

King James Secondary School

Knaresborough

North Yorkshire

SERVICES: MEP ENGINEERING DESIGN

CLIENT: KING JAMES SECONDARY SCHOOL

PROJECT DESCRIPTION:

PrestonBARBER provided the services design for the Sixth Form Arts Block extension at King James School, Knaresborough. The new block, built directly over the existing Art Building proved a design challenge in maintaining daylight and ventilation to the existing classrooms whilst providing large inspirational art workshop spaces and ancillary accommodation above.



In order to provide the Art Rooms with suitable light conditions “oversized” windows and rooflights were installed. However, the downside to this is the increased CO₂ emissions so working with the Architect and Main Contractor cost effective methods to off-set this increase were devised; these included increased building thermal performance, including solar glazing and highly efficient building services.

Air source VRF heat pumps were utilized throughout the Art Rooms and Main Circulation / Display Area for heating, elsewhere the school’s central plant was extended to provide a compensated LPHW radiator system.

With the exception of the toilets the new build portion of the school was naturally ventilated, again to reduce the carbon footprint. However the existing ground floor Art Rooms had to be provided with a heat recovery based mechanical ventilation system.

The domestic water services were extended from the school’s existing plant.

In addition to meeting the daylighting needs being an Art Block decorative and feature lighting was also a major School requirement, this PrestonBARBER achieved in an energy efficient manner and also managed to including a “Wow” factor LED illuminated entrance bridge, an item the School are delighted with.



Generally all lighting uses energy efficient fittings with daylight linkage and presence detection as appropriate.

SERVICES PROVIDED:

Mechanical

- VRF Air Source Heat Pumps
- LPHW Compensated Heating
- Domestic Water Services
- Supply & Extract Ventilation

Electrical

- General & Decorative Lighting
- Small Power Installation
- CCTV & Security Installation
- Fire Alarms & IT Installation

Public Health

- Above Ground Soil & Waste
- Above Ground Rainwater
- Below Ground Foul Drainage
- Below Ground Surface Water

EDUCATION SECTOR SECONDARY SCHOOLS

TYPE: NEW BUILD

VALUE: £1.5M

DESIGN TEAM:

Architect -

DSP Architects LLP

Structural Engineer -

Alan Wood & Partners

Project Manager -

Smith Parsons Limited

Main Contractor -

Lotus Construction



Building Services Consultants

2 Foxoak Park, Common Road
Dunnington, YORK
North Yorkshire, YO19 5RZ

+44 (0)1904 489622

+44 (0)1904 481928

www.prestonbarber.co.uk

info@prestonbarber.co.uk

LOW CARBONCONSULTANTS



Competent Person Scheme
Building CO₂ emissions rate calculation - Hevacomp
Certificate Number ERC3057