



COMMERCIAL KITCHEN ODOUR RISK ASSESSMENT

on behalf of

CARTER LAUREN CONSTRUCTION LTD

for

**FRANCIS COURT, BORERS ARMS ROAD,
CRAWLEY**

REPORT DATE: 12 JUNE 2026

REPORT NUMBER: 103508

**Miller Goodall Ltd
Ground Floor
Ashworth House
Deakins Business Park
Blackburn Road
Egerton
Bolton
Lancashire
BL7 9RP**

Tel: 01204 596166

www.millergoodall.co.uk

Company registration number 5201673

Summary

This assessment has been undertaken to discharge a planning condition associated with the planning application for a care home at Francis Court, Borers Arms Road, Crawley.

A commercial kitchen odour risk assessment has been undertaken, which has concluded that a high level of odour control is required for the development. Therefore, appropriate mitigation measures have been outlined along with recommended installation and maintenance requirements to ensure the system remains efficient and in good condition.

With the implementation of appropriate mitigation, there is no reason for Condition 20 not to be discharged.

Prepared By	Melody Horan	Reviewed By	Philip Walton
Signed		Signed	
Date	12 June 2026	Date	12 June 2026

Version	Date	Change	Initials
1	12 June 2026	First issue	MH

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1 Introduction

1.1 This kitchen odour assessment has been undertaken to support the discharge of condition 20 of the decision notice DM/23/2360 for a new care home at Francis Court, Borers Arms Road, Crawley. The site lies within the administrative boundary of Mid Sussex District Council (MSDC).

1.2 Condition 20 is as follows:

“The development hereby permitted shall not operate catering activities until a scheme for the installation of equipment to control the emission of fumes and odour from the premises has been submitted to and approved in writing by the Local Planning Authority, and the scheme as approved has been implemented. The submitted odour control scheme shall be in accordance with current best practice and shall include an odour risk assessment, as well as a maintenance and monitoring schedule for the odour control system, to ensure adequate control of odours, to align with the manufacturer’s instructions.”

1.3 The report provides a commercial kitchen risk assessment and review of the odour associated with the proposed development, in accordance with established guidance from EMAQ+ ^[1] and provides recommendations in respect of odour abatement.

1.4 There are a number of factors that influence the magnitude of an odour problem, these include:

- size of the cooking facility – influences the intensity of the odour;
- type of food being prepared – affects the chemical constituents within the ventilation air;
- type of cooking appliances used – which the level of fat, water droplets and temperature within the ventilation air; and
- the location of the premises.

1.5 In general, the greater the potential risk of causing harm to amenity or causing a nuisance the more effective the odour abatement must be.

¹ EMAQ+, 2022. Control of Odour and Noise from Commercial Kitchen Exhaust Systems

2 Site Description

- 2.1 The site is located approximately 7.6 km south of Crawley town centre and was previously occupied by a care home.
- 2.2 Copthorne Bank runs along the northern boundary of the proposed development site, and Borers Arms Road runs along the southern boundary. Residential properties are located beyond both of these roads. Residential properties are also present to the east, with an area of green space to the west. The site location is shown in **Appendix A**.

3 Proposed Development

- 3.1 The proposed development consists of a 78-bedroom care home in C2 use with associated car parking, landscaping, and access. The proposed development includes the installation of a kitchen to serve the residents of the proposed care home.
- 3.2 There will be a maximum of 78 covers, with food served three times per day. The food served includes cooked and continental breakfast as well as cooked lunch and dinner, described as world cuisine.

4 Policy Context

4.1 National Planning Policy Framework

- 4.1.1 The National Planning Policy Framework² (NPPF) does not specifically mention odour, but it does refer to air and pollution. Paragraph 187 states:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."

