

PROJECT OVERVIEW

RBA were commissioned by Network Rail to undertake a full structural inspection and assessment of the 19th century Grand Central Viaduct (BDN/1) and River Neme Viaduct (NMH/4) as part of a wider project to reopen the disused Northampton to Market Harborough line to facilitate a new operational freight depot. The work was commissioned directly by Network Rail in January 2023. Our services included the following: -

Access Planning and Inspection for Assessment (IfA)

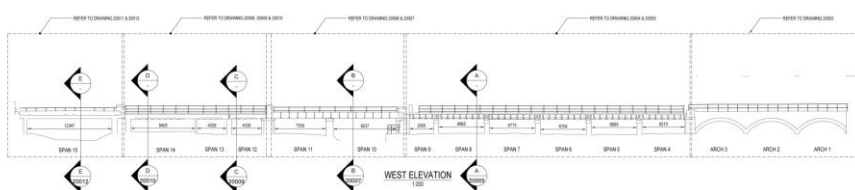
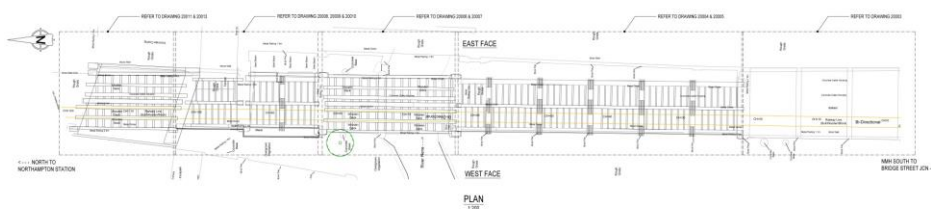
RBA provided the full turnkey service for structural assessment in accordance with NR/GN/CIV/025 'The Structural Assessment of Underbridges'. This included access planning to facilitate the Inspection for Assessment undertaken during daylight hours on the disused branch line. We also worked with our supply chain to provide safety critical staff and labour support for intrusive excavations and roped access inspection. All works were completed successfully within a 2-week window in January 2023.

Viaduct BDN/1 Grand Canal – Structural Assessment

The viaduct comprised of 13no spans, 12no of masonry arch construction and 1no formed as a single span simply-supported half-through metallic U-deck. RBA analysed the masonry arches using Archie-M software, and the single-span metallic deck using simple statics in accordance with a Level 1 assessment to CIV/025. The results were compiled in a Final Form BA report providing Network Rail with the findings of the assessment, and requirements for remedial repairs and strengthening to achieve RA10 at linespeed.

Viaduct NMH/4 River Nene – Structural Assessment

The viaduct comprised of 12no metallic spans and 3no segmented masonry arches. Spans 4-9 and 12-14 were formed of half-through decks with transverse RSJ cross-girders and jack arches. RBA analysed the multi-span masonry arches using Archie-M software, and the metallic decks using simple statics in accordance with a Level 1 assessment to CIV/025. The results were compiled in a Final Form BA report providing Network Rail with the findings of the assessment, and requirements for remedial repairs and strengthening to achieve RA10 at line speed.



Services Snapshot

- Project Management
- Access Planning
- Inspection for Assessment
- Structural Analysis using simple statics and Archie-M software
- Form AA/BA Technical Reports