

TRANSPORT AND WORKS ACT 1992

**TRANSPORT AND WORKS (INQUIRIES
PROCEDURE) RULES 2004**

**THE NETWORK RAIL
(ESSEX AND OTHERS
LEVEL CROSSING REDUCTION)
ORDER**

SUSAN TILBROOK

**SUPPLEMENTARY PROOF OF EVIDENCE
RELATING TO MATTERS RAISED
IN JOHN RUSSELL'S LETTER
DATED 12TH OCTOBER 2017**

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1 Introduction

- 1.1 This supplemental Proof of Evidence has been prepared on behalf of Network Rail to respond to particular matters raised in John Russell's letter dated 12th October 2017 (with regard to the Essex and others Level Crossing Reduction Order).
- 1.2 Mr Russell, representing the Ramblers Association, has raised similar points with regard to road safety audit evidence at both the Cambridgeshire and Suffolk Level Crossing Reduction Order inquiries. Responses were issued to the Ramblers and submitted to each inquiry that addressed the points raised. I also gave verbal answers to questions regarding the points at each inquiry. This note addresses the same points but has been amended to reflect the specific document references associated with this Order.
- 1.3 I believe the facts and opinions stated to be true and that my evidence conforms to the standards and requirements of my professional body.

2 John Russell Letter Dated 12th October 2017

- 2.1 Mr Russell has stated his concern if S J Tilbrook and Sue Tilbrook transpire to be the same person. I can confirm that I am both named persons and I am the CEM (Contractor's Engineering Manager) for the Anglia Level Crossing Reduction Strategy project. I can confirm that I approved the designer's response report for Essex (Document ref 367516/RPT021 Rev B) and approved the second revision of the Stage 1 Road Safety Audit reports for Essex (Document ref 367516/RPT016 Rev B) and Havering, Hertfordshire & Thurrock (Document ref 367516/RPT017 Rev B), for issue as part of Mott MacDonald's commission on the project.
- 2.2 Mr Russell has rightly pointed out that the Road Safety Team must be independent from the design team and I can confirm that this is indeed the case for the Road Safety Audit's (RSAs) carried by Mott MacDonald for the project. In summary, the fact that I have approved the RSA report for issue as a deliverable on the project does not mean that the RSA has not been prepared independently, as I explain below. I do not accept that the RSAs are undermined by my familiarity with the proposals or any "pride" in them.
- 2.3 Mr Russell makes reference to RSA reports 367516/RPT016 Revision B and 367516/RPT017 Revision B that were both approved by me. These documents required a very minor amendment (correcting one erroneous reference to a version of another document in the report). The principle of me approving the documents was discussed and agreed with the independent RSA team at the time and considered appropriate due to the minor change.
- 2.4 This matter is documented as part of the Network Rail review and acceptance procedure (in the Document Review Notices (DRN) 025 and DRN026) (see Appendix C and D) and the covering email that was issued with the reports at the time, which explains and documents the changes made (see Appendix E). These documents / correspondences provide a contemporaneous record of the changes made and are appended to this document.
- 2.5 A copy of revision A of each of the RSA reports 367516/RPT016 and 367516/RPT017 are also appended to this response note to allow comparison to revision B of the reports referred to above and contained in NR16. (see Appendix A and B).
- 2.6 There is one change between Revision A and Revision B of each of the reports 367516/RPT016 and 367516/RPT017, which can be seen at paragraph 1 on page 2 of each document as follows:-
- 367516/RPT016 Revision B states "A previous Stage 1 Road Safety Audit (Document Ref: 354763/RPT222A) was undertaken in December"
 - 367516/RPT016 Revision A states "A previous Stage 1 Road Safety Audit (Document Ref: 354763/RPT222B) was undertaken in December"
 - 367516/RPT017 Revision B states "A previous Stage 1 Road Safety Audit (Document Ref: 354763/RPT222A) was undertaken in December"
 - 367516/RPT017 Revision A states "A previous Stage 1 Road Safety Audit (Document Ref: 354763/RPT222B) was undertaken in December"

- 2.7 There are no other changes between each version of the 2 documents.
- 2.8 It is important to note that document ref 367516/RPT016 Rev B and 367516/RPT017 Rev B made no changes to any of the issues raised in the original version (Rev A) of each RSA document.
- 2.9 I would also draw your attention to Section 3 of the Road Safety Audit Report, the Audit Team Statement in each document. In this section of the RSA reports all members of the Audit Team have signed the document to confirm "We certify that this audit has been carried out in accordance with the Highways England Departmental Standard HD 19/15.". It can clearly be seen that I do not have a role within the Audit team.
- 2.10 Notwithstanding the above, it should also be noted that any document issued by Mott MacDonald has to be Checked and Approved in accordance with Mott MacDonald's Business Management System (BMS), which is certificated to ISO 9001.
- 2.11 Under Mott MacDonald's BMS, all documents and deliverables have to be checked by a person (not the originator) with the requisite experience and approved by someone at a senior level from the project team. In view of the minor amendment to documents ref 367516/RPT016 and 367516/RPT017, which did not relate to the body of the findings of the Road Safety Audit, the approver of revision B was considered appropriate to ensure that the document was being issued in line with Mott MacDonald's BMS requirements.
- 2.12 Based on the above, role of the approver in this instance has no bearing on the outcome of the Audit, as their role is to ensure that the deliverable is carried out in line with the project requirements, which in this case is to carry out Road Safety Audits in accordance with HD19/15. In other words, the approval process is to make sure that an RSA compliant with the requirements of the project has been produced. The judgments in the document are unaffected.
- 2.13 I will take this opportunity to identify and correct an error on the front cover of the Essex, Thurrock and Hertfordshire Stage 1 Road Safety Audit (Dec 2015) included in NR16, which shows the Report Number as 354763/RPT219 Revision A. This is a typo and the Essex, Thurrock and Hertfordshire Stage 1 Road Safety Audit front cover should show the report number as 354763/RPT222 Revision A.
- 2.14 In conclusion, I can confirm that the correct information is contained within NR16 and this is the Road Safety Audit information that will be relied on at the inquiry. I can also confirm that the RSAs have been carried out by an independent Audit team.
- 2.15 It should be noted that further Stage 1 RSAs were carried out in September 2017 to consider the final proposals at 5 level crossing locations. The RSA reports associated with these crossings are appended to my rebuttal document ref NR32/4/2, which was submitted to inquiry in October 2017. No road safety problems were identified in the additional audits. The designer's response

report ref 367516/RPT021 has been updated to Rev C to reflect the additional audits carried out and it is appended to this note (see Appendix F).

Appendix A Stage 1 Road Safety Audit reports for Essex (Document ref 367516/RPT016 Rev A)



Transport & Works Act Order (TWAO) Anglia Route GRIP 2 Review

Essex Stage 1 Road Safety Audit

Report Number 367516/RPT016

Revision A

August 2016



Transport & Works Act Order (TWAO) Anglia Route GRIP 2 Review

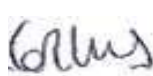
Essex Stage 1 Road Safety Audit

August 2016

Network Rail

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	09/08/2016	R J Collins	A J Coleman	T J Blaney	First Draft



Information class: Standard

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1 Introduction

Network Rail is carrying out feasibility studies to explore options for the closure of level crossings throughout Essex as part of their on-going commitment to deliver a safer, more efficient and reliable railway. Mott MacDonald is considering Network Rail's GRIP 0 Solution to enable the closure of level crossings.

This report describes a series of Stage 1 Road Safety Audits carried out on highway works associated with proposed level crossing closures throughout Essex. The scheme proposals currently consist of indicative (high level) diversion routes as the result of closures and no formal highway works have been designed at this stage. Therefore this report considers potential road safety problems as a result of the proposed routes and their interaction with the highway. A detailed description of the proposed diversion routes at each location can be read in the respective individual level crossing review reports.

The audits took place at the Birmingham office of Mott MacDonald and consisted of a detailed examination of the submitted documentation and drawings listed in **Appendix A**.

A visit to each site was completed on either Wednesday 20th July 2016 between 14:00 and 20:40, during which the weather was sunny and the road surface was dry or on Thursday 21st July between 08:00 and 11:00 during which the weather conditions were sunny and the road surface was dry.

It is confirmed that this is a Stage 1 Road Safety Audit and that the audit was undertaken upon completion of the feasibility design. It is also confirmed that the audit was carried out in accordance with the Highways England Departmental Standard HD19/15.

The Audit Team consisted of:

T Blaney BSc (Hons), CMILT, MCIHT, MSoRSA (Team Leader)

Mott MacDonald

R Collins BA (Hons), MSc (Team Member)

Mott MacDonald

No attempt has been made to comment on the justification of the scheme or the appropriateness of the diversion routes. Consequently the auditors accept no responsibility for the design or construction of the scheme. All of the issues raised in this report are considered to be required for action. The comments contained in the report are based on safety related concerns and as such the design engineer will need to consider carefully how to respond to each of the issues. The Audit Report Response should be completed by the Design Team and kept on file for future reference.

An Audit Brief was submitted to the Audit Team, however, no Personal Injury Collision data was included and has therefore not been reviewed as part of this audit. Traffic flows and speed data were also not available to the Audit Team.

A previous Stage 1 Road Safety Audit (Document Ref: 354763/RPT222B) was undertaken in December 2015 on level crossing closure proposals within Essex. This included some sites that have been audited on this occasion and sites that have been re-audited due to the development of alternative route options or amendments to the previously audited route. The table below lists the level crossing proposals that have been subject to a stage 1 road safety audit and when the audits were undertaken.

Site	December 2015	August 2016
E04 – Parndons Mill		✓
E05 – Fullers End		✓
E06 – Elsenham Emergency Hut		✓
E08 – Henham	✓	
E09 – Elephant	✓	✓
E10 – Dixies	✓	✓
E11 – Windmills	✓	
E12 – Wallaces	✓	
E13 – Littlebury Gate House	✓	✓
E14 – Church Lane Cctv (Itn1)	✓	
E16 – Maldon Road		✓
E17 – Boreham	✓	
E18 – Noakes	✓	
E19 – Potters	✓	
E20 – Snivellers	✓	✓
E21 – Hill House 1	✓	
E22 – Great Domsey	✓	

Site	December 2015	August 2016
E24 – Church 1		✓
E25 – Church 2		✓
E26 – Barbara Close	✓	
E27 – Puddle Dock (Red Route)	✓	✓
E27 – Puddle Dock (Blue Route)		✓
E27 – Puddle Dock (Green Route)		✓
E28 – Whipps Farmers (Red Route)	✓	
E28 – Whipps Farmers (Blue Route)		✓
E28 – Whipps Farmers (Green Route)		✓
E29 – Brown & Tawse (Blue Route)		✓
E29 – Brown & Tawse (Red Route)		✓

A Key Plan indicating the location of any identified safety related issues is provided in **Appendix B**.

2 Items Raised at this Stage 1 Audit

This section describes road safety related issues identified by the Audit Team that are associated with the scheme as presented in **Appendix A**.

2.1 E04 – Parndons Mill

2.1.1 Problem

Location: Elizabeth Way / Herons Wood.

Summary: Unnecessary carriageway crossing and lack of suitable crossing point.

It is proposed that the alternative route will require pedestrians to cross Elizabeth Way to the southern side and continue along an existing footway. This footway crosses Herons Wood at a point where no appropriate crossing point is provided. This may result in trips or falls, or conflicts between pedestrians and vehicles. Furthermore, there is a segregated footway / cycleway along the length of the northern side of Elizabeth Way that would remove the need for pedestrians to cross any carriageways. Therefore, the proposed route unnecessarily increases the risk of collisions between crossing pedestrians and vehicles.

Figure 2.1: Lack of appropriate crossing facility on Herons Wood.



Source: Mott MacDonald

Recommendation

It is recommended that the route continues along the northern side of Elizabeth Way.

2.2 E05 – Fullers End (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.3 E05 – Fullers End (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.4 E06 – Elsenham Emergency Hut (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.5 E06 – Elsenham Emergency Hut (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.6 E09 – Elephant (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.7 E09 – Elephant (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.8 E09 – Elephant (Green Route)

2.8.1 Problem

Location: Debden Road railway bridge.

Summary: Restricted carriageway width over railway bridge.

The carriageway width over the railway bridge narrows to single carriageway with no footway or verge meaning pedestrians would have to share the carriageway with vehicles. Forward visibility of pedestrians could be restricted (particularly eastbound) and although vehicles are travelling slowly over the bridge, this could result in conflict between pedestrians and vehicles.

Figure 2.2: Restricted width on Debden Road over railway line.



Source: Mott MacDonald

Recommendation

It is recommended that measures are provided to either warn motorists of pedestrians within the carriageway or to further slow vehicles on the approach. However, if suitable remedial measures cannot be provided then an alternative route should be identified.

2.9 E10 – Dixies (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.10 E13 – Littlebury Gate House

2.10.1 Problem

Location: Littlebury Green Road.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Littlebury Green Road where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on Littlebury Green Road travelling at high speeds and visibility is restricted by the highway geometry and vegetation, particularly to the west of Goodwins Close. These factors may result in collisions between pedestrians and vehicles.

Figure 2.3: Lack of verge or footway on Littlebury Green Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided.

2.11 E16 – Maldon Road

The Audit Team did not identify any road safety related issues associated with the scheme.

