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Natural ventilation using multiple e-stacks – p38

Frank Lloyd Wright
An anthology of the Prairie School architect's essential writings – p41

AJ

PRIVATE SCHOOLS

Two building studies reveal an emerging, subtle architecture in independent schools – page 23

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GARETH GARDNER

This image Page\Park's preparatory School for Fettes College in Edinburgh **Left** Project Orange's Jerwood School of Design in Oakham

RENZO MAZZOLINI

THE NEW AUSTERITY

While government-funded schools fizz with in-your-face architecture, two recent private schools are simple and serene

The two privately-funded school buildings featured on the next 14 pages stand in contrast to the AJ's coverage of public-sector schools three months ago (AJ 12.03.09), centred on Birmingham City Council's Building Schools for the Future programme and its whopping £2.4 billion war chest. The build cost of Page\Park Architects' preparatory school for Fettes College (*pages 24-29*) was £1.75 million, while Project Orange's Jerwood School of Design at Oakham School (*pages 30-37*) was just £1.4 million, although its smaller footprint means a higher cost per square metre.

And while the public sector attracts big-name architects and is characterised by show-stopping design – think of Allford Hall Monaghan Morris' roadside-friendly, go-faster elevations for the Westminster Academy in West London (2007), or BDP's Ralph Erskine-inspired cascading decks for its Bridge Academy in East London (2008) – these buildings designed for independent schools are altogether more sedate. You might even say austere. Both buildings share a sense of craft and materiality. At Oakham School, cedar shingles wrap around a concrete slab and timber-frame structure, with internal finishes of brick, glulam and plywood. At Fettes College, Page\Park's low-rise, larch-clad, timber-framed classroom block has a zinc roof and oak panelled interiors, and seems a deliberate foil to the baronial bling of the 19th-century Main College building.

We sent gm+ad partner Alan Dunlop, who led the design team behind his firm's multi-award-winning private Hazelwood School (2007) in Glasgow, to have a look at Fettes. For Oakham, we worked with Project Orange partner James Soane and architect Helen Woodcraft to select drawings and photographs that give a sense of the building's simplicity and appropriateness. We welcome your comments on both. *Rory Olcayto*

CRAFT AND COMPROMISE

Project Orange demonstrates a healthy pragmatism at its neatly crafted Jerwood School of Design in Rutland, writes *Rory Olcayto*. Photography by *Gareth Gardner*

1. Existing art department
2. Main entrance
3. Temporary classrooms
4. Link to art department
5. Houses

The initial plan that Project Orange director James Soane sketched out for Jerwood School of Design at Oakham School in Rutland shows a deformed rectangular layout, as if two colliding shapes, not quite parallel, had somehow fused together. The slight kinks in plan seemed to reflect the immediate context: a group of crudely built, loosely planned, 18th and 19th-century brick buildings. When the quantity surveyor reported that the structural cost would drop by 15 per cent if the plan was straightened out, Soane, without a hint of preciousness, took the advice. His pragmatic reading of the surveyor's advice underpins much of what is good about this modest, well-crafted building.

The finished scheme still has the feel of two monopitched buildings fused together, reflecting the organic growth of the immediate context, and an offset staff-room window by the entrance recalls the original kinked plan. The building's gabled form also picks up on the contextual language, and a literal connection is made through a link connecting the new building to a stone barn at its rear, which houses the school's art department.

Project Orange was commissioned to expand Oakham School's art, design and technology facilities in 2007. A large part of its budget was funded by the Jerwood Foundation, which supports the arts and education and has strong links with the school.

The architect has created flexible workshop space on the ground floor with design studios on the first floor. The workshops are sandwiched between two concrete decks, while the studios above are defined by a lightweight timber structure. As well as the environmental benefits (the concrete helps maintain thermal comfort and the timber structure above means less foundation), it feels right to encase the volume of the workshops – where things are made permanent – in concrete, while giving the studios – where ideas evolve – a lighter fit.

