

## 1.0 Description of Project

The comprises the construction of a new two storey building offering modern science and IT laboratory facilities to replace the College's existing obsolete science labs. Whilst the building has been designed to blend in with other recent building projects on the College campus, it has also been designed to take advantage of modern low energy design principles to minimise energy use and heat losses.

## 2.0 BREEAM Rating & Score

Target BREEAM rating: Very Good

BREEAM Score: TBC

## 3.0 Key Innovative & Low Impact Design Features

- Opening windows are carefully located in all functional areas (laboratories, prep rooms, staff rooms and break-out areas) to provide natural ventilation, day-lighting and views out.
- The building shell uses high thermal insulation levels to minimise heat loss.
- Solar control glass and brise-soleil to south facing windows minimise excess solar heat gain and reduce glare.
- Where possible, the building materials and finishes specified are 'A' rated for environmental performance.
- Highly energy efficient fume cupboards are fitted in laboratories to minimise energy use.

## 4.0 Costs

Building Cost (excl. services): 795 £/m<sup>2</sup>

Services Cost: 367 £/m<sup>2</sup>

External Works Cost: 68 £/m<sup>2</sup>

## 5.0 Areas

Site area: 0.25 ha

Gross floor area: 1027 m<sup>2</sup>

Science & IT Labs: 637.4 m<sup>2</sup>

Circulation areas: 161.3 m<sup>2</sup>

Storage areas: 66.6 m<sup>2</sup>

## 6.0 Energy

Predicted electricity consumption: 49.4 kWh/m<sup>2</sup>

Predicted fossil fuel consumption: 0 kWh/m<sup>2</sup>

Predicted renewable energy generation: 0 kWh/m<sup>2</sup>

Predicted water use: 0.2 m<sup>3</sup>/person/year

Predicted % water use by rainwater / recycled water: 0 %

## 7.0 Reducing Environmental Impact

- The building is located on a site of low existing ecological value.
- A landscaped bank to the south of the building provides a visual barrier to adjacent residential properties, whilst the planting has potential to offer new wildlife habitats to encourage bio-diversity.

## 8.0 Sustainable Measures Achieved

Air Source Heat Pumps are used in place of traditional boilers to reduce energy use and achieve a minimum 10% carbon reduction.