



“Utilising Royal HaskoningDHV’s united range of in-house services, we have been able to construct our facilities in Gloucester and Wisbech on time, ensuring their market driven deadlines were met.”

Piet Meijs, Head of Business Development,  
Partner Logistics

## Fenland food producers prepare for big freeze – Wisbech Cold Store

Drivers approaching the Fenland town of Wisbech on the A47 trunk road between Peterborough and Kings Lynn cannot fail to notice the gigantic construction that has appeared on the outskirts of the town. Standing 35m tall and occupying a plot the size of four football pitches – meet Britain’s largest deep freeze.

Developed, owned and operated by Partner Logistics Europe, the cold store can hold around 77,000 pallets at any one time. Not just a deep freeze, the facility is a highly efficient distribution centre which will enable the company to store the foods produced by Dutch potato manufacturer Lamb Weston Meijer at its nearby factory, and despatch them to customers across the country. Offering an efficient, economical and sustainable method of storing and distributing foods, the company is using surplus storage space to provide services to two other ‘non-competing’ frozen food manufacturers in the area.

Partner Logistics Europe is a Netherlands company specialising in sustainable cold storage and automated distribution facilities. The Wisbech plant is the second cold storage unit of this scale to be built in the UK. The first – a 66 million litre cold storage unit in Gloucester, was built by Partner Logistics for Unilever, between autumn 2007 and spring 2009.

Involved in both projects from the outset, Royal HaskoningDHV was commissioned by Partner Logistics to provide a range of consultancy services. These included civil and structural engineering and design, flood risk assessment, environmental studies, transport planning, procurement and CDM coordinator services, as well as on-site technical support.

Royal HaskoningDHV’s Project Director for Infrastructure and Buildings, David Bone, said: “In 2007, on recommendation from our Dutch colleagues, Partner Logistics Europe asked us to help them approach Fenland District Council to purchase a piece of green field land outside Wisbech, and apply for planning permission.

“While negotiations were taking place, they invited us to work with them on the construction of a 72,000 pallet deep freeze facility for Unilever, to replace the existing cold storage unit at its factory in Gloucester. A key project requirement was to ensure continuity of operations during construction and to arrange demolition of the existing unit.”



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Royal HaskoningDHV assisted with planning applications, provided structural and civil engineering design, CDM co-ordinator services, consultancy and procurement relating to architecture and demolition services.

The Gloucester cold store operates at -28°C, and enables 72,000 pallets of confectionary products to be frozen and stored. It has a two storey despatch area where pallets are selected for distribution by six automated pallet handlers and where order picking is carried out. Further it contains three storeys of offices, staff amenities, and a plant room building. The cold store opened in spring 2009, in time for the summer demand for frozen confectionary products.

“During this time,” David continued, “the purchase and planning permission for the larger cold storage facility in Wisbech had been granted, and detailed design had begun. Before construction could begin, we needed to carry out an initial ground survey. As a result a number of ditches on the land had to be restored, diverted, filled in or created, and habitat studies needed to be carried out. However, with the wide range of services Royal HaskoningDHV offers, we were able to carry out these works using our own in-house expertise, passing on time and cost benefits to the client. “As we had already completed the Gloucester cold storage unit, we were familiar with the unique challenges that accompany a construction of this nature. One of the main challenges was to accommodate shrinkage of the concrete floor base when reducing the indoor temperature from +20°C to -30°C. To mitigate the risk, special ‘pile heads’ had to be installed within the foundations.”

Operating at optimum levels when full, much like a domestic freezer, the facility is unique in that it has the ability to maintain its low temperatures in the event of loss of power. Air locks and door seals prevent cold air from escaping, and light coloured cladding installed on external walls plays a part in deflecting external heat to maintain the inner temperature. Fire safety measures include reducing the amount of oxygen in the air from 21 to 17 per cent, which acts as a fire suppressant.

Pallets are unloaded in the delivery/despatch area and moved to the expedition facility which operates at -28°C. When customer orders are received, products are selected and moved to the despatch area using five automated pallet cranes and conveyers. The building also contains office accommodation, shower facilities, a canteen and a technology room.

David concluded: “We are delighted Partner Logistics Europe chose Royal HaskoningDHV to work with them on the construction of the largest deep freeze facilities in the country.”

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