



# Langley College Improvement Plans



**PHASE 3 - CASE STUDY**

## Introduction

This case study has been developed to highlight building information for Project 3 at East Berkshire College's Langley Campus.

## Project 3 Description

Project 3 entailed the construction of 2,517m<sup>2</sup> of new build accommodation and 835m<sup>2</sup> of refurbishment of existing accommodation. This Project was developed to provide a new STEM centre for the College and improve the provision of construction workshops. The key outputs of the project were;

- Retention and refurbishment of the majority of the existing workshop space;
- The demolition of life expired workshops to create a two storey STEM centre;
- The project rationalises circulation space and provides navigation and new vocational facilities;
- Including a new facility for changing places to help with disabled students;
- General uplift in the estate some of which hasn't been touched since the 1970's.

## BREEAM Rating & Score

The targeted BREEAM rating is 'Very Good' with a target score of 58.42%.

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

Improving the external façade of the building through new double glazed units and Brise Soleil to control solar glare. Removing life expired boilers and replacing with locally controlled units to improve the thermal heating of the building, and reduce running and maintenance costs.

## Predicted Renewable Energy Production

Renewable energy production is 41.93 kWh/m<sup>2</sup>/annum

## Basic Building Cost

The basic building cost is £1,118 per m<sup>2</sup>

### Services Cost

The basic services cost is £371 per m<sup>2</sup>

### External Works Cost

£ 3,926 block paving to the courtyard area

### Gross Floor area

The gross floor area of the site post Project 3 is 25,113 m<sup>2</sup>

### Total are of site – hectares

Langley campus site is 3.364 hectares

### Function areas and their size

Heart space (STEM facility) 113m<sup>2</sup>

Workshop refurbishment 1,295m<sup>2</sup>

New entrance corridor 26m<sup>2</sup>

Refurbishment of 2<sup>nd</sup> floor 860m<sup>2</sup>

### Area of circulation

440m<sup>2</sup>

### Area of storage

123m<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>

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 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 works consisted of mostly internal refurbishment and reduction to environmental impacts were met through introducing new boilers to reduce running costs. Installing new double glazed units to improve thermal performance and a Brise Soleil to help solar glare.

### 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.