

# A5 Jacks Hill Multi-Disciplinary Project

## Project Profile

**Client:** Highways England

**Designer:** Kier

**Date:** Jan 20 - Sept 20

**Value:** £5.7m

**Overall Scheme Value:** £10.7m



This was an eight-month project specifically to improve the drainage and complete carriageway reconstruction over 12km of the A5 trunk road in Northamptonshire between the historic market town of Towcester and the village of Weedon Bec. The scheme was let through Highways England's Area 7 East Midlands Asset Delivery Construction Works Framework (CWF). This collaborative framework includes appointments for Designer, M&R contractor and a 'community' of specialist contractors to deliver the capital programme. We delivered the drainage, kerbing, footpath reconstruction and geotechnical elements of the scheme and also acted as Principal Contractor to manage programming, coordination and delivery of the scheme in collaboration with the highways England construction team and with the 4 other CWF specialist partner contractors involved in the project (*Chevron - Traffic Management, Hanson - Surfacing Contractor, Wilson & Scott - Road Markings and Anti Skid, Ground Control - Vegetation & Environmental Contractor*) as well as our key supply chain partners.

It was not possible to close the A5 over the full extent of the works so the 12km length was split into 6 phases with closures put in place between 20:00 and 06:00 each night (150 nights). 12 weekend closures were used to complete major sections of re-surfacing. This section of the A5 also serves as a primary diversion route for closures of the M1 between Junctions 16 and 18 and on completion of each night shift we had to ensure that the working areas and the carriageway were left in a clean and safe condition, inspected and signed off before the road could be re-opened.

The extensive drainage works carried out included;

- 12km of vegetation clearance (both North & South bound carriageway) and 5.5km of ditch regrading.
- 35 headwalls replaced and new splash backs for 188 gully outfalls.
- 28km of highway drains jetted & surveyed (pre & post) as well as blockage removal, root cutting, lateral cutting and deep cleansing.
- 1,485m of 150 to 300mm dia pipe replacement – 190 laterals & 53 carrier repairs.
- 300 nr patch repairs and liners installed.
- 3,000m of 405 & 480 CKD kerbs, 88 CKD sumps, 13 CKD inspection chambers, 85 kerb gully units, 50 catchpits and manholes.

Civil and carriageway works included;

- 10.7km of footpath siding out, depths of silt from 50mm – 500mm.
- Kerb and edging replacement, 1,826m<sup>2</sup> footpath reconstruction.
- 33,000m<sup>2</sup> of full depth carriageway milling and resurfacing incorporating a reinforced geo-grid overlay.
- Fuel resistant surfacing to 3 laybys.
- 2,271m<sup>2</sup> High friction surfacing, 8,800m of road markings, 2,342 studs and 11 nodes.



# A5 Jacks Hill Multi-Disciplinary Project (Cont'd)

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As work progressed, surveys of the existing drainage system revealed that there had been significant deterioration of the assets since the original survey work had been carried out and the design finalised, as a consequence the scope of works was significantly increased. To minimise any unnecessary extension of the programme we focussed on completing as much of the repair work to the highway drainage system as possible using trenchless techniques in lieu of dig-down repair or replacement including; root cutting, lateral cutting, epoxy resin patch repairs and epoxy resin liners. This not only reduced the programme time as well as the additional costs but also reduced the carbon footprint of the scheme by minimising disposal of waste and optimising the re-use of existing assets.

During a planned weekend closure we repaired a 30m section of failing embankment located at an existing culvert crossing on the North Bound carriageway nr Duncote which had been undermined by badger setts and water erosion from the existing culvert. Materials used in the remediation work included: 1,400 pre-filled deferred set concrete bags, 150 Soluform underwater sand bags, 600T quarried 6N stone, site won topsoil and 300m x 1m wide rolls of Hytex Bio-Degradable soil saver matting.

In order to minimise the disruption to local residents, businesses, commuters and the public our PLO assisted in development of the COMMS plan for the scheme and ensured effective and continuous communication with all customers and stakeholders was maintained both prior to commencement and throughout the 45week long project. The A5 forms part of the strategic road network and is heavily used by national haulage companies and local businesses and it was important that we were able to inform them well in advance of the planned works and programmed closure times in order to minimise the effect on their businesses. A large amount of positive feedback was received confirming the success of the COMMS strategy.

With up to 90 operatives on site each night we resourced a full time project manager supported by four site agents, two foreman and four site engineers to successfully deliver the work. The project was also delivered during the Covid-19 pandemic with strict risk assessment, distancing, cleaning and working protocols established.

The collaborative nature of the project also extended to offering the opportunity of the lengthy A5 closure to other stakeholders including M&R Contractor Amey and BT for essential repair, maintenance and renewal work.

