



# Langley College Improvement Plans



## PHASE 1 - CASE STUDY

## Introduction

This case study has been developed to highlight building information for Project 1 at East Berkshire College's Langley Campus.

## Project 1 Description

Project 1 entailed the construction of 2,780m<sup>2</sup> of new build and refurbishment of 1,823m<sup>2</sup> of existing accommodation. The key outputs of the project were;

- The demolition of the Longcroft building to create a new development zone;
- Creation of a temporary entrance whilst building works take place;
- Creation of new entrance, reception and course enquiries;
- Creation of double height "Street" acting as a central circulation and independent learning zone;
- A relocated and expanded Learning centre;
- New external landscaping, approach, and relocated car parking facilities;
- New 4 court sports hall with associated changing facilities, fitness studio, dance studio, and boxing studio;
- Refurbishment of the existing sports hall to create a new 40 place publicly accessible restaurant;
- Creation of training and production kitchens;
- A package of toilet refurbishments and upgrades.

## BREEAM Rating & Score

The targeted BREEAM rating is 'Very Good' with a target score of 58.04%.

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

The installation of fuel efficient gas fired air source heat pumps, energy efficient lift systems, reduced flush WC cisterns and external shading system (Brise Soleil).

## Predicted Renewable Energy Production

## Basic Building Cost

The basic building cost is £1,305 per m<sup>2</sup>

### Services Cost

The basic services cost is £622 per m<sup>2</sup>

### External Works Cost

£217 per m<sup>2</sup>

### Gross Floor area

The gross floor area of the site post Project 1 is 21,703 m<sup>2</sup>

### Total are of site – hectares

Langley campus site is 3.364 hectares

### Function areas and their size

Sports Hall 597m<sup>2</sup>

Sports science classroom 52m<sup>2</sup>

Changing rooms 156m<sup>2</sup>

CAD workshop 54m<sup>2</sup>

Construction & engineering open learning lab 75m<sup>2</sup>

LRC/Library 347m<sup>2</sup>

Student Services 68m<sup>2</sup>

Course enquiries 115m<sup>2</sup>

Zest restaurant 122m<sup>2</sup>

Kitchen 195m<sup>2</sup>

Hospitality Seminar 26m<sup>2</sup>

Hotel Room 30m<sup>2</sup>

WC's 196m<sup>2</sup>

Fitness and boxing studios 312m<sup>2</sup>

Gym classroom 56m<sup>2</sup>

Plant room 239m<sup>2</sup>

Office space 416m<sup>2</sup>

Area of circulation

1134m<sup>2</sup>

Area of storage

78m<sup>2</sup>

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/m<sup>2</sup>

77kWh/m<sup>2</sup>/annum

Predicted fossil fuel consumption kWh/m<sup>2</sup>

143.25 kWh/m<sup>2</sup>/annum

Predicted renewable energy production kWh/m<sup>2</sup>

41.93 kWh/m<sup>2</sup>/annum

Predicted water use m<sup>3</sup>/person/year

4.29m<sup>3</sup>/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 site has very low ecological value so with this in mind the main elements to protect the site were tree protection. The main contractor, Kier, had to dispose responsibly of all materials and recycle where applicable. Water and energy used during construction was metered and monitored in order to ensure that targets set were met.

The design also 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.

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.