

M54 Junction 3-4

Client:
Costain Ltd and AMEY

PQ-X Bay Replacements

Project Overview & Scope

Gill Civil was appointed by Costain Ltd and Amey to undertake 2,862m² of full-depth concrete repairs on both carriageways of the M54 between Junctions 3 and 5. The works involved the replacement of 280mm thick dowelled concrete bays using PQ-X rapid-strength concrete, restoring pavement performance across this key motorway section.

Challenges and Execution

All works were carried out during night-time closures between 22:30 and 05:00, requiring efficient delivery to ensure carriageways were reopened to traffic by 06:00 each morning. Existing concrete bays were saw cut into manageable sections and removed using vacuum lifting equipment, with underlying formation inspected and replaced where required. New dowel bars were installed using specialist drilling equipment, followed by reinforcement placement and reinstatement using volumetrically mixed PQ-X concrete. Heated blankets were utilised to accelerate curing, enabling between 3–5 bays to be repaired during weekday shifts and up to 24 bays over weekend possessions.

Benefits and Outcomes

The works were delivered safely and efficiently, maintaining strict programme requirements and ensuring daily reopening of both carriageways without disruption. The use of rapid-strength concrete and controlled construction methods enabled high-quality reinstatement, improving pavement durability and extending the service life of the motorway.

