

KingspanWater Case Study

DEFRA Offices, Alnwick, Northumberland



"We chose Envireau because, having worked with their team on a number of other projects, we have confidence in their harvesting system."

Hayden Young, M&E Contractors.

Client:	Defra Estates Division
Contractor:	Kier Northern
Building Services:	Haden Young / Faber Maunsell
Structural Engineer:	Faber Maunsell
Project Management:	Appleyards
Product:	KingspanWater Envireau Fully Integrated Rainwater Harvesting System with 12,000 litre storage tank

Designing a rainwater harvesting system for DEFRA, in Northumberland.

Lion House is an ultra low-emissions office building, designed and built for the Department of Environment, Food and Rural Affairs (Defra), in Alnwick, Northumberland.

From the outset, the aim was to construct a building with the highest possible BREEAM rating. That included incorporating low energy technologies, responsibly sourced materials and reduced carbon emissions. There was also the aim of minimising mains water consumption through low-water use fittings and rainwater harvesting systems.

The project's M&E contractors Haden Young approached one of the UK's leading suppliers of rainwater harvesting equipment, Kingspan Environmental, to design a suitable solution for the building.

The Kingspan Environmental team worked closely with Haden Young to configure its Envireau equipment to meet the water consumption requirements for toilet flushing for Lion House's 100 employees.

The agreed system comprises of a pre-tank filtration system, a 12,000 litre underground storage tank, an electronic control system and pump. The pump in the main holding tank delivers the water to a high level header tank in the building from where the water will gravity-flow to the serviced appliances.

The team calculated that the annual water consumption at Lion House will be around 469m³. Given the roof area of the new building, and the annual rainfall statistics for the region, it is estimated that the annual water harvest will be around 563m³. In theory, therefore, all of the annual toilet flushing water is expected come from the rainwater harvesting system.

Gerry Quinn, Product Manager for KingspanWater says: "Reusing rainwater presents savings not just for the environment, but also in terms of reduced water rates. At today's water cost, we expect to see Lion House saving in the region of £800 per annum, so we would anticipate payback on capital investment in around 4 to 5 years."

For more information, call the KingspanWater Technical Advisory Service on +44 (0) 1296 633139, or visit our website www.kingspanwater.com.

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