An assessment using the EMAQ+ and DEFRA 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 **very 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 A design specification and associated maintenance schedule for a suitable odour control system has been developed for the scheme by a specialist technology supplier. The proposed abatement system has been specified in line with the EMAQ+ and DEFRA guidance for kitchens with a **very 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.
- 5.1.6 Based on the findings of the assessment, it is considered that odour should not be viewed as a constraint to planning consent for the development, subject to installation of the specified mitigation.

6.0 **ABBREVIATIONS**

DEFRA	Department for Environment, Food and Rural Affairs
ESP	Electrostatic Precipitator
HEPA	High-Efficiency Particulate Arrestance
IAQM	Institute of Air Quality Management
MCC	Manchester City Council
MFU	Mult Filter Unit
NGR	National Grid Reference
NPPF	National Planning Policy Framework

Figures



Legend



Site Boundary

Title

Figure 1 - Site Location Plan

Project

Barlow Moor Road,
Manchester

Project Reference

8254

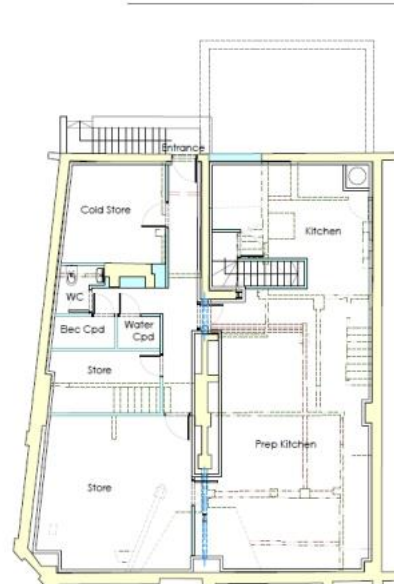
Client

Mialex Construction Mcr Ltd

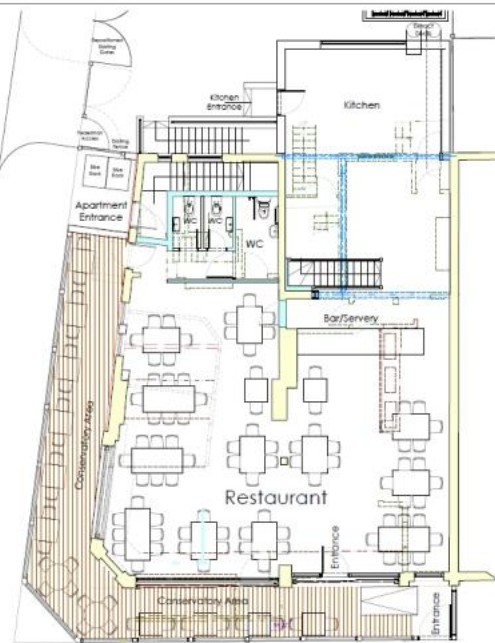
Contains Ordnance Survey Data
© Crown Copyright and Database Act 2022



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



Proposed Lower Ground Floor Plan



Proposed Ground Floor Plan



Proposed First Floor Plan



Proposed Second Floor Plan

Legend

Title

Figure 2 - Site Layout Plan

Project

Barlow Moor Road,
Manchester

Project Reference

8254

Client

Mialex Construction Mcr Ltd

Contains Ordnance Survey Data
© Crown Copyright and Database Act 2022



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

Appendix 1 - Technical Specification



Specification & EMAQ Report

Project Name 00000

Chorlton - 579-581 Barlow Moor Road

Prepared for: Aaron Poole

Prepared by: Nathan Collins

Date: 16/07/24

Contact details:

Nathan Collins

01708 755 414

nathan.collins@purifiedair.com

**AIR FILTRATION
EXPERTS**



**MARKET LEADERS
S I N C E
1984**

CONTENTS

CONTENTS	2
INTRODUCTION	3
TECHNICAL SPECIFICATIONS (per unit)	Error! Bookmark not defined.
TECHNICAL DRAWINGS.....	9

INTRODUCTION

Interpretation of Requirements

Following our conversation today I am pleased to provide an equipment selection for an odour control solution.

As with any project we get involved in we always recommend to our clients that they should closely follow the EMAQ guide for guidance on odour control equipment selection.

This ensures that what they propose will be in line with local authority's requirements and if the system is maintained correctly they will not exhaust nuisance odours leading to complaints from nearby residents.

With this in mind I carried out a risk assessment as detailed in Appendix 3 of the EMAQ Guide.

