



RIDGE

HEMLAND PRIMARY SCHOOL VENTILATION / EXTRACT STATEMENT

SRP1062-RDG-AA-ZZ-T-M-0012

VENTILATION / EXTRACT STATEMENT , HEMPLAND PRIMARY SCHOOL

HEMPLAND SCHOOL VENTILATION / EXTRACT STATEMENT

Prepared for

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1. INTRODUCTION

The following statement outlines the measures adopted for odour control from the Kitchen within the proposed construction of a new school at the site of the existing Hempland Primary School.

The new school will be provided with a commercial style kitchen providing hot meals at the school.

2. DEVELOPMENT PROPOSALS

2.1. Project Description

The scheme is the demolition of existing school buildings and construction of a two-storey replacement school with associated landscaping, play space and parking.

2.2. Description of the site and proposed school

The site is situated in a residential area within the City of York on an existing school site. The existing primary entrance is to be retained from Whitby Avenue. A secondary pedestrian entrance is currently provided to the southwest of the site. .

The site is located opposite in a residential area with a playing field to the south, green spaces and a beck to the southwest of the site.



Figure 1 – Aerial image of site

2.3. Project Description

The project consists of the construction of a two-storey primary school consisting of 16 classrooms, staff and administration rooms, circulation, large and small halls, learning resource areas, plant, storage and WC / changing Facilities.

In addition, the existing school will be demolished as part of a second phase of work to create a new car park and playing facilities for the new school.

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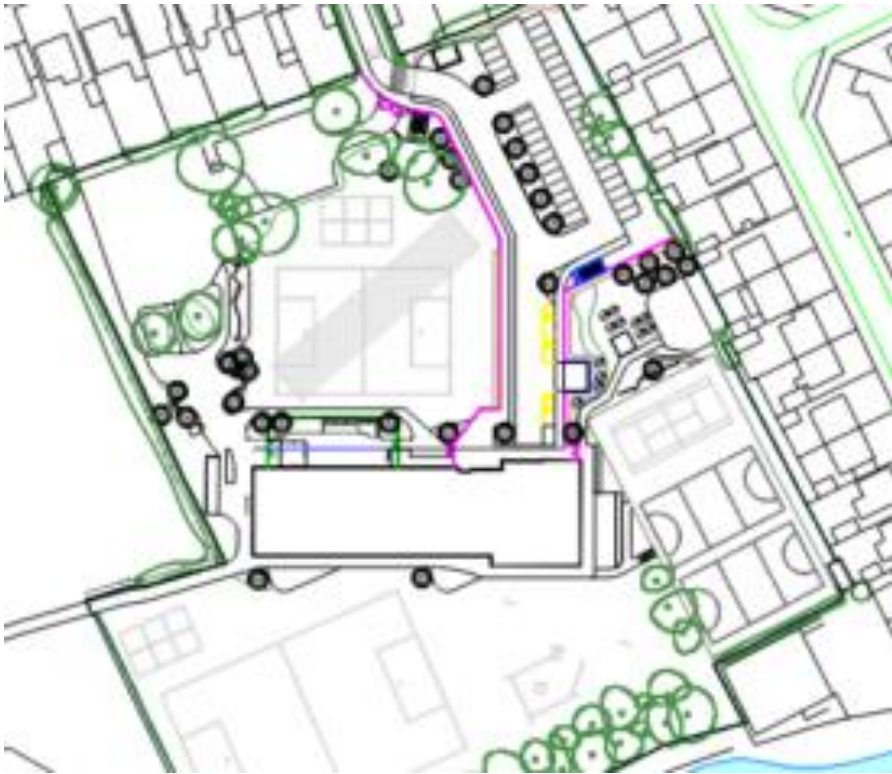


Figure 2 – Proposed site plan showing new school footprint

The school will be able to accommodate 420 pupils and around 50 staff members. The existing school will be operational until the new school is completed and then it will be demolished.

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3. DESCRIPTION OF KITCHEN VENTILATION SYSTEM

The new kitchen will be a commercial style kitchen providing a hot meal service at lunch times for approximately 420 pupils during the academic year.

Potential year-round use of the kitchen could be applicable to cater for extracurricular activities that may use the school such as out of term clubs and community use. .

The kitchen will be all electric and a balanced mechanical supply and extraction system will be provided for heat, odour removal and the provision of fresh air.

The main cooking range is provided with an extraction canopy complete with washable baffle type filters to remove grease and contaminants from the air being extracted from the cooking zone. The air will be expelled to atmosphere via a duct and dedicated extract fan located at roof level located away from any receptors such as openable windows within the school.

