

Case Study

A1094 Aldeburgh Road Reconstruction, Suffolk

National Contracting

Client: **Suffolk Highways Partnership**

Value: **£ 470,000**

Duration: **3 weeks**

Completion: **October 2006**

Project Brief

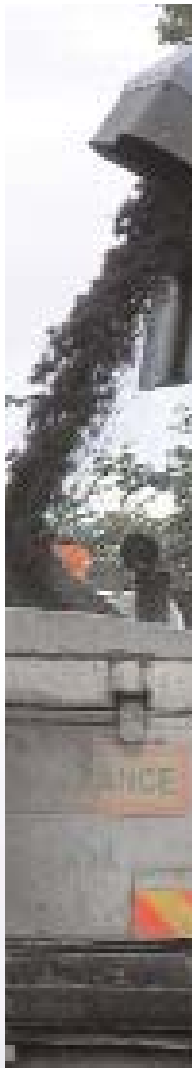
To reconstruct 3.5 km of the A1094 Aldeburgh Road, in Friston, Suffolk, using FoamMaster recycled Base materials in lieu of virgin aggregates.

Background to the Contract

Suffolk County Council has traditionally used hot-rolled asphalt for re-surfacing their roads across the County. However, to assist with the County's ambition of being one of the greenest in the country, the A1094 was identified as a suitable location to trial the use of FoamMaster.

Tarmac has extensive experience of foamed bitumen technology. FoamMaster is essentially 88% highway arisings, 7% pulverised fuel ash, 2% cement and 3% bitumen, all mixed with water.

This system's primary advantages over conventional surfacing techniques are that it is an energy efficient manufacturing process that reduces site transport movements, conserves local aggregate resources, produces a stockpileable material with an extended life and produces a re-workable material in its early life. FoamMaster provides a cost effective, value for money option to traditional bituminous products.





background continued

Tarmac produce this cold lay material using our own fully mobile mixing plants located either within our own recycling centres or as part of an ex-situ recycling solution for individual highway pavement maintenance schemes.

The knowledge that Tarmac had previously manufactured and laid over 400 000 Tonnes of FoamMaster and had therefore developed considerable design, production and operational knowledge of this method of carriageway recycling was instrumental in Tarmac being awarded the scheme.

In preparation for the scheme, 1600 Tonnes of carriageway planings had been locally stockpiled in a layby at the A1094 / A12 junction, within 5km of the site, when part of the A12 at Great Glemham was resurfaced by Tarmac in September 2006.

The Works

The work was undertaken under a full carriageway closure with an agreed diversion for through traffic.

1800 Tonnes of planings were removed from the A1094 and added to the previous 1600 Tonnes. The entire stockpile was then graded into two sizes 0 to 12mm and 12 to 18mm.

Tarmac's own Wirtgen KMA 200 mobile mixing plant was brought to site and set up within our site compound located at a farm directly adjacent the A1094. The plant mixed 2925 Tonnes of FoamMaster that was then machine laid in two layers, each at a depth of 100mm.

The re-use of the carriageway planings saved approximately

300 lorry movements as there was no need to remove them off site or bring in virgin aggregates from local quarries.

By recycling the carriageway planings, only a relatively small quantity of new aggregate was used to complete the upper layers; 2700 Tonnes of DBM Binder course (laid 70mm deep) and 1800 Tonnes of Masterpave surface course (laid 30mm deep).

Associated civils work included the installation of new gullies, soakaways and kerb offlets together with kerbs and footway works for new accesses built for existing property frontages through the site.

Whilst works were in progress, a site visit was arranged by Tarmac for the benefit of other local authorities to allow their own highway engineers to experience the benefits of carriage way recycling.

Quality

As part of Tarmac's quality assurance, the recycled mix was tested by both Tarmac and Jacobs Babbie Laboratory to ensure that it met the requirement for stiffness and standards specified in TRL 611, 2004, which provides a guide to the use and specification of cold lay recycled materials.

Comment

"There was a significant saving in lorry movements and use of virgin aggregates - both very important when considering the impact of our engineering works on the environment."

David Fawcett
Assistant East Area Highways Manager, Suffolk County Council