



Kitchen extract odour control system at Presbar Diecast, Store Street, Manchester

The odour assessment for the kitchen extract system has a predicted odour risk of 25 based on the EMAQ guide, which equates to a high level of odour control required, however the closest receptor is approx. 25m away. Therefore we would propose to install an odour control system, detailed as follows.

500 x 500 x50 stainless steel baffle filters (within kitchen hoods).

These filters will remove large proportion grease from the air, to be collected at the canopy drain points.

4no 592x592x350 CP4 Fire Rated Bag Filter

General Description

The CP4, fire rated range of bag filters are used widely in government buildings, hospitals and other sensitive areas. This grade of filter would capture 90% of the grease left within the system after the canopy baffle filters.
Meets NHS HTM03 Filter Specification, Filter Class EN779:2012 G4

4no 592x592x300 RP Compact Medium/Fine Ridgid HEPA bag filters

General Description

The F9 grade rigid bag filter are used within this system to capture the heavy particles of smoke from the cooking process and are 80% efficient.

4no-995x995x300 Carbon Loaded Rigid Bag Filters

General Description

CarboPleat RPC filters combine gas phase filtration and particulate efficiency to F6 to provide a new generation filter designed to cope with modern environments. This super active carbon is particularly effective on VOCs.

Construction

Ultra-durable synthetic minipleat pack is bonded into an ABS molded plastic case, engineered for maximum strength and optimum airflow characteristics.
The carbon filters would remove 90% of any residual odours.

1no UV-O 1000 ozone units

How the UV-O 1000 works.

The Purified Air UV-O 1000 unit uses UV-C technology to produce ozone and hydroxyl free radicals to oxidize odours through a process of Ozonolysis. Unlike other UV-C systems, the UV-O 1000 is located outside the kitchen extract duct and connects via spigots and small diameter ducting. It is widely accepted that the best way to apply UV-C is in the airstream itself. However, the lamps quickly become dirty and the effectiveness is greatly reduced. By applying the lamps outside of the airstream we are able to fully control the condition of the lamps which provides for a uniform output, the air entering the UV-O 1000 does not come via the extract and is filtered on entry, the system allows a uniform delivery of clean treated air to enter the extract system. A further advantage is that the pressure loss exhibited when the unit is installed is low and uniform.

Installation

Simple to install, with low maintenance and running costs, the system is designed to be located on a wall in the kitchen or plant room or can be fitted to the ducting itself. The fact that it is located external to the ducting makes the unit ideal for retrospective installations.

