

Odour Assessment and Mitigation Strategy
Mosley Street, Manchester

Client: Biz Assets Ltd

Reference: 6972r3

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Report Issue

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Prepared by	Olivia Davidson	Olivia Davidson	Ceri Haines	
Position	Graduate Air Quality Consultant	Graduate Air Quality Consultant	Senior Air Quality Consultant	
Reviewed by	Ceri Haines	Emily Macey	Emily Macey	
Position	Air Quality Consultant	Senior Air Quality Consultant	Senior Air Quality Consultant	
Authorised by	Ger Parry	Ger Parry	Ger Parry	
Position	Director	Director	Director	
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Serendipity Labs, Exchange Quay, Salford, M5 3EP

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

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Executive Summary

Redmore Environmental Ltd was commissioned by Biz Assets Ltd to undertake an Odour Assessment and prepare a Mitigation Strategy in support of the repair and refurbishment of 77-79 Mosley Street, Manchester.

Odour emissions associated with proposed food preparation activities at the development have the potential to cause impacts at sensitive locations in the vicinity of the site. As such, an Odour Assessment and Mitigation Strategy was undertaken in order to evaluate potential effects as a result of the scheme and identify any necessary mitigation measures to prevent adverse impacts.

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

The end users were not known at the time of reporting. As such, assumptions were made in the assessment regarding the cuisine type and number of covers. The assessment assumed the highest risk inputs in order to provide a worst case scenario baseline. If required, a further risk assessment will be undertaken once an end user is confirmed and, where appropriate, a different abatement strategy may be adopted in line with the outcomes of the report.

The findings 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 impacts or affect local amenity levels. However, it does suggest that appropriate mitigation is 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 **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.

Based on the findings of the assessment, it is considered that odour emissions should not represent a constraint to planning consent for the proposals, subject to inclusion of the specified mitigation.

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1.0 INTRODUCTION

1.1 Background

1.1.1 Redmore Environmental Ltd was commissioned by Biz Assets Ltd to undertake an Odour Assessment and prepare a Mitigation Strategy in support of the repair and refurbishment of 77-79 Mosley Street, Manchester.

1.1.2 Odour emissions associated with proposed food preparation activities at the development have the potential to cause impacts at sensitive locations in the vicinity of the site. As such, an Odour Assessment and Mitigation Strategy was undertaken in order to evaluate potential effects as a result of the scheme and identify any necessary mitigation measures to prevent adverse impacts.

1.2 Site Location and Context

1.2.1 The proposed development is located at 77-79 Mosley Street, Manchester, M2 3FX, at approximate National Grid Reference (NGR): 384020, 397990. Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The site is situated in Manchester city centre and is bordered by commercial buildings to the north, south and east and by the St Peter's Square Metrolink stop to the west.

1.2.3 The site includes existing kitchens within the basement of the building. Emissions associated food preparation activities are currently extracted and exhausted to atmosphere vertically via two dedicated flues located on the roof of the building, as shown in Figure 2.

1.2.4 The development comprises the repair and refurbishment of the existing kitchens to serve two restaurants at ground level. Under the proposals, emissions will be extracted from food preparation areas within the kitchens and exhausted to atmosphere vertically via two new dedicated flues on the roof of the building which will terminate at least 1m above the eaves but below the ridge, as shown in Figures 3 and 4.

1.2.5 A planning application for the development was submitted to Manchester City Council (MCC) (planning reference: 137032/FO/2023). Following submission, a consultation

response¹ was received from Julie Roscoe, Director of Planning, Building Control & Licensing at MCC. This included the following comments in relation to odour:

"1) Given the nature of the proposal, the planning application will need to be supported by an appropriate odour impact assessment together with suitable mitigation measures, in order to satisfactorily control any odours and fumes that would be emitted from the development. We require the following information:

- The location and appearance of any external equipment for fume extraction/ventilation e.g. grilles/flues. We will require scaled plans and elevational drawings as existing and proposed
- Relevant floorplans showing the location of any equipment internally and the route any ducting would take to the internal riser/exterior walls

[...]

- A technical specification of the proposed equipment from the manufacturer
- Information regarding the proposed cleaning/maintenance regime for the fume extraction equipment

[...]."

