



The Network Rail (Leeds to Micklefield Enhancements) Order
CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

**TRANSPORT AND WORKS ACT 1992
TRANSPORT AND WORKS (INQUIRIES PROCEDURES)
RULES 2004
NETWORK RAIL (LEEDS TO MICKLEFIELD
ENHANCEMENTS) ORDER**

**SUMMARY OF ENGINEERING AND DESIGN
PROOF OF EVIDENCE - LEVEL CROSSINGS
OF
MICHAEL WESTWOOD**

Document Reference	CD 7.25
Author	Michael Westwood
Date	05 February 2024

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

[this page is intentionally left blank]

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

CONTENTS

1. INTRODUCTION	1
2. ENGINEERING AND DESIGN RESPONSE	1
2.1 Existing Arrangements	1
2.2 Improvements	4
2.3 Barrowby Lane and Barrowby Foot Level Crossings	4
2.4 Garforth Moor Level Crossing	9
2.5 Peckfield Level Crossing	13
2.6 Highroyds Wood Level Crossing	18
3. RESPONSE TO OBJECTIONS	19
3.1 OBJ 07 (Barrowby Lane Bridleway Bridge) submitted by Leeds City Council	19
3.2 Objections and Representations to the Peckfield Level Crossing proposals submitted by various consultees	19
4. WITNESS DECLARATION	20

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

1. INTRODUCTION

1.1.1 I am Michael Westwood and I have been appointed as Contractors Responsible Engineer (CRE) for 'Level Crossing Design' on the Scheme since 2016.

2. ENGINEERING AND DESIGN RESPONSE

2.1 Existing Arrangements

2.1.1 Network Rail seeks powers under the Order to formally close five level crossings (Barrowby Lane, Barrowby Foot, Garforth Moor, Peckfield and Highroyds Wood level crossings) and to provide alternative means of crossing the railway.



Barrowby Lane Level Crossing

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Barrowby Foot Level Crossing



Garforth Moor Level Crossing

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Peckfield Level Crossing

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Highroyds Wood Level Crossing showing vandalised temporary fencing

2.2 Improvements

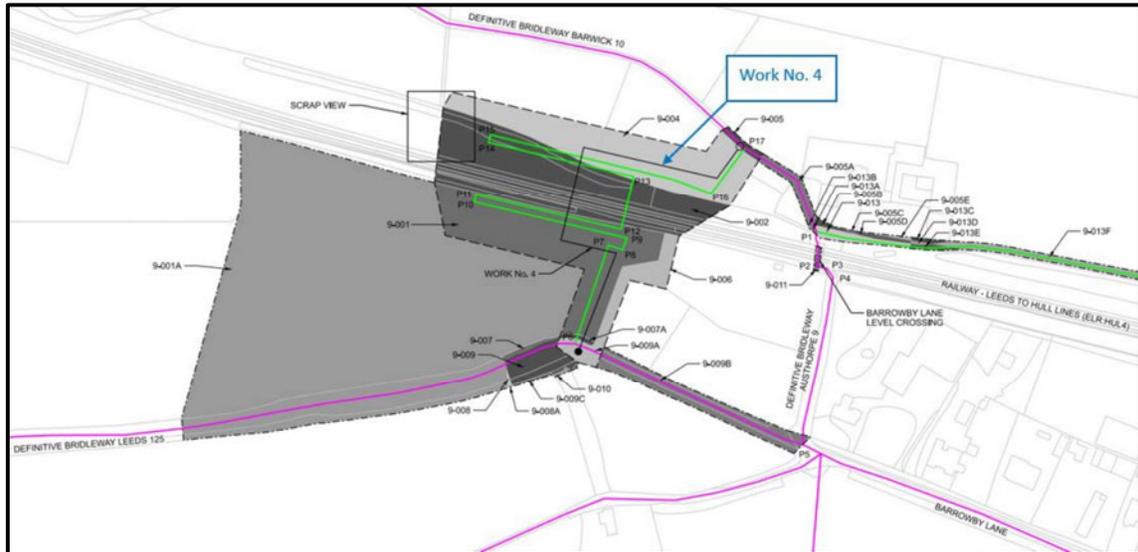
- 2.2.1 Network Rail intends to electrify this section of two-track railway, re-signal to modern standards and to renew sections of the railway track itself.
- 2.2.2 Level crossings affect the electrification design as they determine the heights of the wires in the vicinity of each level crossing.
- 2.2.3 Closure means that wire heights do not have to raise for any level crossing.
- 2.2.4 New lineside signals will enhance the maintainability and reliability of the railway as well as facilitating additional trains.
- 2.2.5 Level crossing closures will greatly improve the reliability and resilience of the train service provided as well as enhancing safety of the railway.