² Ministry of Housing, Communities and Local Government (MHCLG) (2024) National Planning Policy Framework

4.1.2 The role of planning is to ensure that new developments that are capable of creating odour do not cause a significant adverse effect in the local area or impact upon existing sensitive uses nearby. Additionally, the planning system also seeks to ensure sensitive uses introduced at the development would not be adversely affected by existing odorous sources and/or that undue restrictions are not placed on existing odorous businesses that may have operated up to that point without issue.

5 Methodology

5.1 EMAQ+ Risk Assessment Methodology – Odour Control

5.1.1 The EMAQ+ guidance includes a risk assessment methodology for odour associated with commercial kitchens, the outcome of which determines the level of odour control required. The risk assessment works on a scoring system based on the sum of the contributions from dispersion, the proximity of receptors, the size of the kitchen and cooking type. This score is then used to determine the impact risk and level of odour control required, as detailed in **Table 1**.

Table 1: Determining a Score for Odour Control

Impact Risk	Odour Control Requirement	Significance Score
Low to Medium	Low Level odour control	<20
High	High Level Odour Control	20-35
Very High	Very High Level Odour Control	>35

5.1.2 **Table 2** shows different measures that can be implemented to achieve the level of odour control required. Maintenance must be regularly carried out to ensure that the performance levels are always achieved.

Table 2: Odour Control

Level of Control		
Low to Medium	High	Very High
1. Fine filtration or electrostatic Precipitator (ESP) followed by carbon filtration (carbon filters rated with 0.1 second residence time).	1. Fine filtration or ESP followed carbon filtration (carbon filters rated with 0.2–0.4 second residence time).	1. Fine filtration or ESP followed carbon filtration (carbon filters rated with 0.4–0.8 second residence time).
2. Fine filtration followed by counteractant/neutralising system to achieve the same level of control as 1.	2. Fine filtration or ESP followed by ultraviolet (UV) ozone system to achieve the same level of control as 1.	2. Fine filtration or ESP followed by counteractant/neutralising system to achieve the same level of control as 1.
		3. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.

6 Commercial Kitchen Odour Risk Assessment

- 6.1 The risk assessment completed for the proposed kitchen extraction system for the development is shown in **Appendix B**. The resulting significance score has been considered in conjunction with **Table 1** to determine the level of odour control required.
- 6.2 The proposed food offering broadly aligns with the ‘low’ category in terms of odour and grease loading. However, to allow flexibility in the range of food that may be prepared within the kitchen, a ‘medium’ classification has been applied for the risk assessment. As there are between 30 and 100 covers, the kitchen is categorised as medium. The kitchen ventilation flue will discharge at least 1 m above the eaves at 10–15 m/s, resulting in moderate dispersion. Plans of the extraction system and flue are provided in **Appendix C**.
- 6.3 As the development includes resident accommodation, the kitchen extract discharge point has been assessed as being located within 20 m of the nearest sensitive receptors.
- 6.4 The resulting significance score is **27**. The risk assessment concludes that a **high** level of odour control is required for this type of food preparation. In accordance with **Table 2**, a **high** level of odour control should include the implementation of one of the following methods:

1. Fine filtration or ESP followed carbon filtration (carbon filters rated with 0.2–0.4 second residence time); or
2. Fine filtration or ESP followed by ultraviolet (UV) ozone system to achieve the same level of control as 1.

6.5 The Applicant has confirmed that a system comprising fine filtration or ESP followed by a UV ozone system, meeting the required level of odour abatement, will be installed by the appointed kitchen and ventilation contractor.