2.12 E20 – Snivellers (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.13 E24 – Church 1

The Audit Team did not identify any road safety related issues associated with the scheme.

2.14 E25 – Church 2

The Audit Team did not identify any road safety related issues associated with the scheme.

2.15 E27 – Puddle Dock (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.16 E27 – Puddle Dock (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.17 E27 – Puddle Dock (Green Route)

2.17.1 Problem

Location: St Marys Lane.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of St Marys Lane where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on St Marys Lane travelling at high speeds and visibility is restricted by the highway geometry. These factors may result in collisions between pedestrians and vehicles.

Figure 2.4: Lack of verge or footway on St Marys Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

2.18 E28 – Whipps Farmers (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.19 E28 – Whipps Farmers (Green Route)

2.19.1 Problem

Location: St Marys Lane.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of St Marys Lane where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on St Marys Lane travelling at high speeds and visibility is restricted by the highway geometry. These factors may result in collisions between pedestrians and vehicles.

Figure 2.5: Lack of verge or footway on St Marys Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

2.20 E29 – Brown & Tawse (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.21 E29 – Brown & Tawse (Red Route)

2.21.1 Problem

Location: St Marys Lane Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of St Marys Lane where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on St Marys Lane travelling at high speeds and visibility is restricted by the highway geometry and the railway road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.6: Lack of verge or footway on St Marys Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

2.22 E33 – Motorbike (Red Route)

2.22.1 Problem

Location: Pitsea Hall Lane.

Summary: High HGV flow and speed.

It is proposed that pedestrians will walk along a section of Pitsea Hall Lane on the western side of the carriageway where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high number of HGVs generally travelling at excessive speeds were observed on Pitsea Hall Lane. This may lead to an increased risk of collisions between pedestrians and vehicles.

Figure 2.7: Lack of verge or footway on western side of Pitsea Hall Lane.



Source: Mott MacDonald

Recommendation

It is recommended that suitable crossing facilities are provided to allow pedestrians to cross to the eastern side and utilise the existing segregated footway / cycleway. Vegetation clearance will need to be undertaken to provide a suitable footway / cycleway width.

2.23 E33 – Motorbike (Blue Route)

2.23.1 Problem

Location: Pitsea Hall Lane.

Summary: High HGV flow and speed.

It is proposed that pedestrians will walk along a section of Pitsea Hall Lane on the western side of the carriageway where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high number of HGVs generally travelling at excessive speeds were observed on Pitsea Hall Lane. This may lead to an increased risk of collisions between pedestrians and vehicles.

Figure 2.8: Lack of verge or footway on western side of Pitsea Hall Lane.



Source: Mott MacDonald

Recommendation

It is recommended that suitable crossing facilities are provided to allow pedestrians to cross to the eastern side and utilise the existing segregated footway / cycleway. Vegetation clearance will need to be undertaken to provide a suitable footway / cycleway width.

2.24 E40 – Creaksea Place 1 (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.25 E40 – Creaksea Place 1 (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.26 E44 – Frating Abbey (Red Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.27 E44 – Frating Abbey (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.28 E48 – Wheatsheaf

The Audit Team did not identify any road safety related issues associated with the scheme.

2.29 E49 – Maria Street

The Audit Team did not identify any road safety related issues associated with the scheme.

2.30 E51 – Thornfield Wood (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.31 E51 – Thornfield Wood (Red Route)

2.31.1 Problem

Location: Jupe's Hill Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Jupe's Hill between Oldhouse Farm and Willow Cottage where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. Whilst traffic flows were observed to be low, speeds were excessive with visibility restricted by a road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.9: Lack of verge or footway on Jupe's Hill.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

2.32 E53 – Josselyns (Blue Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.33 E55 – Lamarsh Kings Farm (Green Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.34 E56 – Abbots (Blue Route)

2.34.1 Problem

Location: Harwich Road / Little Bromley Road junction.

Summary: Lack of crossing facility may result in trips and falls.

It is proposed that diverted pedestrians will utilise the footway on the northern side of Harwich Road and the carriageway on Little Bromley Road. This will require pedestrian to cross Harwich Road in the vicinity of its junction with Little Bromley Road. No crossing facilities are provided at this location and crossing pedestrians may either cross at inappropriate locations or trip on the full height kerb.

Figure 2.10: Lack of crossing point on Harwich Road at its junction with Little Bromley Road.



Source: Mott MacDonald

Recommendation

It is recommended that an appropriately positioned crossing point is installed on Harwich Road.

2.35 E56 – Abbots (Orange Route)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.36 E57 – Wivenhoe Park

2.36.1 Problem

Location: Lightship Way / River Colne waterfront.

Summary: Inappropriate interaction between agricultural vehicles and non-motorised users.

It is proposed that diverted agricultural vehicles will access land to the west of the railway via Lightship Way and the River Colne waterfront path. There was a notable presence of vulnerable road users in the vicinity of Lightship Way whilst the River Colne path is for cyclists and pedestrians. Diverting agricultural vehicles through this residential area and onto the recreational riverside path may increase the risk of collisions between large vehicles and vulnerable road users.

Recommendation

It is recommended that agricultural vehicles are not diverted along this route.

3 Audit Team Statement

We certify that this audit has been carried out in accordance with the Highways England Departmental Standard HD 19/15.

Audit Team Leader

T J Blaney BSc (Hons), CMILT, MCIHT, MSoRSA

Signed:



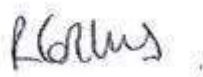
Date: 9th August 2016

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Audit Team Member

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Signed:



Date: 9th August 2016

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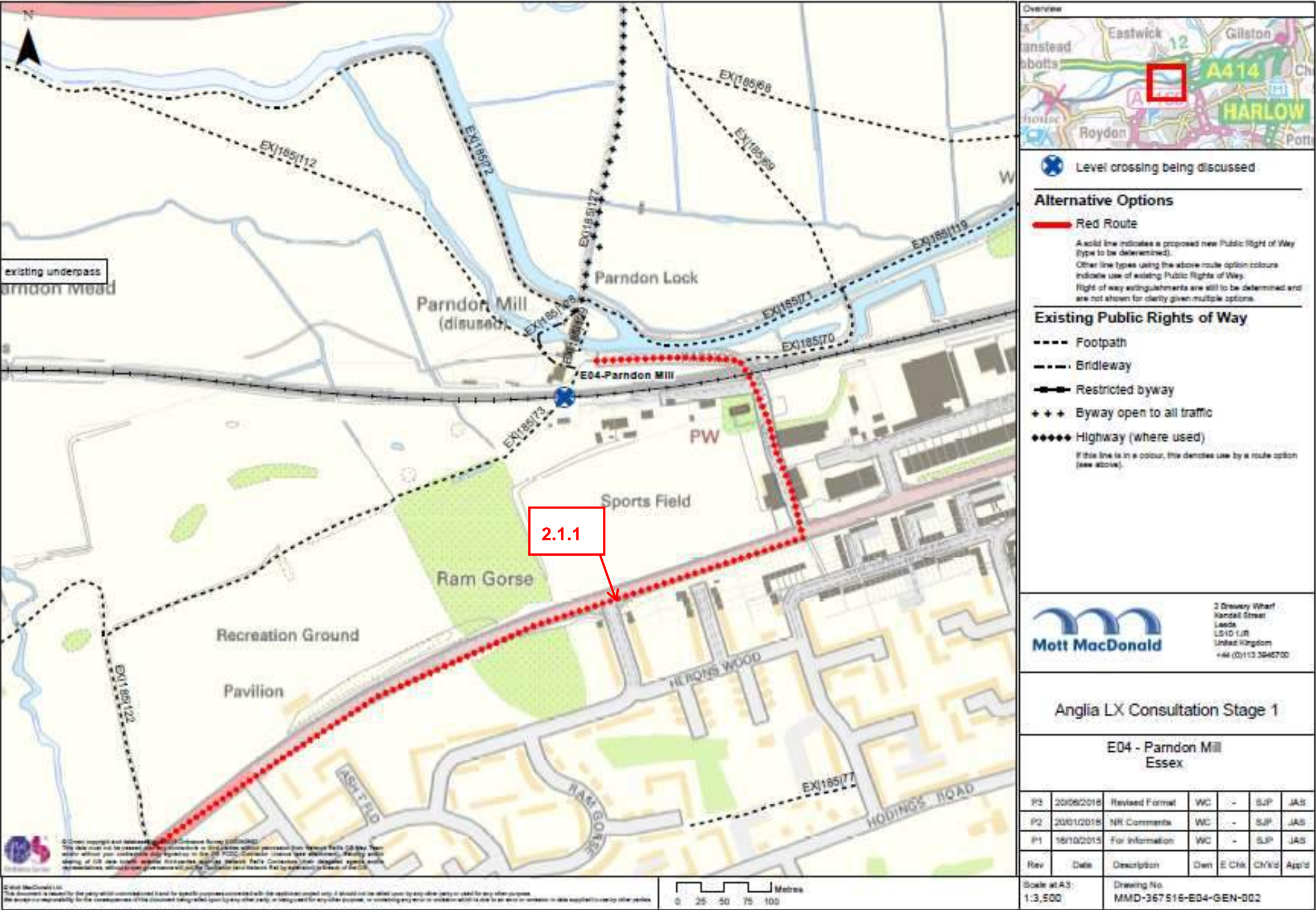
Appendix A. List of Submitted Documents

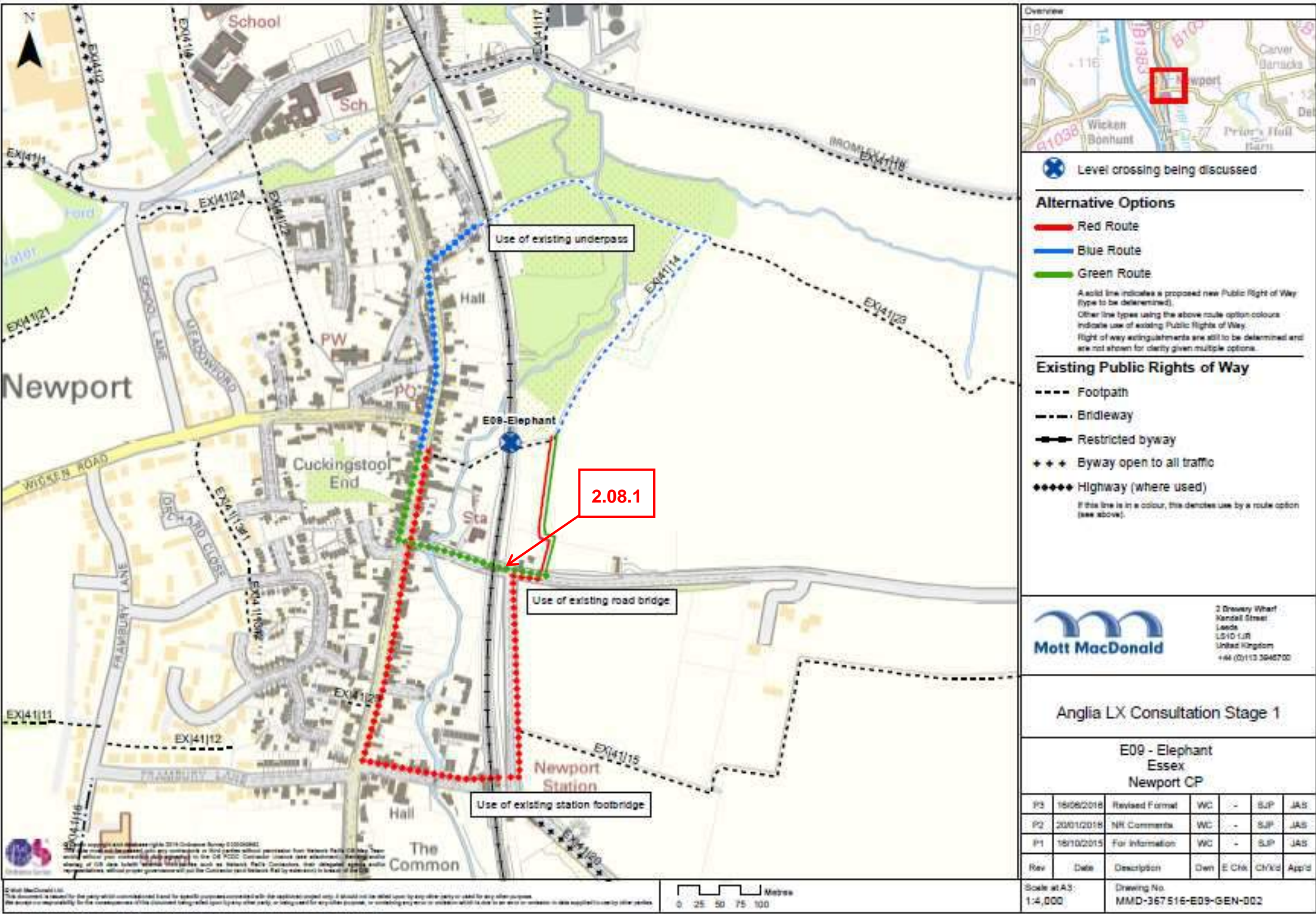
Table A.1: Drawings

Drawing	Rev	Title
MMD-367516-E04-GEN-002		Parndons Mill
MMD-367516-E05-GEN-002		Fullers End
MMD-367516-E06-GEN-002		Elsenham Emergency Hut
MMD-367516-E09-GEN-002		Elephant
MMD-367516-E10-GEN-002		Dixies
MMD-367516-E13-GEN-002		Littlebury Gate House
MMD-367516-E16-GEN-002		Maldon Road
MMD-367516-E20-GEN-002		Snivellers
MMD-367516-E24-GEN-002		Church 1
MMD-367516-E14-GEN-002		Church 2
MMD-367516-E27-GEN-002		Puddle Dock
MMD-367516-E28-GEN-002		Whipps Farmers
MMD-367516-E29-GEN-002		Brown & Tawse
MMD-367516-E33-GEN-002		Motorbike
MMD-367516-E40-GEN-002		Creaksea Place 1
MMD-367516-E44-GEN-002		Frating Abbey
MMD-367516-E48-GEN-002		Wheatsheaf
MMD-367516-E49-GEN-002		Maria Street
MMD-367516-E51-GEN-002		Thornfield Wood
MMD-367516-E53-GEN-002		Josselyns
MMD-367516-E55-GEN-002		Lamarsh Kings Farm
MMD-367516-E56-GEN-002		Abbotts LTN1 (56m 17ch)
MMD-367516-E57-GEN-002		Wivenhoe Park