1.2.6 An Odour Assessment and Mitigation Strategy has been undertaken in order to address the stated comments, evaluate the potential for impacts as a result of emissions associated with the development and identify the necessary mitigation to control effects to an acceptable level. This is detailed within the following report.

¹ Consultation response to 137032/FO/2023, Julie Roscoe, May 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 commercial kitchens, 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 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.

⁴ NPPF, Ministry of Housing, Communities and Local Government, 2021.

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 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 guidance⁷ produced by DEFRA.

3.1.2 A summary of the methodology is provided in the following Sections. This was agreed with Laura Miller, Environmental Protection Officer at MCC, on 30th June 2023.

3.2 **EMAQ+ and DEFRA 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

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.

Criteria	Score	Score	Details
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

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+, 2022.

4.0 **ASSESSMENT**

4.1 **EMAQ+ and DEFRA Risk Assessment**

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 associated with existing food preparation activities at the site are exhausted to atmosphere vertically via two dedicated flues located on the roof of the building, as shown in Figure 2. These will be decommissioned as part of the proposals Under the proposed scheme, emissions will be extracted from food preparation areas within the kitchens via canopies. Air will then be exhausted to atmosphere vertically via two new upgraded flues which will terminate at least 1m above the eaves but below the ridge of the building, as shown in Figures 3 and 4
Proximity of receptors	Medium	5	The closest receptors are located approximately 10m south-west of the site. Information provided by the Client and review of Google Earth imagery indicates the windows are unopenable on this building. The nearest sensitive receptors are located approximately 27m east of the site. As such, a 'medium' score was applied in accordance with the EMAQ+ and DEFRA guidance criteria
Size of kitchen	Large	5	The number of covers was not known at the time of assessment. As such, the size was classified as 'large' in order to allow a worst-case appraisal of potential impacts
Cooking type (odour and grease loading)	Very high	10	The cuisine types to be cooked at the premises was not known at the time of assessment. As such, a 'very high' classification has been applied for odour and grease loading in order to provide a worst-case appraisal of potential impacts

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

4.1.2 As shown in Table 3, the odour risk for the proposed development was scored as 30. The risk was therefore classified as **high**, in accordance with the EMAQ+ and DEFRA criteria. As such, the risk rating was utilised to inform the wider mitigation strategy for the scheme. This 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 **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 guidance¹⁰ 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;
- Fine filtration system - Bag, fan or High-Efficiency Particulate Arrestance (HEPA) filters should be included for removal of particulates from the air stream. Alternatively, Electrostatic Precipitators (ESPs) may be used;
- Gaseous phase - An activated carbon filter rated with a 0.2 - 0.4second 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 1 metre above the eaves of the building and positioned at least 2 metres away from any openable window.

4.2.2 As stated in the previous Section, odours will be collected via extraction hoods situated above the hot food preparation areas. Emissions will be exhausted to atmosphere vertically via two dedicated flues. As shown in Figures 3 and 4, the proposed termination point for the flues is at least 1m above the eaves of the associated building and over 2m away from any openable windows, as required by the DEFRA and EMAQ+ guidance and outlined in the final point above.

¹⁰ Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2022.

4.2.3 A specific emission control scheme has also been developed for the proposals by Purified Air, specialist suppliers of kitchen extraction and abatement technology. This includes the following elements:

- Purified Air ESP4500 - An ESP4500 unit will be installed within each of the two extract systems to remove oil, grease and smoke particles from the air streams. The units include integral sumps to collect the oil and grease, and specifications provided by Purified Air indicate that the systems will remove up to 98% of particles down to 0.01µm aerodynamic diameter; and,
- Site Safe carbon filters - Panels of activated carbon will be installed within each of the two extract systems in order to remove odour from the air streams prior to exhaust to atmosphere. These will provide 0.2 - 0.4 second residence times for air treatment in compliance with the EMAQ+ and DEFRA guidance¹¹ for cooking activities with a **high** risk of impact.

4.2.4 Reference should be made to Appendix 1 for the Purified Air technical specification.

4.2.5 The design specifications for the ventilation systems which will serve the kitchen extract and odour abatement plant have not yet been finalised. However, it is considered provision of the information could be secured through planning condition if deemed necessary by MCC.