Technical & Safety Considerations

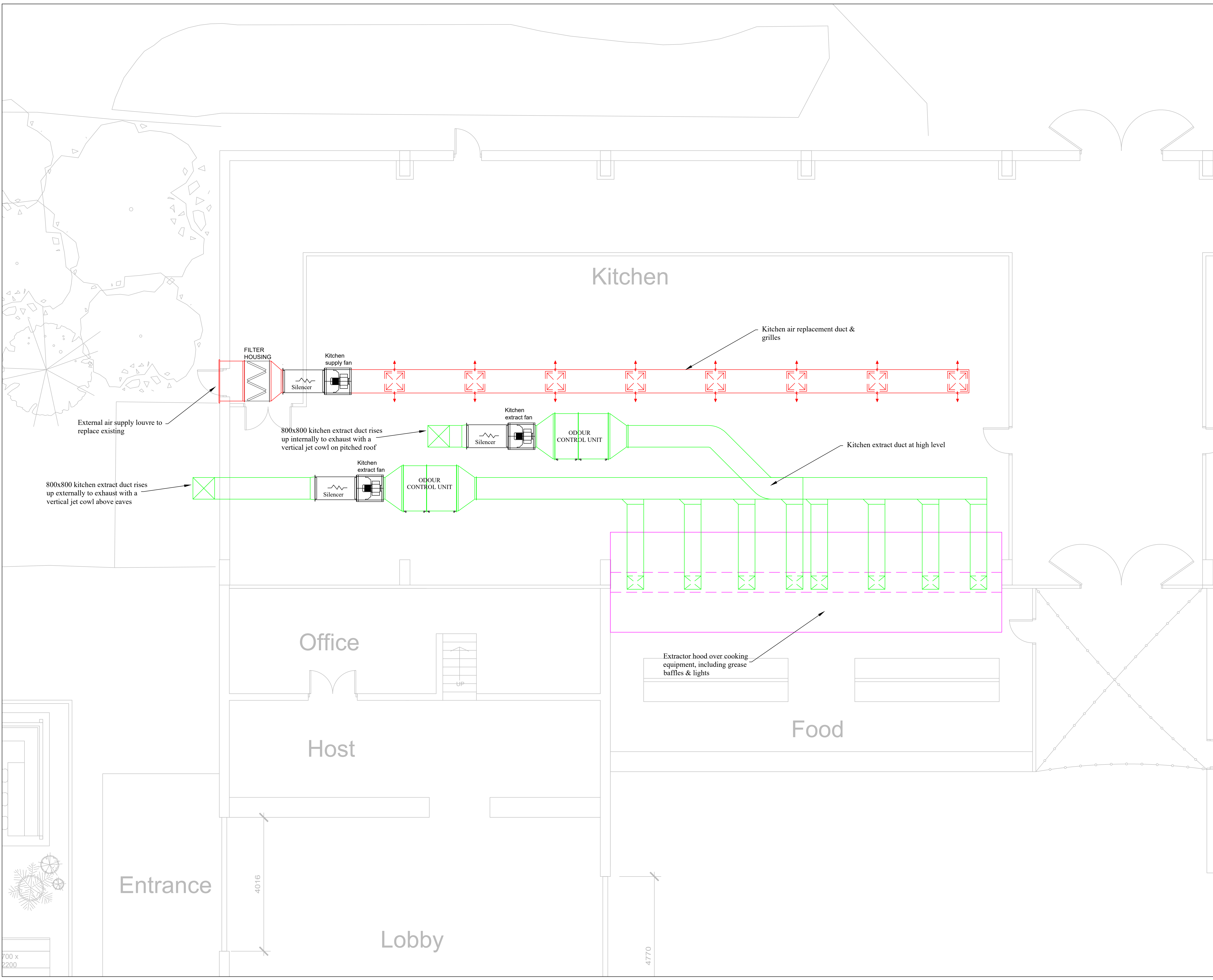
The unit must always be installed on the negative side of the fan and the system should be switched via an interlock both connected to the fan and an airflow switch connected to the unit itself which will ensure that in the event the unit is disconnected from the duct or if the extract system is switched off the system will be isolated. The unit can only discharge into duct which is going to atmosphere the unit must not discharge into an enclosed space.

The unit comes as standard with ten lamps. UV-C technology cannot remove smoke or other particulate, for instance where there is a lot of smoke produced due to the cooking style, for example char-grilling.

The final exhaust position of the extract system terminal would be at high level 1m above the ridge, and would exhaust through a vertical jet cowl at 15m/s efflux velocity.