2.3 Barrowby Lane and Barrowby Foot Level Crossings

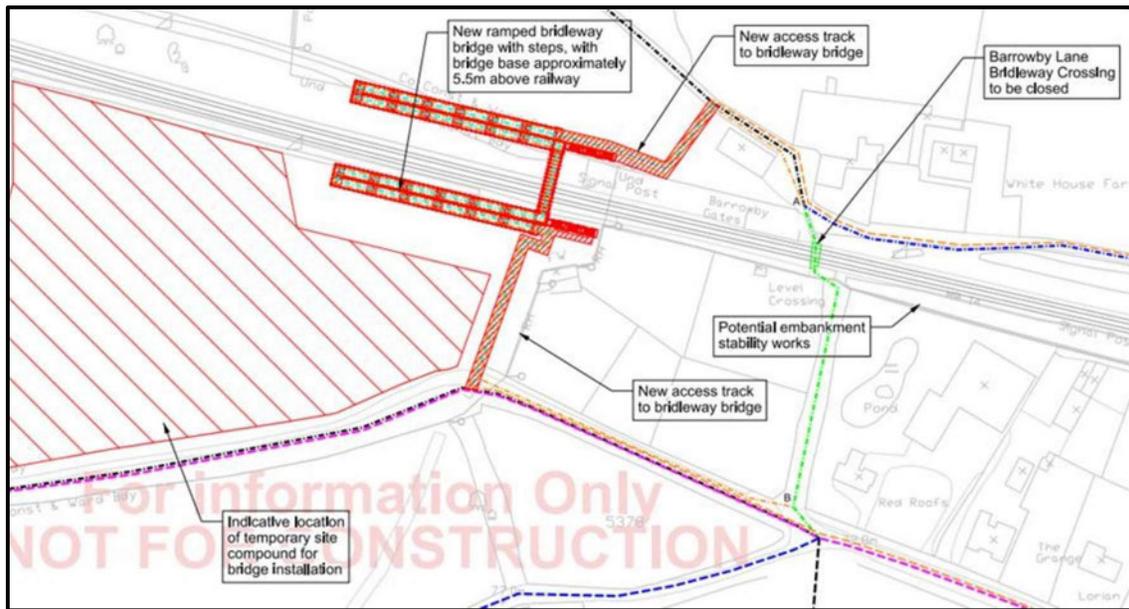
- 2.3.1 Scheduled Work No. 4 is the new brideway bridge at Barrowby Lane Level Crossing.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Extract of Works and Land Plan



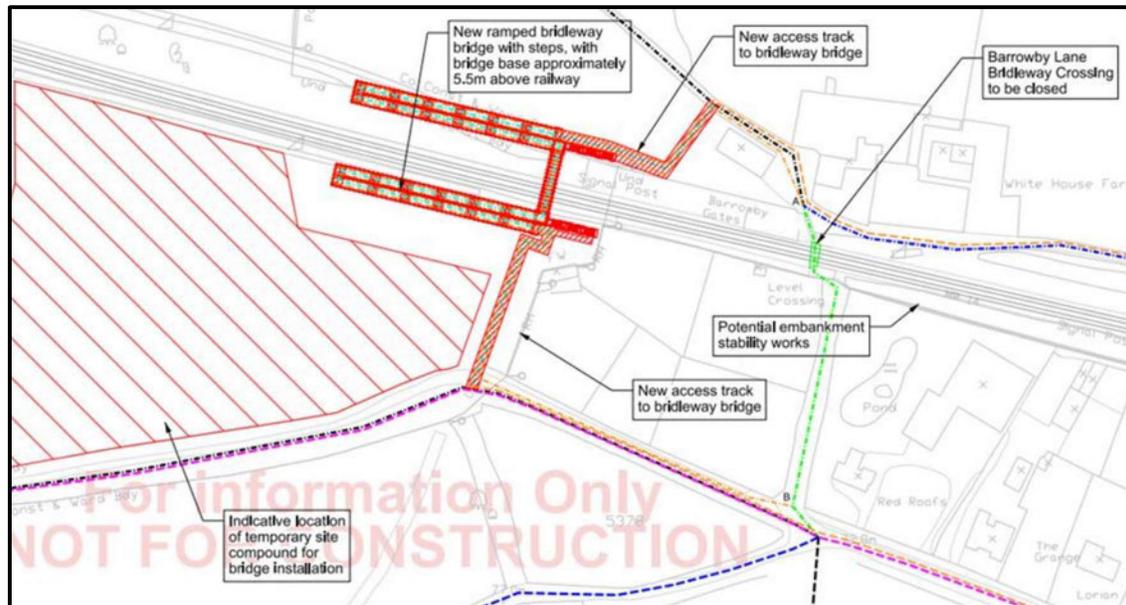
Proposed bridge and compound locations

- 2.3.2 The new brideway bridge is a steel structure over the existing railway (with sufficient span for an additional two railway lines).
- 2.3.3 Due to shallow mine workings, ground treatment will be required under the footprint of the new brideway bridge.
- 2.3.4 Options 1 to 4 met the functional and operational requirements of the TRU Project:

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

- Option 1: Ramped brideway bridge to west of Barrowby Lane Bridleway Crossing to close both level crossings.

