

Our standard range of precast products can be configured to form supporting bridge sub-structure abutments and piers together with ground retaining structures, including wingwalls.

Abutment to deck interfaces can accommodate integral, semi-integral, articulated and, more recently, flexible abutment arrangements through a combination of more bespoke precast components and in-situ stitches accommodating spans up to 60m.

Digital configuration to detailed design

Expanded has developed a digital tool to facilitate the rapid concept design of modular bridge structures. This tool automatically configures modular components based on various factors such as span, height, skew, width, and ground conditions.

It streamlines the creation of information for option selection reports and Approval in Principle documents but is not intended for detailed design.

The detailed design for permanent works is handled by design consultants, while Expanded manages design activities for temporary conditions.

Guidance documents are available to assist design consultants in understanding the modular solutions.

Contact

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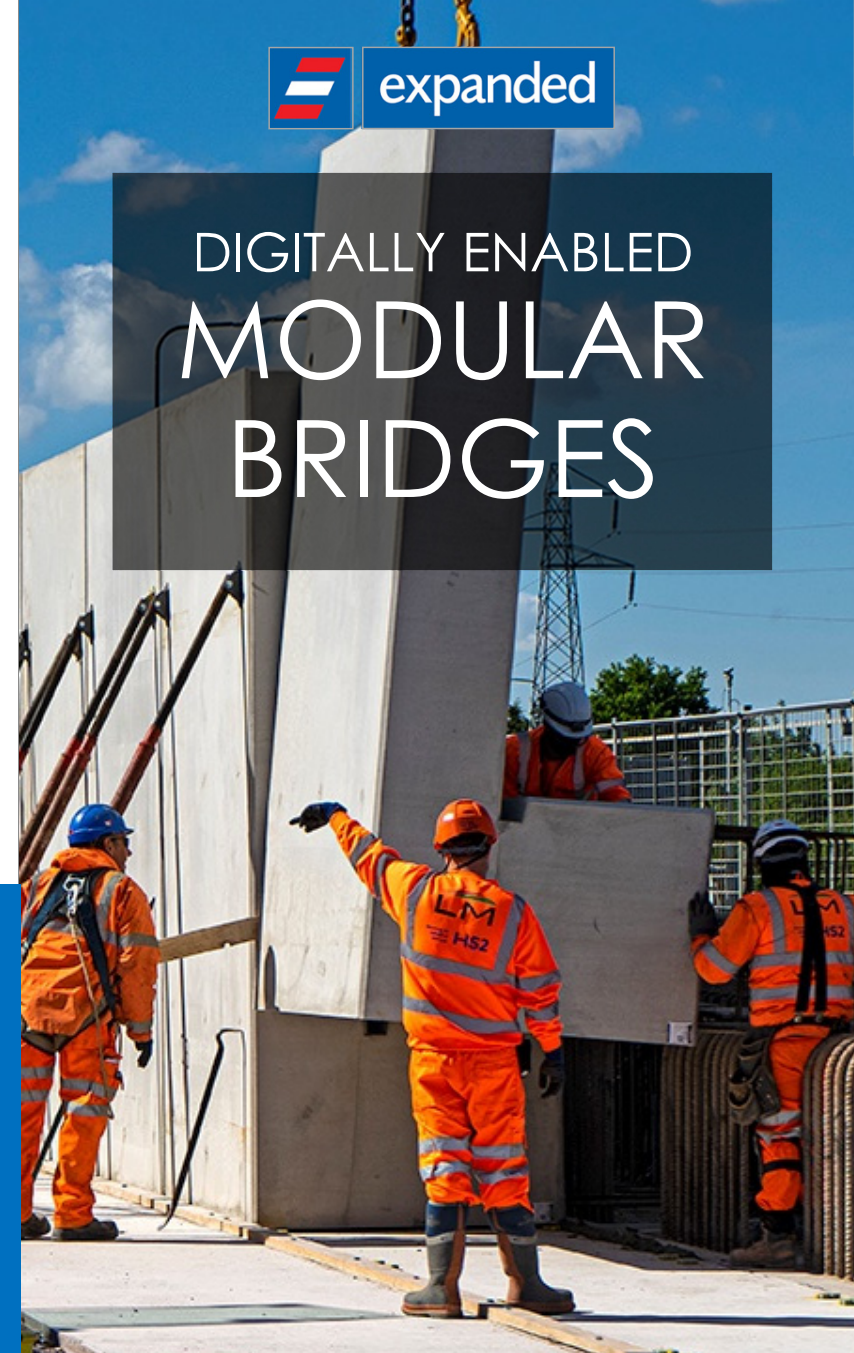


Watch our time lapse video of an abutment being constructed from top of pile cap in just five days



expanded

DIGITALLY ENABLED MODULAR BRIDGES



PART OF THE LAING O'ROURKE GROUP



THE POWER OF EXPERIENCE



Benefits of the modular bridge solution

- **Accelerated construction programme:** Modular construction reduces the time required to build piers and abutments from 8-12 weeks to 1-2 weeks.
- **Reduced on-site workforce:** Off-site manufacturing reduces the on-site workforce by 75%.
- **Reduced impact on the public:** Shorter construction durations and minimal access requirements mitigate disruptions, potentially eliminating lane closures and track possessions.
- **Reduced temporary works requirements:** Modular shells act as permanent formwork, reducing the need for large shutters and associated tools and materials.
- **Safer site conditions:** The modular approach enhances site safety and quality through familiarisation and repeatability.
- **Reduced carbon footprint:** The modular solution reduces embodied carbon by around 4%, attributed to cement replacements, reduced reinforcement, fewer operative hours, and a controlled construction environment.
- **Reduced construction costs:** Faster programmes and smaller workforces decrease costs related to site preliminaries, possessions, and methods.

In response to government bodies' aspiration to deliver infrastructure differently with greater certainty, speed, safety and sustainability, Expanded have developed a modular bridge system that utilises precast components manufactured at our CEMC facility in Nottinghamshire.

These were first delivered in 2013, and have been deployed on major projects including Stafford Alliance, East West Rail, HS2 and most recently M25 Junction 10.