4.2.6 The following maintenance schedule has been identified for the proposed odour control systems:

- The ESPs will be serviced at intervals between one and three months, dependant on usage. The cells within the units will be replaced in situ and the housing and inside of the casings will be cleaned during each service event;
- The carbon filters will be replaced annually with fresh units;
- A visual inspection of the ventilation systems will be carried out at least once per week to check for grease build up and any 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 manufacturer.

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

4.2.7 The proposed odour control systems and associated maintenance schedule have been specified in line with the EMAQ+ and DEFRA guidance¹² for cooking activities with a **high** risk of impact. As such, they are considered suitable to reduce potential effects associated with the scheme to an acceptable level.

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

5.0 CONCLUSION

- 5.1.1 Redmore Environmental Ltd was commissioned by Biz Assets Ltd to undertake an Odour Assessment and prepare Mitigation Strategy in support of the repair and refurbishment at 77-79 Mosley Street, Manchester.
- 5.1.2 Odour emissions associated with proposed food preparation activities at the development have the potential to cause impacts at sensitive locations in the vicinity of the site. As such, an Odour Assessment and Mitigation Strategy was undertaken in order to evaluate potential effects as a result of the scheme and identify any necessary mitigation measures to prevent adverse impacts.
- 5.1.3 The findings 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 impacts or affect local amenity levels. However, it does suggest that appropriate mitigation options are required to reduce potential effects to an acceptable level.
- 5.1.4 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 **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.
- 5.1.5 It should be noted that the design specification may be subject to change in accordance with the risk assessment carried out by the end user once they are known. All odour abatement will be specified in line with the appropriate EMAQ+ and DEFRA guidance criteria.
- 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 the installation of the specified mitigation.

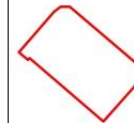
6.0 ABBREVIATIONS

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
NGR	National Grid Reference
NPPF	National Planning Policy Framework

