



## Paul Hamlyn Learning Resource Centre, Thames Valley University, Slough

*Owner: Thames Valley University*

**Architect:** Richard Rogers Partnership

**Structural Engineer:** Buro Happold

**Steelwork Contractor:** Tube Engineering (Bristol) Ltd

**Main Contractor:** Laing South East

Thames Valley University carried out a study of its Slough campus in order to structure a 'masterplan' for the site and identify an area for a 3,500 sq m Learning Resource Centre (LRC). The campus was largely dominated by three 1960's high rise blocks which had set the tone of subsequent developments thereon.

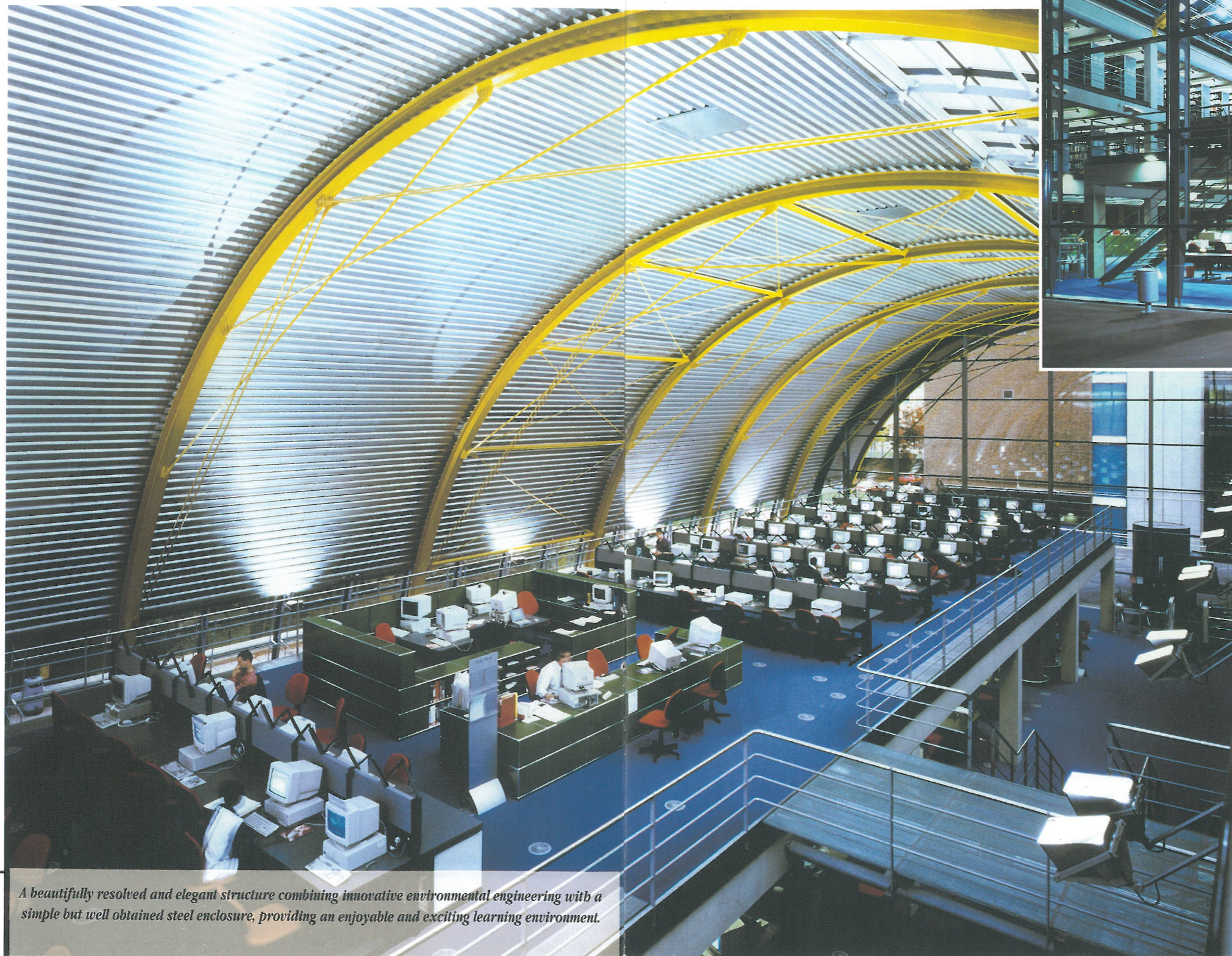
The masterplan identified areas which would improve the existing landscape and infrastructure, including a landscape strategy, zoning for parking and new external/internal routes. Focal points around which to create a 'hub' for the campus were also identified as were potential future phase sites.

The LRC was to house information in numerous formats (ie, videos, CR-ROM and books), with all users to have access to lap-top computers in a computer-oriented space. The brief also required an open working environment, with a limited number of enclosed seminar rooms.

The form of the new centre is divided into two distinct segments - a three storey 'warehouse' of information housed in a simple concrete-framed block, and a contrasting ground level and mezzanine study area beneath a curving lightweight steel roof.

The lightweight roof is supported on a series of slender curved steel column sections which act as tied arches. The ties connect intermediate points of the arch to form a series of 'chords' to the circular arc.

This highly expressive structure is exposed inside the



*A beautifully resolved and elegant structure combining innovative environmental engineering with a simple but well obtained steel enclosure, providing an enjoyable and exciting learning environment.*



space, making a very clear statement as to how the roof is supported. The springing points for the arches are also carefully designed to contribute to the grace of this very light solution for covering a wide span.

The two fully glazed end walls also use slender steel beams running from ground to roof, which were fabricated from standard rolled sections and have a web with large oval-cuts to emphasise their lightness (the use of standard rolled sections has ensured that the structural framing costs were low).

Full advantage was taken of the stiffness of the roof plate and glazing plane to restrain the arches and glazing support beams. Finite element analysis allowed accurate production of the roof's behaviour and minimised the size of the structural sections used.

The building envelope has been designed to be predominantly naturally ventilated, with a limited chilling capacity included to allow for additional cooling.