Source: Mott MacDonald, Sheffield

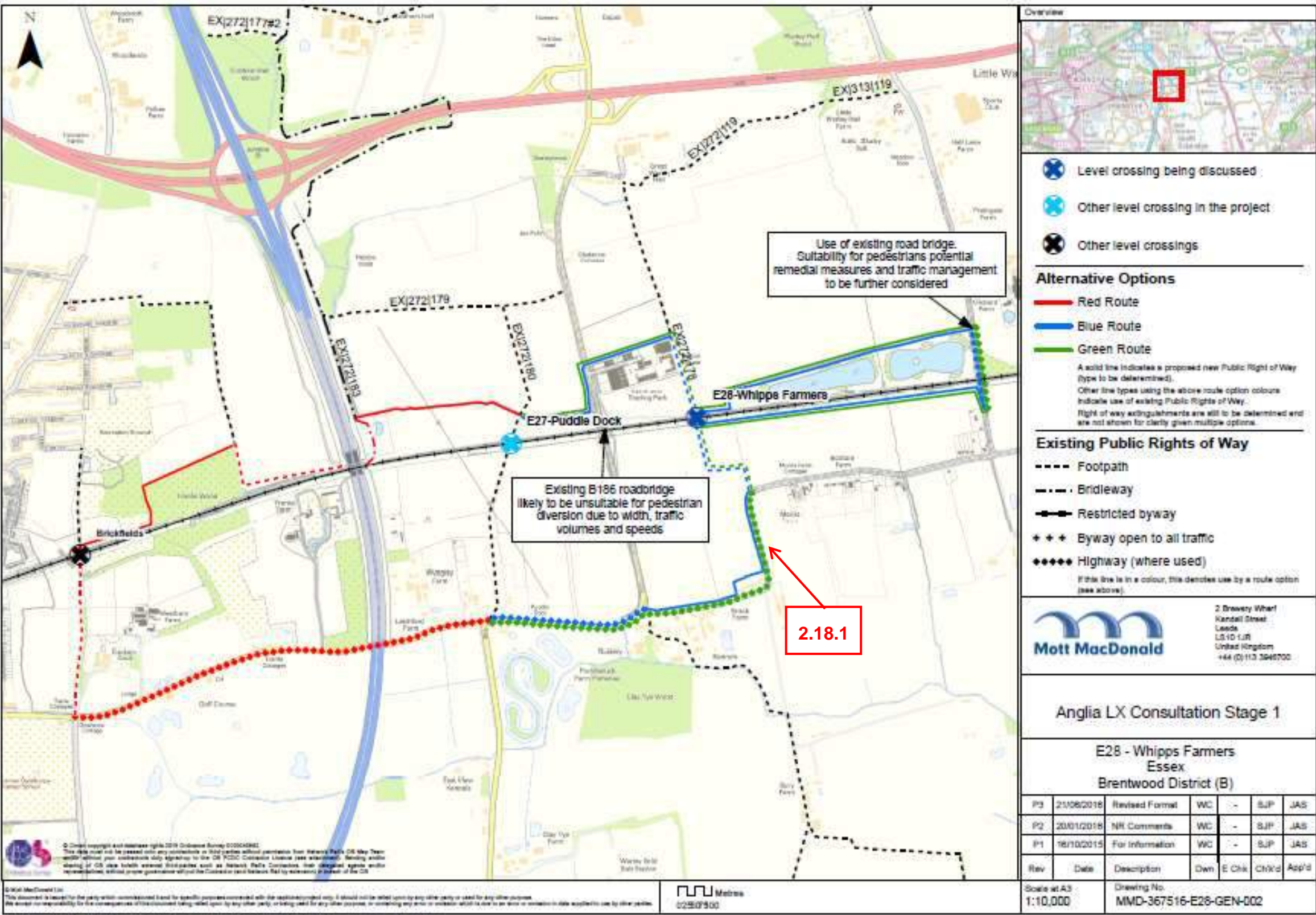
Appendix B. Key Plans

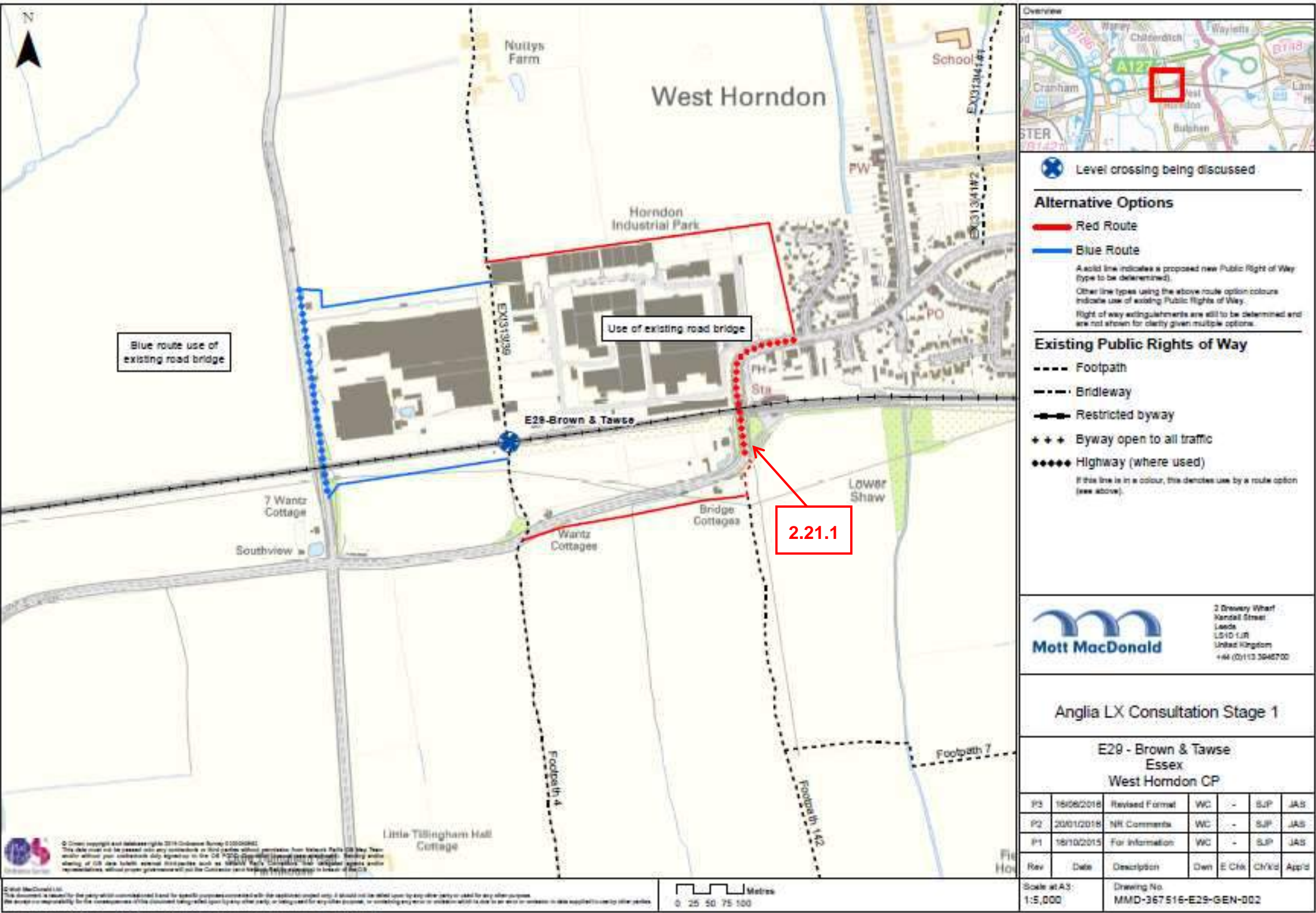


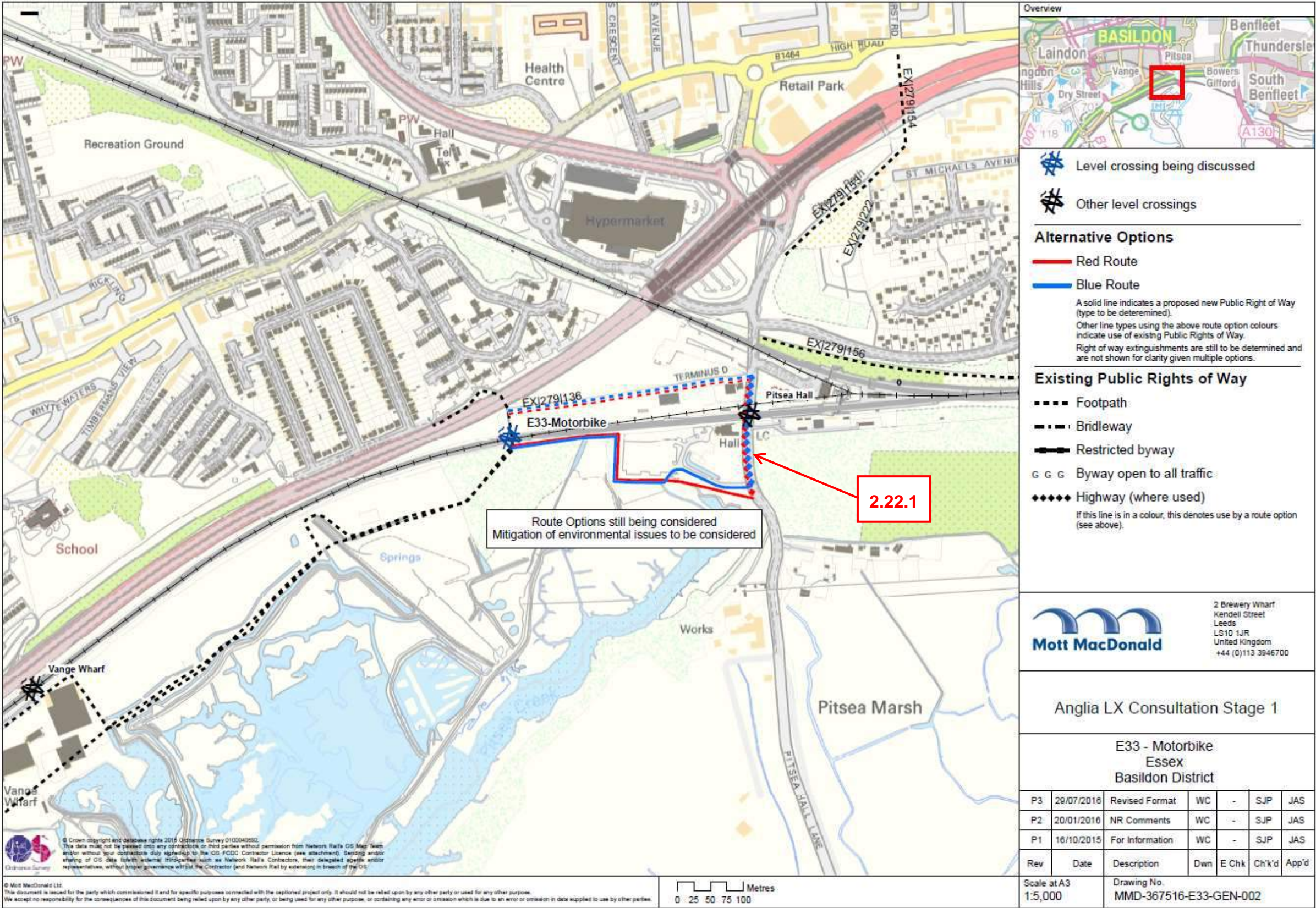


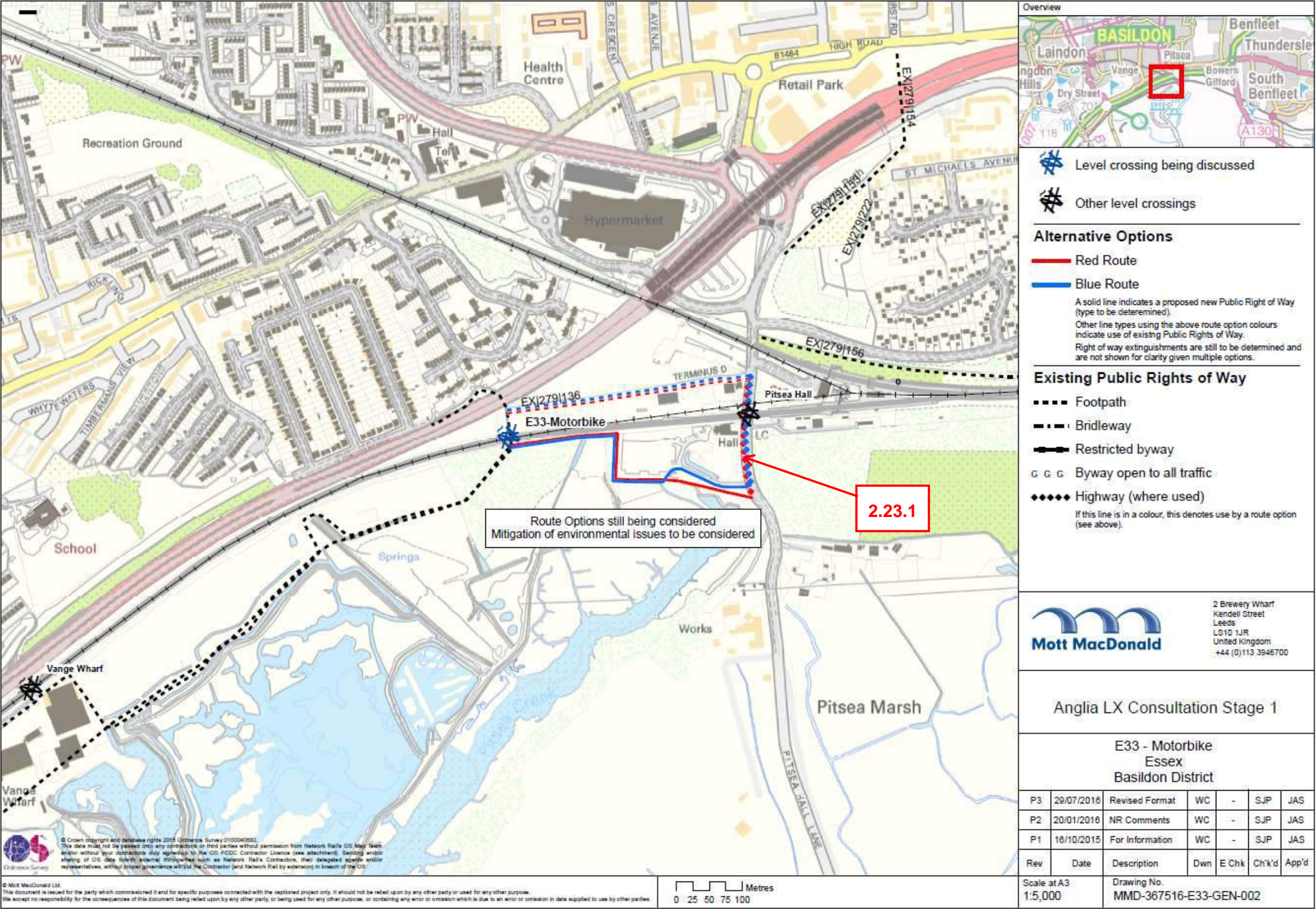