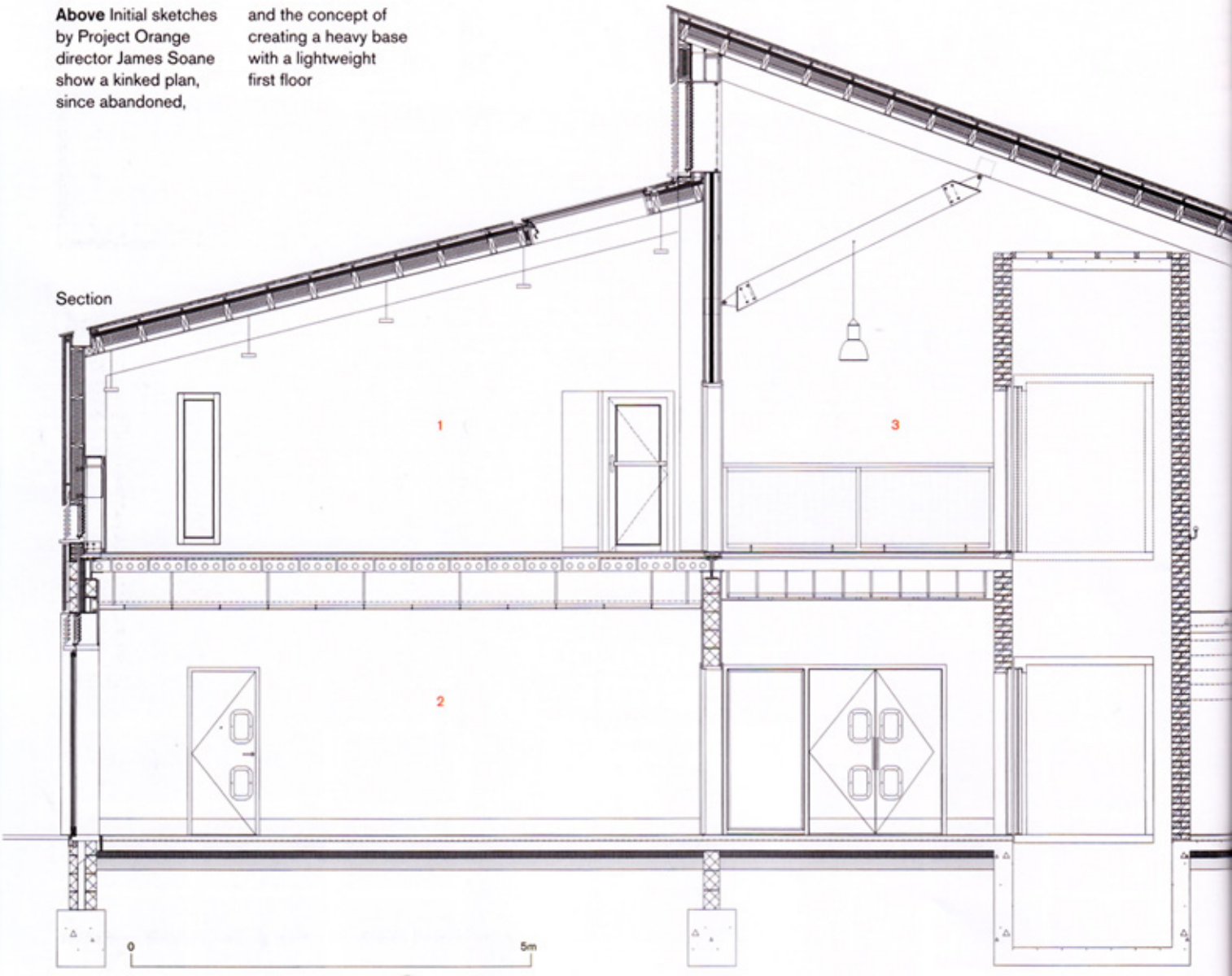
A double-height glazed entrance and atrium physically connect the two zones. The atrium circulates warm air up and out through vents positioned at the roof's apex. Throughout, cool air is drawn inside through vents placed at lower levels, negating the need for mechanical ventilation and air conditioning.

