

CASE STUDY

REGEN + using the new generation W380CRI - the World's Most Powerful Cold Recycler

'...efficient, fast reconstruction further reduces CO₂ emissions'

Scheme: Outwell Road, Stow Bardolph
Authority: Norfolk County Council
Date: June 2020
Area: 15,930 m²
In-Situ Process: REGEN - Double Dressed Surface over 150mm Recycled HBM
CO₂ Saving: 217 Tonnes



The section of Outwell Road identified for structural recycling runs between Middle Level Drain, part of the drainage network between the Rivers Nene and Great Ouse, and Highbridge Road in the Hamlet of West Head.

Given the flat and low-lying characteristics, peats on clay underlay the evolved nature of the regions network of rural Roads, Lanes, Banks and Drovers. This, in combination with the area's long history of drainage and water management, provides a challenging platform for the ever-increasing weight of (particularly agricultural) traffic using the fenland network.

SPL's REGEN process provides an appropriate structural remediation where 150mm of the existing carriageway can be recycled using a blended cementitious binder and reshaped. In order to provide a cost-effective running surface, the recycled material is protected by a Double Layer of Surface Dressing using a 10mm and 6mm Stone and 2 layers of a "Premium" Polymer Modified Binder.



Widely used and cost appropriate REGEN has now been an effective treatment for many authorities, who have seen the benefits:

- Outputs around 2000 m² per Shift – reducing lengthy disruption
- Re-shaping thereby reducing the impact of dynamic loadings
- Surface Dressing providing skid and water resistance
- Lowering CO₂
- Zero Waste
- Opportunity to import Tar-Bound arisings and encapsulate within the receiving carriageway



For Outwell Road, the dimensions allowed SPL to provide and enhance the above by deploying the latest in recycling technology – The Wirtgen W380CRI.



The recycling process is carried as described however there are a few key differences:

- The operating width is 3.5m rather than 2m (as with our W2000 machines)
- The machine's toothed drum operates in "Downcut" mode whereby the drum rotates in the direction of travel – this means the first penetration into the existing carriageway is through the surface, improving the gradings produced
- Recycled material is fed via conveyor to a paver and placed to levels as a one pass operation and then rolled to final level ready to receive dressing
- Moving at between 4 and 5m per minute the recycling train SPL were recycling up to approximately 4000 m² per shift at 150mm



- Finally the scheme was subject to REGEN + treatment which includes Bituchem's LockChip, an aesthetically pleasing surface dressing emulsion sealant, applied after the initial sweep of stone. The process seals surface dressing by locking down the aggregate and preserves the surface by preventing the ingress of water preventing potholes.



In line with the Government's environmental and efficiency targets and aspirations SPL are now providing even quicker build times meaning less disruption as well as improving even further the low Carbon figures associated with the sustainable process of In Situ Recycling.



Proud to be providing sustainable solutions.