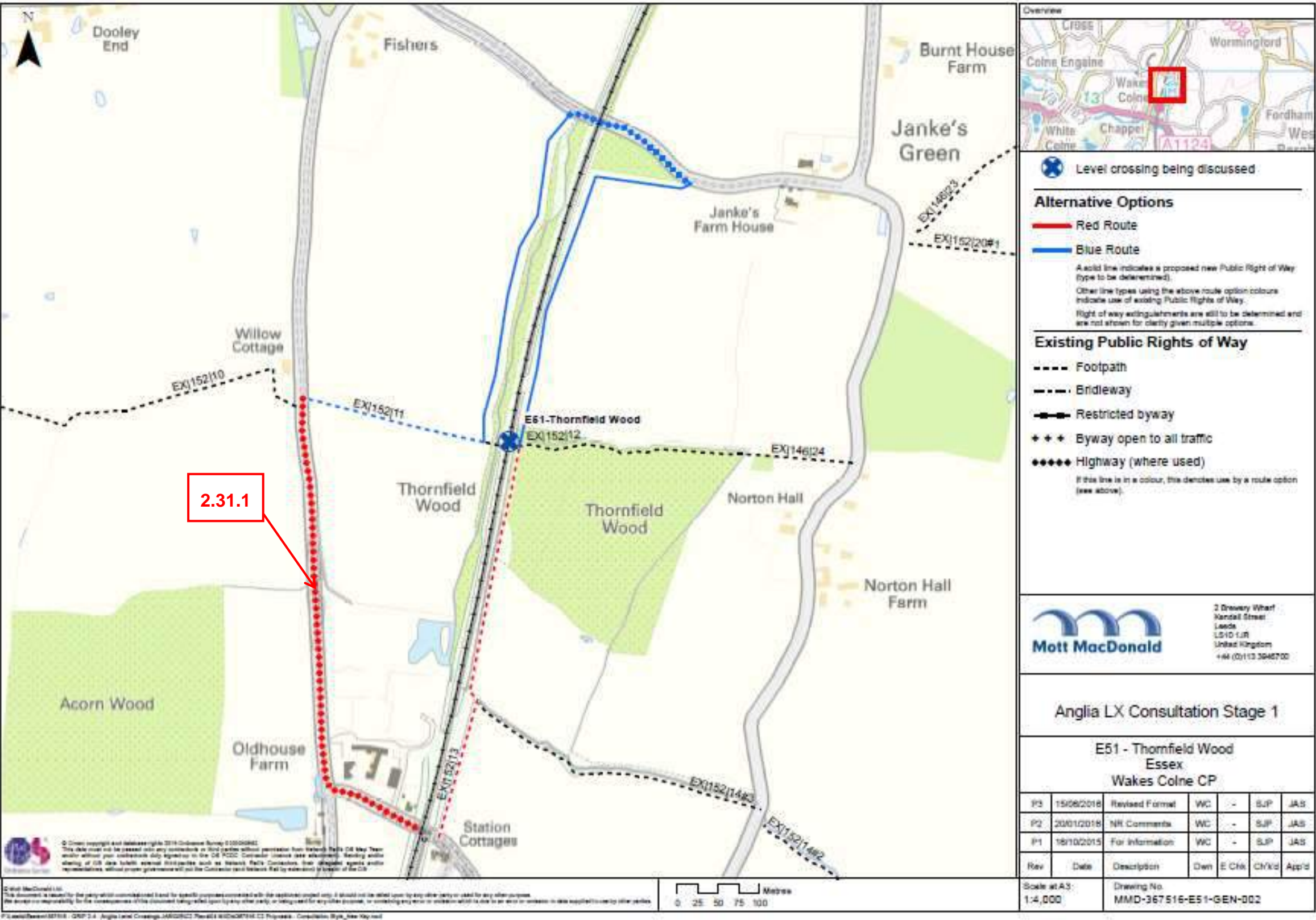


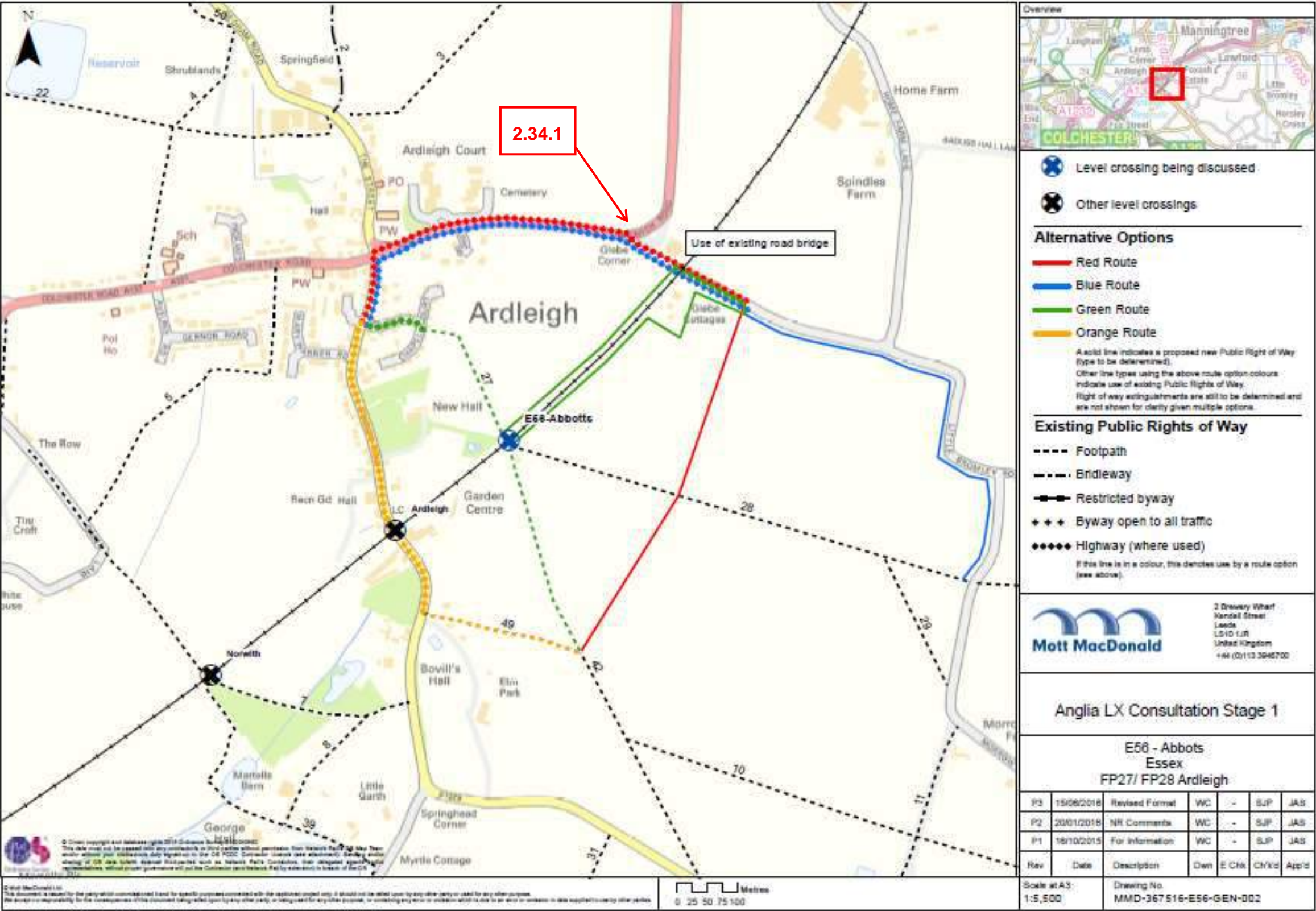


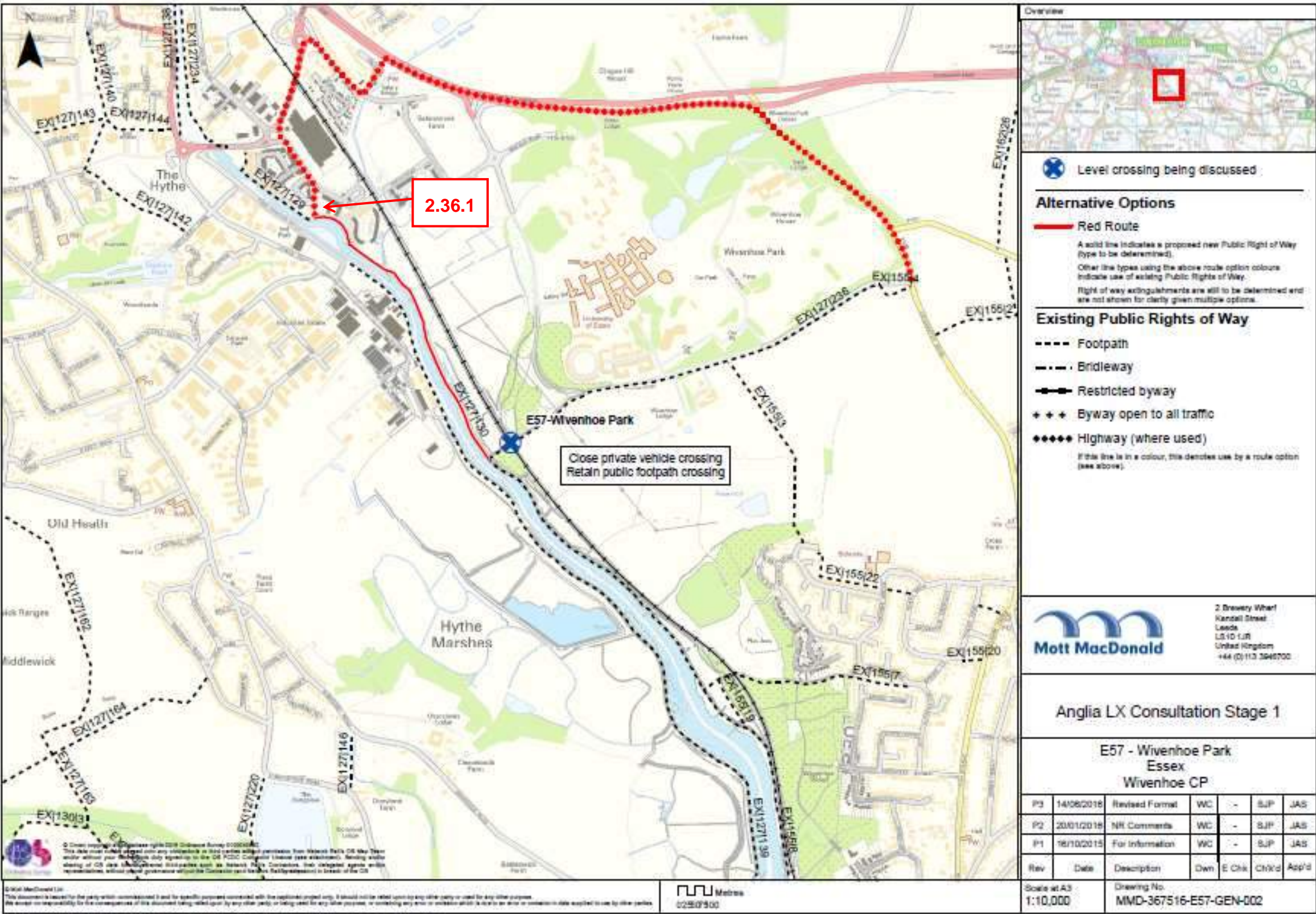












Appendix B Stage 1 Road Safety Audit reports for Havering, Hertfordshire & Thurrock (Document ref 367516/ RPT017 Rev A)