Figures



Legend



Site Boundary

Title

Figure 1 - Site Location Plan

Project

Odour Assessment
Mosley Street, Manchester

Project Reference

6972

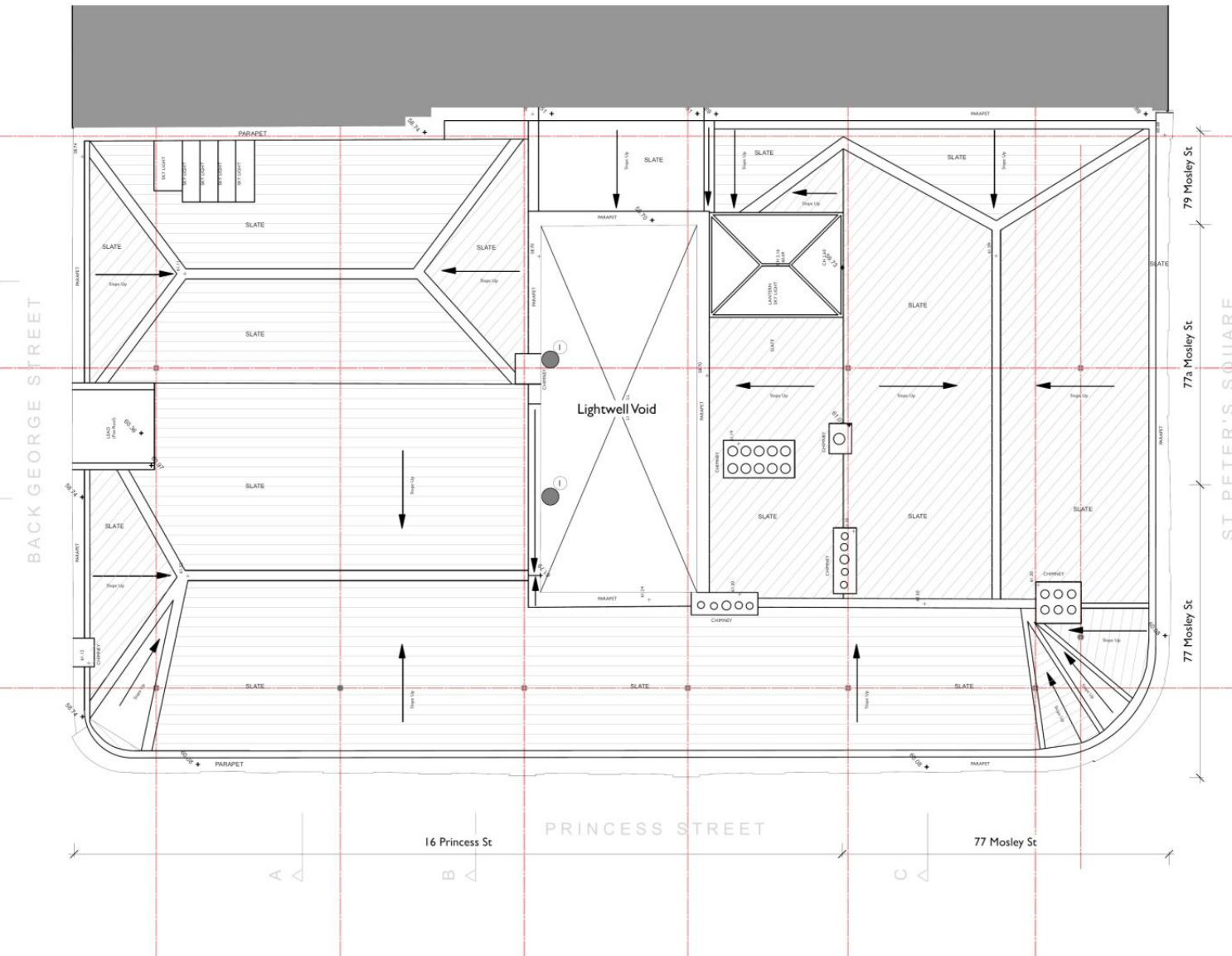
Client

Biz Assets Ltd

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Legend

Title

Figure 2 - Existing Roof Layout Plan

Project

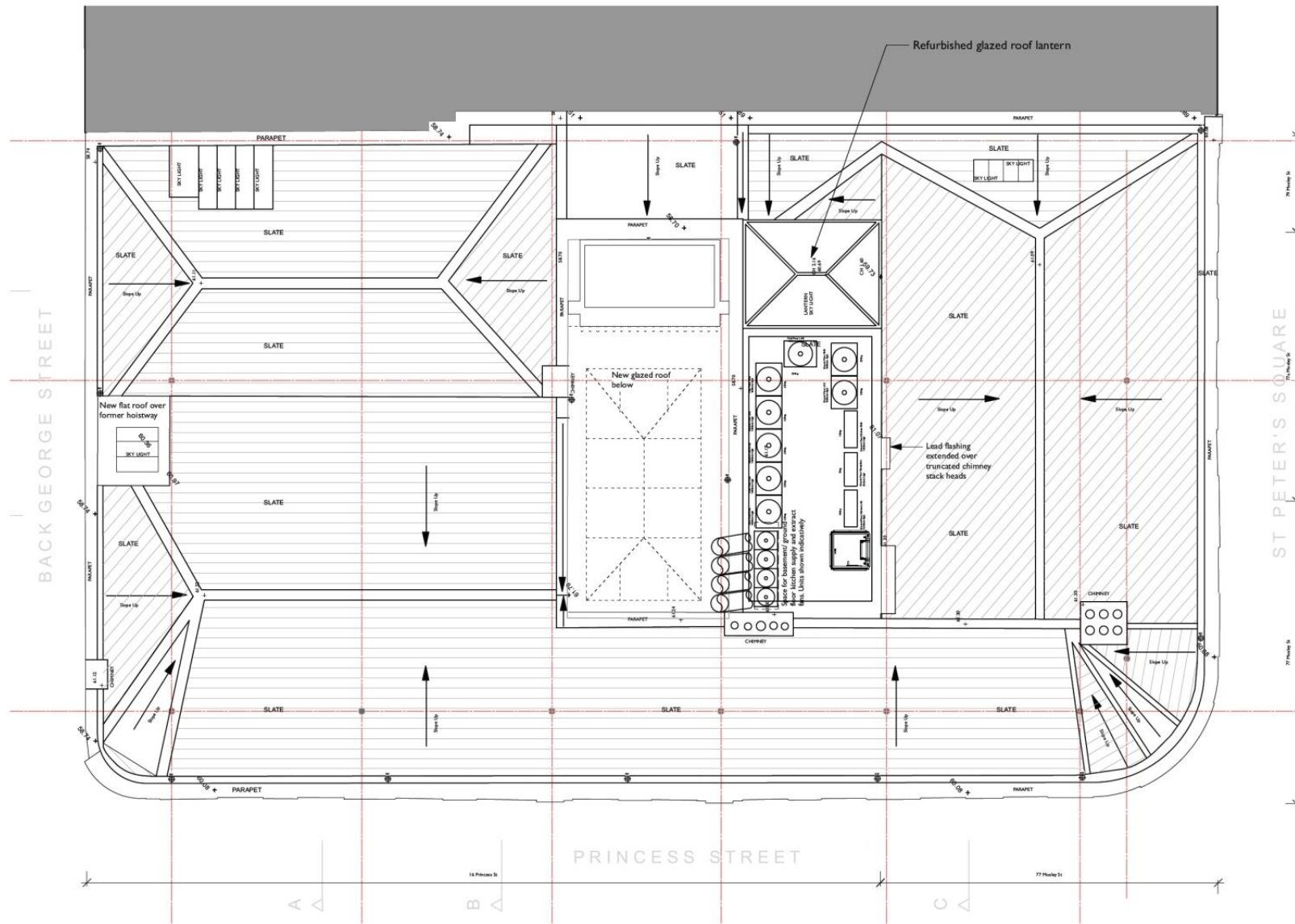
Odour Assessment
Mosley Street, Manchester

