

Turnback Railway Bridge Repairs

Customised Lindapter Hollo-Bolts delivered a safe and efficient one-sided fixing method for reinstating the structural integrity of the Oldfield Road Turnback Bridge.

Project Background

Location: Oldfield Road, Manchester, UK

Product: Hollo-Bolt® by Lindapter® (custom, extended-bolt version)

Quantity: 700

Client & Contractor: Taziker

Main Contractor: Kier



CUSTOM
EXTENDED
BOLT
SOLUTION

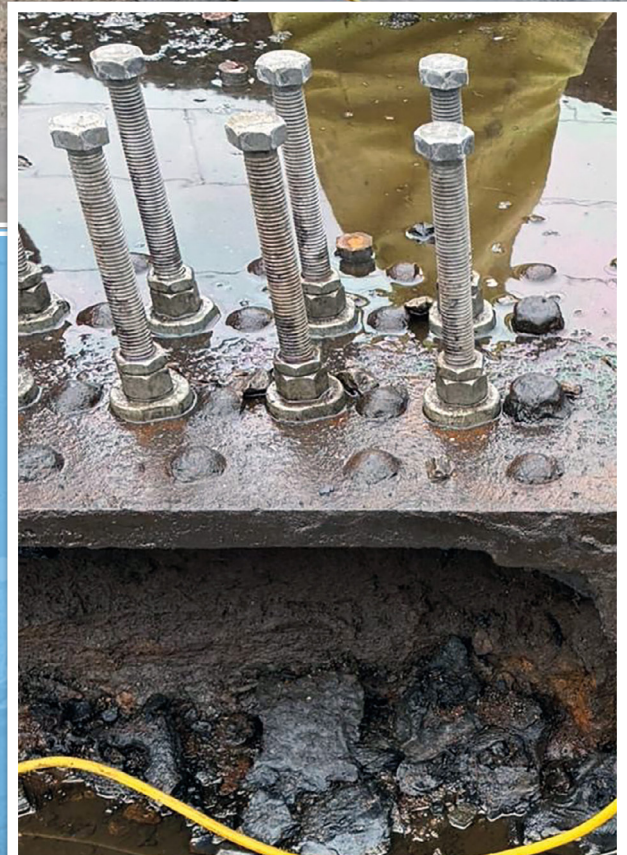
The Oldfield Road Turnback Bridge in Manchester required structural repair and refurbishment to restore strength and ensure safe operation of the railway turnback siding. As part of the repair works, existing ironwork plates needed to receive new shear stud fixings to support loads and reinstate structural integrity.

Given the constraints of working on an existing railway bridge: limited access, complex geometry, and the need to minimise disruption to rail services, a bespoke solution was required rather than standard through-bolting or welding.

Client Requirement

The client needed a secure, one-sided shear stud fixing solution that could be installed without through bolting or extensive welding and hot works, as access was only possible from one side of the existing ironwork plates. The solution had to transfer shear loads and integrate with the existing bridge fabric while complying with structural and safety requirements typical for railway bridge repairs, including load-bearing capacity, durability under dynamic loads, and ease of installation under site constraints.

Additionally, to minimise traffic disruption and reduce installation time, the system needed to support a rapid, repeatable installation process.



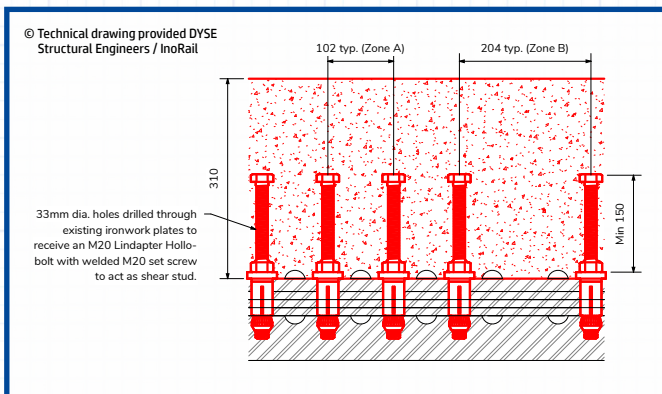
Lindapter Hollo-Bolts were adapted using a longer bolt variant to act as a one-sided shear stud fixing

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Design Solution

To meet these requirements, Lindapter standard Holo-Bolts were adapted using a longer bolt variant to act as a one-sided shear stud fixing. Specifically, 33 mm diameter holes were drilled through the existing ironwork plates, and the extended Holo-Bolts were fitted with M20 nut and locking nut to the desired shear stud height.

This bespoke adaptation allowed the contractor to benefit from Holo-Bolt's inherent advantages, the ability to fix from one side, high structural strength, and elimination of on-site welding or through-bolting, while providing a robust, load-bearing shear connection suitable for the bridge repair context.

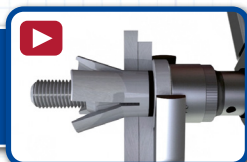


Installation

During installation, the contractor drilled 33mm diameter holes through the existing bridge ironwork plates to accommodate the extended Holo-Bolts. Once inserted, the Holo-Bolts, modified to include additional M20 nut and locking nut, were tightened to specification, providing reliable shear-stud fixings that anchored new structural elements to the existing fabric.

The one-sided installation method meant that access constraints did not hinder progress, and the absence of welding reduced on-site risks and minimised disruption to rail operations. The custom solution also streamlined logistics and allowed for a repeatable, controlled installation process across multiple fixings.

[Click here to watch the installation video >>>](#)

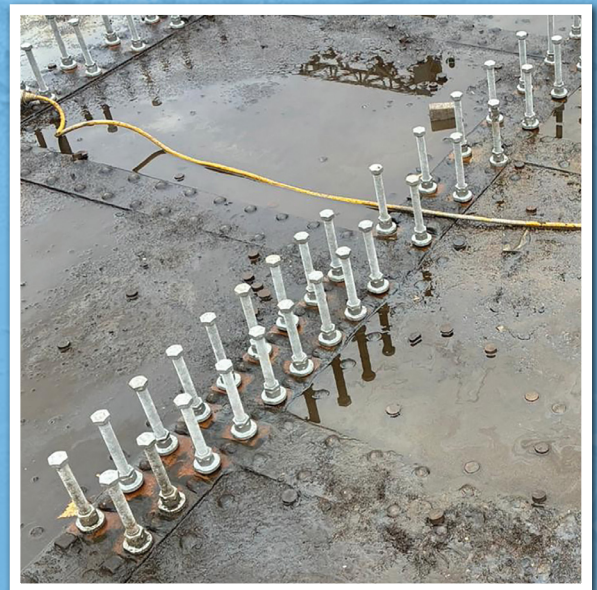


Result

The bespoke Holo-Bolt solution delivered a durable, high-strength set of shear-stud connections that restored the structural integrity of the Oldfield Road Turnback Bridge without needing invasive welding or through-bolting.

The one-sided installation reduced labour time, improved site safety, and minimised disruption to rail services, a critical benefit in a live railway environment.

The project successfully met structural requirements while leveraging standard Lindapter products in a custom configuration, demonstrating the flexibility and reliability of the Holo-Bolt in demanding bridge-repair projects.



Key Benefits

- ✓ Fast installation from one side with no drilling or welding required.
- ✓ Reduced downtime and minimised disruption.
- ✓ Significant cost savings from reduced labour and fewer components.
- ✓ Strong, durable load-bearing solution compliant with structural requirements.

