

Case study – DfE

Penwortham Girls High School

New 3-storey high school building at Penwortham, Preston.

1. Project Context

The scope of works comprises construction of a new 3 storey teaching block, with associated external hard play and sports hall, along with alteration/improvements to the existing car park, to provide a more pedestrian friendly entrance to the new school.

2. Design Objectives

The project aims to deliver a new and modern facility to increase staff and student wellbeing using a mixture of on-site and off-site construction methodologies to best serve the structural requirements of the different teaching spaces provided.

3. Evidence of Compliance

Working with the design team, school staff and local council, AWP has helped ensure the school is suitable to meet the needs of its students and the new development meets the DfE standards. The development prioritises sustainable materials and construction methods where possible, aiming to minimise its environmental impact both locally and in the broader context by adopting “PV panels” on the roof and the building achieves an exceptionally low heating demand.



Location:
Preston



Client:
Bowmer & Kirkland Ltd.



Architect:
Pick Everard



Value:
£27m



Civil Engineering Structural Engineering Geotechnical and Geoenvironmental Modern Methods of Construction (MMC)

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4. Innovation & Best Practice

The design solution addresses several critical issues, including the use of a steel primary structural frame to facilitate rapid on-site construction. Overall lateral stability was achieved with a combination of vertical bracing where this can be hidden within walls. The floors of the building were precast hollowcore concrete, designed to act compositely with the steel frame.

A 75mm non-structural topping/screed was chosen to achieve a level surface to receive finishes that ensure vibration resistance and acoustic robustness, compliance with Building regulations by designing the educational building to meet the disproportionate collapse class of 2B standards.

5. Stakeholder Engagement

Designs and drawings were coordinated across all disciplines within the design team with regular meetings and communication within the team.

6. Visual & Technical Evidence

Alan Wood & Partners produced design calculations for traditional build structures, as well as drawings and 3D modelling for the build and the pile foundations. Surface and foul water drainage design and drawing packages were also produced.

7. Outcomes & Impact

The new build school provides a comfortable, safe working environment and supports the wellbeing of staff and students with enhanced needs.



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