

DEPARTMENT FOR TRANSPORT

3 January 2019

TRANSPORT AND WORKS ACT 1992

**TRANSPORT AND WORKS (APPLICATIONS AND OBJECTIONS PROCEDURE) (ENGLAND
AND WALES) RULES 2006**

**THE NETWORK RAIL (LONDON TO CORBY) (LAND ACQUISITION, LEVEL CROSSINGS AND
BRIDGE WORKS) ORDER**

**SUMMARY PROOF OF EVIDENCE
of
DAVE BUTTERWORTH - ENGINEERING**

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1. INTRODUCTION

1.1. My name is Dave Butterworth.

I am a Chartered Civil Engineer by profession with 21 years' experience. I have held a number of Engineering and Project Management/Project Development roles within the supply chain and within Network Rail. My role within Network Rail is that of Project Delivery Engineering Manager. I hold a Masters Degree in Civil and Structural Engineering (MEng) and am a Member of the Institution of Civil Engineers (MICE). I am also a Member of the Association of Project Management (MAPM).

1.2. As the Project Delivery Engineering Manager I am responsible for the engineering aspects of the two bridges, authorisation for works to which is sought in the Order, as these fall within the L2C Civils scope of works and are managed day to day by engineers within my team. I have been in my current role since February 2018. The engineers within my team are responsible for engineering assurance of design and construction submissions received from designers and contractors.

1.3. This document is a summary of evidence on the following topics, further detail on which can be found in my Proof of Evidence (NR73):

1.3.1. Irthlingborough Road Bridge and the passive provision to accommodate the Route 2 Bridge (Route 2) to service the new Bovis Homes Limited (OBJ/8) development in the future.

1.3.2. Bromham Road Bridge and the engineering reasons a cycleway has not been included within the design of the superstructure reconstruction.

1.3.3. Bromham Road Bridge and the acquisition of land to enable the reconstruction and the concerns over invasion of privacy, noise dust etc. as detailed in the Guinness Partnership objection (OBJ/ 8).

2. EVIDENCE SUMMARY

Irthlingborough Road Bridge –The reconstruction of the Irthlingborough Road Bridge as proposed by Network Rail, does not preclude the later construction of Route 2.

Bromham Road Bridge –Reconstruction of the superstructure of Bromham Road Bridge on its existing substructure does not facilitate inclusion of a cycleway. A superstructure of sufficient width to incorporate a cycleway would require extensive substructure works. In addition, it is considered that concerns in respect of impacts on privacy, light, noise and dust on adjoining properties can be adequately mitigated.

3. EVIDENCE

The primary component of the works authorised by the Order to which this evidence relates is the reconstruction of Irthlingborough Road Bridge and Bromham Road Bridge. These works form part of the rail infrastructure being delivered to enable electrification of the Midland Mainline between Bedford and Kettering, and Corby, known as Key Output 1 (KO1) (**NR70**).

3.1. Irthlingborough Road Bridge

3.1.1. My Proof of Evidence (**NR73, para 3.1.1 and 3.2.1**) outlines in more detail the existing structure and track layout of Irthlingborough Road Bridge, including Figs 1, 2 and 4 and Photographs 1-5 therein.

3.1.2. To facilitate electrification of the Midland Main Line the headroom beneath the bridge needs to be increased. Three options with different span arrangements were considered during the feasibility stage and are outlined in my Proof

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of Evidence (**NR73 para 3.1.4**). A four span reconstruction making use of the existing substructure was selected as the most economic solution accepting the advantages and disadvantages given below.

3.1.3. The interaction between the Network Rail reconstruction of Irthlingborough Road Bridge and Route 2 is confined to the south west approach to Irthlingborough Road Bridge and does not impede or preclude the future construction of the Route 2.

3.1.4. A drawing extract showing the area described above is given in my Proof of Evidence (**NR73 Figure 3**). Irthlingborough Road Bridge is shown to the left with the Route 2 Bridge approach earthworks shown in blue.