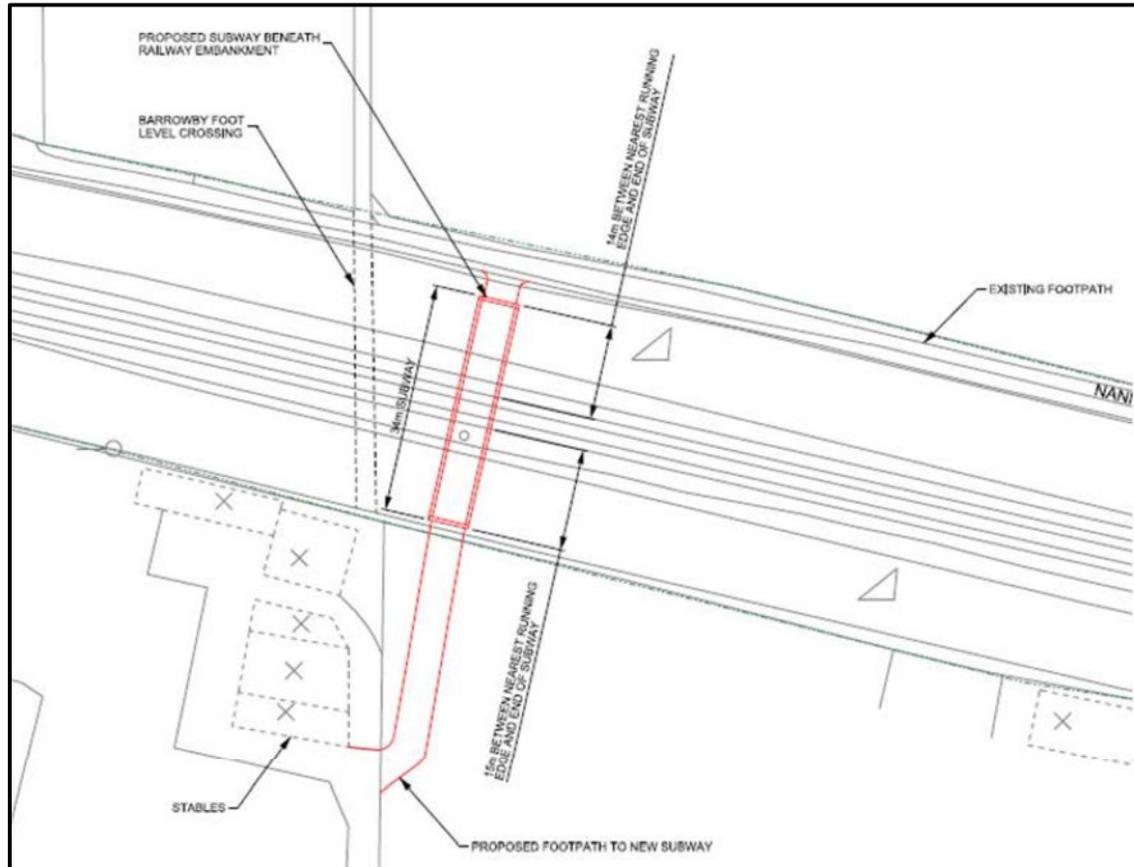


Option 1

- Option 2: Subway at Barrowby Foot Footpath Crossing to close both level crossings.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

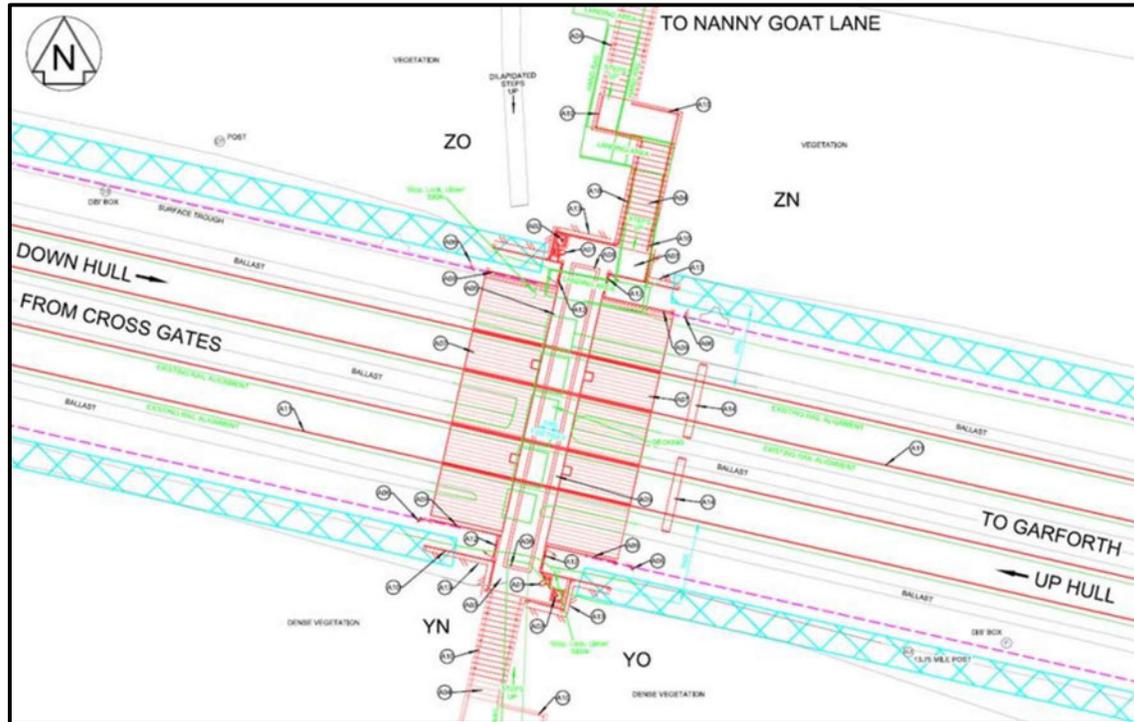


Option 2

- Option 3: Localised enhancements of Barrowby Lane Bridleway Crossing with closure of Barrowby Foot Footpath Crossing.
- Option 4 - Localised enhancements of Barrowby Lane Bridleway Crossing and Renewal of Barrowby Foot Footpath Crossing with MSL's.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Option 4 – renewal of Barrowby Foot Level Crossing with MSL's

- 2.3.5 Options 1 and 2 were further explored whilst Options 3 and 4 were rejected due to the increased level crossing risk. The level crossings would also preclude the future expansion of the railway in this area.
- 2.3.6 Option 2 was then ruled out due to construction risks, construction programme and costs.
- 2.3.7 Option 1 was taken forward for further development and consultation as it closes both level crossings and is deliverable from an engineering, construction and cost perspective.
- 2.3.8 Option 1+ then identified an alternative bridleway connection north of the railway.
- 2.3.9 This was endorsed as the preferred option as it included the benefits of Option 1 but has a better connection to the wider PRow network to the north.
- 2.3.10 The closure of both level crossings simplify the signalling layout and assist the provision of the new Thorpe Park Station (not part of the TRU Project). Should Barrowby Lane Level Crossing remain open, the planned location of this new station would add complexity to the signalling design. This may lead to misuse of the level crossing and a 'lack of willingness to wait' by users.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