Project Reference

6972

Client

Biz Assets Ltd



Legend

Title

Figure 3 - Proposed Roof Layout Plan

Project

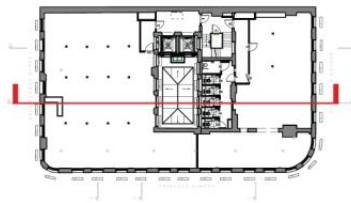
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Mosley Street, Manchester

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Legend

Title

Figure 4 - Proposed Site Elevation Layout

Project

Odour Assessment
Mosley Street, Manchester

Project Reference

6972

Client

Biz Assets Ltd



Appendix 1 - Odour Control System Technical Specification



Specification & EMAQ Report

Project Name 00000

78 Mosley Street, Manchester

Prepared for: Carl Ackers

Prepared by: Nathan Collins

Date: 23/06/23

Contact details:

Nathan Collins

01708 755 414

Nathan.collins@purifiedair.com

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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.

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

Please note that this equipment has been selected on the basis of the airflow being 1.5m³/s.

Risk	Score
Dispersions	10
Proximity Of Receptors	10
Size Of Kitchen	5
Cooking Type	10
Total Score	35

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

High level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.2 – 0.4 second residence time).
2. Fine filtration or ESP followed by UV ozone system to achieve the

PRODUCT OVERVIEWS

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	<i>Cantonese, 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

The first stage of control should be 2X Purified Air ESP 4500s 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

The Second stage of filtration should be a Purified Air MFU 1800 E2 Carbon filters only.



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.

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

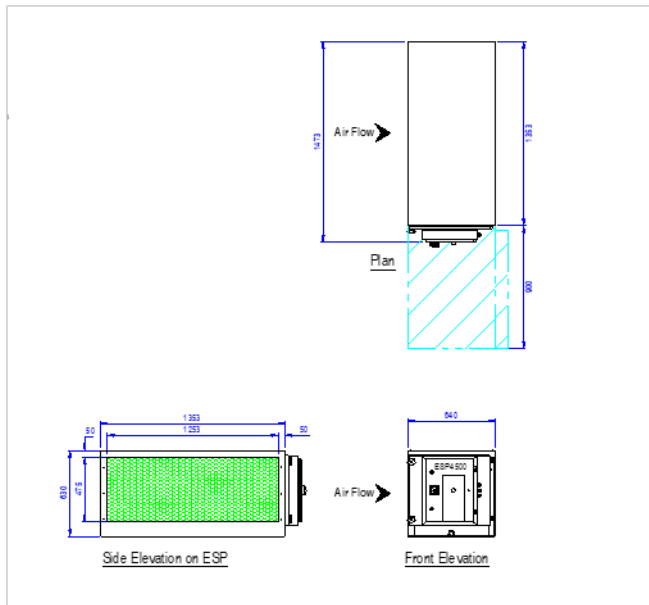
TECHNICAL SPECIFICATIONS (per unit)

