

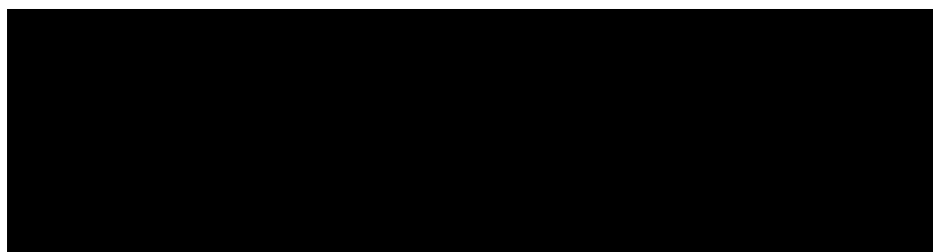
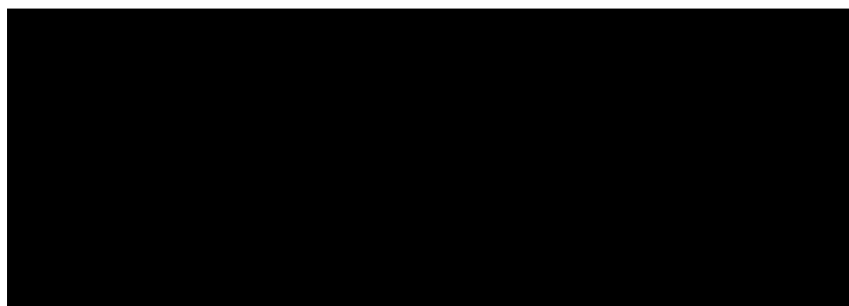


Store Property Investments Limited

**Proposed Hot Food Takeaway,
5 Arundel Road, Littlehampton**

Odour Assessment

June 2019





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Executive Summary

Store Property Investments Limited commissioned WYG Environment (WYG) to prepare a Qualitative Odour Assessment for a proposed hot food takeaway at 5 Arundel Road, Littlehampton.

We have examined the proposed extract and filtration system proposed by the new occupier and consider that it will sufficiently control odour from the shop.

The assessment shows the potential impact significance on the surrounding receptors from the proposed fast food takeaway is considered to be "high" following our assessment of potential odour risk but the filtration system proposed which comprises a primary (or pre) filter and the main (secondary) filter is considered to sufficiently control odour.

The good practice measures, as identified within the "*Control of Odour and Noise from Commercial Kitchen Exhaust Systems, September 2018*" guidance, should also be implemented by the occupier to control odour."



1. Introduction

Store Property Investments Limited commissioned WYG Environment (WYG) to prepare a Qualitative Odour Assessment for the proposed hot food takeaway at 5 Arundel Road, Littlehampton.

1.1 Site Location and Context

The site is bounded to the north by the customer car park, to the east by the B2187 (Arundel Road), to the south a commercial unit (Ricara Workwear & School Uniform) and the west by a shared yard.

The approximate United Kingdom National Grid Reference (NGR) of the site is 502626, 102175.

The following assessment stages have been undertaken as part of this assessment:

- » Assessment of potential odour from the site,
- » Identified mitigation measures.

The results of the assessment are detailed in the following sections of this report.



2. Assessment Methodology – Odour

2.1 Planning Policy Context

This assessment considers the potential for odour annoyance from the proposed application by investigating the location of proposed receptors in relation to the proposed kitchen and the potential effects of both prevailing and annual average wind conditions.

Odour can give rise to a statutory nuisance under Part III of the EPA 1990. A statutory nuisance from odour is an odour that has been assessed by an Environmental Health Officer (EHO) as being 'prejudicial to health or a nuisance'.

2.2 Odour Assessment Methodology

There are no mandatory numerical standards in the UK for assessing odour levels, although some guideline values can be used for assessing potential odour impacts. Although odours can be due to a single chemical, they are typically due to a complex mixture of compounds making reliable 'chemical' analysis or measurement at source difficult. As such, there is no single method for reliably measuring or assessing odour pollution and the potential for an odour nuisance, and any conclusion is best based on a number of pieces of evidence.

The odour quality, hedonic tone (pleasantness or unpleasantness) and concentration can influence the potential for annoyance and perception leading to complaint. Hedonic tones may vary from +4 for very pleasant odours (e.g. bakeries) to -4 for foul ones (e.g. rotting flesh).

However, even relatively pleasant odours may become objectionable, if not offensive, by virtue of persistence and intensity.