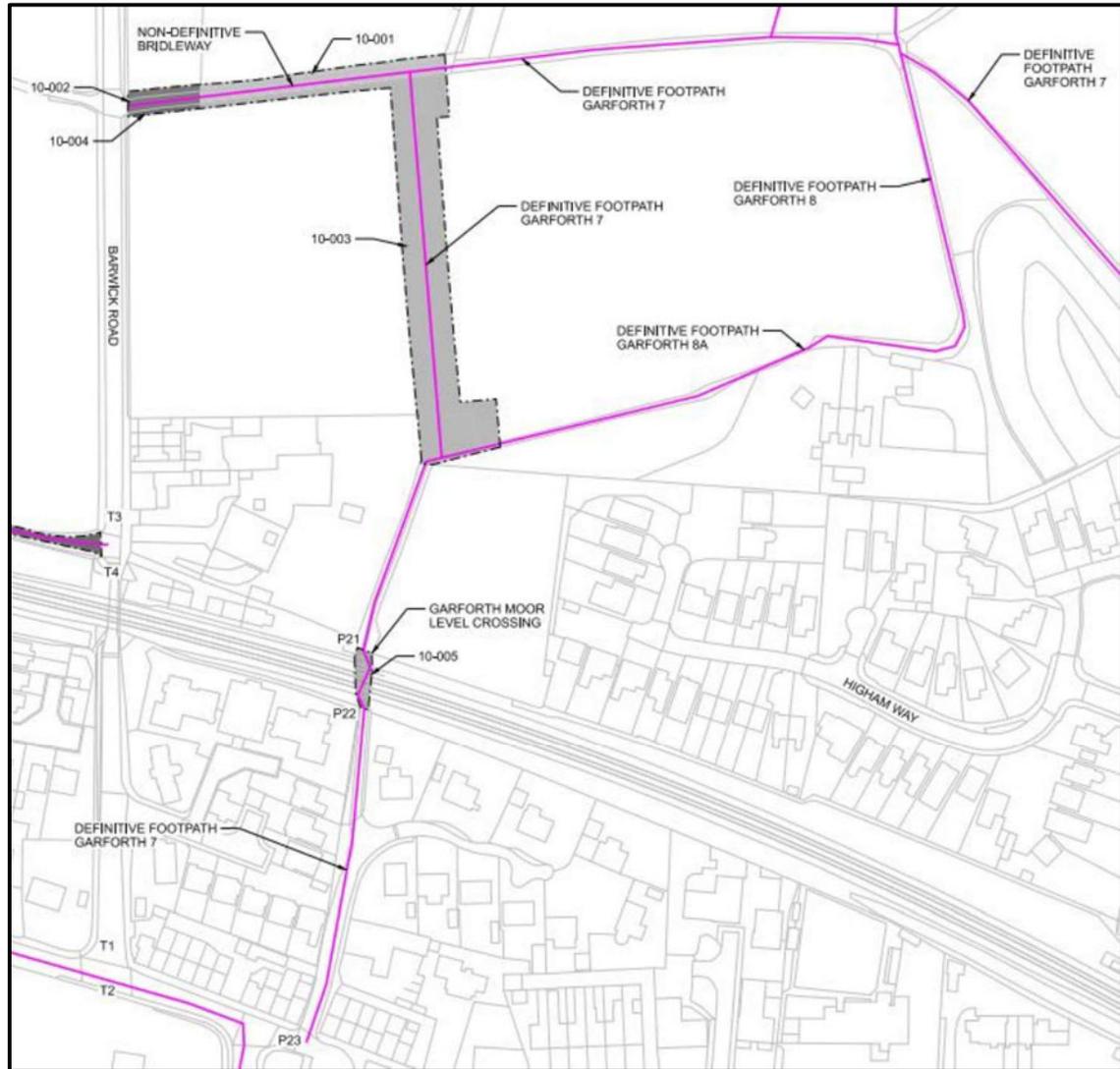
- 2.3.11 The existing MSL protection at Barrowby Lane Level Crossing is operated by obsolete 'Predictor' equipment. The signalling scheme includes the adoption of 'axle counters' for train detection (from 'track circuits') so the existing level crossing cannot just remain in the current guise, it would have to be renewed with modern technology.
- 2.3.12 The closure of Barrowby Lane and Barrowby Foot Level Crossings facilitate the future provision of an additional 2 railway lines in this area (these additional railway lines are not part of the current Project scope).

2.4 Garforth Moor Level Crossing

- 2.4.1 When the level crossing was temporarily closed in 2018, a temporary access track and parking area for the allotments was created. The Order seeks to make these temporary arrangements – which are in use today – permanent and to extinguish any public and private rights at the existing level crossing.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Extract of Works and Land Plan

