
Chorlton High School

Kitchen Fume Extract statement

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1. Introduction

For the purposes of demonstrating compliance with Planning Condition 19 for Chorlton High School, BDP has been commissioned to provide an overview of the Kitchen Extract System serving the Commercial Kitchen. This Kitchen Fume Extract Statement has been created with reference to the 'Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems' published by Defra.

2. Activities & Processes on site

The proposals for the school include a single Commercial Kitchen located on the ground floor to serve the new high school building. The proposed layout for the Commercial Kitchen can be found in Appendix A.

The Commercial Kitchen is designed around providing meals at lunch time over 2 sittings. These meals will be typical school meals with both hot and cold offering. It is predicted that the core kitchen and as such ventilation plant run hours will be from 7 am till 3 pm from Monday to Friday during school terms.

3. Kitchen Design

The Kitchen has been designed in accordance to DW172: 'Specification for Kitchen Ventilation Systems'. As such, the maximum extract ventilation rate is 2.91 m³/s via the main canopies (Kitchen and Dishwasher with ductwork sized between 6-9 m/s on main runs (as per the guidance).

The Kitchen extract is by a dedicated bifurcated fan located at roof level. The main route of the extract ductwork is via a riser from the kitchen to the roof. The makeup air is via a separate supply fan, located in the kitchen ceiling void, which supplies air to the kitchen and servery to provide pressurised air path towards the kitchen canopy, helping to prevent the spread of smells from the food preparation areas. Grease filter are incorporated in the kitchen canopy.

The extract ventilation is interlocked with the gas to ensure that ventilation is present before gas is enabled for use.

Appendix B shows the location of the kitchen supply and extract fans.

The design of the kitchen ventilation system, along with the other ventilation systems, is in accordance with the Acoustic Report which has been completed for the new school building. Therefore, ventilation attenuators have been included on both the room side and atmospheric side of the fans to achieve the required noise criteria.

The design has taken consideration that with the extract being at roof level away from any neighbouring properties and any opening windows or intakes, the fumes will be sufficiently dispersed via a vent instead of needing a flue

- The exhaust vent from the kitchen fan is not blowing towards a residential area – so there is little to no risk of smells being picked up from any residential areas.
- From our drawings, the nearest air intake on that same façade is approximately 10 m away, so the risk of recirculation is very minimal.
- The ductwork velocity for the exhaust is approximately 7m/s.
- The menu and main cooking methods are traditional style preparation of bulk meals cooked on a hob or in a convection/steaming oven with limited frying.

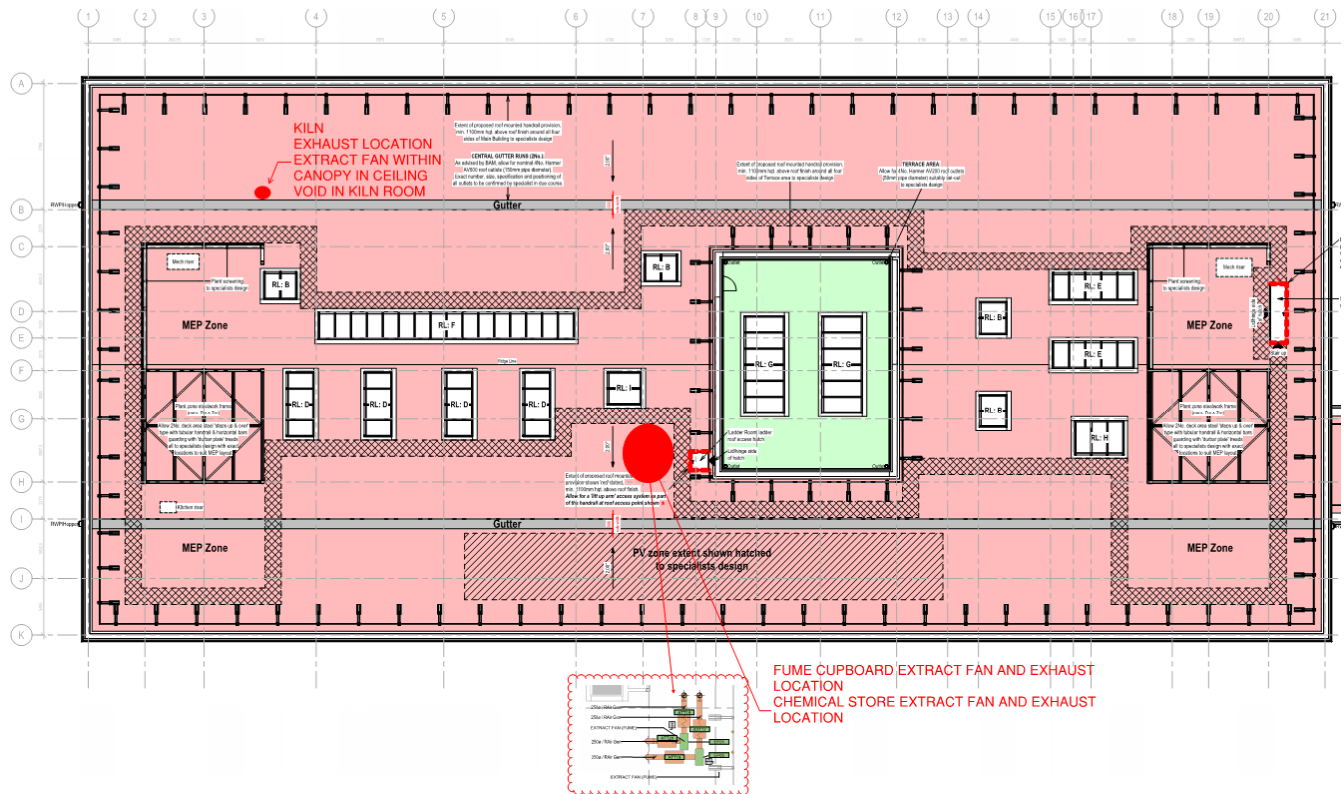
4. Flue Gases

The 'Guidance on the control of Odour and Noise from Commercial Kitchen Exhaust Systems' document also refers to the impact of flues and flue gasses. The following have been designed to incorporate exhaust flues.

- The heating system will consist of low NO_x gas fired boilers, the flue for which will discharge approximately 2m above roof level.

- The hot water system will consist of low NOx gas fired water generators, the flue for which will discharge approximately 2 m above roof level.
- There will be 1 fixed fume cupboard located within the science department, a kiln room extract and a chemical store extract. These will be separately flued at roof level and these will be discharged approximately 2 m above roof level.

The proposed location of these flues is identified below:



5. Appendix A – Kitchen Layout

5. Appendix B – Kitchen Supply and Extract Fan locations



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