

Dunraven School - New Sports Hall



Client Name: London Borough of Lambeth
Project: Dunraven School - New Sports Hall
Date: 2009
Value: £1.5m
Service: Quantity Surveying

Project Overview

The sports hall building is an Intermediate works project which forms part of Lambeth's Building Schools for the Future (BSF) programme. Although the project budget could possibly have been met through a very basic, traditional steel portal frame building, such a design would not have been acceptable to either the client BSF team, to the funding body Partnership for Schools or to Lambeth Planning Department.



Following numerous cost appraisals of more traditional designs, the design team introduced an innovative solution of using thirty re-cycled shipping containers as the primary structure – which would in addition also provide much of the cladding solution.

Due to the unique construction method, it was crucial to involve an expert contractor with the design team at an early stage to assist in achieving the most efficient design proposal and to increase cost certainty. To this end, we prepared a report for the LB Lambeth recommending a single negotiated Design and Build Tender, which would reduce client side costs in procurement, provide a greater degree of cost certainty through a Guaranteed Minimum Price (GMP) and facilitate a collaborative approach to meeting client objectives and a tight delivery programme. The method of procurement was agreed and proved hugely beneficial. Achieved at a cost of £1,300 sqm, this is a 27% saving on the estimates calculated for a traditional solution.



Life cycle costs were considered in detail prior to procurement and formed part of the process leading to the decision to follow the procurement and construction routes we recommended. The life cycle cost of using sea containers was summarised in a report provided to the client prior to procurement. We applied our experience to calculate life cycle costs and compare them to those traditional brick building and balance them against anticipated capital costs. We concluded that life cycle costs would not mitigate the savings achieved with the innovative construction method proposed.



Although it was not a formal partnering contractual relationship, the contractor contributed advice prior to the completion of stage D design on the most economic design layout and on the specification of suitable materials for the method of construction. In respect of cost, the contractor submitted a tender price for negotiation on the basis of net cost of materials and labour with additions for overheads, profit, head office charges and the like (similar to a partnering relationship). This also provided a basis for negotiating the costs of client changes. The commitment of both the design team and contractor to the success of the project served to reinforce the partnership.

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Project Overview continued...

The entire primary building structure is recycled. This whole structure is thus also demountable and recyclable, and the design ensures that it can quickly be dismantled and removed from site if required for relocation.

Much of the works required to adapt the individual units also took place off-site over a period of 4 months. This controlled and minimised waste and reduced the need for construction traffic to the site and also allowed the school to function undisturbed. All thirty containers were delivered to site and craned into place to complete the primary structure and main cladding for the building over the course of three days. In total, site works lasted approximately 5 months (2 of these being for ground works) with fabrication of the building structure off-site taking place during the same period.



The design enables all roof water on this large-span building is captured and reused through a rainwater harvesting system.

Services were designed to reduce impact on the environment, including the extensive use of daylight for the main hall through the translucent polycarbonate north elevation, through the rooflight and through the cut-out motifs which punctuate the elevations, carefully located to avoid glare. Radiant rather than air heating was also used to reduce wasted heat and 17th-series low-energy infrared activated lighting was employed to further reduce energy use.

The development is adjacent to local bus services and no additional car-parking spaces were provided, discouraging visitors from travelling to the site by car.



Keegans played an integral part in the assessment and negotiation of both contractual issues and ensuring design requirements and costs were managed and negotiated effectively to provide value for money whilst achieving the client's aspirations.

This project has recently been awarded the Building Construction Industry small project of the year 2009.

“The Sports Hall has surpassed our expectations. The building is a real landmark and a source of pride for our community as much as it is for us. We chose the container solution because we were keen to respond to our students’ interest in the environment and issues of sustainability as well as to provide value for money given a very limited budget. The speed of construction was an added bonus, Students and staff have been delighted by the building’s striking appearance. We now have an outstanding facility for our young people.” —David Boyle, Principal