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

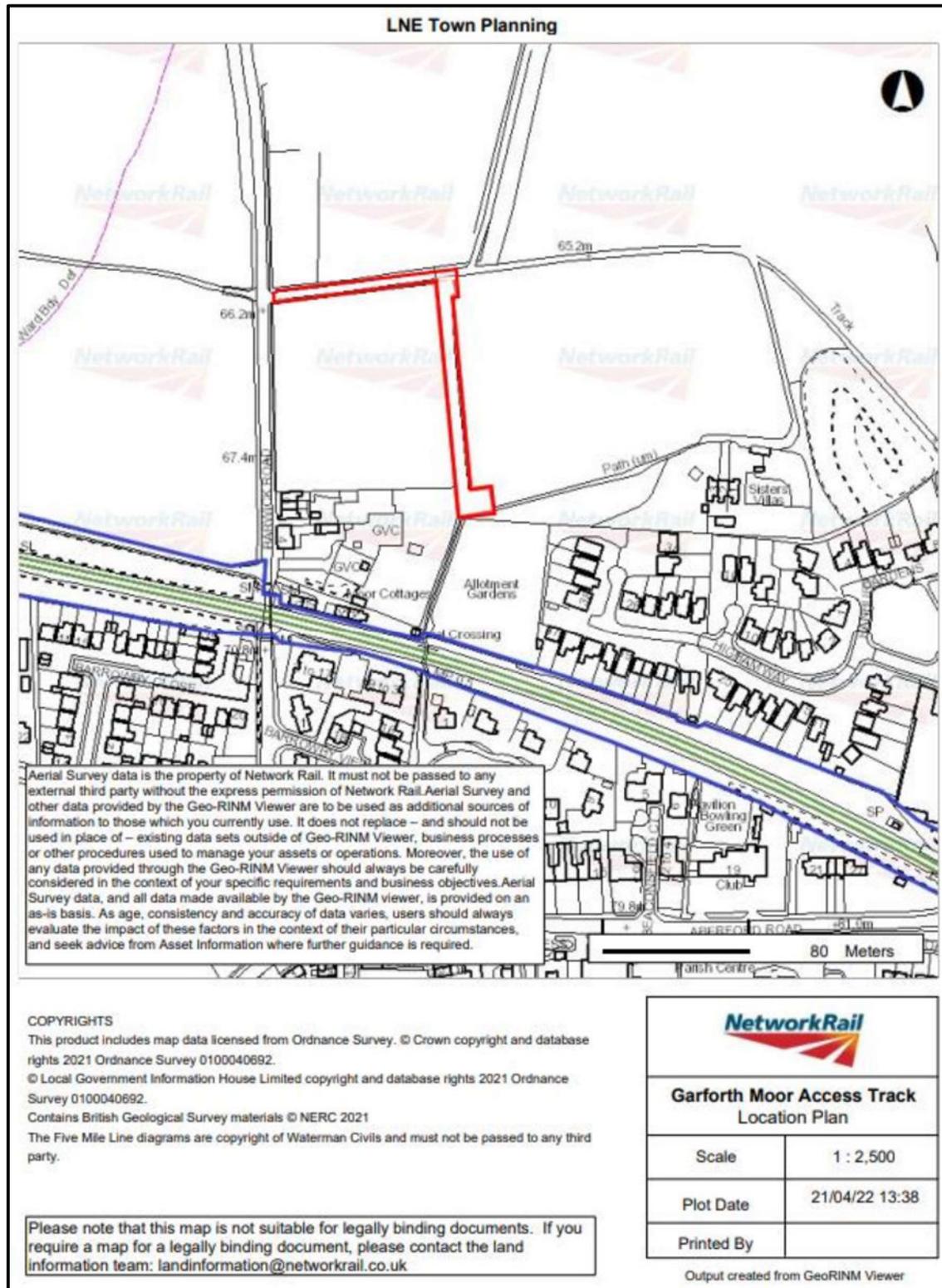


Existing condition of access track (looking south)

2.4.2 Network Rail has applied for (retrospective) planning permission (22/03144/FU/E) for a permanent access track and parking area/turning head to service the adjacent allotments.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Drawing from Network Rail planning permission

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

2.4.3 The proposals at Garforth Moor level Crossing can be summarised by the schematic below.



Schematic of the Garforth Moor Level Crossing proposals

2.4.4 The construction here is more discrete than that associated with Barrowby Lane bridge; there is no major replacement structure and all construction is away from the operational railway corridor.

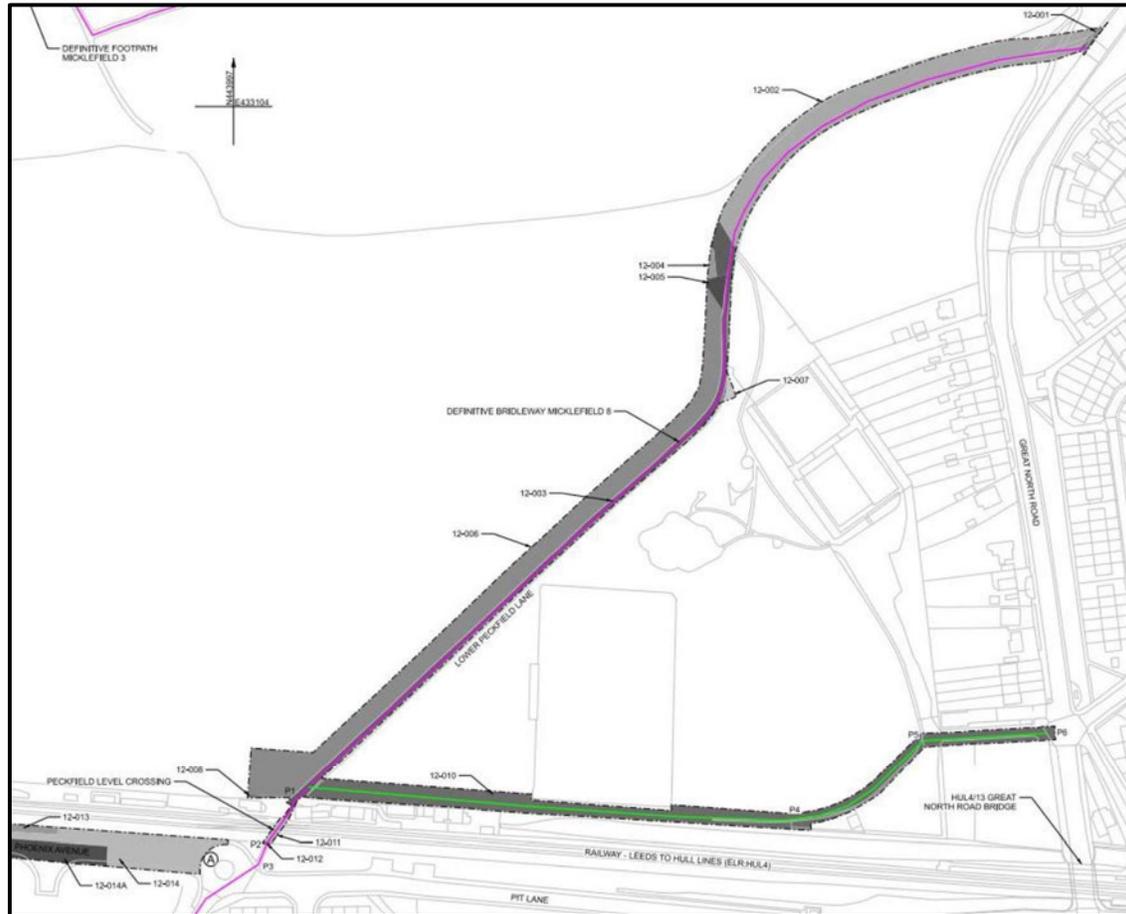
2.5 Peckfield Level Crossing

2.5.1 The Peckfield Level Crossing scheme consists of:

- Closure of Peckfield Bridleway Crossing and extinguishment of the existing PRow over the crossing;
- A new footpath or bridleway north of the railway;
- Works to upgrade Lower Peckfield Lane north of the railway (including passing points) and to provide a small car parking area/turning area for adjacent residents;

