

# CASE STUDY

## Deep In-Situ Foam Mix

‘Foam Mix - 60% Faster delivery time and 71 Tonne Carbon Saving for Oxfordshire’

**Scheme:** Unnamed Road, Berrick Salome  
**Principal Client:** Oxfordshire County Council  
**Client:** Milestone Infrastructure  
**Date:** August 2023  
**Area:** 8,532m<sup>2</sup>  
**In-Situ Process:** Deep In-Situ Foam Mix  
**Surface:** Double Dressing 10 & 6mm Stone  
**CO<sub>2</sub> Saving:** 227 Tonnes



North of Berrick Salome in rural Oxfordshire an unnamed road approximately 2km in length required structural maintenance after its shape and surface was being impacted by some deeper cracking in the foundation layers.

A suitable long term maintenance treatment was required which fulfilled Oxfordshire's and Milestone's pursuit of carbon reduction. Deep In Situ Recycling has long been used to deliver these aspirations and in this case an added enhancement was introduced.

SPL latest generation recyclers have the capability of delivering a Bituminous bound material in this case a Foam mix to provide a foundation and binder layer on which a double (surface) dressing of 10 & 6mm stone could be applied.

Allowing 100% reuse of the existing surfacing and achieving a road reopening 8 days quicker than conventional surfacing techniques, this was a win for local road users and residents alike.



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## In-Situ Foam Mix Recycling



Milestone Infrastructure and their partner Stabilised Pavements Limited carried out the scheme for Oxfordshire, recycling the existing carriageway to re-engineer and rejuvenate the road. This involves pulverising the existing carriageway in-situ and then mixing with a small volume of foamed bitumen and cementitious powder to create a new strengthened carriageway in a cost effective and sustainable manner.

The compacted recycled material is shaped to falls and prepared to receive the double layer of surface dressing which seals the recycled material and provides the required skid resistance.

As the technique does not require the material to be heated and involves a lot less import of virgin materials, it is an environmentally friendly technique, and is estimated to reduce carbon by approx. 71% compared to conventional surfacing. It also has the benefit of reducing lorry movements and their fuel consumption to and from site by 564 in total,, reducing the impact on local communities and the surrounding network.



Councillor Andrew Gant, Oxfordshire County Council's Cabinet Member for Highway Management, said:

*"We know how important the quality of our roads is to our residents, as well as the need for the County Council to reduce the embodied carbon of its highway maintenance works. That is why we're delighted to be delivering this scheme to make our residents' money go further and reduce disruption"*



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Phil Raven, Head of Technical Design for Milestone on the Oxfordshire Contract, said:

*“As we look for new ways to reduce carbon emissions within highways maintenance, increasing the use of recycled materials in our surfacing materials is an important tool in Milestone’s plan towards achieving net zero by 2040. This is the first time we have been able to use this particular technique on our Oxfordshire network.”*

*“Not only can this lead to carbon reduction and a cost-effective way to repair a rural highway, it can reduce disruption to road users and reduce lorry movements in local communities. This project is a good example of Milestone and Oxfordshire County Council being at the forefront of using innovative techniques to maintain the county’s roads.”*

