

# Tanbridge House School, Horsham

For:  
West Sussex  
County Council



## Architect:

Plincke Leaman & Browning

## Structural Engineer:

Whitby & Bird

## Steelwork Contractor:

Tubeworkers  
(Structures) Ltd

## Main Contractor:

Taylor Woodrow  
Construction Southern



The Client's brief was to construct an eight-form entry, 1200 place secondary school on a green field site in Horsham. The site is in a scenic rural area requiring close liaison between all parties to satisfy the complex briefing and planning issues.

There are few recent models for secondary schools of this scale. Of the handful built in the past 10 years, the majority are in urban locations and are city Technology Colleges. A solution was needed to respond to a rural setting, providing a balance between protection from the elements and enjoyment of the wide landscape.

The idea of the school as a "village" emerged, a collection of individual buildings with separate uses, enclosing a variety of external spaces. Three issues of paramount importance to the client were the need to deliver parts of the national curriculum outside the traditional subject areas, the need to preserve the territorial integrity of a "home base" and the requirement to open school facilities for community usage.

Each building on the campus was treated as a separate job with its own small team of architects and engineers. They worked up the scheme within the agreed overall design strategy and

communicated directly with the users and specialist education advisors.

The engineering concept of the school as a whole is based on proven systems with low maintenance requirements. As the perceived budget was tight and the programme for construction relatively fast (20 months), the engineering philosophy for the buildings was formed on the basis of a series of independent subcontracting packages, the first being a foundation, column and first-floor-slab package. This opened the site to a multitude of activity and allowed sufficient time for the fabrication of off-site elements.

Services are generally routed through the buildings in the ceilings of the ground floor, with the systems being expressed where appropriate, providing ease of access for maintenance and avoiding the cost of ducts in the ground-floor slab.

Lighting is controlled from a central system to limit energy use, with local switching override. A fibreoptic data backbone runs alongside the lighting-management system, connecting to hubs in each building. From this a hardwired radial system serves individual terminals. This provides an integrated data infrastructure to accommodate not only computer systems but also CCTV and video.

In contrast to these central systems, the heating plant is distributed around the site. This modular approach offers flexibility, simplicity and a good response to thermal demand, particularly as the school is used by the community out of normal school hours.

High levels of insulation, natural ventilation and daylight, together with a manageable control system for heating and lighting, create the potential for an energy-efficient building. The estimated energy use of 185 kWh/m<sup>2</sup>/year compares favourably with the DES standard of 240 kWh/m<sup>2</sup>/year.



## Judges' Comments

Structural steel has been used in combination with timber and masonry to produce an exciting range of solutions for the different buildings within this school, yet there is an unmistakable unity about the whole complex. An outstanding example of the flexibility of steel in construction.