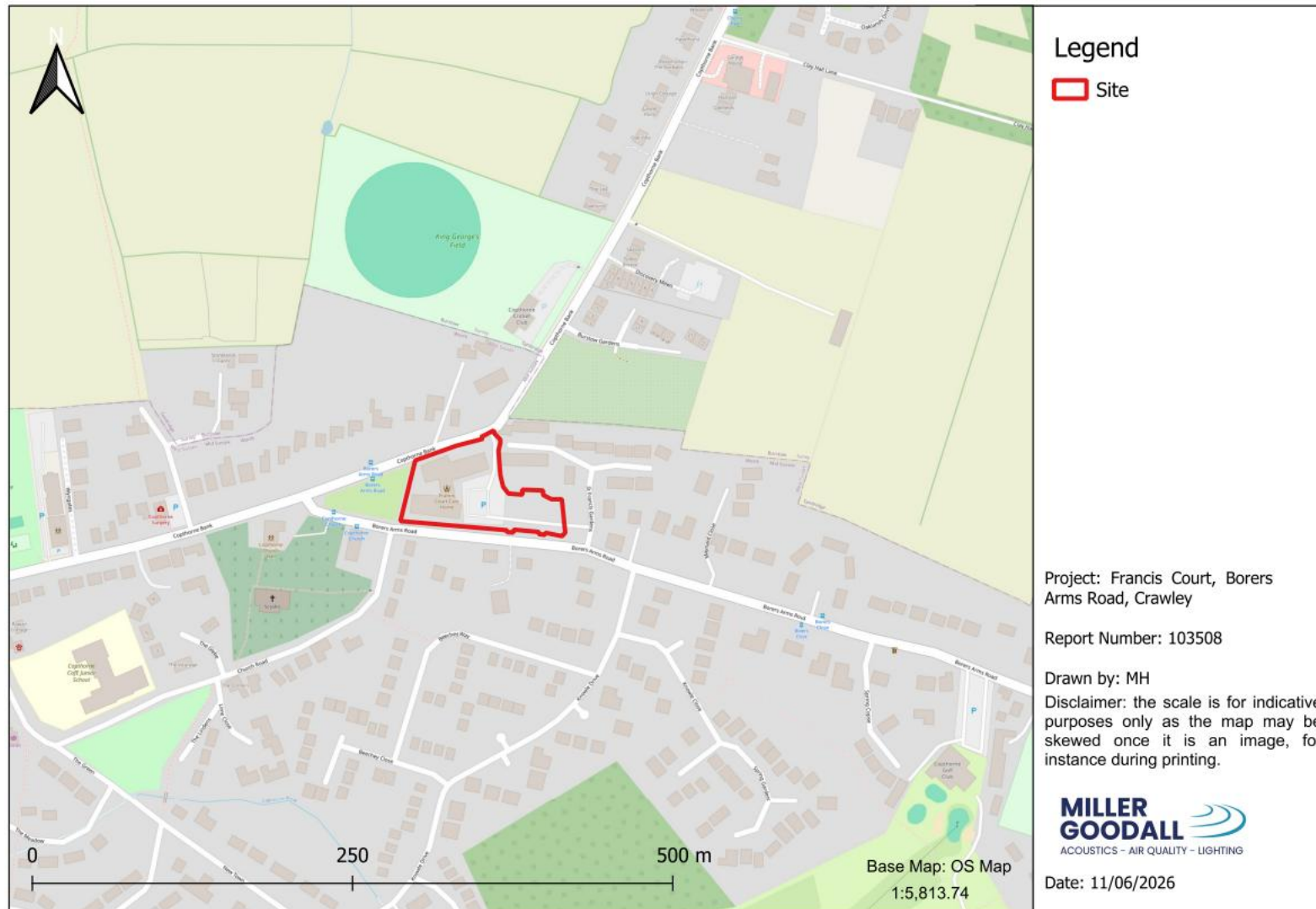
6.6 EMAQ+ guidance advises that the design and maintenance of the kitchen extraction system is an important factor. Minimum design performance criteria and maintenance criteria are provided in **Appendix D**.

7 Summary of Impacts and Conclusion

- 7.1 The commercial kitchen odour risk assessment indicates that a high level of odour control is required within the development. This is to be provided by a combination of flue dispersion and abatement in the form of fine filtration or ESP with carbon filters.
- 7.2 Recommendations have been provided in relation to the design and maintenance of the kitchen exhaust system and provided these are followed, there should be no risk to the amenity of sensitive receptors associated with the proposed development, as well as the surrounding area.
- 7.3 With the implementation of appropriate mitigation, there is no reason for Condition 20 not to be discharged.

