



BREEAM Excellent and EPC A rated



Solar photovoltaic panels provide renewable energy



Broken pallets donated to wood recycling project

# CASE STUDY: DERBY CIVIC OFFICES

The new Derby City Council offices involved the refurbishment of the existing 1930s structure and construction of a new build, enabling the council to consolidate departments into one central space.

## SUSTAINABLE DESIGN

The city centre project targeted a BREEAM Excellent rating and an A rated Energy Performance Certificate (EPC), both of which were achieved, demonstrating its sustainable credentials.

The design included improved water management, insulation, natural lighting and ventilation, energy efficient cooling, and incorporated renewable energy technologies.

We also worked with the Council to connect the new building to a hydroelectric power station being built at Longbridge Weir, just downstream from the council offices.

## TACKLING CLIMATE CHANGE

We refurbished and remodelled the existing 1930s structure to improve its energy efficiency. Improved insulation, has significantly improved the thermal efficiency of the building and new efficient glazing is designed with UV shading, to help maintain internal temperatures and reduce glare. The windows are controlled through a traffic light system, which informs users when to open or close them to maintain the correct indoor temperature.

The building is linked to the nearby hydroelectric power station which can generate approximately 1.3 million kWh of electricity per year - this is the equivalent to supplying enough green electricity for over 300 average households. Any surplus power will be sold into the national grid. The hydroelectric power station has been designed to have no detrimental effects to the wildlife within the river. A fish pass has been incorporated to increase the number of fish species and eventually improve aquatic biodiversity.

As well as the hydroelectric power, solar photovoltaic (PV) panels are used to supply the building with renewable energy.

The temperature regulation of the building is controlled by a new river water cooling scheme. Cold river water passes through pipes into the basement plant room which provides cooling via a heat exchanger. Water is returned to the River Derwent, a maximum of three degrees Celsius warmer.

At night, an adiabatic cooling system operates by spraying fine mist into the building. As the mist evaporates, it consumes heat energy, both cooling and rehydrating the air. This cooler air improves efficiency and cost by reducing the need for additional cooling.

'THE BUILDING IS EXCEPTIONALLY INNOVATIVE, COMBINING A SENSITIVE RESTORATION WITH A STRIKINGLY NEW INTERIOR. CREATING THIS DISTINCTIVE, HIGHLY SUSTAINABLE BUILDING WOULD NOT HAVE BEEN POSSIBLE WITHOUT THE SUPPORT AND EXPERTISE OF BAM.'

Paul Bayliss,  
Leader of Derby City Council



Completed: December 2012  
 Customer: Derbyshire County Council  
 Architects: Corstorphine & Wright  
 Mechanical & Electrical consultants: Hoare Lea  
 Structural Engineer: Curtins Consulting  
 Project Manager: Mace  
 Quantity Surveyor: Sense



48,000 litre capacity  
rainwater harvesting tank



Supported Barnardo's  
need for local foster carers  
using hoardings

## RESOURCE EFFICIENCY

Salvaging materials not only reduces the waste going to landfill but helps to preserve the heritage of a building. That is why we recovered bricks from a major new opening in the building's external wall and re-used them elsewhere in the building. Some of the roofing materials were also re-used and are now incorporated into the new building.

Instead of sending waste materials to landfill we always try to reuse or recycle them, so we donated broken pallets to the local community's wood recycling project.

## WATER MANAGEMENT

A 48,000 litre rainwater harvesting tank is located in the basement which collects rainwater to be used for flushing toilets. The building also contains showers and a drying room to promote green travel such as cycling to work.

## COMMUNITY ENGAGEMENT

Our detailed newsletters kept local residents up to date with progress on site. We also maintained a compliments and complaints log for local residents to voice their concerns.

We supported our national charity partner Barnardo's, by using the hoardings to raise awareness of the need for local foster carers.

We were instrumental in setting up and supporting the local Community Wood Recycling Project. The project provides employment opportunities to disadvantaged people and also recycles waste wood which may have otherwise been sent to landfill.

Other initiatives included substantial help for the local Scout Group, tours of the project, refurbishing a fountain for the Olympic torch run, and helping a recently opened food outlet nearby.

