

The Old Rectory, Market Bosworth

Ventilation Planning Statement

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To	Witherslack Group
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1.0 Scope and Background

This statement relates to the site at The Old Rectory site in Market Bosworth.

The overall Planning Submission concerns the Change of use of 'The Old Rectory' from a single dwellinghouse (Class C3) to a Specialist Education Needs (SEN) School (Class F1); alongside the erection of two single storey external classrooms; a Multi-Use Gaming Area (MUGA); a revised parking layout; replacement boundary fencing; and external landscaping with associated works to trees.

This statement reviews the various internal spaces, their use and the approach to ventilating the spaces.

It is envisaged that around 40 SEND pupils will attend the school, with 40 full time staff employed to support the children. The new spaces created would have the following functions:

- SEND classrooms.
- Dining hall and associated kitchen.
- Therapy and pastoral rooms.
- Reception area.
- Staff rooms with associated facilities.
- Meeting rooms and staff offices.

- Storerooms

Site Location	Exiting Building Rear Elevation
	

The Old Rectory is a Grade II listed building and hence the ventilation solutions developed will take cognisance of this and not compromise the listed features.

2.0 Ventilation Methodology

General

The ventilation for the new school will follow the recommendations and guidelines as below:

- Building Bulletin 101 (BB101) – Guidelines on ventilation, thermal comfort and indoor air quality in schools.
- Building Bulletin 93 (BB93) – Acoustic Design in Schools
- Building Regulations Part F
- CIBSE Recommendations and Guides

As the new school is to be used for a SEND setting the impact of temperature and draughts will also be a consideration as the design develops.

Classroom Ventilation (General Teaching)

The strategy for general teaching areas wherever possible is to be natural via opening windows.

It is noted from the Noise Impact Report Version 3 (Spratt+Hamer 30/06/23) that there are no acoustic constraints on the ventilation of the teaching spaces with relation proposing natural ventilation solutions via openable windows. It is therefore proposed that natural ventilation will be the default solution for the spaces.

The space planning and general arrangements have been developed so that the majority of the classrooms are to the rear of the school and away from significant noise sources.

The design will adopt the following criteria to control the CO₂ levels within classrooms.

- a. Sufficient outdoor air is to be provided to achieve a daily average concentration of CO₂ of less than 1500 ppm, during the occupied period.
- b. The maximum concentration should also not exceed 2000 ppm for more than 20 consecutive minutes each day.

Classroom Ventilation (Practical Spaces)

Where classrooms are to be used for practical purposes such as food technology or science then higher ventilation rates may be required in accordance with BB101. Table 5.2 of BB101 refers more specifically to minimum ventilation rates in the various practical areas.

Local Exhaust Ventilation (LEV) will be incorporated to address specific processes or pollutant sources that produce moisture, dust or fumes.

Where the practical space uses gas then there will be an interlock between gas supply and mechanical ventilation is needed to ensure that gas will not be supplied when there is an inadequate airflow. This is to ensure the safe operation of appliances and equipment and the safety of personnel.

Kitchen Ventilation

The proposed kitchen area will be ventilated in accordance with DW 172.

In accordance with DW 172, kitchen extract discharge points should be positioned such that the extracted air cannot be entrained through opening windows or into a mechanical ventilation supply system.

As the design develops and assessment will be carried out through the DEFRA methodology taking into account the nature of the cooking, dispersion from the discharge and location of receptors.

3.0 Control of Overheating

The ventilation strategy will be used to control the risk of overheating with cognisance of the SEND nature of the pupils.

Ventilation and window openings will be developed mitigate the risk of overheating, The methodology will follow the process for compliance as defined within BB101 Criterion 1, 2 & 3.

4.0 Acoustic Considerations

Noise levels during normal teaching and practical activities will comply with Section 1.1.3 of BB93. Section 2.0 above refers in particular to the impact and control of external noise.

In cognisance of the SEND nature of the school noise levels from either internal mechanical systems or from external sources will be of consideration. Controllability of method of ventilation will assist with this.