Transport & Works Act Order (TWAO) Anglia Route GRIP 2 Review

Havering, Hertfordshire, & Thurrock Stage 1 Road Safety Audit

Report Number 367516/RPT017

Revision A

August 2016



Transport & Works Act Order (TWAO) Anglia Route GRIP 2 Review

Havering, Hertfordshire, & Thurrock Stage 1 Road Safety Audit

August 2016

Network Rail

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	09/08/2016	R J Collins	A J Coleman	T J Blaney	First Draft

Information class: Standard

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This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

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1 Introduction

Network Rail is carrying out feasibility studies to explore options for the closure of level crossings throughout Thurrock, Hertfordshire and Havering as part of their on-going commitment to deliver a safer, more efficient and reliable railway. Mott MacDonald is considering Network Rail's GRIP 0 Solution to enable the closure of level crossings.

This report describes a series of Stage 1 Road Safety Audits carried out on highway works associated with proposed level crossing closures throughout Havering, Hertfordshire, and Thurrock. The scheme proposals currently consist of indicative (high level) diversion routes as the result of closures and no formal highway works have been designed at this stage. Therefore this report considers potential road safety problems as a result of the proposed routes and their interaction with the highway. A description of each proposed diversion route can be read in the respective individual level crossing review reports.

The audits took place at the Birmingham office of Mott MacDonald and consisted of a detailed examination of the submitted documentation and drawings listed in **Appendix A**.

A visit to each site was completed on either Wednesday 20th July 2016 between 11:00 and 14:00, during which the weather was sunny and the road surface was dry or on Thursday 21st July between 08:00 and 11:00 during which the weather conditions were sunny and the road surface was dry.

It is confirmed that this is a Stage 1 Road Safety Audit and that the audit was undertaken upon completion of the feasibility design. It is also confirmed that the audit was carried out in accordance with the Highways England Departmental Standard HD19/15.

The Audit Team consisted of:

T Blaney BSc (Hons), CMILT, MCIHT, MSoRSA (Team Leader)

Mott MacDonald

R Collins BA (Hons), MSc (Team Member)

Mott MacDonald

No attempt has been made to comment on the justification of the scheme or the appropriateness of the diversion routes. Consequently the auditors accept no responsibility for the design or construction of the scheme. All of the issues raised in this report are considered to be required for action. The comments contained in the report are based on safety related concerns and as such the design engineer will need to consider carefully how to respond to each of the issues. The Audit Report Response should be completed by the Design Team and kept on file for future reference.

An Audit Brief was submitted to the Audit Team, however, no Personal Injury Collision data was included and has therefore not been reviewed as part of this audit. Traffic flows and speed data were also not available to the Audit Team.

A previous Stage 1 Road Safety Audit (Document Ref: 354763/RPT222B) was undertaken in December 2015 on level crossing closure proposals within Hertfordshire and Thurrock. This included some sites that have been audited on this occasion and sites that have been re-audited due to the development of alternative route options or amendments to the previously audited route. The table below lists the level crossing proposals that have been subject to a stage 1 road safety audit and when the audits were undertaken.

Site	December 2015	August 2016
HA3 – Manor Farm		✓
HA4 – Eve's (Blue Route)		✓
HA4 – Eve's (Red Route)		✓
H04 – Tednambury (Blue and Red Routes)		✓
H05 – Pattens	✓	✓
H06 – Gilston	✓	✓
H07 – Twyford Road		✓
H09 – Fowlers		✓
T01 – No 131		✓
T04 – Jefferies	✓	
T05 – Howells Farm	✓	✓

A Key Plan indicating the location of any identified safety related issues is provided in Appendix B.

2 Items Raised at this Stage 1 Audit

This section describes road safety related issues identified by the Audit Team that are associated with the scheme as presented in **Appendix A**.

2.1 HA3 – Manor Farm

2.1.1 Problem

Location: Ockendon Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Ockendon Road where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on Ockendon Road travelling at high speeds despite the 40mph speed limit and visibility is restricted by the highway geometry and the railway road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.1: Lack of verge or footway on Ockendon Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided. This should extend to Pea Lane with a dropped kerb provided at a suitable position to allow pedestrians to join the carriageway on Pea Lane.

2.2 HA4 – Eve's (Blue Route)

2.2.1 Problem

Location: Ockendon Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Ockendon Road where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on Ockendon Road travelling at high speeds despite the 40mph speed limit and visibility is restricted by the highway geometry and the railway road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.2: Lack of verge or footway on Ockendon Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided. This should extend to Pea Lane with a dropped kerb provided at a suitable position to allow pedestrians to join the carriageway on Pea Lane.

2.2.2 Problem

Location: Pea Lane.

Summary: Pedestrians walking for extended period of time in verge.

It is proposed that pedestrians will walk along the length of Pea Lane where no footway or notable verge is present; a high volume of traffic was observed travelling at high speeds and visibility is restricted by the highway geometry and vegetation. These factors may result in collisions between pedestrians and vehicles.

Figure 2.3: Lack of footway on Pea Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided along Pea Lane or that the Red Route is utilised taking into consideration issues raised in **Section 2.3**.

2.3 HA4 – Eve's (Red Route)

2.3.1 Problem

Location: Dennis Road and West Road.

Summary: Pedestrians walking for extended period of time in verge.

It is proposed that pedestrians will walk along a section of Dennis Road and West Road where no footway is present; pedestrians walking in the verge for extended periods of time may be vulnerable to trips and falls or choose to walk in the carriageway. A high volume of traffic was observed travelling at high speeds and visibility is restricted by the highway geometry and vegetation. These factors may result in collisions between pedestrians and vehicles.

Figure 2.4: Lack of footway on Dennis Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided on Dennis Road and West Road.

2.4 H04 – Tednambury (Blue and Red Routes)

2.4.1 Problem

Location: A1184 Layby adjacent to The Gates.

Summary: Excessively overgrown verge.

It is proposed that pedestrians will walk along an existing footway on the eastern side of the A1184. At a point where the footway follows the back of the layby adjacent to The Gates, excessive vegetation encroachment prevents the footway from being used. Pedestrians stepping into the carriageway to pass the vegetation may be struck by passing vehicles increasing the risk of personal injury.

Figure 2.5: Overgrown footway along back of layby.



Source: Mott MacDonald

Recommendation

It is recommended that suitable vegetation clearance is undertaken at this location.

2.5 H05 – Pattens

The Audit Team did not identify any road safety related issues associated with the scheme.

2.6 H06 – Gilston

The Audit Team did not identify any road safety related issues associated with the scheme.

2.7 H07 – Twyford Road

The Audit Team did not identify any road safety related issues associated with the scheme.

2.8 H09 – Fowlers

The Audit Team did not identify any road safety related issues associated with the scheme.

2.9 T01 – No 131

The Audit Team did not identify any road safety related issues associated with the scheme.

2.10 T05 – Howells Farm

2.10.1 Problem

Location: Southend Road / High Road roundabouts.

Summary: Increase in conflict points between pedestrians and vehicles.

The proposed diversion directs pedestrians across a residential service road junction on High Road before guiding them across another access on Southend Road which provides access to a garage and petrol station directly from the roundabout. The route then directs pedestrians onto a grassed island. Each of these crossings increases the potential for conflict between pedestrians and vehicles particularly at the roundabout where vehicles can exit from different angles.

Recommendation

It is recommended that the diversion utilises the existing footway that runs between High Road service road and Southend Road away from the two roundabouts. This removes the need for pedestrians to cross the carriageway, and the potential for conflict between pedestrians and vehicles.

2.10.2 Problem

Location: Southend Road.

Summary: Lack of footway potentially resulting in conflict between pedestrians and vehicles.

The available verge width on Southend Road appeared restricted which could force pedestrians into the carriageway where they are at risk of collisions with vehicles. A cycleway is also present on Southend Road and cyclists may swerve to avoid pedestrians in the carriageway potentially resulting in conflict either between pedestrians and cyclists or between cyclists and vehicles.

Figure 2.6: Restricted verge width.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway are provided along Southend Road.

2.10.3 Problem

Location: High Road.

Summary: Incomplete footway provision.

The footway along the western side of High Road is incomplete in the vicinity of Fobbing Level Crossing. As such, pedestrian will either continue along the verge or cross unnecessarily to the eastern side before crossing back again. Both scenarios increase the risk of trips and falls or collisions with passing vehicles.

Figure 2.7: Incomplete footway.



Source: Mott MacDonald

Recommendation

It is recommended that an additional section of footway is provided on the western side of High Road to the north of the railway, to remove the incomplete section of footway.

3 Audit Team Statement

We certify that this audit has been carried out in accordance with the Highways England Departmental Standard HD 19/15.

Audit Team Leader

T J Blaney BSc (Hons), CMILT, MCIHT, MSoRSA

Signed:



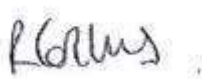
Date: 9th August 2016

Principal Road Safety Engineer
Mott MacDonald
35 Newhall Street
Birmingham
B3 3PU

Audit Team Member

R J Collins BA (Hons), MSc

Signed:



Date: 9th August 2016

Senior Road Safety Engineer
Mott MacDonald
9 Portland Street
Manchester
M1 3BE

Appendices

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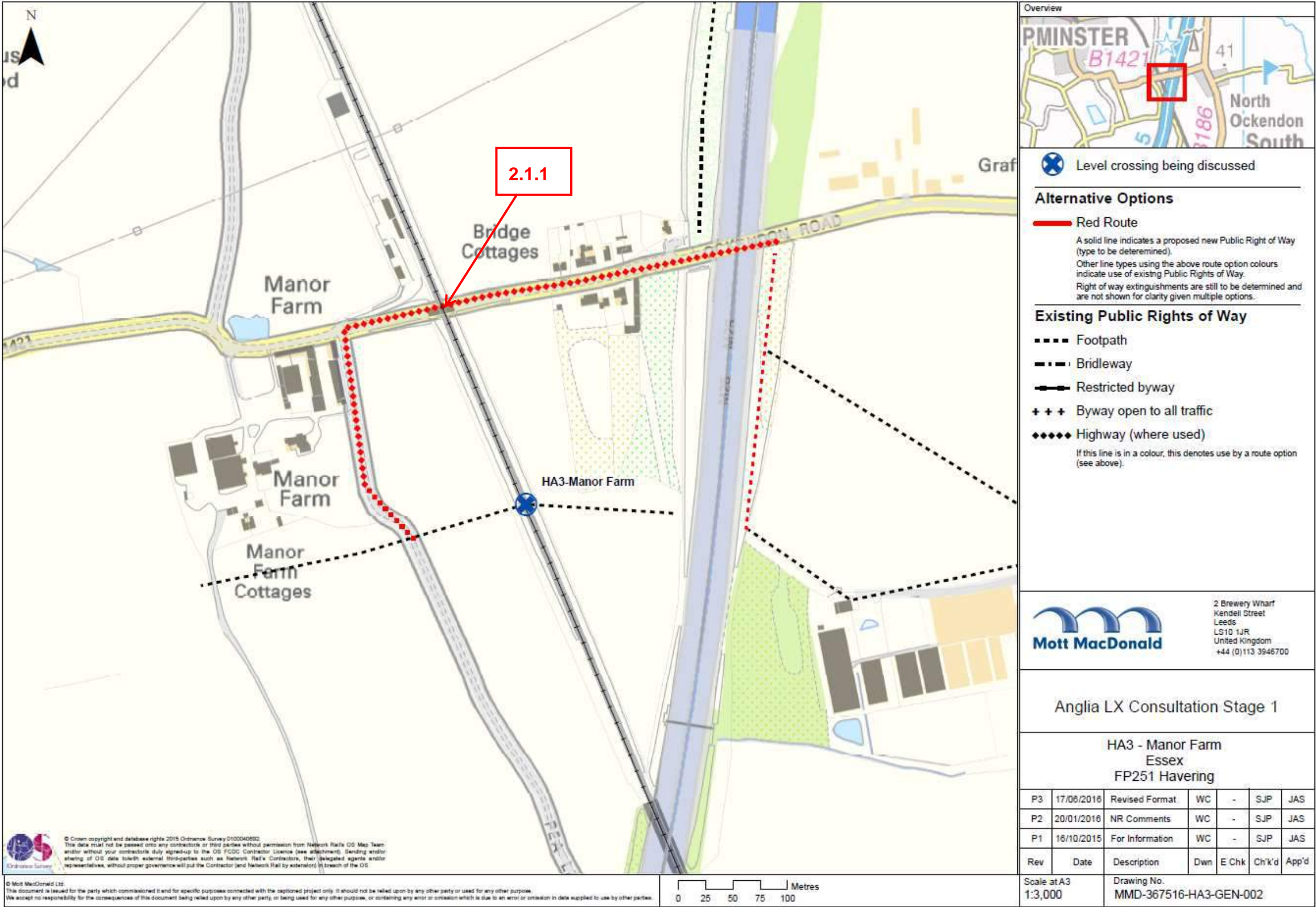
Appendix A. List of Submitted Documents