To establish the presence of a statutory nuisance the significance of an odour can be assessed based on the FIDOL factors detailed below:

- ✧ Frequency: how often an individual is exposed to odour;
- ✧ Intensity: the perceived strength of the odour proportional to concentration; level of odour;
- ✧ Duration: duration of exposure to the odour;
- ✧ Offensiveness: type of odour; some odours are generally regarded as more unpleasant than others; and,
- ✧ Location: type of land use / sensitivity of the complainant.



3. Odour Risk Assessment

3.1 Key Odour Sources

The key potential odour sources associated with the proposed development have been identified to be the kitchen facilities in the centre of the building – as identified within drawing no. 1915-06B.

Appendix A of this report shows the proposed elevations and the location of the kitchen extract.

With references to Appendix A, the kitchen extract is proposed to be located on the 'flat roof level' (above the proposed oven). According to the elevation drawing, the kitchen extract is predicted to be 0.7m above the height of the flat roof, with an overall height of 3.8 m above ground level.

It should be noted that the Proposed Development is located on a slight uphill gradient to the rear of the existing building. This is shown within drawing 1915-07B.

3.2 Odour Risk Assessment

The "Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, September 2018" contains a methodology for the assessment of odour from kitchen extract as outlined below.

Odour control must be designed to prevent odour nuisance in a given situation. The following score methodology is suggested as a means of determining odour control requirements using a simple risk assessment approach. The odour control requirements considered here are consistent with the performance requirements listed in this report. The assessment method is outlined in Tables 3.1 and 3.2 below.

Table 3.1 Odour Impact Risk

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

* based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type:

Table 3.2 Odour Assessment 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 10 m/s.
	Moderate	10	Discharging 1m above eaves at 10 -15 m/s.

5 Arundel Road, Littlehampton Odour Assessment



Criteria	Score	Score	Details
	Good	5	Discharging 1m above ridge at 15 m/s.
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Far	1	Closest sensitive receptor more than 100m from kitchen discharge.
Size of kitchen	Large	5	More than 100 covers or large sized 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.
	High	7	Kebab, Vietnamese, Thai or Indian.
	Medium	4	Cantonese, Japanese or Chinese
	Low	1	Most pubs, Italian, French, Pizza or steakhouse.

Based on the criteria above and the layouts of the proposed hot food takeaway, the following assessments have been undertaken as shown in Table 3.3 below.

Table 3.3 Assessment of Potential Odour Risks

Dispersion Score (related to flue height and velocity)	Proximity of Receptors	Size of Kitchen	Cooking Type	Total Score
10	10	1	10	31

3.3 Odour Control Measures

As shown in Table 3.3 (above), odour from the kitchen falls into the 'High' risk category. Control measures presented within the "*Control of Odour and Noise from Commercial Kitchen Exhaust Systems, September 2018*" to control odour at the site will 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 same level of control as 1.

The proposed filtration system comprises a primary (or pre) filter and the main (or secondary) filter with a maximum dwell time of 0.2 seconds system. This system is considered to sufficiently control odour from the site.

5 Arundel Road, Littlehampton Odour Assessment



Good Practice Guidance

The good practice measures, as identified within the "*Control of Odour and Noise from Commercial Kitchen Exhaust Systems, September 2018*" guidance, should be implemented at the site to control odour.



4. Conclusion

Store Property Investments Limited commissioned WYG Environment (WYG) to prepare a Qualitative Odour Assessment for a proposed hot food takeaway at 5 Arundel Road, Littlehampton.