Taking into consideration the level of discharge, proximity of receptors, size of kitchen and cooking type your project requires a high level of odour control to comply. This specification has been drawn up with the proposed airflows of 0.32m³/s & 0.43m³/s.

We have scored as below and as taken from Appendix 3: Risk Assessment for Odour;

Risk	Score
Dispersions	20
Proximity Of Receptors	10
Size Of Kitchen	05
Cooking Type	10
Total Score	45

The type of odour abatement system that complies is as below, taken directly from the EMAQ Guide and must be to a high level of control;

Odour arrestment plant performance

Very high level of odour control may include:

1. Fine filtration or ESP followed by Carbon filtration (carbon filters rated with a 0.4 – 0.8 second residence time).
2. Fine filtration or ESP followed by carbon filtration and counteractant/neutralising system to achieve the same level of control as point 1.
3. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as

PRODUCT OVERVIEWS

point 1.

4. Fine filtration or ESP followed by wet scrubbing to achieve the same level of control as point 1.

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 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 Receptor	Close	10	Closest sensitive receptor between 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. <i>Turkish, Middle Eastern or any other premises cooking with solid fuel</i>
	High	7	Vietnamese, Thai, Indian, <i>Japanese, Chinese, steakhouse.</i>
	Medium	4	Cantonese, <i>Italian, French, Pizza (gas fired)</i>
	Low	1	Most pubs (<i>no fried food, mainly reheating and sandwiches etc.</i>), <i>Tea rooms.</i>

PRODUCT OVERVIEWS

The System

Basement Kitchen = ESP 1500

Ground Floor Kitchen = 2 X ESP 1500 in a double pass formation.



Key Features

Eliminates up to 98% of oil, grease and smoke particles

Filters particles down to sub-micron levels

Produces Ozone to help reduce malodours

Designed with an integral sump

As our ESP's have been specifically designed for kitchen extract and not modified from industrial use, they have integral sumps to collect the oil, grease and smoke particles filtered out of the exhaust; this not only simplifies servicing but eradicates potentially dangerous spillage from the bottom of the units and greatly cuts down on flammable build-ups within the duct run.

The ionisation voltage has been designed to run at a negative potential which enhances the ionisation of particles and also produces more Ozone which is helpful in reducing odours in kitchen applications.

Our ESP units fit in-line with the kitchen ducting and can be configured modularly to cope with all extract volume requirements.

The Electrostatic Precipitator is a very efficient means for separating the particulate phase; operating efficiency when clean can be as high as 98% at particle sizes down to 0.01 micron.

The Electrostatic Precipitator does not present a high-pressure loss (175PA approx. dependant on air flow). This gives a specific advantage in that most standard Kitchen extractor fans will have the capability of overcoming this small differential.

This is particularly advantageous when it is considered that if the pressure loss were high larger noisier fans would probably be necessary resulting in potential noise pollution.

PRODUCT OVERVIEWS

MFU

Basement Kitchen = MFU 1200 A1

Ground Floor Kitchen = MFU 1200 A1



Key Features

Modular in design

Endless combinations of passive filtration

Multiple configurations

Built for stock / No lead times

Our MFUs are designed explicitly for kitchen extract systems; they collect the oil, grease and smoke particles filtered out of the exhaust through a combination of passive air filters, including panel, bag, HEPA and carbon. The high-quality unit can house multiple filter combinations and is effortlessly serviced, replaced or even re-configured to provide continually effective and affordable kitchen extract particulate control. Additionally, the units help reduce grease build-up within the ducting and reduce odours.

Its modular design means units can be configured in various ways to handle any required flow rate, providing effective and efficient kitchen extract filtration.

PRODUCT OVERVIEWS

Carbon Filters

We manufacture Site Safe carbon filters, these innovative carbon units measure 594x196x597mm, three combining to 594x594x597mm, directly replacing our original carbon blocks whilst providing exactly the same filter performance as an existing full size cell.

Their advantage is that they only weigh 18kg each against the 68kg of our original blocks. This takes the strain out of fitting and servicing, allowing only one engineer to complete the task where two had been previously required.

Our Site Safe carbon filters use panels of activated carbon to remove the malodorous gases within the commercial kitchen extract duct through the process of chemical adsorption. By installing our ESP units before our Site Safe filters, the carbon life span is greatly increased, allowing it to nullify malodours at optimum efficiency for much longer.

The carbon filters should be sized to achieve a 0.4s dwell time.

As you can see the system that has been specified is in line with EMAQ guidance.

