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Consulting Engineers & Landscape Architects



PROJECT:

Barking Schools PFI, London

CLIENT:

London Borough of Barking and Dagenham

ARCHITECTS:

Architecture PLB

BM SERVICES:

Environmental Engineering & Landscape Architecture

VALUE:

£35million (approx)

DESIGN BRIEF

To provide environmental engineering and landscape design for two new low energy secondary schools in Barking and Dagenham. As a part of the Thames Gateway regeneration, Barking is championing new ways of learning, by delivering the curriculum in large (70 m²) classrooms with a 'horseshoe' shape seating arrangement.



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DESIGN INITIATIVES/ACTIONS UNDERTAKEN

The increased depth of classrooms necessitated a fresh approach to architectural and environmental design. Instead of a conventional naturally ventilated teaching block, a hybrid system will be developed. In favourable weather conditions, the cross ventilation of classrooms will be promoted by the stack effect via common risers at the corridor side. The stacks will also be supplied with extract fans so that when high temperature or high levels of CO₂ are detected in the spaces, air movement is increased to maintain comfort.

The landscape design for both schools was developed in accordance with the principles of sustainable development. Key features included:

- Structured and legible layout that logically organises contrasting uses and facilitates orientation within the site, especially for visitors.
- A series of flexible spaces that allow for a range of activities and respond to the functions of surrounding buildings.
- Existing good condition mature trees retained and protected during construction phases.
- Native plant species selected and planted to minimise maintenance requirements.
- Sustainable urban drainage systems (SUDS) including use of porous hard and soft surfaces to maximise natural percolation and drainage from impermeable surfaces into swales that serve to soften the car park and provide an ecological resource for the school.
- Use of low embodied energy materials.
- Provision of secure on-site cycle parking facilities to encourage alternative methods of transport.

The designs for both schools incorporate rainwater harvesting with buried GRP storage tanks provided for collecting the rainwater discharge from the roof areas. The system filters and treats the water for reuse in the new development, for toilet flushing and irrigation.



3D perspective views of open spaces within the schools

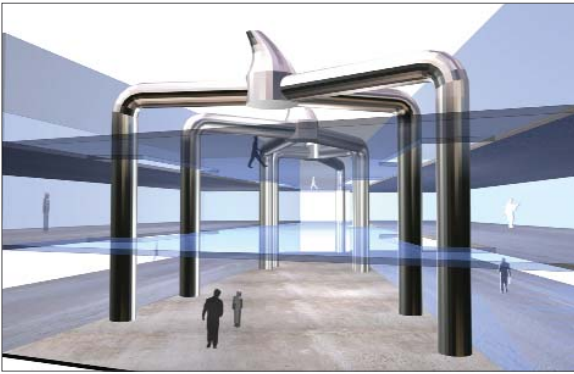
The schools address two important objectives; the delivery of a new pedagogy and the provision of cultural, leisure, health and learning resources for the wider community. Both schools are designed for extensive out of hours use with public access to the performing arts, resource areas, sports and dining spaces. Jo Richardson School also incorporates a primary healthcare centre, a community one-stop shop and public library.

The schools are organised around internal 'streets', accommodating a variety of uses and providing the principal social space for the student community.

At the new Jo Richardson School the community offices, library and resource centre are located at the intersection of the main student and public routes. With 1500 students the pastoral arrangement is particularly important and the planning provides a distinct hierarchy of inside and outside spaces to reflect this.

The existing Eastbury Community School will be expanded to 1800 students and amalgamated onto a single site.

Work began on site in January 2004 and is due to be completed in July 2005.



3D perspective views of ventilation services with the building fabric



The two landscape masterplans;

Jo Richardson School & Eastbury Community College