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Extract of Works and Land Plan

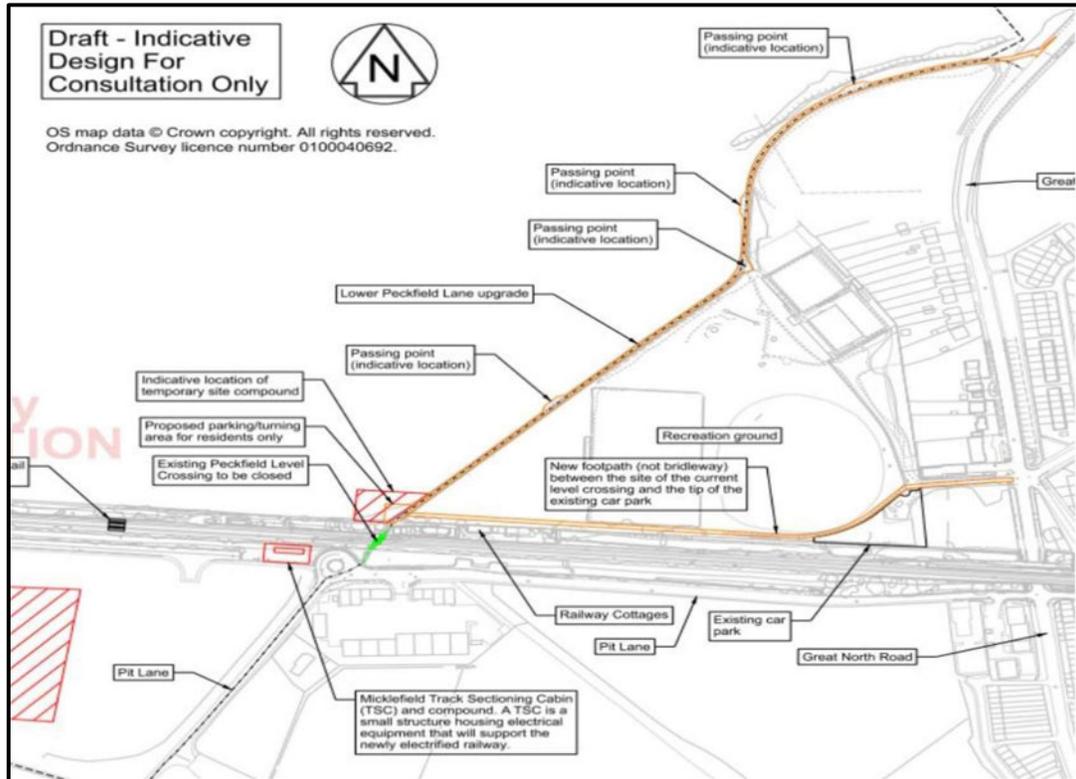
2.5.2 The surface of the new footpath or bridleway will be agreed with Leeds City Council.

2.5.3 The options identified were:

- Option 1: New footpath and Lower Peckfield Lane Improvements

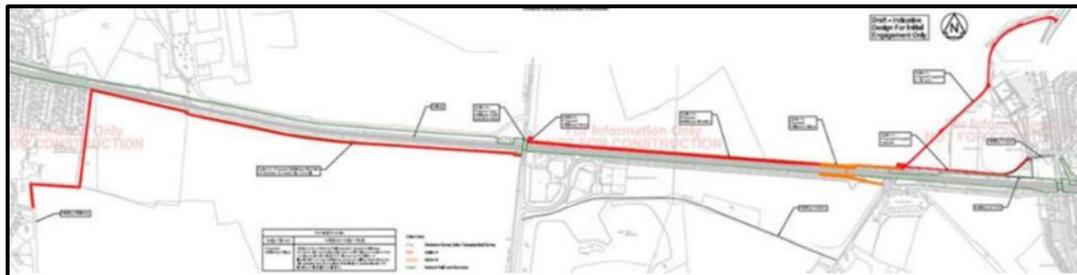
The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Option 1