APPENDICES

Appendix A: Site Location

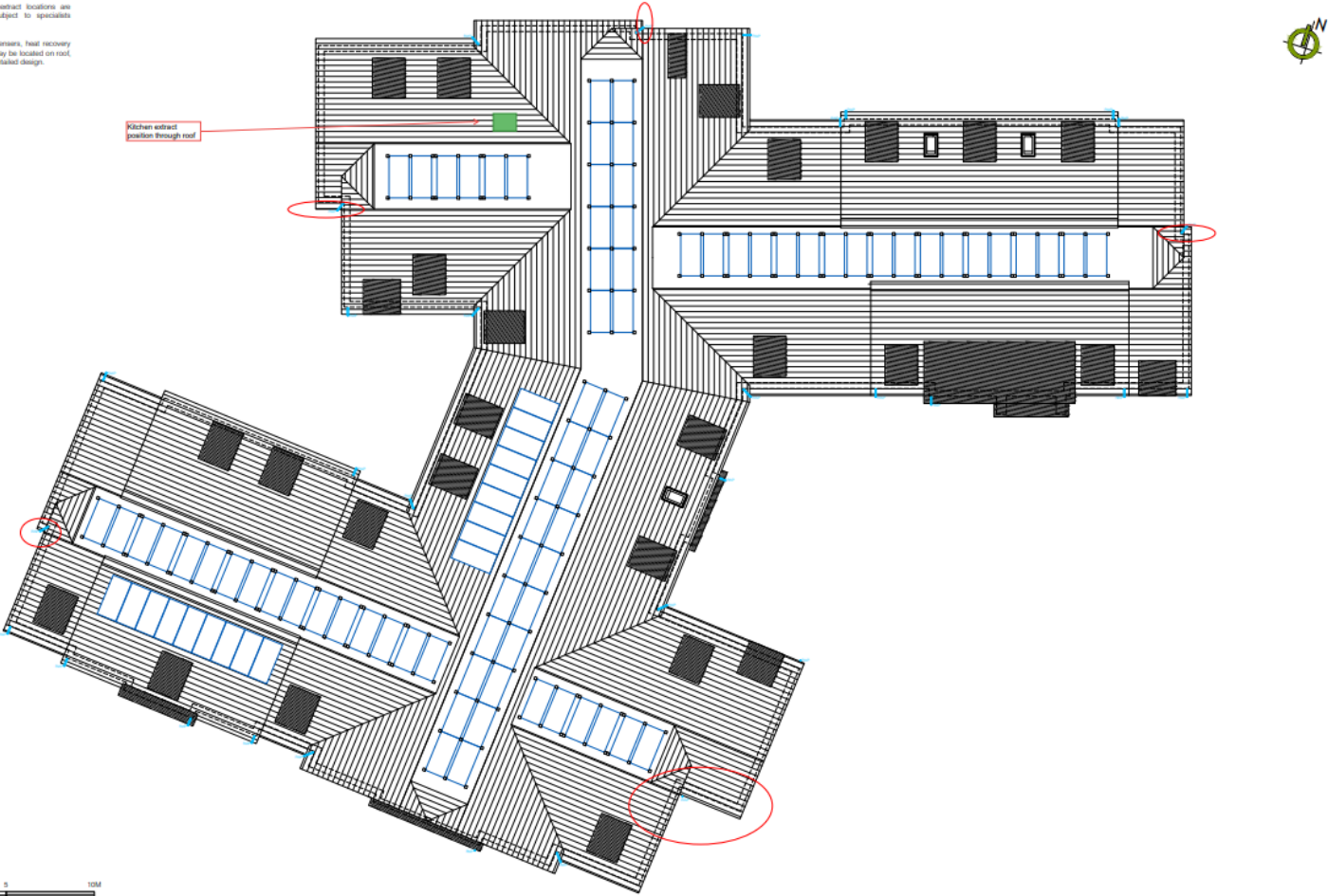


Appendix B: Risk Assessment for Cooking Odour

Criteria		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 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 receptors	Close	10	Closest sensitive receptor less than 20m from the 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. Turkish, Middle Eastern or any premises cooking with solid fuel
	High	7	Vietnamese, Thai, Indian, Japanese, Chinese, Steakhouse
	Medium	4	Cantonese, Italian, French, Pizza (gas fired)
	Low	1	Most pubs (no fried food, mainly reheating and sandwiches etc), Tea rooms
Total Score		27	High Impact: High Level odour control required.