2 No. ESP 4500E Unit.	
Air Volume Max	2.1m3/s
Electrical Supply	220/240V 50Hz 1ph
Power Consumption	40 W
Weight each	118kg
Min/Max Working Temperature	4/56°C
Max Relative Humidity	75%

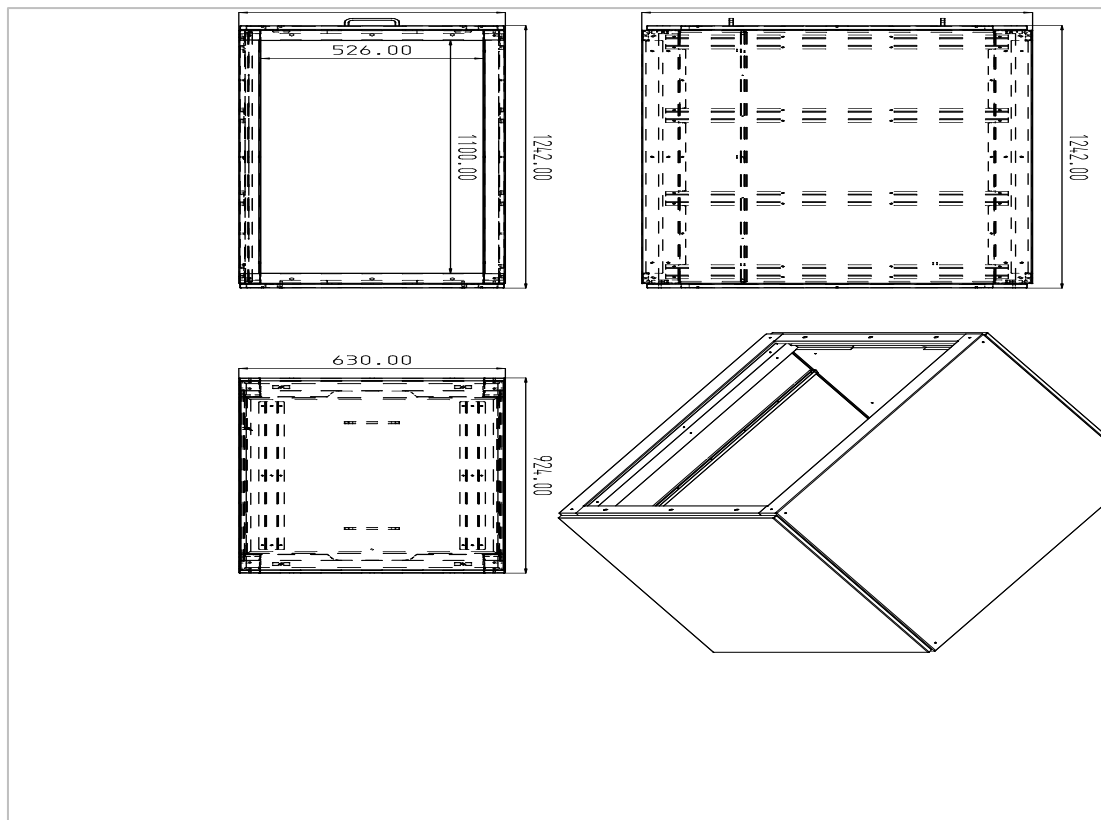
1 No. MFU 1800 (Casing Only)	
Width	1885mm
Height	630mm
Depth	925mm
Weight	133.5kg

TECHNICAL DRAWINGS

ESP 4500



MFU 1800





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

01708 755 414

nathan.collins@purifiedair.com

purifiedair.com

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