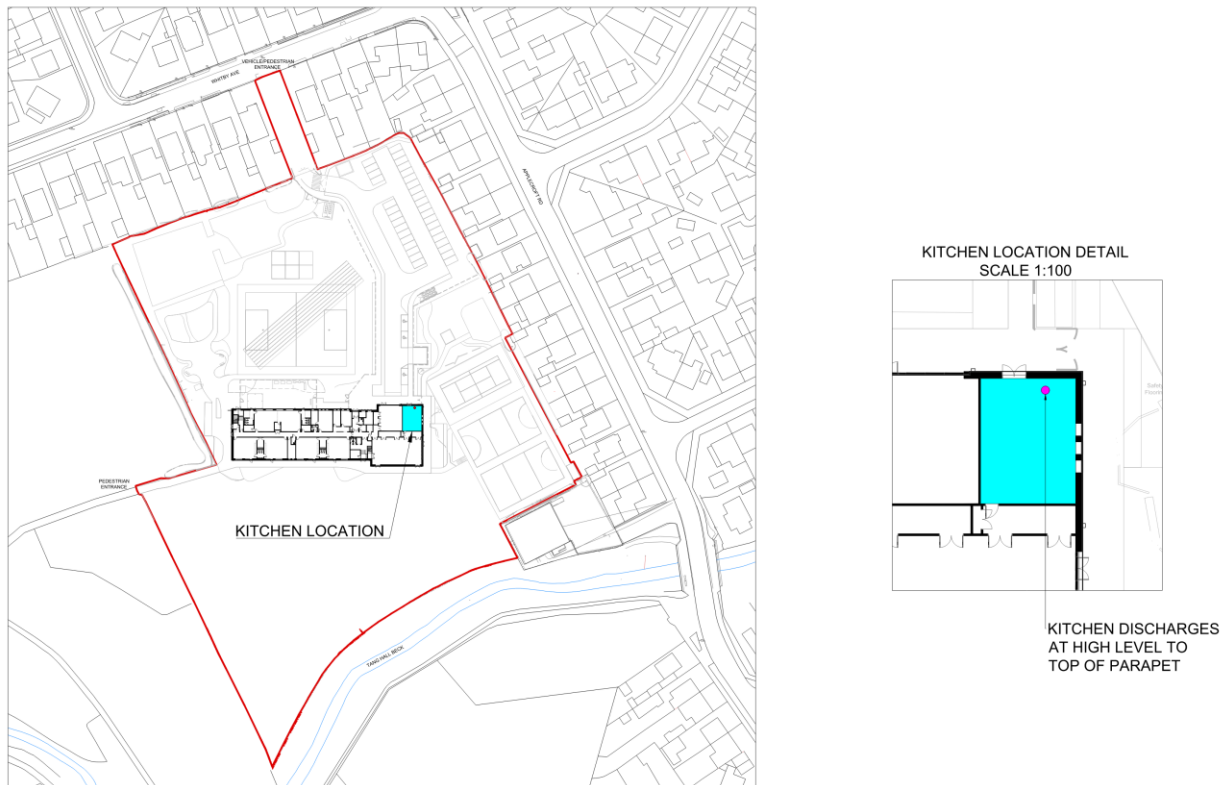


Fig 3 – Location of kitchen and proposed discharge location at L1 roof level

The cooking appliances will be interfaced with the ventilation system so will only be operational once air flow has been proven.

The existing school kitchen will be decommissioned once the new school is operational so only one kitchen will be in operation on the site except for a brief period of testing and commissioning of the new school prior to handover to the school.

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4. MEASURES TO CONTROL KITCHEN ODOURS

4.1. Regulatory and School specific requirements

The design of the kitchen ventilation system has been progressed in accordance with the Department for Education (DfE) detailed specification documents.

Annex 2F of the DfE Output Specification provides the brief for school development (with regards to servicing and public health).

This Output Specification requires:

- All kitchen ventilation systems to accord with the HVCA DW/172 Specifications for Kitchen Ventilation Systems. This is industry go to guide for kitchen ventilation design and sets the benchmark for safe and effective ventilation in commercial kitchens.
- Flue heights and efflux velocities and odour control shall be in accordance with DW/172.
- The discharge from the exhaust of the system does not cause discoloration or damage to any part of the building structure or any noise or odour problem to neighbouring rooms or properties.
- Removable baffle type grease filters shall be installed so that they are accessible for cleaning and maintenance. Grease extracted by the ventilation system shall be collected and removed so that it does not accumulate in either the canopy or the ductwork system.
- DW/172 and Defra guidance summarise the available odour control, filtration, and noise control technologies. In general, the flue shall terminate at least 1m above the roof or any air inlet at an efflux velocity of at least 10m/s as recommended in DW/172.

4.2. Compliance of current proposed system

The design of the kitchen extract system and balanced fresh air supply is compliant with the requirements noted in section 4.1. The key provisions to demonstrate compliance are:

- Kitchen extraction volumes are based upon the guidelines in the DfE output specification and DW172 to provide appropriate air change rates to ensure adequate odour abatement and heat removal from the kitchen.
- The location of the kitchen extract discharge point is over 1m above the finished roof level and has a discharge velocity of 10m/s. This will ensure adequate dispersal of extracted air so odours will not present a nuisance to local receptors (school users and local residents). A drawing is appended to the report showing the location of the kitchen extract location. (Odour control strategy drawing – SRP1062-RDG-AA-ZZ-D-M-0310).
- The cooking areas within the kitchen are provided with extraction canopies complete with stainless steel washable baffle type filters for the removal of grease and other contaminants.
- Ductwork from the canopy to the extract fan will be provided with access panels to support a regular cleaning regime in line with industry guidelines to minimise any build up of grease or other odour generating contaminants.
- A dedicated fresh air handling plant is provided to provide make up are to provide balanced ventilation to the kitchen to prevent odours causing a nuisance to school users due to openable windows within the Kitchen.
- The mechanical ventilations systems will be interfaced with the main cooking appliances so that cooking cannot be undertaken until air flow from the canopies is proven.

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5. CONCLUSION

As part of the planning application for the new school building at Hempland Primary School an assessment of how the design of the school and its engineering services has been undertaken to demonstrate that nuisance from odours associated with catering operations are managed.

The provision of a dedicated kitchen extract system combined with a balanced mechanical fresh air supply system provide appropriate levels of ventilation to remove heat and odour associated with the proposed kitchen.

The extract air will be discharged at high level vertically at a suitable efflux velocity to ensure dispersal of air into the atmosphere without nuisance to the school users or local residential properties.

The specification and operation of the systems will be in accordance with industry guidelines as detailed within the report.

Therefore, in conclusion it is considered that the proposed location of discharges and level of specification will provide a suitable odour abatement solution for the new school kitchen.

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6. APPENDIX – ODOUR CONTROL STRATEGY DRAWING



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