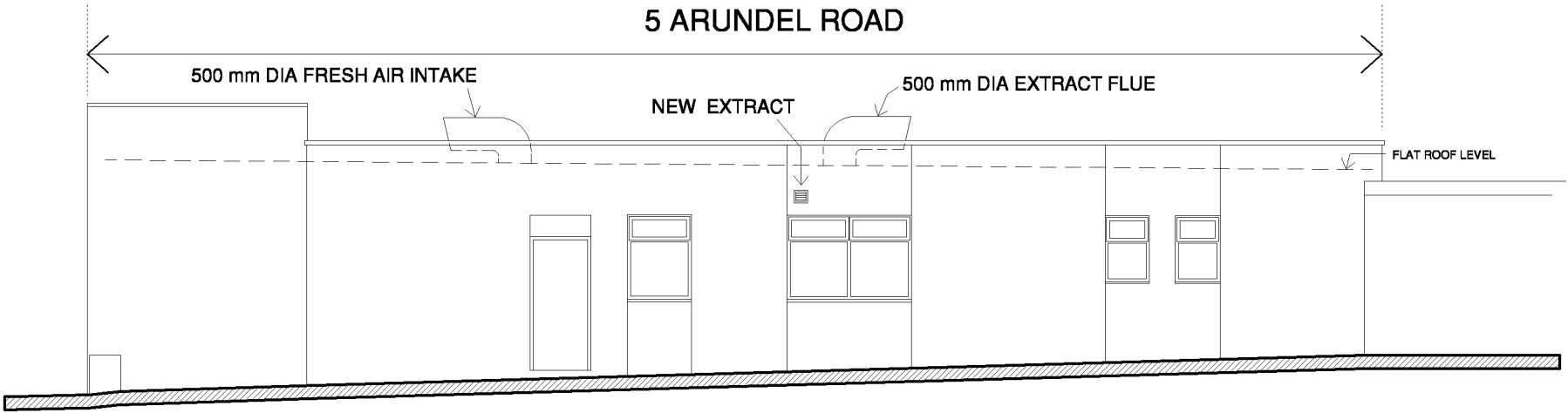
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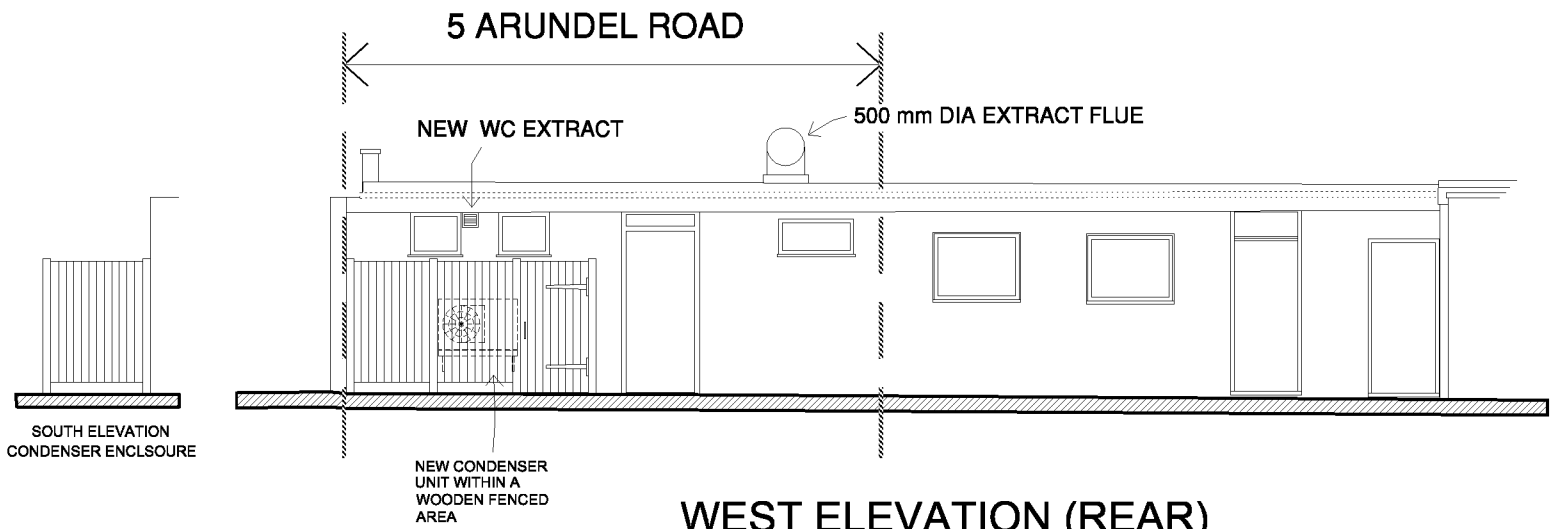
The good practice measures, as identified within the "*Control of Odour and Noise from Commercial Kitchen Exhaust Systems, September 2018*" guidance, should also be implemented by the occupier to control odour."