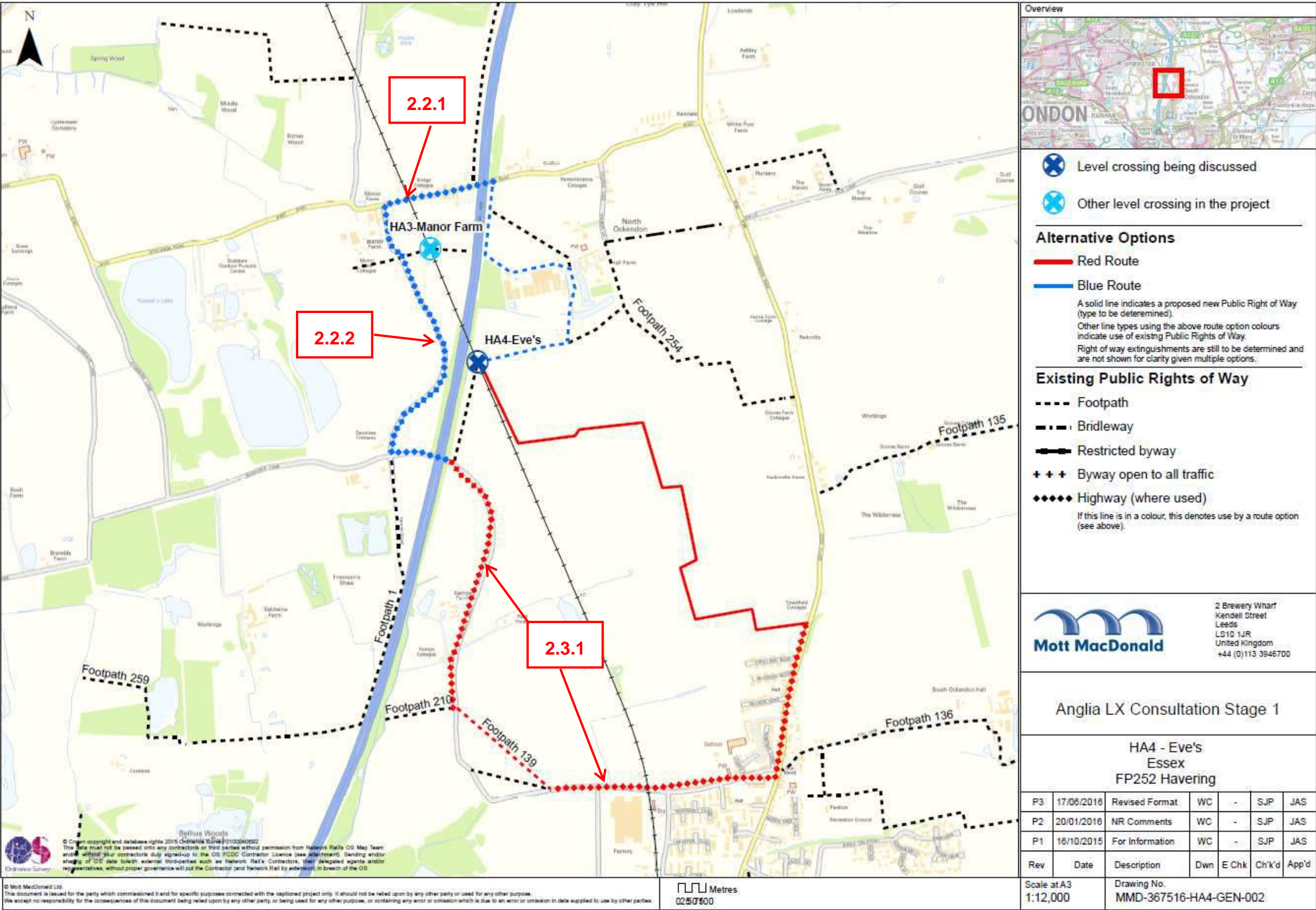
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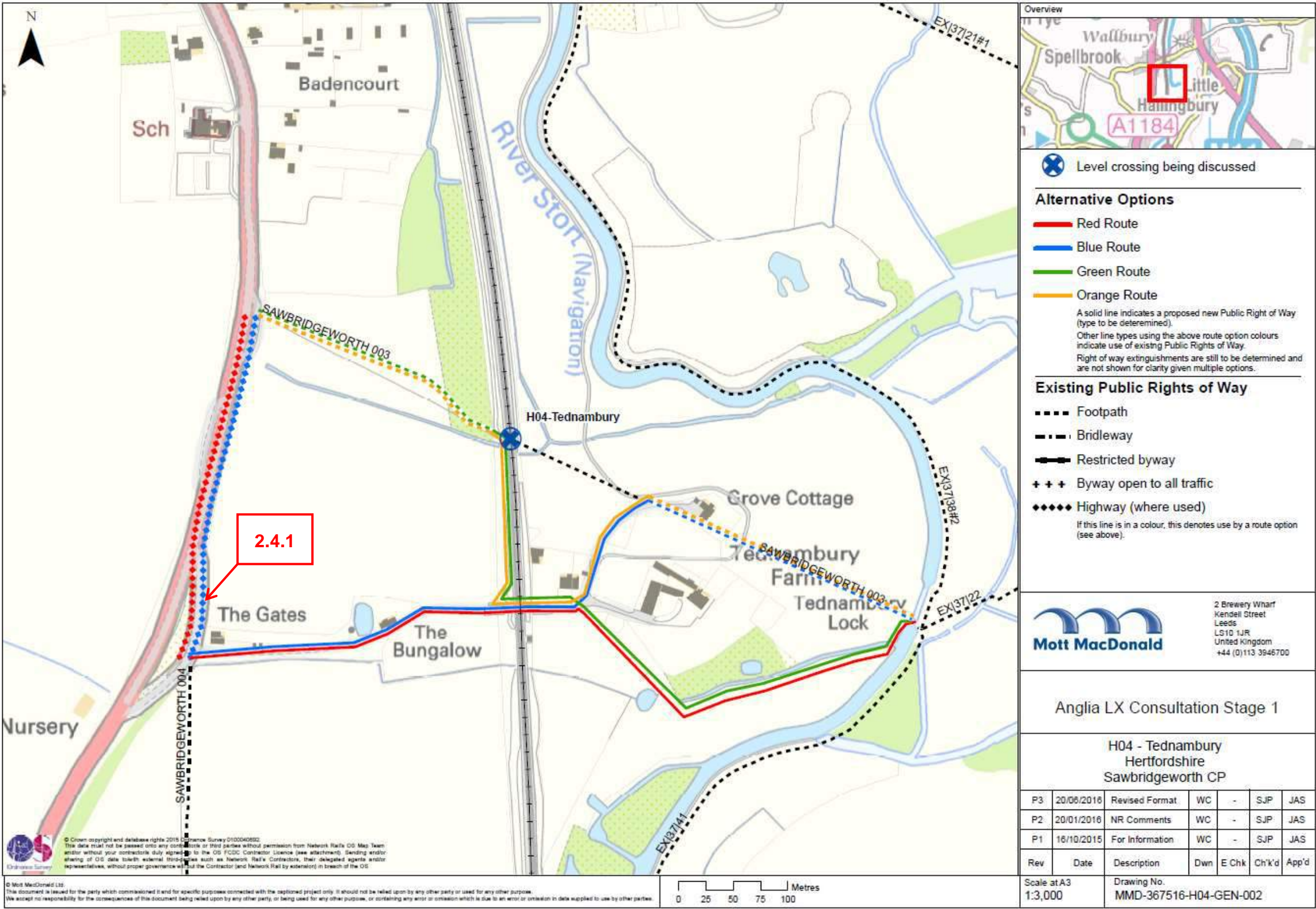
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MMD-367515-H07-GEN-002		Twyford Road
MMD-367515-H09-GEN-002		Fowlers
MMD-367515-HA3-GEN-002		Manor Farm
MMD-367515-HA4-GEN-002		Eve's
MMD-367515-T01-GEN-002		No Name Number 131
MMD-367515-T05-GEN-002		Howells Farm

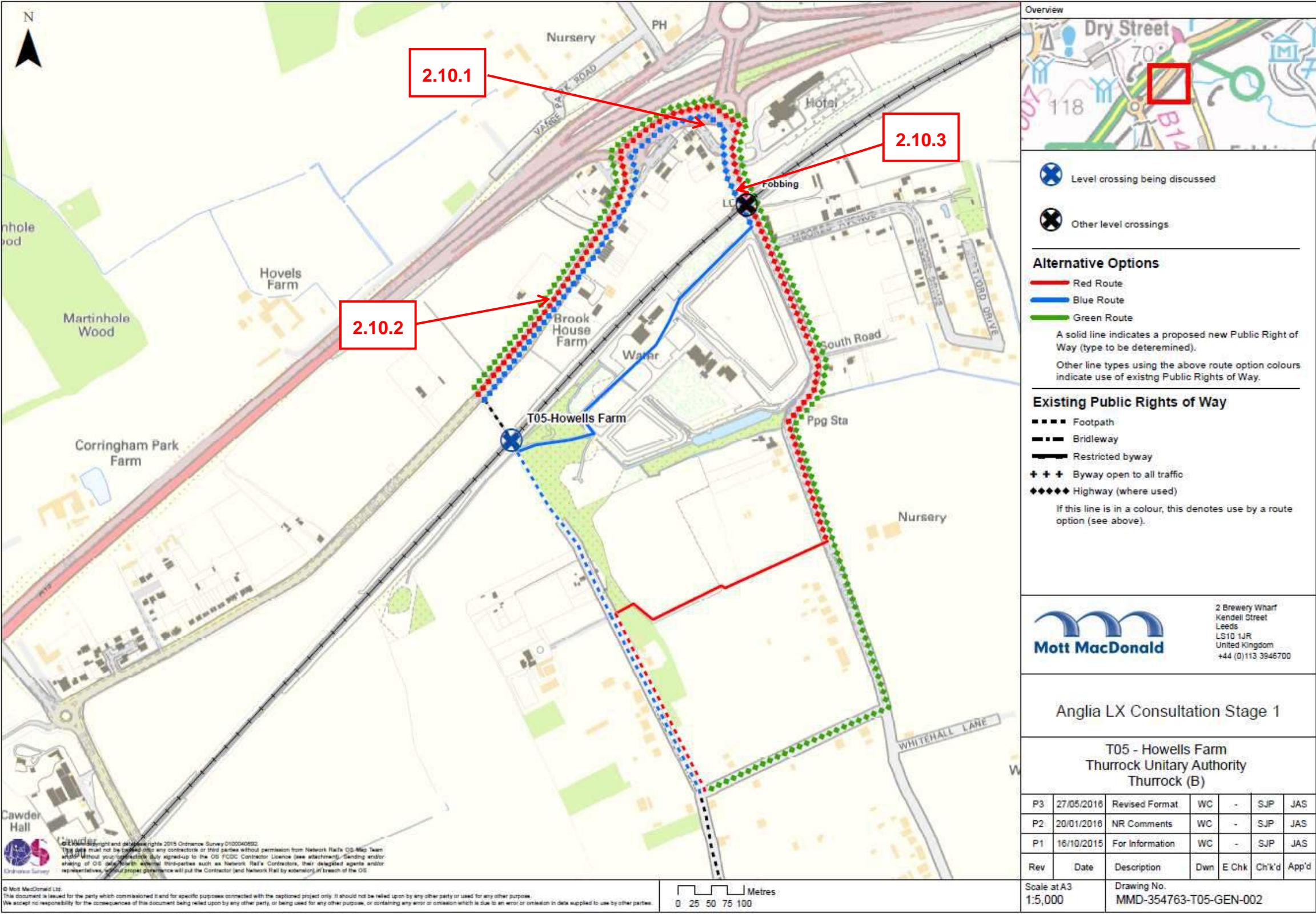
Source: Mott MacDonald, Sheffield

Appendix B. Key Plans









Appendix C Document Review Notice (DRN 025)

Page 1 of 3	Document Review Notice (DRN)					
	Form Ref	NR/L2/INI/02009/F0044		Issue Date	05/09/2015	Issue

Project Number:	148339	Project Name:	Anglia LC Reduction Strategy Phase 1 & 2		
Project Manager:	Natasha Davison	Principal Contractor:	Mott MacDonald Group Ltd		
Engineering Deliverable Owner:	Mott MacDonald Group Ltd	CEM Name:	Jason Smith		
Submission Discipline:	Other	CRE Name:			
Document Number:	367516/RPT016		Revision No:	A	
Document Title:	Essex Stage 1 RSA Report.		GRIP:	2	
NR DPE Name: Andy Kenning			CSM Significant:	No	
Document Transmittal/Submission No:		via email			
Date Received:	18-08-2016		Date Return Required:	01-09-2016	
REVIEWERS:-	DRN No:	148339 DRN025		DRN Date:	531-08-2016
Name	Position	Discipline	Signature		
Andy Kenning	DPE	Signalling - (Lead)	<i>Andy Kenning</i>		
Natasha Davison	Project Manager	Level Crossings			
Isaac Adjei	Commercial Manager	Level Crossings			

DISTRIBUTION LIST (of completed review):-

Name	Position	Action Required
Jason Smith	Project Manager (Motts)	Manager response
J Castle	Document approver (Motts)	Provide response

Document Details:	PDF <input checked="" type="checkbox"/>	Source Data <input type="checkbox"/>	Two Dimensional <input type="checkbox"/>	Model <input type="checkbox"/>
Number: 367516/Rpt016	Document Title: Essex Stage 1 Rsa Report.			
Document URL:			Revision: A	

DOCUMENT REVIEW:-			Risk Review Level:	Detailed
Overall DRN Category	Rejected Non-compliant to contract	Accepted	Accepted with Amendments	Not Accepted Revise & Resubmit
3	0	1	2	3

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➤ Any changes to the documents should be undertaken in accordance with change control procedures adopted by individual contracting organisations. Such variations are required to be formally recorded and evidence should accompany any resubmission.