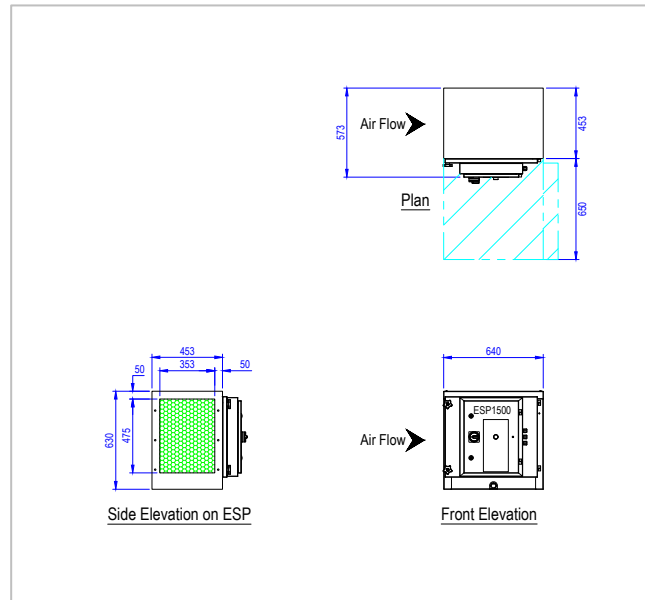
TECHNICAL SPECIFICATIONS (per unit)

3 No. ESP 1500E Unit.	
Air Volume Max	0.7 m ³ /s
Electrical Supply	220/240V, 50/60Hz, 1ph
Power Consumption	20 W
Weight each	55 kg
Min/Max Working Temperature	4/56°C
Max Relative Humidity	75%

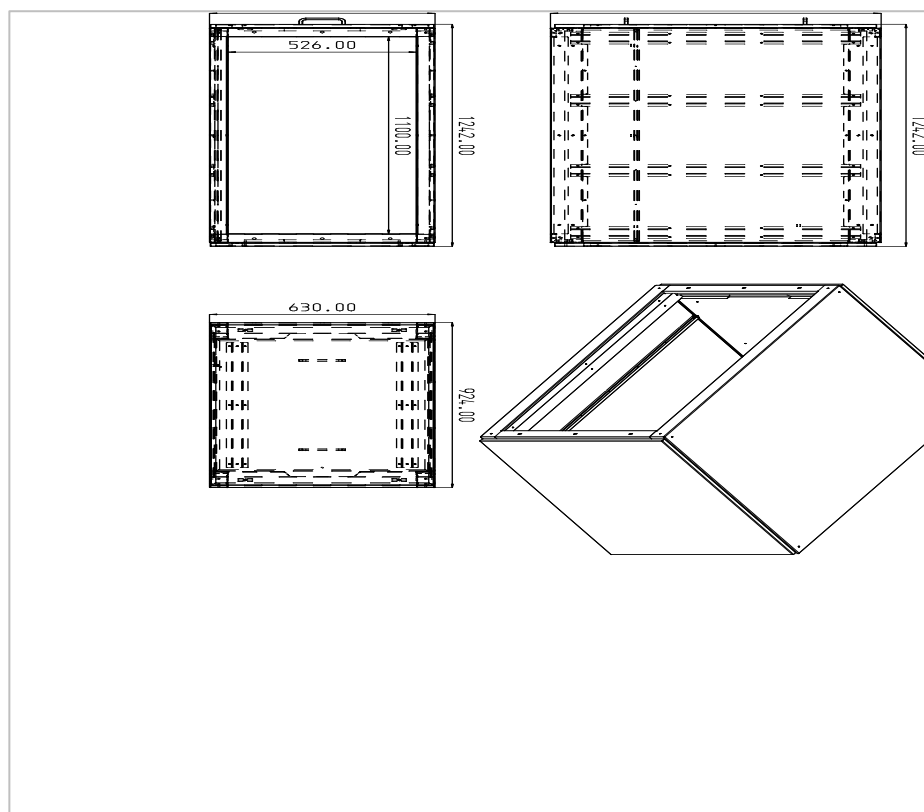
2 No. MFU 1200 (Casing Only)	
Width	1245 mm
Height	630 mm
Depth	925 mm
Weight	78 kg

TECHNICAL DRAWINGS

ESP 1500



MFU 1200





ACCREDITED AND CERTIFIED BY



Thank you for the opportunity to provide the specification and EMAQ report. Should you have any questions or queries please get in touch.

Nathan Collins

Business Development Manager

T 01708 755 414

nathan.collins@purifiedair.com

purifiedair.com

Lyon House, Lyon Rd, Romford, Essex RM1 2BG