Yours Sincerely





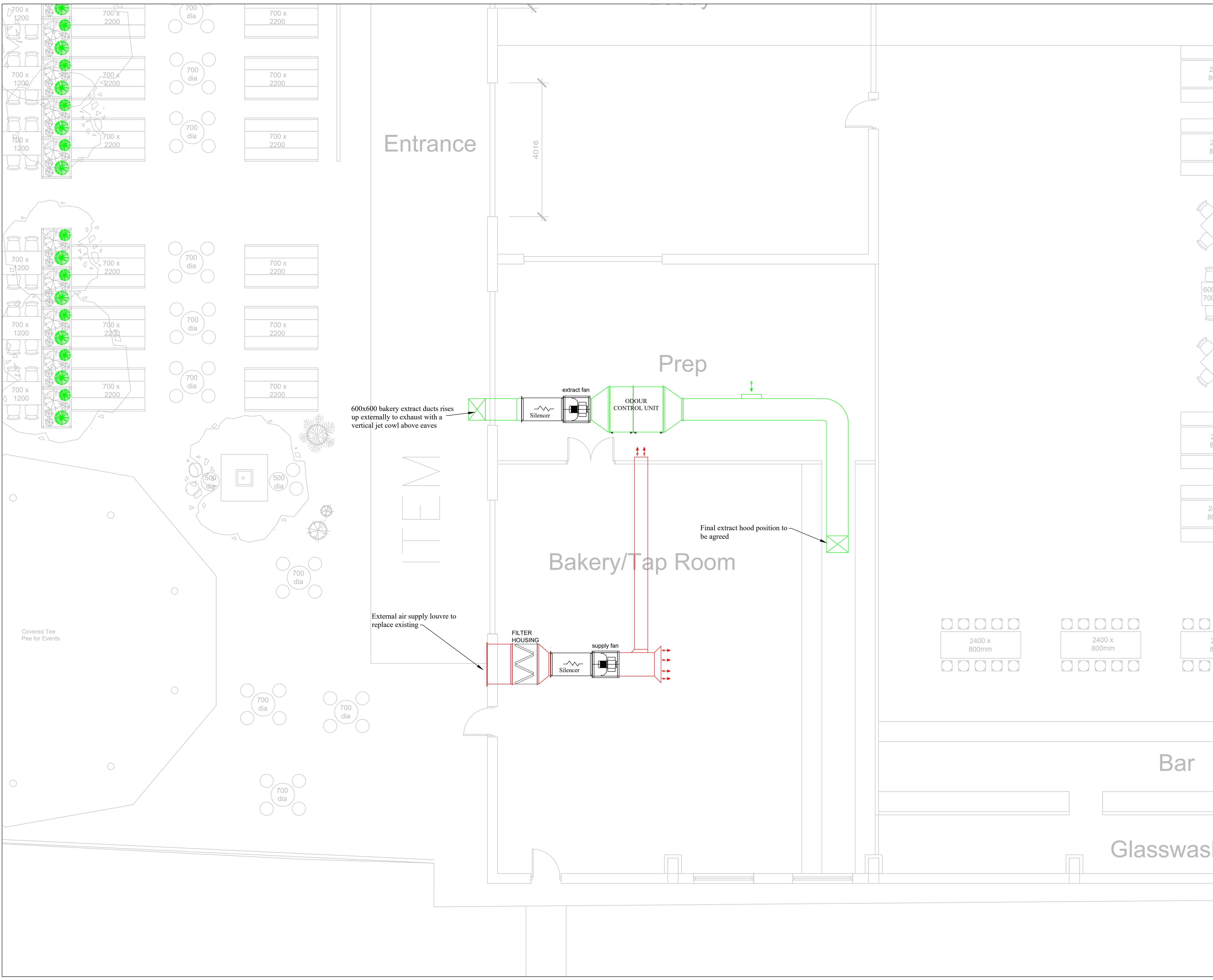
Rev	Date	Description

Client: J WILKINSON	
Job Title: PRESBAR DIECASTING LTD STORE STREET MANCHESTER	
Dwg Title: KITCHEN VENTILATION	
Date: -	Drawn By: CJA
Scale: 1:50@A1	Checked By: -
Dwg No: JW/DC/00	Rev: -



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Client: J WILKINSON	
Job Title: PRESBAR DIECASTING LTD STORE STREET MANCHESTER	
Dwg Title: BAKERY VENTILATION	
Date: 24/03/22	Drawn By: CJA
Scale: 1:50@A1	Checked By: -
Dwg No: JW/DC/01	Rev: -



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Appendix 3: Risk Assessment for Odour

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.

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:

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.
	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 ¹ .
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 ¹ .
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 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 rooms¹</i>

TOTAL 25

Note 1: A planner may take a pragmatic view when assessing whether certain low risk kitchens require any odour abatement to be fitted. In reaching this decision the Planner may consider the nature of the food being cooked and/or the size of kitchen and/or its location.