

Building a greener London Fire Brigade

GREATER LONDON AUTHORITY, UNITED KINGDOM

Procurement objectives

In 2006, the need for a new fire station serving the growing London Borough of Havering was identified. A site was selected which allowed for the conversion of three existing industrial units, as well as meeting operational requirements. The design brief focused on sustainability principles including reuse of the existing structures, lower energy and water consumption and the production of renewable energy. The new Harold Hill station opened in January 2010.

Background

The Mayor of London has adopted a [Responsible Procurement Policy](#) covering the GLA Group's annual £3 billion spend (approximately 3.6 billion Euros). As a signatory to the policy, the London Fire brigade (LFB) works to ensure the positive direct socio-economic and environmental impact of this expenditure, and to influence wider procurement practice.



Criteria used

Subject matter of the contract: Design and build of new Harold Hill fire station incorporating the modification and re-use of existing structures.

Selection Criteria: At the prequalification stage all potential tenderers were required to have an environmental policy. The principal contractor was to have [ISO 14001](#) certification or equivalent environmental management system; with particular consideration given to the disposal and recycling of waste.

Technical specifications:

White goods: Must achieve a minimum of 'A' rating for energy efficiency under the [EU Energy Label](#) scheme.

Timber: Reclaimed timber to be used where possible, any new timber to have [FSC](#) or equivalent certification.

Sanitary fittings: All sanitary fittings must have reduced water consumption in line with [BREEAM](#) requirements.

Insulation: All insulation installed within the building to have a [BRE Green Guide](#) rating of A+ or equivalent.

Overall building rating: BREEAM 'Excellent' or equivalent certification is expected to be achieved after one year of occupancy.

Award criteria: Environmental considerations made up 10 percent of the quality based assessment at tender stage.

Contract Performance Clauses: The contractor adhered to the [Considerate Constructors Scheme](#), which sets out a code of practice covering topics such as safety, accountability, cleanliness, neighbourliness, and environmental responsibility. This project was rated as "An Exceptionally Good Site" under the scheme. The contractor was also required to monitor the amount and type of waste produced during construction, and the proportion that could be recycled.

Results

The station is fitted with the following technologies reducing its environmental impact:

- Grey water technology which recycles rain water
- Photo-voltaic panels which convert solar energy into electricity
- Combined Heat and Power (CHP) and solar heating with a phase change thermal store
- Energy saving boilers
- Motion sensor and daylight controlled lighting
- Thermostatic radiator valves which control the temperature of each radiator
- Sun tubes which allow additional daylight into the station

Approximately 80 percent of the basic structure of the original buildings was used in the final construction. In addition to reducing the environmental impact of the works, this allowed for the inclusion of a unique indoor all-weather training space, increasing the amount of productive time for staff and reducing the impact on neighbours of noise and light from training. The total cost of the project was £2.4 million (approximately 2.84 million Euros).

Environmental impacts

Buildings account for a large percentage of energy consumption and CO₂ emissions – and works contracts are also major sources of waste to landfill and other environmental impacts. Public procurers are increasingly becoming aware of the need to address these impacts, not only in the tender process, but in the pre-procurement planning stage and throughout the occupational phase. The use of environmental assessment tools is one approach to set targets and monitor a building's overall environmental performance. In addition, site selection, materials specification, waste management and overall resource efficiency should be taken into account in the procurement process and incorporated into the signed contract.

Lessons learned

Applying experience from the Harold Hill site, LFB have helped develop new tailored assessment criteria which reflect the particular use and sustainability requirements for fire stations. These criteria are now available for use in any fire station development (new build or refurbishment) nationwide. The criteria set out core requirements for fire station configuration and include requirements for energy efficiency, raw material selection and targets for the overall environmental assessment ranking to be achieved.

For more information, please see European GPP criteria for [construction](#) and various [building materials](#).