

# FRP Parapets



## Overview

Heritage sensitive fibre reinforced polymer parapets for rail bridge replacements.

## Details

<b>Location</b>	Dulwich, South London.
<b>Description</b>	The replacement of three railway bridges in Dulwich included design details to reflect the heritage of the area. The parapets and masonry decorations were designed in FRP.
<b>Client</b>	Network Rail.
<b>Date of project</b>	January 2014
<b>Where FRP composites are used and why</b>	The bridge parapets were fabricated from FRP. The choice of composites was based on speed of fabrication compared to steel, resistance to corrosion and reduced maintenance, as well as the significant weight reduction that allowed the installation to be undertaken within minimal time. Cast resin floral decorations, emulating stone carvings, were added to the concrete uprights to reflect the original design, being much cheaper and quicker to produce than stone carvings.
<b>Specific design details</b>	The panels varied in size, as did the dimensions of the archways, making this work manually intensive due to lack of standardisation. The panels were supplied in batches for each side of each bridge. Lightweighting and speed of fabrication were the prime drivers in this project with an overall requirement to create a visually attractive bridge parapet.
<b>Type of composite used</b>	The parapets were created using polyester resin infusion and technical glass fibre, creating 10mm thick sheets. The decorative areas on the parapets were a combination of reinforced cast resin and pultruded section. The floral decorations were created using specialist casting resins with a silicone mould.
<b>Performance in service</b>	This was one of those projects where an anti-graffiti coating would have been beneficial. Unfortunately it wasn't specified, thus detracting from the visual elements of the project. There has been an incident on one of the bridges, resulting in three panels being damaged, however replacement is a quick, relatively simple action requiring minimal possession and installation using a cherry picker due to the lightweight nature of the panels.
<b>Project partners</b>	Principal Contractor – BAM Nuttall Limited FRP Designer and Fabricator – Construction Composites Limited

## Contact

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