Cedar shingles and plywood interiors add a warm glow to the aesthetic and, given that the shingles cover the roof as well, provide Oakham's new building with a distinct identity. You don't need a kinked plan for that. ■


TECHNOLOGY
CENTRE

Above Initial sketches by Project Orange director James Soane show a kinked plan, since abandoned, and the concept of creating a heavy base with a lightweight first floor

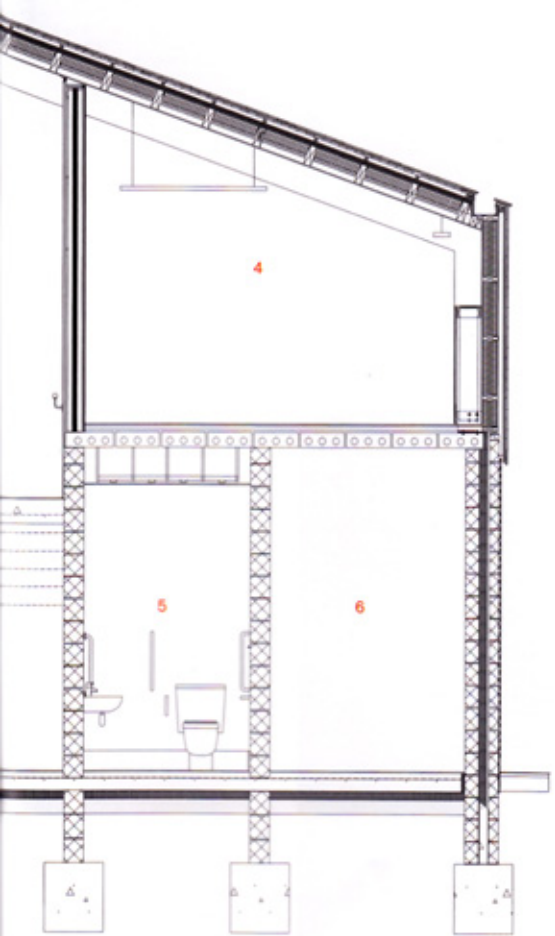
Section



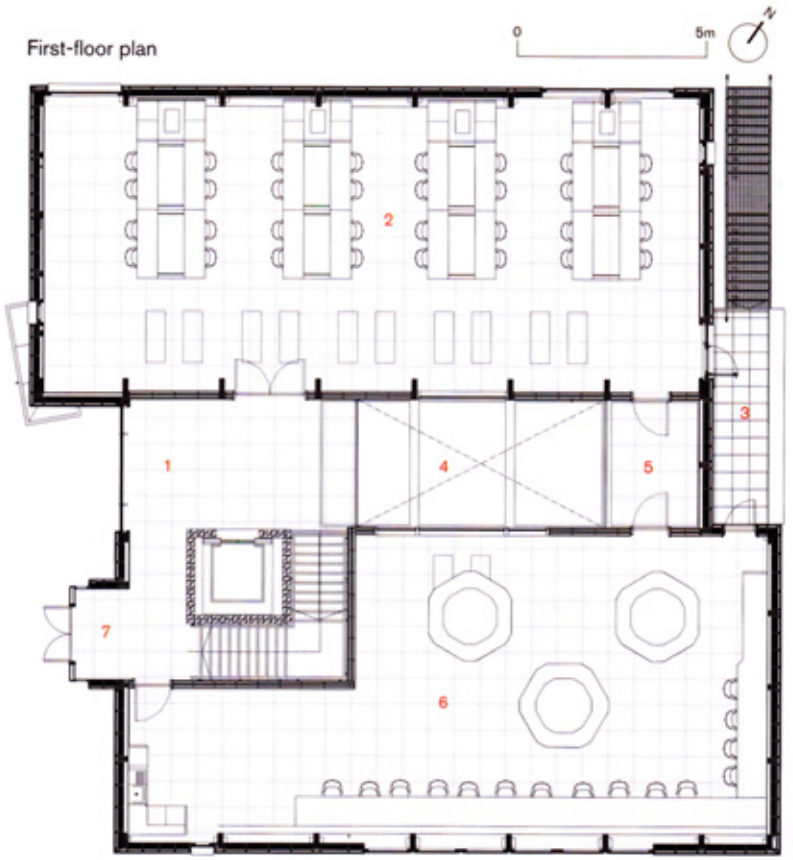
SECTION KEY
1. Design studio
2. Workshop 1
3. Atrium
4. Electronics/technology
5. WC
6. Plant room 2