- Option 2: As Option 1 plus new bridleway to East Garforth

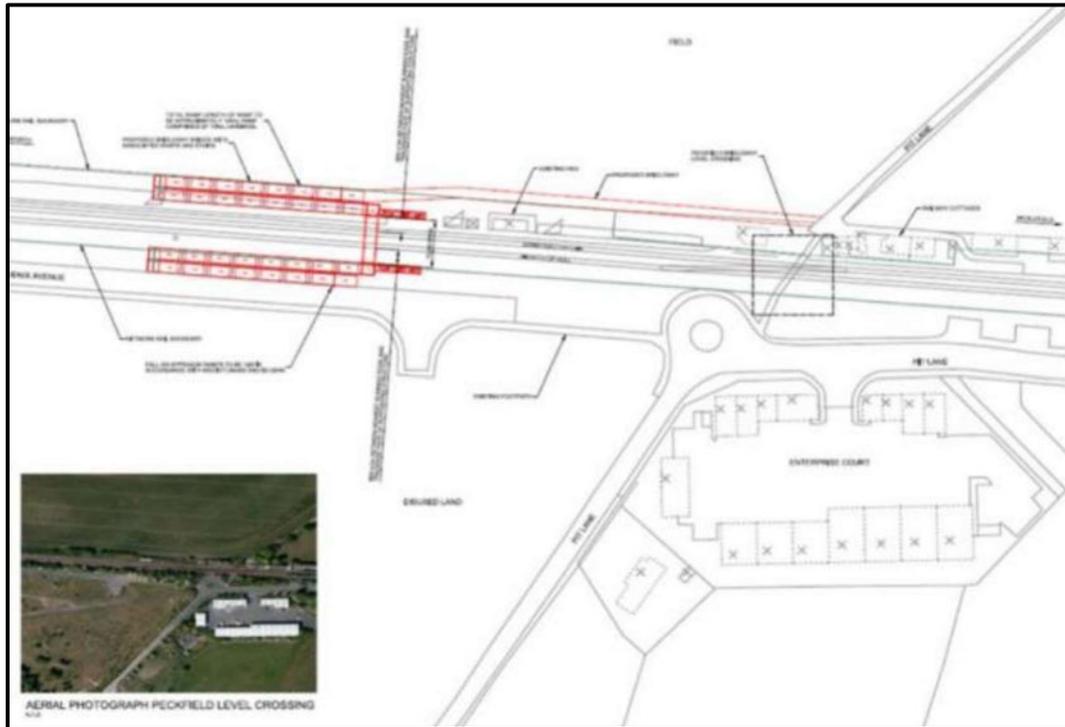


Option 2

- Option 3: As Option 1 plus new bridleway through recreation ground

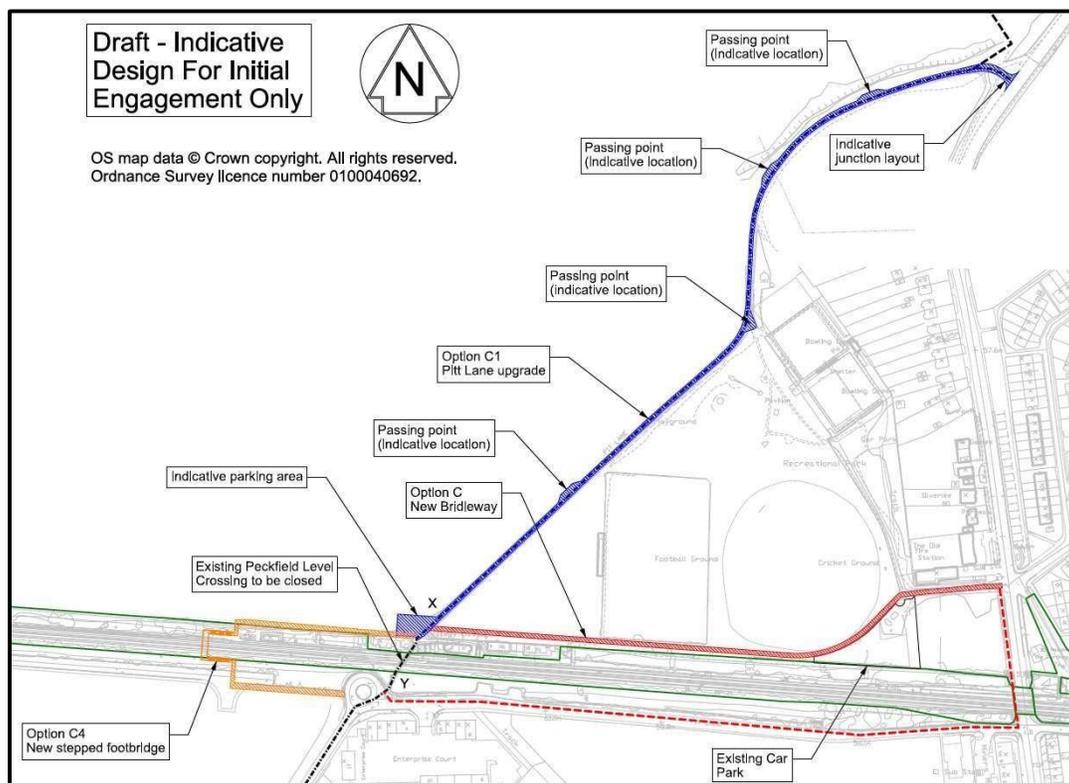
The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Option 4

- Option 5: New stepped footbridge



Option 5

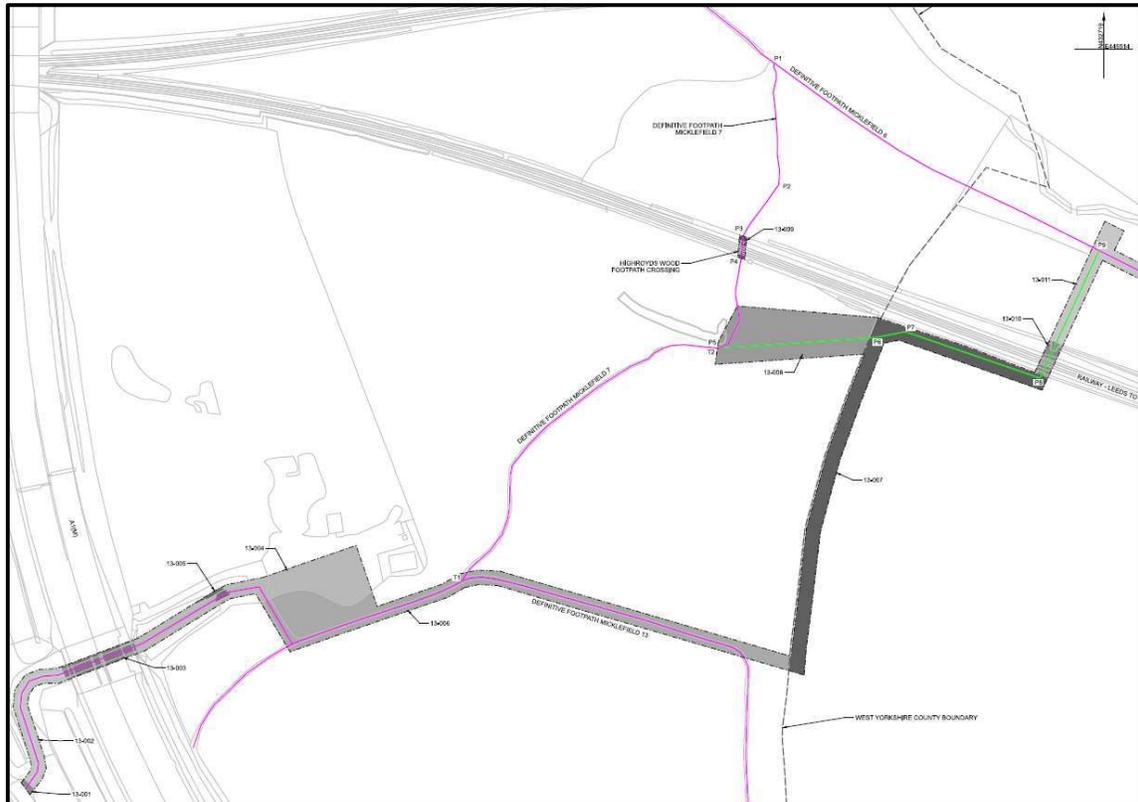
The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