Appendix C: Roof and ventilation plans

NB: Please note, all extract locations are indicative and are subject to specialists detailed design.
NB: Please note, condensers, heat recovery units and other plant may be located on roof, subject to specialists detailed design.



Scale 1:100
0 1 2 10M



This drawing is a computer-generated image and does not represent a physical model. It is intended for informational purposes only and should not be used for construction purposes without the appropriate approvals.

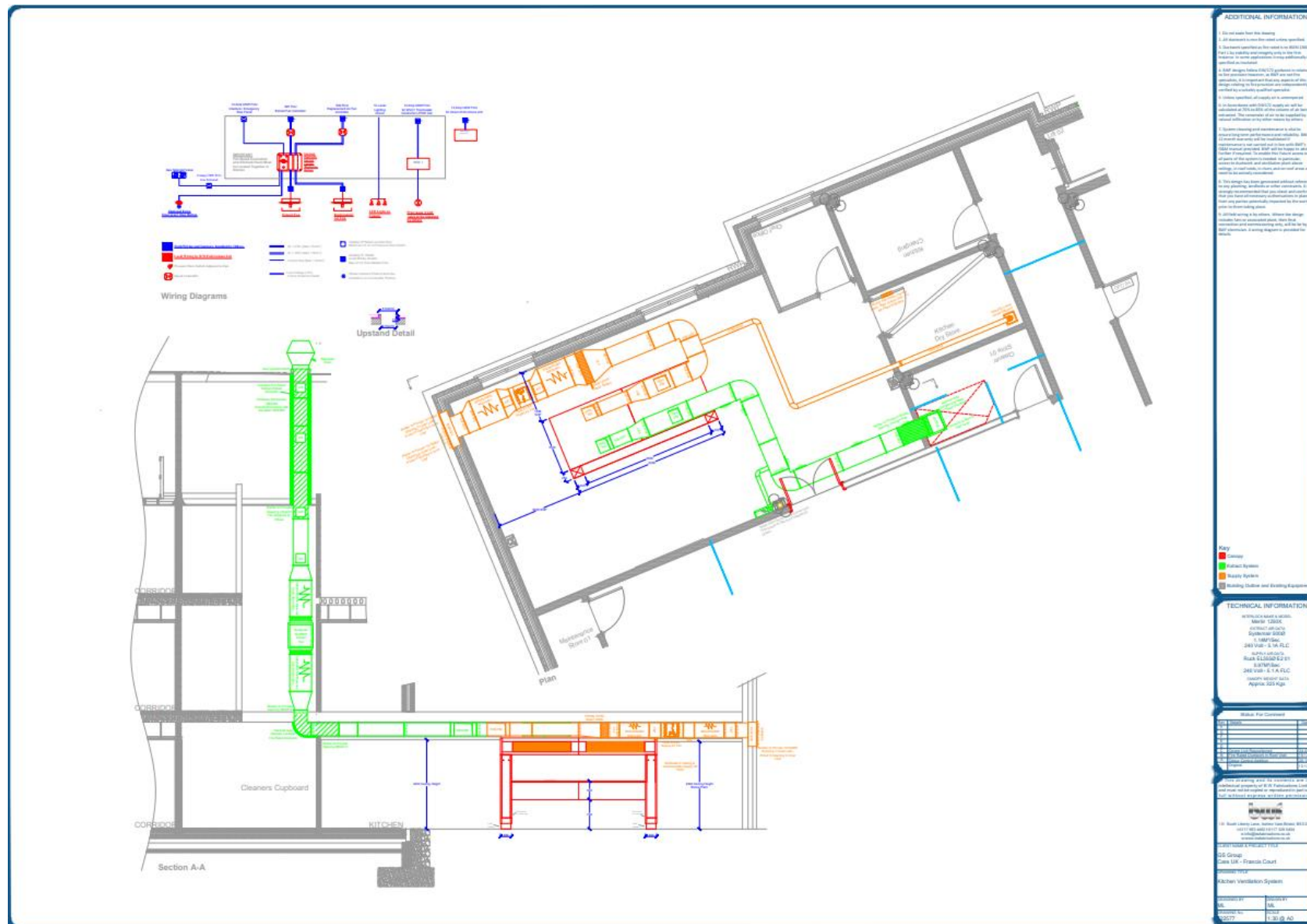
Revised	Date	Description
Rev 1	10/10/2024	Construction Issues
Rev 2	10/10/2024	PTI panels added to plan

