



“Royal HaskoningDHV is incredibly knowledgeable not only in the design of such structures, but the recycling, environmental and renewable energy processes that take place within them.”

Peter Golden, Project Manager, BAM Nuttall

The power of recycling

The Lakeside Energy from Waste (EfW) plant at Colnbrook near Slough in Berkshire is playing a major role in energy conservation by recycling domestic and commercial waste, and is set to generate 32Mw of power from both its material recycling facility and clinical waste incinerators, burning around 400,000 tonnes of waste every year.

Royal HaskoningDHV has been working with main contractor BAM Nuttall and process contractor Takuma to provide civil and structural engineering and architectural services, along with geotechnical and environmental design, for the plant which is based on the site of an existing clinical waste facility. Our brief has been to optimise the layout of the building and improve logistics and process flow to reduce construction costs where possible.

The main challenges on this project were the groundworks and construction of a 32m high concrete waste bunker, 11m of which was below ground. The tight schedule of the project meant that the bunker had to be formed the quickest way possible so the traditional concrete jump forming shuttering approach – which would have taken between six and eight months – was out of the question.

The solution adopted was to utilise slipform construction, which is not generally used on structures of this nature but reduced the construction time of the bunker to just three to four weeks, making substantial cost and time savings.

The footprint of the subsurface area was marked out with Secant piles so the 11m pit could be excavated without the need for props or beams. Slipforming allowed continuous pouring around the clock, seven days a week and this continued right up to the full height of the 21m wall above ground.

The external structure encloses the main processing equipment in a striking facility that stands 50m high and features a complex roof, curved in two planes with a clear span of over 60m. In October 2010 the facility was officially opened by HRH The Duke of Edinburgh and is now fully operational.

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