3.2. Bromham Road Bridge

3.2.1. Bromham Road Bridge is a two span brick arch bridge that lies to the north of Bedford Midland Station and carries the 2-lane single carriageway, Bromham Road, over the Midland Main Line. Both arches span two operational tracks as shown within my Proof of Evidence (**NR73 Figure 4 and photographs 3, 4 and 5**).

3.2.2. The new superstructure has been designed to provide the maximum increase in width that can be accommodated on the existing substructure and whilst it enables the footpath widths to be increased it should be noted this increase in width is insufficient to accommodate a cycleway.

3.2.3. To facilitate electrification of the Midland Mainline the headroom beneath the bridge must be increased. The options considered are outlined in my Proof of Evidence (**NR73 paras 3.2.4 – 3.2.7**).

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- 3.2.4. The selected two span bridge reconstruction on the existing substructures and approach embankments was found to offer the most suitable, cost efficient, and buildable solution within the confines of the site.

3.3. Bromham Road Bridge - Provision of Cycleway

- 3.3.1. A cycleway has been a long-term aspiration of Bedford Borough Council (BBC). Network Rail has entered an agreement with BBC to explore the options for a separate cycle bridge.

- 3.3.2. A wider bridge incorporating a cycleway cannot be accommodated on the existing substructure.

3.4. Bromham Road Bridge - Construction Impact

- 3.4.1. In order to facilitate the reconstruction of Bromham Road Bridge it is firstly necessary to remove the services present in the deck of the existing bridge. To do this a temporary service bridge is required that can carry the services over the railway during the demolition and reconstruction of the new bridge. During the closure of Bromham Road the temporary bridge will also carry the temporary footpath diversion. Motor vehicles will need to follow the signed vehicular diversion over an alternative railway overbridge. On completion of the Bromham Road Bridge reconstruction the services will be diverted again into the new bridge deck and when the new bridge is opened the temporary structure can be removed.

- 3.4.2. The scaffolding structure will be provided with 1.8m height plywood screening, to mitigate the issue of users being able to look down into adjacent dwellings and private properties. Network Rail has also agreed with the Guinness Partnership (OBJ/8) to provide privacy film on windows on the south facing

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elevation of the Guinness Partnership's property to provide further privacy.

3.4.3. My Proof of Evidence (**NR73 para 3.4.3 and 3.4.6**) addresses how opportunities for anti-social behaviour will be minimised. It also summarises how the safety of tenants will not be impacted by the works and comments on the space available for recreation during the works. My Proof of Evidence (**NR73 para 3.4.6**) also outlines how dust will be managed during construction.

3.4.4. Whilst the site will be active for over a year, for the majority of this time the noise level will be comparable with that of a highway environment. The noise level will be greater between July and September in the lead up and follow on works to the main reconstruction weekend. The noise will be greatest during the demolition and reconstruction limited to a 54 hour period only.

4. CONCLUSIONS

4.1. Irthlingborough Road Bridge

The reconstruction of Irthlingborough Road Bridge as designed does not prevent or provide undue difficulty to the construction of the Route 2 Bridge nor its associated approaches. The area of interface is confined to the south west approach to Irthlingborough Road Bridge where the earthworks for the Irthlingborough reconstruction can be subsumed into that of the approach earthworks for the Route 2 Bridge with no detriment to either.

4.2. Bromham Road Bridge

4.2.1. Bromham Road – Provision of Cycleway

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The increase in width to accommodate a cycleway would result in a superstructure wider than the existing bridge substructure that is being reused. As such the cycleway introduces a significant increase in scope to the reconstruction, not only in the superstructure design but more importantly the substructure and earthworks that require only minimal works to accommodate the proposed design.

4.2.2. Bromham Road - Construction Impact

Accepting the proximity of the temporary utilities/footbridge to the properties in question, its design takes into account the concern raised regarding intrusion, overlooking etc. and includes screening to address this.

Whilst the bridge reconstruction site will be active for over a year the level of noise for the majority of this time will be equivalent to that of a normal highway environment.