FIRST-FLOOR KEY
1. Circulation
2. Design studio
3. Fire escape
4. Void over gallery
5. Balcony
6. Electronics/technology
7. Link to art department

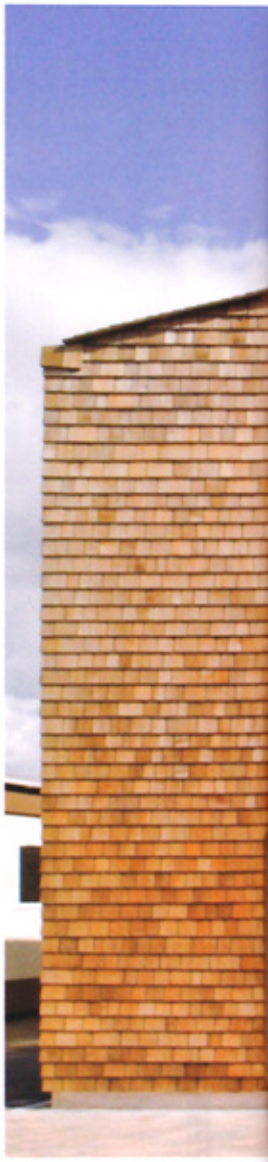
GROUND-FLOOR KEY
1. Entrance
2. Design office
3. Workshop 1
4. Project store
5. Gallery
6. Plant room 1
7. Workshop 2
8. Plant room 2
9. WC
10. Link to art department
11. Store



First-floor plan



Ground-floor plan



This page Views of the shingle-wrapped Jerwood School of Design. These cedar shingles are made from parts of the log that are unsuitable for sawn timber. Their low density also allowed the use of a lightweight timber structure at first-floor level. Other elements of sustainable design on this project include natural ventilation; interleaved foil and expanded foam insulation to reduce heat loss; and extract ducts to collect workshop dust for use as wood-pellet fuel

Clockwise from below The design studios on the first floor have a light-weight timber structure; Electronics laboratory; Workshops on the ground-floor are sandwiched between two concrete slabs; An atrium connects the two floors

Tender date August 2007
Start on site September 2007
Contract duration 49 weeks
Gross internal floor area 641m²
Form of contract SBC 05 with quantities
Total cost £1.4 million
Cost per m² £2,176
Client Oakham School, Rutland, Leicestershire
Architect Project Orange
Structural engineer Smithers Purslow
M&E consultant EP Consulting
Quantity surveyor CM Parker Browne
Main contractor RG Carter Peterborough
Glulam subcontractor Lamisell
Shingles subcontractor Broadbents UK
Annual CO_2 emissions 31.7kg/m²

1. Powder-coated metal angle
2. Opening light
3. Line of primary glulam structure
4. External reveals lined in powder-coated aluminium
5. Pack with insulation
6. Powder-coated aluminium sill on framing around steel
7. Structural T-section spanning between glulam frames to carry base of window and head of louvres
8. Passive ventilation louvres
9. Powder-coated weather louvres
10. Mechanically fixed external weather louvres in cedar to match shingles. Standard board size 30 x 100mm, set at 45 degrees
11. Treated cedar support strut behind, with cut-out slots to receive louvre blades (spacing as per louvre elevations)
12. Treated cedar sill
13. 90 x 90mm equal angle to carry cedar vent frame
14. Ply-faced boxing to house fan convector

Window and ventilation grill detail