
GRINDSMITHS

Kitchen Extract Installation Design Consideration Report

62 Bridge Street, Manchester

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1. Executive Summary

This report has been prepared to explain the design considerations that were made in deciding on the most suitable kitchen extract systems at Grindsmiths, 62 Bridge Street, Manchester.

Grindsmiths is a fully operating catering kitchen serving a wide range of hot and cold food.

Due to the limited electrical capacity available at the premise's the kitchen has a combination of gas burning and electrical catering equipment.

On account of the gas catering equipment additional supply air as well as extract air is required to be provided to the catering kitchen area.

In order to design the extract route, the following options were considered at design stage for the possible Kitchen Extract solutions:

- i. Internal ductwork rising to above eaves level.
- ii. Internal ESP carbon filtration with the point of extract via low level louvres.
- iii. External ducting terminating above eaves level.

Following the above design considerations, the only workable solution was to run the kitchen extract externally to eaves level. This provided a structurally achievable solution without obstructing the windows/services to the commercial units above whilst adhering to the generally preferred MCC method of kitchen extraction.



2. Kitchen Extract Design Options

i. Internal ductwork rising to above eaves level.

The only way to route the Kitchen Extract internally to above eaves level was via the Skylight location within the central seating and main thoroughfare within the rear of 62 Bridge Street.

This ductwork routing would have meant either significant structural works breaking through existing structural beams and jeopardising the stability of the building or restricting head height to this area below an acceptable level.

If this route to above through the unit was achievable it would have been made impossible beyond the Skylight due to the external route to eaves level being significantly restricted by the windows and external services to the upper floors of the building.

Please see below the location and photos of the beams restricting the route out of the building.

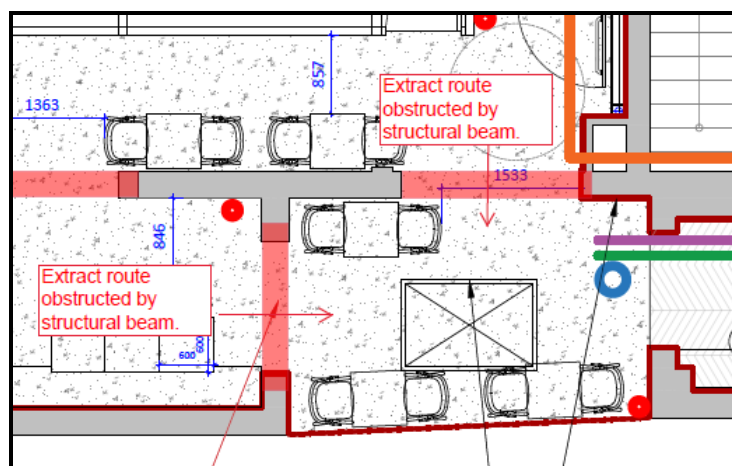


Fig 1 - Plan showing the structural beam locations restricting extract routing through the unit.



Fig 2 & 3 – Photos of the structural beam restricting internal route of extract.



Fig 4 & 5 – Photos through Sky Light of the upper floor windows and services restricting route of extract via the skylight to eaves level

Following the above design consideration, it was therefore decided that the routing of Internal ductwork rising to above eaves level was not possible.

ii. **Internal ESP carbon filtration with the point of extract via low level louvres.**

Internal Odour and Fume filtration via Fine filtration or ESP followed by carbon filtration was considered in the design of the kitchen extract canopy.

The level of filtration required to be able to extract at low level would have been restricted due to the available height above the kitchen canopy and structural beams over the canopy.

Furthermore, although maintenance strategies are available for extracting at low level it is understood that the preferred point of extract was to above eaves.

Please see below the location and photos of the beams restricting the route out of the building.



Fig 6 – Photo showing the restricted height and space for the required internal ESP followed by carbon filtration system that was required.

Following the above design consideration, it was therefore decided that the Internal ESP carbon filtration with the point of extract via low level louvres was not feasible nor the preferred solution.

iii. External ducting terminating above eaves level.

As above all available options for the Kitchen Extract were considered at the Design Stage of the system.

The only workable solution was to run the kitchen extract externally to eaves level. This provided a structurally achievable solution without obstructing the windows/services to the commercial units above.

The extract ductwork if fully attenuated for noise and takes the kitchen extract above eaves level to avoid nuisance odours and fumes.



Fig 7 – Elevation drawing of extract vent discharging above eaves.