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Over 300 tonnes of materials utilised

GADE VALLEY

Access Strengthening Works

Gade Valley Viaduct is a 450m long viaduct located at Kings Langley (Junction 20 – M25) that carries the M25 over the Grand Union Canal and River Gade. The viaduct consists of 11 spans and eight open-topped steel box girders with over 100,000 metres of welds. The structure was completed in 1987, but structural assessments identified areas of fatigue that required immediate attention.

Alltask was initially approached under an ECI (Early Contractor Involvement) agreement to produce a detailed scaffold design for review by our client Geoffrey Osborne. We were fortunate to be awarded this high-profile three-year project. Upon securing the project, the final 'For Construction' designs were finalised and issued for the first of 11 spans which allowed work to commence.

The programme of works presented us with a relatively quick start. As a result, we immediately called our system scaffold partners, HAKI, for all the materials we needed to complete the first span.

The Alltask scope of work primarily consisted of providing our client with scaffold access to three distinct areas of the viaduct for transverse stiffener frame strengthening and static strengthening. These three areas of the structure are commonly referred to as the support piers, main spans and internal A boxes. The purpose of the pier scaffolding is to provide access for the external static strengthening around each pier coupled with a requirement to support significant loadings in those areas.

Due to the sheer size of the structure, the scaffolding was designed and engineered using the HAKI Universal system, which can support loads of up to 5.0kn/m2. The scaffolding to the main spans serves to provide access for the transverse stiffener frame strengthening works formed by bridging from pier to pier using 780mm deep alloy beams, traditional tube, and fitting plus supported mid-span by using the HAKI Universal system.

The scaffolding for the A boxes serves to provide sufficient access for the internal static strengthening works on the sloping elevation of the box girders. All works in this area are deemed to be confined space. Work included the erection of scaffold access and encapsulation to Pier 3, Pier 4, Span 4, Span 9, and Span 6. Works were completed in early March 2021.

PROJECT	•	GADE VALLEY VIADUCT
LOCATION	•	KINGS LANGLEY
CLIENT	•	GEOFFREY OSBORNE

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