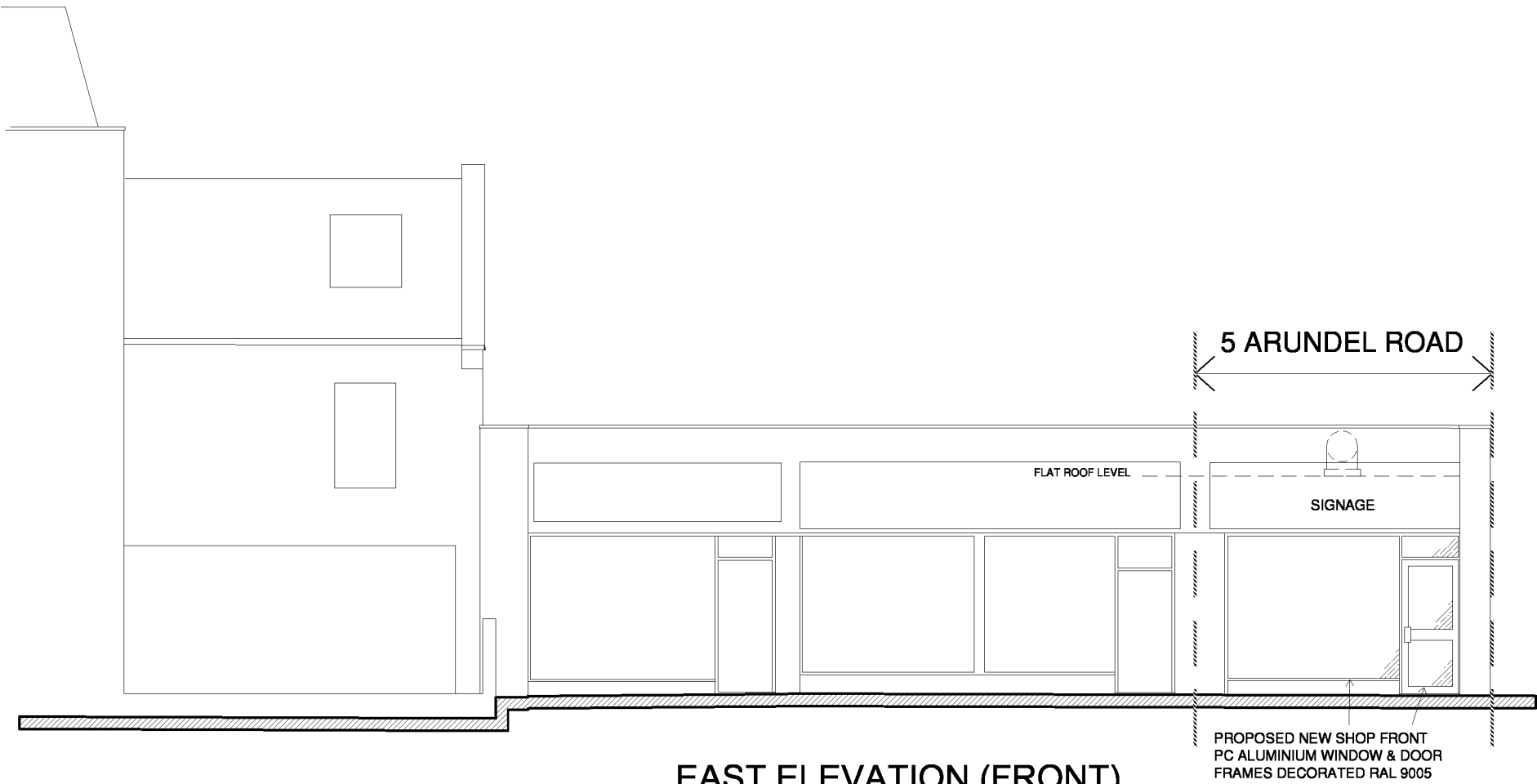
Appendix A: Proposed Extract Location (Dwg 1915-07)



NORTH ELEVATION (SIDE)



WEST ELEVATION (REAR)



EAST ELEVATION (FRONT)



PROPOSED ELEVATIONS

Rev B 15/06/19 Condensor unit re-positioned and enclosed.

Studio Lack Architecture Studio Lack Ltd : 17 Beech Avenue : Chichester 01243 782 686 : nicholas.lack@live.com : PO19 3DR	5 Arundel Road, Littlehampton	Proposed Elevations 30/03/19 1/100 @ A3	Dwg 1915-07C
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Appendix B: Report Terms & Conditions

This Report has been prepared using reasonable skill and care for the sole benefit of Store Property Investments Limited ("the Client") for the proposed uses stated in the report by [WYG Environment Planning Transport Limited] ("WYG"). WYG exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder's permission.

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.