

17 September 2009

SUSTAINABILITY HIGH ON EVANS AGENDA

Environmental and sustainability issues were high on the agenda for bespoke precast concrete specialist Evans Concrete when it came to manufacturing and transporting a large number of bespoke concrete units from their manufacturing facility in Derbyshire to a site in London.

The units formed part of a £1.5m contract awarded to Evans by Balfour Beatty Civil Engineering. The contract involved the manufacture of 440 precast concrete units for temporary bridges in London as well as parapets for permanent foot and road bridges on the site.

Evans was in the fortunate position of having waste concrete products on their site that they could be recycled for use in these units. This came to light when the company took occupation of the site last October, having moved from its original site in Ripley, Derbyshire, to a larger manufacturing facility at nearby Somercotes. The previous owners had been depositing waste concrete products on the site for some 30 years. Evans seized the opportunity to make use of this material by replacing 20% of the main aggregate used within the finished precast concrete product with the recycled materials.

Evans also decided to use a partial cement replacement and managed to replace 36% of the cement with ground granulated blastfurnace slag (GGBS). The combined effect of these two initiatives meant that 15% of the final product was made using recycled materials.

In addition Evans decided to explore alternative ways of transporting the units to site to maximise transport carbon savings. Generally the firm transports goods by road but on this occasion, particularly given that each of the 440 units weighs 10 tonnes, it was determined that using mainly rail would maximise the carbon savings, even accounting for double handling of the units.

The journey initially involved transporting the goods by road from Evans manufacturing facility in Somercotes, Derbyshire to the rail terminus at Toton, which is also in Derbyshire, a distance of around 34km, and then 200km by rail to site in London. It was calculated that by using this combination of rail and road rather than just road, there would be a CO2 saving of 26g per tonne per km.

"Once the calculations were done, it quickly became apparent that rail was the obvious method of transport to use," said Garry McBride, chairman of Evans Concrete. "The transport carbon savings that could be made were so great that there really was no alternative."

"We were also really pleased that we could use recycled products in the units," he added. "It means that we are doing our bit for the environment by using a high percent of recycled products as well as helping to alleviate congestion on the motorways. We plan to use recycled materials as much as possible in our products, particularly the waste concrete products from our own site."

Ray Sansom, design manager from Balfour Beatty, said: "We are delighted with the commitment shown by Evans in developing a collaborative and detailed sustainable approach to our project."

Steve Brennan, trading manager from Tarmac Central, said: "Tarmac and Evans worked to develop a range of concrete mixes to be supplied from the on-site batching facilities at Somercotes and Tarmac also use the recycle aggregate at a number of other concrete plants throughout the East Midlands area."

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