



Langley College Improvement Plans



PHASE 2 - CASE STUDY

Introduction

This case study has been developed to highlight building information for Project 2 at East Berkshire College's Langley Campus.

Project 2 Description

Project 2 entailed the construction of 3,420m² of refurbishment of existing accommodation, and creation of a new multi-use games pitch and car park facility. The key outputs of the project were;

- A refurbished "South Wing" to provide specialist Hair & Beauty, Care & Early Years, LLDD and general teaching spaces;
- Creation of an innovation hub on the first floor of the North Wing;
- Refurbishment of the existing Lecture Theatre;
- Demolition of the life expired Phoenix Centre and creation of a new multi-use games area;
- Completion of external works to the main College car park (car park 6).

BREEAM Rating & Score

The targeted BREEAM rating is 'Very Good' with a target score of 57.48%.

The Key innovative and low-impact design features of the building

The installation of fuel efficient gas fired VRV system to heat the building, replacing 95% of lighting to LED or T5 lamps, replacement of single glazing to double glazing, and external shading system (Brise Soleil).

Predicted Renewable Energy Production

Renewable energy production is 41.93 kWh/m²/annum

Basic Building Cost

The basic building cost is £1,411 per m²

Services Cost

The basic services cost is £434 per m²

External Works Cost

£91.40 per m²

Gross Floor area

The gross floor area of the site post Project 2 is 22,780 m²

Total are of site – hectares

Langley campus site is 3.364 hectares

Function areas and their size

Lecture theatre 119m²

Innovation lab 40 m²

South wing refurbishment 2,911m²

MUGA 1,400m²

IT Centre 267m²

Area of circulation

629m²

Area of storage

139m²

Community use of the grounds

The community has use of the artificial sports pitches. These can be rented out for sports use by members of the community. The percentage of the estates grounds used by the community is 4.37%.

Community use of the buildings

The gym facilities can be used by the community. There is also the opportunity for members of the community to enter into a membership deal for sports facilities. The sports hall is also available for community use and currently operates at nearly 85% capacity. The percentage of the estates buildings used by the community 4.99%.

Predicted electricity consumption kWh/m²

77kWh/m²/annum

Predicted fossil fuel consumption kWh/m²

143.25 kWh/m²/annum

Predicted renewable energy production kWh/m²

It is anticipated renewable energy sources will be considered and specified at a later date. An LZC feasibility report has been undertaken and various options have been considered.

Predicted water use m³/person/year

4.29m³/person/year

Percentage predicted water use to be provided by rainwater or grey water

Not applicable as no rainwater harvesting or grey water systems were installed.

Steps taken during the construction process to reduce environmental impacts

The design included for Brise Soleil to provide comfort from overheating due to solar glare as an innovative way to reduce the requirement to install further cooling methods. This has helped to have a significant impact on the College's ability to control overheating in functional spaces.

A list of any social or economically sustainable measured achieved/piloted

The College were implementing schemes to help students with travel via reduced fares on local buses and trains. This was applicable across all 3 projects and continues to be one of the College's targets to reduce car travel.