Drawn	Check
AK	AK

Client			
CARE UK			
Project			
PROPOSED CARE HOME, FRANCIS COURT, CRAWLEY			
Drawing			
PROPOSED ROOF PLAN			
Scale	Date	Drawn	Checked
1:100 @ A1	10.10.2024	AK	AK
Author	Eng. No.	Revised	By
AK	AL17	01	
CONSTRUCTION			



Project Name: Francis Court
Project Location: Crawley, West Sussex
Project Ref: 103508
1-48 (01444) 81 71 71



Appendix D: Design and Maintenance Requirements

Minimum Requirements for Odour Control

3. Positioning of the stacks as far as possible from the nearest residential dwellings;
4. Use of Chinaman's hats or other cowls should not be permitted;
5. Consideration of the prevailing wind direction in relation to the ducting positioning; and
6. Ducting should be rigid in construction and resiliently mounted.

Recommendations for Cleaning

The recommended cleaning period for grease extraction ductwork is shown in **Table D1**.

Table D1: Recommended cleaning period for grease extraction ductwork

Grease loading		Daily usages	Cleaning intervals(months)
Heavy use	Heavy/continuous grease production	6-12 hours	3-6 months
		12-16 hours	2-3 months
Moderate use	Moderate grease production	6-12 hours	6-12 months
		12-16 hours	3-4 months
Light use	No significant grease production	6-12 hours	12 months
		12-16 hours	6 months

Recommendations for Maintenance

System employing fine filtration and carbon filtration;

- change filters every two weeks (or to product manufacturers recommendation);
- change carbon filters every 4 to 6 months (or to product manufacturers recommendation).

Using a system employing ESP and other inline abatement, typically;

- ESP systems cleaned and sump emptied on a four weekly basis;
- UV-C systems used inline, cleaned on a four weekly basis;
- Side stream UV-C systems, cleaned every 3 to 6 months
- Carbon filters with ESP pre-treatment change carbon filter every 6 to 12 months

These time frames may increase or reduce for extreme or very light applications.

Glossary of Terms

Effects The consequences of the changes in airborne concentration and/or dust deposition for a receptor. These might manifest as annoyance due to soiling, increased morbidity or mortality due to exposure to PM₁₀ or PM_{2.5} or plant dieback due to reduced photosynthesis. The term 'significant effect' has a specific meaning in EIA regulations. The opposite is an insignificant effect. In the context of construction impacts any effect will usually be adverse, however, professional judgement is required to determine whether this adverse effect is significant based in the evidence presented.

Impacts The changes in airborne concentrations and/or dust deposition. A scheme can have an 'impact' on airborne dust without having any 'effects', for instance if there are no receptors to experience the impact.

NPPF National Planning Policy Framework

