Client The Governors, King's College, **Architect** Mitchell Taylor Workshop, **Structural engineer** Hydrock Structures 1, **M&E consultant** Buro Happold, **Quantity surveyor** Peter Ballingall Associates/Clark Associates, **Main contractor** RG Spiller, **Sliding door subcontractor** Kaba, **External window/door supplier** SAPA and Total Aluminium Systems, **Vent manufacturer** Total Aluminium Systems, **Bay window manufacturer** Glazing Innovations

Project

Philip Richards Building, King's College Library

Location
King's College, Taunton, Somerset
Architect
Mitchell Taylor Workshop
Completed
June 2011

The main ramped entrance to the school's new Philip Richards Building showing the larger of the two projecting windows at first floor level between two flush windows.

PHOTOS: PETER COOK

By Amanda Birch

It's unusual for a private secondary school not to have a dedicated library. At King's College, a co-educational school for 13-18 year olds, set in beautiful grounds in Taunton, Somerset, the school's collection of books was stored on wheeled shelves that were moved whenever the room was used for a function. The entire collection was ably managed by an over-stretched teacher.

So when a former student of the school, Philip Richards, donated money to King's College, a new two-storey building was designed that provided IT suites, a business education faculty, a careers department and, importantly, a library.

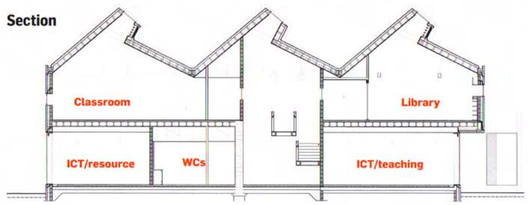
The £1.3 million Philip Richards Building has been sensitively stitched into the existing fabric of the grade II listed school buildings in a design by Bath architect Mitchell Taylor Workshop.

The new 500sq m building is at its largest at first floor level where its L-shape curves around a new internal courtyard while at ground floor, it envelops the listed buildings in a jigsaw-like manner.

"The site is tight and reasonably complex," says director Piers Taylor. "This dictated a deep plan building, which ultimately drove the architectural solution — a series of pointy gable ends developed into witch-hat shapes to maximise daylight and ventilation, a detail that moved the roof form beyond a conventional saw-tooth. Internally, they provide a lofty open-plan library space and the roof lights to the north introduce indirect natural daylight."

Projecting bay windows and slick flush windows and doors randomly pierce the gritty red/purple brickwork, handmade by Ibstock. A mix of four bricks and a lime mortar "with a fat, smudged Lewerentz-esque joint," says Taylor, was used to reflect the crumbly texture and character of the existing sandstone listed buildings.

Section



Detail section of projecting window

PROJECTING WINDOWS

There are three projecting windows on the first floor level that provide window seats and well-lit reading spaces off the library. All of them extend out by 650mm, and share the same materials — dark grey powder-coated aluminium frames and fixed double-glazed structural glass, silicone-sealed to the frame.

The two windows on the east elevation are 2m wide and 4m wide, while the south elevation bay is 1.5m wide.

The windows also have perforated aluminium fixed ventilation panels either on the cheeks of the windows (east elevation) or on its main facade (south elevation). The tightly woven mesh panels are all dark grey polyester powder-coated and painted anthracite dark grey to match the frames.

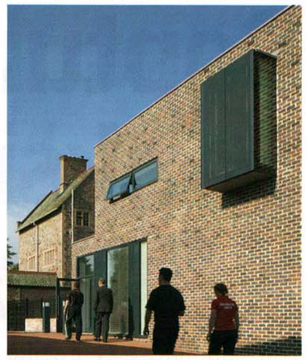
The perforated panels are hung from concealed cleats that are welded to the steel frame.

The ventilation panels can be shut off by solid timber shutters faced with a white Formica laminate and satin-finish stainless steel.

The glazing panels are supported using concealed metal clamps that are fixed back to the steel frame.

The glazed panel build-up from the outside is 10mm heat soak toughened pane; 16mm argon filled cavity with black spacer bar and 17.5mm clear heat soak toughened and laminated, low E inner pane.

The overall U-value for the general glazing is approximately 1.8W/m2K.



The projecting window on the south elevation showing the perforated aluminium ventilation panel on its main face.

FLUSH WINDOWS AND DOORS

The first floor contains randomly placed horizontally and vertically oriented openable windows, which appear flush, though are in fact set back 15mm to avoid water penetration. They are located at different heights to maximise views when either sitting or standing, and come in three different sizes: 1,790mm x 550mm; 1,490mm x 665mm and 665mm x 2,915mm.

On the ground floor, a combination of fixed windows and perforated vent panels with openable internal solid timber doors of varying dimensions and all 2915mm tall, pierce the brickwork.

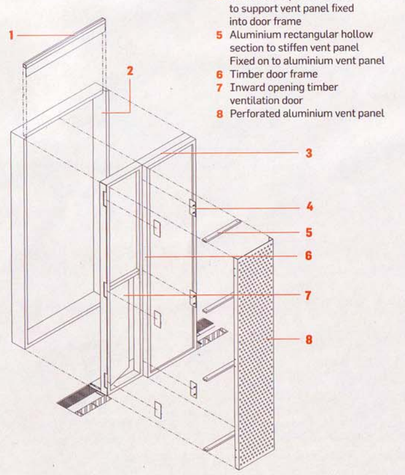
The window frames and vent panels are powder-coated aluminium in anthracite dark grey. On the ground floor, perforated vent panels create decorative interest, and provide security in the summer when the doors are left open for night-time cooling.

The flush window detail allows the Formica-faced timber doors to open inwards and creates a void in the soffit for the blinds. The perforated ventilation panels are supported by aluminium spline/ brackets that are fixed back to the timber window linings. Stiffness is provided to the vent panels by introducing an aluminium hollow section to the perimeter. The centre pane U-value of the glazing is 1.2W/m2K with warm edge spacers.

A ramp leads up to the main entrance, which is a double-glazed automatic sliding door with a dark grey aluminium frame.

The east elevation has a mix of window styles.

Exploded view of vent panel



1 Concealed roller blind
2 Inner insulated timber frame reveal
3 Aluminium window fixed
4 Aluminium spline/bracket to support vent panel fixed into door frame
5 Aluminium rectangular hollow section to stiffen vent panel Fixed on to aluminium vent panel
6 Timber door frame
7 Inward opening timber ventilation door
8 Perforated aluminium vent panel