



# CASE STUDY

## REGEN with Geogrid

‘SPL & Milestone provide sustainable maintenance solution for Green Energy access road’

<b>Scheme:</b>	<b>Cant’s Drove, Murrow</b>
<b>Principal Client:</b>	<b>Cambridgeshire County Council</b>
<b>Client:</b>	<b>Milestone Infrastructure</b>
<b>Date:</b>	<b>October 2021</b>
<b>Area:</b>	<b>3,500m<sup>2</sup></b>
<b>In-Situ Process:</b>	<b>REGEN with Geogrid</b>
<b>Tar Bound Import:</b>	<b>850 Tonnes</b>
<b>Surface:</b>	<b>AC20 Binder 40/60 - 60mm thick CA Surface Course PSV60 - 50mm thick</b>
<b>CO<sub>2</sub> Saving:</b>	<b>Over similar depth recon 47 Tonnes</b>



Adapt Biogas, located at the Western end of the Cant’s Drove site takes in vegetative waste and Feedstock to create a green sustainable energy, for heating local homes and businesses.

In addition to local farms sending this material into the Somerset Farm site, the anaerobic digestion plant also produces a high level of nutrients and minerals to be recycled back to the land, in the form of solid or liquid digestate transported out of the plant.



Excessive wear from heavy agricultural vehicles and tankers running to and from the Somerset Farm site had taken its toll on the section of Cant’s Drove between Adapt’s Plant and the B1187 (Murrow Bank) and as such, resolving the damaged road was a priority in addition to enhancing the structural properties to aid future performance under this increasing workload.



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SPL's recycling with a Surface Dressing often used in this kind of rural location would require some adaption for this environment, so following technical analysis of the ground properties and the traffic impact the following enhancements were put forward.

Due to a lack of formal, granular construction and the evolved nature of the road some 850 Tonnes of planings were imported to be recycled within the existing structural layers. Due to the presence of coal tar in the road, this allowed Cambridge to use tar bound arisings from elsewhere in the county which could be encapsulated within the Cant's Drove recycling. This structural benefit also helped to avoid any costly disposal of tar bound carriageway material.



Having imported the additional material, SPL's Wirtgen 380 would not only recycle and create a structural Hydraulically Bound Material to a depth of 150mm with the addition of 2% Cementitious Binder, but also would install simultaneously a layer of geotextile and a layer of geogrid – both would sit below the recycled layer with the grid providing more structural stability and the textile separation layer preventing any clay migration from below when re-opened to traffic.

In order to recycle and install grid and textile in one pass, the Blended Cement was spread and a planer gave an addition 1 metre width so that the 380 could pick up and mix all of the material, feed the paver, which in turn could be set to place the recycling to the required width of the carriageway.

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The recycled layer was completed with a K1-40 emulsion and sealing grit – applied to protect the recycled layer prior to surfacing and prevent the top of the HBM drying out too quickly to prevent any aggregate loss.

Following a light sweep of the carriageway Surfacing was carried out – unlike the usual Surface Dressing application for REGEN, due to the weight of traffic the recycling was capped off with a 60mm thick AC20 Binder course and a 50mm thick Cambridge Asphalt Surface Course. In turn providing a more robust construction over the enhanced recycling.

Due to the pace of installation the site preparation, including excavation of soft areas, the import and spread of planings and recycling complete with Geogrid and textile was complete within 3 days ready for surfacing thereby minimising disruption to the valuable work carried out by the Green Energy provider Adapt Biogas at Somerset Farm.

In addition to the re-use of 850 Tonnes of tar bound arisings the project achieved a Carbon saving of 47 Tonnes over a more traditional reconstruction of the same depth.