➤ Without relieving the originating organisation of their contractual responsibilities my comments are as follows:

- Overall DRN Category 0 rejected and a category 3 non acceptance requires the whole document(s) to be revised and resubmitted to address the comments. Prior to any re-work a way forward shall be agreed between supplier and the Designated Project Engineer
- Overall DRN Category 2 acceptance with amendments requires the appropriate responses with additional information to be submitted to address the comments
- Comment type 0 is used to capture comments if the submission is an overall DRN Category 0
- Comment types 2A, 2B, 3A and 3B require a written response & Comment type 4 is for information only
- Comment type 5 is used to identify an aspect of a submission which shows a 'Safe by Design' feature

➤ For comments types 2 or 3 a suffix is added to the comment type: **A**) Quality of Supplier's submission or **B**) Client preference/changes.

**Issued By:	Andy Kenning	Signature:	<i>Andy Kenning</i>	Date:	27-09-16
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DRN ACCEPTANCE AND/OR CLOSED OUT (including Supplier's responses):-


**Closed By:		Signature:		Date:	
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**Only to be signed by the Project Designated Project Engineer or person with such formally recorded delegated authority. Review comments to be returned to Supplier via control process agreed between the Project Manager and Supplier.

Page 2 of 4		Document Review Notice (DRN)					DRN No: 148339 DRN025		
Form Reference		NR/L2/INI/02009/F0044			Issue Date	05/09/2015		Issue	8.0
Network Rail (NR)					Supplier				NR
No	Comments	By	Type	Integration Activity	Comment Accepted	Responses	By	Response Accepted	
1	It is a shame that the RSA reports do not build on the previous reports produced in GRIP1 and we now have 2 reports with different numbers both saying Essex RSA Stage1 report. I would have expected the GRIP1 reports to have been up versioned and that way there would have been a full audit history visible to readers. I believe NR will be receiving a 'Designers Response Report' that pulls both the GRIP1 & 2 reports?	AK	4		Yes	Our remit was to undertake the new round of RSAs which we have done and reported. It is normal for RSAs (including groupings) done at different times to be reported separately and contemporaneously. This is because different staff may have been involved and the discrete structure of the report lends itself to this. In the second report we were not revising the previous RSA but were looking at new sites and alternatives, albeit some may have been in proximity to the same level crossing. There is no need to consolidate old reports into new ones. However to help the reader we had provided a table upfront to explain which RSA were included in each of the two reports. The contract and amending CAF do not contain a requirement to consolidate into a single report. We consider our RSA reporting to be acceptable and fully in line with guidance and industry norms. The Designer's Response will consolidate the GRIP1 and GRIP2 RSA into a single report for easy reference.	SJT		
2	Why has the previous grouping of crossings into reports not been perpetuated in this round of reports? Previously there was one report for the Essex (and neighbouring counties) as this matched the way the orders were to be written. This makes reviewing RSAs for this order even more complicated as it involves reviewing 3 reports!	AK	3A		Yes	Our remit was to undertake the new round of RSAs which we have done and reported. It is normal for RSAs (including groupings) done at different times to be reported separately and contemporaneously. This is because different staff may have been involved and the discrete structure of the report lends itself to this. The Designer's Response will consolidate	SJT		

*

Page 3 of 4		Document Review Notice (DRN)					DRN No: 148339 DRN025		
		Form Reference	NR/L2/INI/02009/F0044			Issue Date	05/09/2015	Issue	8.0
Network Rail (NR)					Supplier				NR
No	Comments	By	Type	Integration Activity	Comment Accepted	Responses	By	Response Accepted	
						the GRIP1 and GRIP2 RSAs into a single report for all counties included within the Essex TWAO for easy reference.			
3	The report references the previous RSA reports version B. Network Rail is only aware of version A on the reports and had no DRN comments on the report. What was the driver to up version the report to version B and why was Network Rail not provided with a copy?	AK	3A		Yes	This was an error in the document and arose as a second internal MM only revision was produced prior to issue to NR. Only 1 audit report (Rev A) for the previous Grip 1 RSAs has been produced for issue to Network Rail. Report ref 367516/RPT016 (RSA) has been amended (to Rev B)to reflect this. This has also been changed in the Designer's Response document	SJT		
4	The report does not acknowledge that the project has moved on and some crossings have been removed from the project. The fact that they are still referenced in this report could confuse the reader. Other reports that have been up versioned have simply stated that the crossing has been removed from the project. The Designers Response Report must take this into account and make it clear which level crossings are being taken forward.	AK	3A		Yes	Comment added to the designer's response document to state that some crossings were removed from the project prior to Grip stage 2. Where a particular solution has been discounted due to a road safety issue, this has been noted in the designer's response document. The RSA is intended to be a record of the options considered at the time and is not a live document to be updated as the project progresses. Having a record of alternative options considered provides a robust audit trail and helps demonstrate the design rationale.	SJT		
5	This DRN was planned to be issued at the same time as the one for the Designers Response DRN however due to the protracted delivery of the Designers Response Report, it was felt that this DRN should be issued separately.	AK	4		Yes	Noted. The Designer's response document will be issued at the same time as this response and the amended RSA report ref 367516/RPT016 Rev B	SJT		

To Perform Spelling Check on the Protected Form Click Here: 

* Click in the last Cell (Column) to add a new row after the selected cell or to delete the selected row

Page 4 of 4	Document Review Notice (DRN)							DRN No: 148339 DRN025			
	Form Reference	NR/L2/INI/02009/F0044				Issue Date	05/09/2015		Issue	8.0	
Network Rail (NR)					Supplier					NR	
No	Comments			By	Type	Integration Activity	Comment Accepted	Responses		By	Response Accepted

END

Appendix D Document Review Notice (DRN 026)

Page 1 of 4	Document Review Notice (DRN)					
	Form Ref	NR/L2/INI/02009/F0044		Issue Date	05/09/2015	Issue

Project Number:	148339	Project Name:	Anglia LC Reduction Strategy Phase 1 & 2		
Project Manager:	Natasha Davison	Principal Contractor:	Mott MacDonald Group Ltd		
Engineering Deliverable Owner:	Mott MacDonald Group Ltd	CEM Name:	Jason Smith		
Submission Discipline:	Other	CRE Name:			
Document Number:	367516/RPT017		Revision No:	A	
Document Title:	Havering, Hertfordshire & Thurrock Stage 1 RSA Report.		GRIP:	2	
NR DPE Name: Andy Kenning			CSM Significant:	No	
Document Transmittal/Submission No:		via email			
Date Received:	18-08-2016		Date Return Required:	01-09-2016	
REVIEWERS:-	DRN No:	148339 DRN026		DRN Date:	31-08-2016
Name	Position	Discipline	Signature		
Andy Kenning	DPE	Signalling - (Lead)	<i>Andy Kenning</i>		
Natasha Davison	Project Manager	Level Crossings			
Isaac Adjei	Commercial Manager	Level Crossings			

DISTRIBUTION LIST (of completed review):-

Name	Position	Action Required
Jason Smith	Project Manager (Motts)	Manager response
J Castle	Document approver (Motts)	Provide response

Document Details:	PDF <input checked="" type="checkbox"/>	Source Data <input type="checkbox"/>	Two Dimensional <input type="checkbox"/>	Model <input type="checkbox"/>
Number: 367516/Rpt017	Document Title: Havering, Hertfordshire & Thurrock Stage 1 Rsa Report.			
Document URL:			Revision: A	

DOCUMENT REVIEW:-			Risk Review Level:	Detailed
Overall DRN Category	Rejected Non-compliant to contract	Accepted	Accepted with Amendments	Not Accepted Revise & Resubmit
3	0	1	2	3

➤ Acceptance of these documents by Network Rail is not be deemed as validation of the submission, nor does it infer fitness for purpose. Network Rail does not accept any liability for the submission.

➤ Any changes to the documents should be undertaken in accordance with change control procedures adopted by individual contracting organisations. Such variations are required to be formally recorded and evidence should accompany any resubmission.

➤ Without relieving the originating organisation of their contractual responsibilities my comments are as follows:

- Overall DRN Category 0 rejected and a category 3 non acceptance requires the whole document(s) to be revised and resubmitted to address the comments. Prior to any re-work a way forward shall be agreed between supplier and the Designated Project Engineer
- Overall DRN Category 2 acceptance with amendments requires the appropriate responses with additional information to be submitted to address the comments
- Comment type 0 is used to capture comments if the submission is an overall DRN Category 0
- Comment types 2A, 2B, 3A and 3B require a written response & Comment type 4 is for information only
- Comment type 5 is used to identify an aspect of a submission which shows a 'Safe by Design' feature

➤ For comments types 2 or 3 a suffix is added to the comment type: **A)** Quality of Supplier's submission or **B)** Client preference/changes.

**Issued By:	Andy Kenning	Signature:	<i>Andy Kenning</i>	Date:	29-09-16
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DRN ACCEPTANCE AND/OR CLOSED OUT (including Supplier's responses):-

**Closed By:		Signature:		Date:	
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Page 2 of 4	Document Review Notice (DRN)					
	Form Ref	NR/L2/INI/02009/F0044	Issue Date	05/09/2015	Issue	8.0


** Only to be signed by the Project Designated Project Engineer or person with such formally recorded delegated authority.
Review comments to be returned to Supplier via control process agreed between the Project Manager and Supplier.

Page 3 of 4		Document Review Notice (DRN)					DRN No: 148339 DRN026		
Form Reference		NR/L2/INI/02009/F0044			Issue Date	05/09/2015		Issue	8.0
Network Rail (NR)					Supplier			NR	
No	Comments	By	Type	Integration Activity	Comment Accepted	Responses	By	Response Accepted	
1	It is a shame that the RSA reports do not build on the previous reports produced in GRIP1 and we now have 2 reports with different numbers both saying Havering, Hertfordshire, & Thurrock RSA Stage1 report. I would have expected the GRIP1 reports to have been up versioned and that way there would have been a full audit history visible to readers. I believe NR will be receiving a 'Designers Response Report' that pulls both the GRIP1 & 2 reports?	AK	4		Yes	Our remit was to undertake the new round of RSAs which we have done and reported. It is normal for RSAs (including groupings) done at different times to be reported separately and contemporaneously. This is because different staff may have been involved and the discrete structure of the report lends itself to this. In the second report we were not revising the previous RSA but were looking at new sites and alternatives, albeit some may have been in proximity to the same level crossing. There is no need to consolidate old reports into new ones. However to help the reader we had provided a table upfront to explain which RSA were included in each of the two reports. The contract and amending CAF do not contain a requirement to consolidate into a single report. We consider our RSA reporting to be acceptable and fully in line with guidance and industry norms. The Designer's Response will consolidate the GRIP1 and GRIP2 RSA into a single report for easy reference.	SJT		
2	Why has the previous grouping of crossings into reports not been perpetuated in this round of reports? Previously there was one report for the Essex (and neighbouring counties) as this matched the way the orders were to be written. This makes reviewing RSAs for this order even more complicated as it involves reviewing 3 reports!	AK	3A		Yes	Our remit was to undertake the new round of RSAs which we have done and reported. It is normal for RSAs (including groupings) done at different times to be reported separately and contemporaneously. This is because different staff may have been involved and the discrete structure of the report lends itself to this. The Designer's Response will consolidate	SJT		