- 2.5.4 Option 1 was selected by the TRU Project. A variant of Option 1 is also included in the Order application, which amends the proposed footpath to a brideway, in response to feedback from a final round of consultation.
- 2.5.5 Level crossing user survey data suggests that Option 1 is an acceptable alternative access route to replace the existing level crossing.
- 2.5.6 The closure of Peckfield Level Crossing simplifies the signalling layout and enhances the safety and reliability of the railway.

2.6 Highroyds Wood Level Crossing

- 2.6.1 At Highroyds Wood Level Crossing, the Order would extinguish any existing rights at the level crossing as well as formalising the proposed diversion (which is informally in use today).

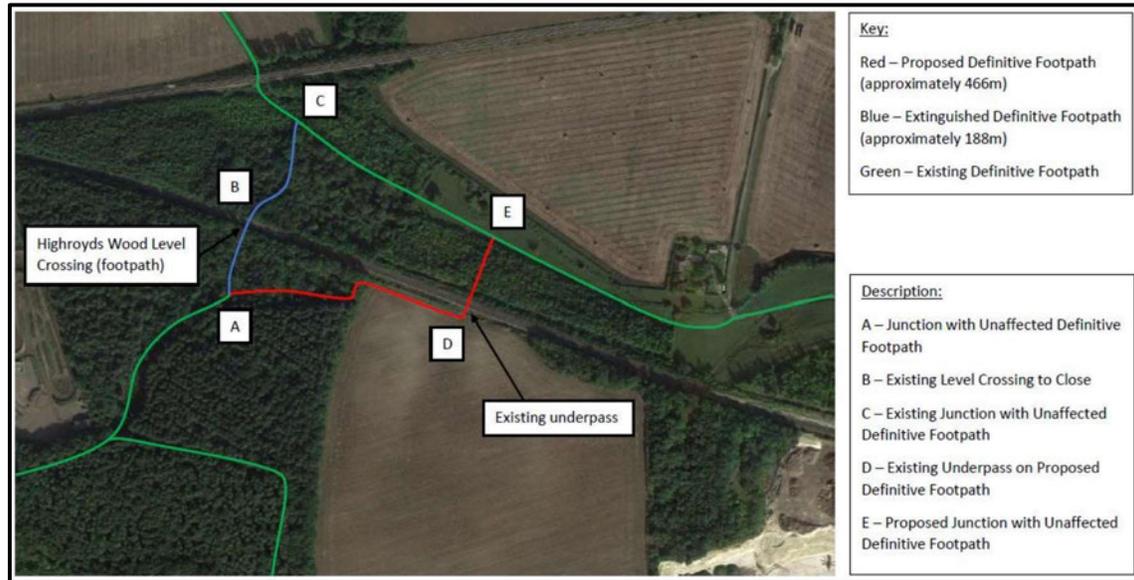


Extract of Works and Land Plan

- 2.6.2 Footpaths will be constructed to the south and north of the railway as well as enhancements to the underfoot conditions in the existing underpass.
- 2.6.3 The proposals at Highroyds Wood Level Crossing can be summarised by the schematic below.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence



Schematic of the Highroyds Wood Level Crossing proposals

- 2.6.4 The construction work here is more discrete than that associated with Barrowby Lane bridge i.e. there is no major replacement structure and all construction is minor or away from the operational railway corridor.
- 2.6.5 The closure of the level crossing increases the safety, reliability and resilience of the railway.

3. RESPONSE TO OBJECTIONS

3.1 OBJ 07 (Barrowby Lane Bridleway Bridge) submitted by Leeds City Council

- 3.1.1 Leeds City Council are concerned with the suitability (designed to relevant standards) of the replacement structure and the ability for Leeds City Council to agree aspects of the bridge design.
- 3.1.2 The design of the new bridleway bridge will be in accordance with the appropriate design standards and the specification of the bridleway connections will be progressed in consultation with Leeds City Council.

3.2 Objections and Representations to the Peckfield Level Crossing proposals submitted by various consultees

- 3.2.1 The Objections and Representations received all believe that an overbridge or the bridleway extension to East Garforth would be the best option to close Peckfield Level Crossing.

The Network Rail (Leeds to Micklefield Enhancements) Order

CD 7.25 - Summary of Engineering & Design Level Crossing Proof of Evidence

3.2.2 These options have been considered by the TRU Project and each one discounted for the reasons described previously.

3.2.3 Leeds City Council have concerns regarding the ability to agree aspects of the footpath (or bridleway) construction. This detail will be progressed in consultation with Leeds City Council.

4. WITNESS DECLARATION

4.1.1 This Proof of Evidence includes the facts which I regard as being relevant to the opinions which I have expressed, and the Inquiry's attention has been drawn to any matter which would affect the validity of that opinion.

4.1.2 I believe the facts that I have stated in this proof of evidence are true and that the opinions expressed are correct.

4.1.3 I understand my duty to the Inquiry to help it with matters within my expertise and I have complied with that duty.



Michael Westwood

05 February 2024