*

Page 4 of 4	Document Review Notice (DRN)					DRN No: 148339 DRN026	
	Form Reference	NR/L2/INI/02009/F0044		Issue Date	05/09/2015		Issue

Network Rail (NR)					Supplier			NR
No	Comments	By	Type	Integration Activity	Comment Accepted	Responses	By	Response Accepted
						the GRIP1 and GRIP2 RSAs into a single report for all counties included within the Essex TWAO for easy reference.		
3	HA03 - Based on the RSA comment in the Essex report about E04 - Parndons Mill, it would be well worth while re-drawing the red route to be on only one side of the road, which could lead to further RSA issues being raised due to the ambiguity of the diversion alignment.	AK	2A		Yes	The stage 2 consultation plan was updated to show no proposed diversion route for HA3 due to the fact that the crossing route was in effect already severed by the M25. The route in question provides part of the solution to HA4 and this route is more clearly explained on the design freeze drawings, which should remove any ambiguity	SJT	
4	The report references the previous RSA reports version B. Network Rail is only aware of version A on the reports and had no DRN comments on the report. What was the driver to up version the report to version B and why was Network Rail not provided with a copy?	AK	3A		Yes	This was an error in the document and arose as a second internal MM only revision was produced prior to issue to NR. Only 1 audit report (Rev A) for the previous Grip 1 RSAs has been produced for issue to Network Rail. Report ref 367516/RPT017 (RSA) has been amended (to Rev B) to reflect this. This has also been changed in the Designer's Response document	SJT	
5	This DRN was planned to be issued at the same time as the one for the Designers Response DRN however due to the protracted delivery of the Designers Response Report, it was felt that this DRN should be issued separately.	AK	4		Yes	Noted. The Designer's response document will be issued at the same time as this response and the amended RSA report ref 367516/RPT016 Rev B	SJT	

To Perform Spelling Check on the Protected Form Click Here: 

* Click in the last Cell (Column) to add a new row after the selected cell or to delete the selected row

END

Appendix E Email Correspondence Detailing Discrepancy

Tilbrook, Susan J

From: Tilbrook, Susan J
Sent: 17 November 2016 16:16
To: Kenning Andrew (Andrew.Kenning@networkrail.co.uk)
Cc: Eddy Nicholas (Nicholas.Eddy@networkrail.co.uk); Davison Natasha (Natasha.Davison@networkrail.co.uk); Adjei Isaac (Isaac.Adjei@networkrail.co.uk); Smith, Jason A; Huntley, Nathan R; Price, Stephen J; Patel, Sandeep; 'James.TAYLOR@networkrail.co.uk'
Subject: Anglia LX - Essex and Others RSA DRN responses and RSA Designers Response

Tracking:	Recipient	Delivery
	Kenning Andrew (Andrew.Kenning@networkrail.co.uk)	
	Eddy Nicholas (Nicholas.Eddy@networkrail.co.uk)	
	Davison Natasha (Natasha.Davison@networkrail.co.uk)	
	Adjei Isaac (Isaac.Adjei@networkrail.co.uk)	
	Smith, Jason A	Delivered: 17/11/2016 16:16
	Huntley, Nathan R	Delivered: 17/11/2016 16:16
	Price, Stephen J	Delivered: 17/11/2016 16:16
	Patel, Sandeep	Delivered: 17/11/2016 16:16
	'James.TAYLOR@networkrail.co.uk'	

Andy

The following have been saved to SharePoint:

- 148339 DRN 025 - Essex GRIP2 RSA Report - DRN supplier response (PDF and Word) for report 367516/ RPT016 RSA
- 367516RPT016B Essex Stage 1 RSA Revision B - Report RPT016 revision B, note the only change is to correct the previous erroneous reference to Rev B of the earlier stage RSA report
- 148339 DRN 026 – Havering Herts and Thurrock GRIP2 RSA Report - DRN supplier response (PDF and Word) for report 367516/ RPT017 RSA
- 367516RPT017B Havering, Herts and Thurrock Stage 1 RSA Revision B - Report RPT017 revision B, note the only change is to correct the previous erroneous reference to Rev B of the earlier stage RSA report
- RPT021A Essex and others ST1 RSA Response Report

They are saved here: [Essex and Others RSAs](#)

Kind Regards

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Appendix F The updated designers response Report



Transport & Works Act Order (TWAO) Anglia Route

Essex Stage 1 Road Safety Audit Response Report

Report Number 367516/RPT021

Revision C

November 2017

Network Rail

Transport & Works Act Order (TWAO) Anglia Route

Essex Stage 1 Road Safety Audit Response Report

November 2017

Network Rail

Network Rail
The Quadrant
MK Elder Gate
Milton Keynes
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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	18/11/2016	Wahiba Jennane	Steve Price	Sue Tilbrook	First Draft
B	25/11/2016	Wahiba Jennane	Steve Price	Sue Tilbrook	Response to comments
C	2/11/2017	Steve Price	Jason Smith	Jason Smith	Updates for T05, E41, E45, E54, H05

Information class: Standard

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1 Introduction

This document is the Mott MacDonald design team's response to independent Stage 1 Road Safety Audits (RSA) undertaken in December 2015, August 2016 and September 2017 on Network Rail's level crossing closure proposals in Essex, Havering, Hertfordshire and Thurrock.

A Stage 1 Road Safety Audit was undertaken in December 2015 and its findings are reported in Document Ref: 354763/RPT222A. A second Stage 1 Road Safety Audit was undertaken in August 2016 and its findings are reported in Documents Ref: 367516/RPT016A and 367516/RPT017A. A third Stage 1 Road Safety Audit was undertaken in September 2017 and its findings are reported in Document Ref: 287864-TPN-ITD-327-003-A (Thurrock), 287864-TPN-ITD-327-001-A (Essex) and 287864-TPN-ITD-327-005-A (Hertfordshire).

It should be noted that some crossings proposals that were audited in December 2015 were removed from the project prior to Grip stage 2. Where a particular solution has been discounted or a proposal has been removed from the project due to a road safety issue, it is noted in the design team response in section 2 of this report. Some of the level crossing closure proposals in Essex, Havering, Hertfordshire and Thurrock some were audited more than once due to the development of an alternative option or amendments to the previously audited option. The table below lists the level crossing proposals that have been subject to a stage 1 road safety audit and when the audits were undertaken.

Site	December 2015	August 2016	September 2017
E04 – Parndons Mill		✓	
E05 – Fullers End (Red and Blue Routes)		✓	
E06 – Elsenham Emergency Hut (Red and Blue Routes)		✓	
E08 – Henham	✓		
E09 – Elephant	✓		
E09 – Elephant (Red, Blue and Green Routes)		✓	
E10 – Dixies	✓		
E10 – Dixies (Red Route)		✓	
E11 – Windmills	✓		
E12 – Wallaces	✓		
E13 – Littlebury Gate House	✓	✓	
E14 – Church Lane CCTV (Itn1)	✓		
E16 – Maldon Road		✓	
E17 – Boreham	✓		
E18 – Noakes	✓		
E19 – Potters	✓		
E20 – Snivellers	✓		
E20 – Snivellers (Red Route)		✓	
E21 – Hill House 1	✓		
E22 – Great Domsey	✓		
E24 – Church 1		✓	
E25 – Church 2		✓	

Site	December 2015	August 2016	September 2017
E26 – Barbara Close	✓		
E27 – Puddle Dock	✓		
E27 – Puddle Dock (Red, Blue and Green Routes)		✓	
E28 – Whipps Farmers	✓		
E28 – Whipps Farmers (Blue and Green Routes)		✓	
E29 – Brown and Tawse	✓		
E29 – Brown & Tawse (Red and Blue Routes)		✓	
E30 – Ferry	✓		
E31 – Brickyard Farm	✓		
E32 – Woodgrange Close	✓		
E33 – Motorbike (Red and Blue Routes)		✓	
E34 – Cousins Number 1	✓		
E38 – Battlesbridge	✓		
E40 – Creaksea Place 1 (Red and Blue Routes)		✓	
E41 – Padget	✓		✓
E42 – Sand Pit	✓		
E43 – High Elm	✓		
E44 – Frating Abbey (Red and Blue Routes)		✓	
E45 – Great Bentley Station			✓
E47 - Bluehouse	✓		
E48 - Wheatsheaf		✓	
E49 – Maria Street		✓	
E51 – Thornfield Wood (Red and Blue Routes)		✓	
E52 – Golden Square	✓		
E53 – Josselyns (Blue Route)		✓	
E54 - Bures			✓
E55 – Lamarsh Kings Farm (Green Route)		✓	
E56 – Abbotts (Blue and Orange Routes)		✓	
E57 – Wivenhoe Park		✓	
HA3 – Manor Farm		✓	
HA4 – Eve’s (Blue and Red Routes)		✓	
H04 – Tedhambury (Blue and Red Routes)		✓	
H05 – Pattens	✓	✓	✓
H06 – Gilston	✓	✓	
H07 – Twyford Road		✓	
H09 – Fowlers		✓	
T01 – No131		✓	
T04 – Jefferies	✓		
T05 – Howells Farm	✓	✓	✓

In this revision of the report the following sites were audited again and reasons for this are provided below:

- E41 – Padget: changes to the route to the west including on High Street
- E45 – Great Bentley: design changes
- E54 Bures: design changes
- T05 – Howells: additional route to the west added.
- H05 – Pattens: design changes requiring road walking along Thorley Street

Network Rail is carrying out feasibility studies to explore options for the closure of level crossings throughout Anglia as part of their on-going commitment to deliver a safer, more efficient and reliable railway.

The road safety audit reports considered the proposed level crossing closures throughout Essex, Havering, Hertfordshire and Thurrock. The scheme proposals consisted of indicative (high level) diversion routes as the result of closures and no formal highway works were designed at this stage. Therefore the road safety audit reports considered potential road safety problems as a result of the proposed routes and their interaction with the highway. A detailed description of the proposed diversion routes at each location can be read in the respective individual level crossing review reports.

2 Items Raised at the Stage 1 Road Safety Audit

This section describes road safety related issues identified by the Audit Team.

2.1 E04 – Parndons Mill (August 2016)

2.1.1 Problem

Location: Elizabeth Way / Herons Wood.

Summary: Unnecessary carriageway crossing and lack of suitable crossing point.

It is proposed that the alternative route will require pedestrians to cross Elizabeth Way to the southern side and continue along an existing footway. This footway crosses Herons Wood at a point where no appropriate crossing point is provided. This may result in trips or falls, or conflicts between pedestrians and vehicles. Furthermore, there is a segregated footway / cycleway along the length of the northern side of Elizabeth Way that would remove the need for pedestrians to cross any carriageways. Therefore, the proposed route unnecessarily increases the risk of collisions between crossing pedestrians and vehicles.

Figure 2.1: Lack of appropriate crossing facility on Herons Wood.



Source: Mott MacDonald

Recommendation

It is recommended that the route continues along the northern side of Elizabeth Way.

Design Team Response

Agreed – It is the intention that pedestrians are routed along the footway on the northern side of Elizabeth Way.

2.2 E05 – Fullers End (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.3 E05 – Fullers End (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.4 E06 – Elsenham Emergency Hut (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.5 E06 – Elsenham Emergency Hut (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.6 E08 – Henham (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.7 E09 – Elephant (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.8 E09 – Elephant (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.9 E09 – Elephant (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.10 E09 – Elephant (Green Route – August 2016)

2.10.1 Problem

Location: Debden Road railway bridge.

Summary: Restricted carriageway width over railway bridge.

The carriageway width over the railway bridge narrows to single carriageway with no footway or verge meaning pedestrians would have to share the carriageway with vehicles. Forward visibility of pedestrians could be restricted (particularly eastbound) and although vehicles are travelling slowly over the bridge, this could result in conflict between pedestrians and vehicles.

Figure 2.2: Restricted width on Debden Road over railway line.



Source: Mott MacDonald

Recommendation

It is recommended that measures are provided to either warn motorists of pedestrians within the carriageway or to further slow vehicles on the approach. However, if suitable remedial measures cannot be provided then an alternative route should be identified.

Design Team Response

Agreed – Alternative routes have been looked at and suitable remedial measures are being considered in this location.

2.11 E10 – Dixies (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.12 E10 – Dixies (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.13 E11 – Windmills (GRIP 1 – December 2015)

2.13.1 Problem

Location: London Road / Mutlow Hill Roundabout with Sparrowsend Hill.

Summary: Lighting columns restrict available width with a risk of conflict between pedestrians and vehicles.

The diversion route directs pedestrians along the western verge of London Road. Lighting columns are located within the verge which could restrict the width available to pedestrians, potentially causing them to enter the carriageway with a risk of conflict with vehicles.

Recommendation

A suitable verge or footway width should be provided behind the lighting columns.

Design Team Response

Disagree – In the absence of an existing footpath, users would make use of the existing footway on the opposite side (western side) of London Road and therefore no further provision is proposed. Users could then make use of the pedestrian island to join the B1052.

2.14 E12 – Wallaces (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.15 E13 – Littlebury Gate House (December 2015 / August 2016)

2.15.1 Problem

Location: Littlebury Green Road.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Littlebury Green Road where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on Littlebury Green Road travelling at high speeds and visibility is restricted by the highway geometry and vegetation, particularly to the west of Goodwins Close. These factors may result in collisions between pedestrians and vehicles.

Figure 2.3: Lack of verge or footway on Littlebury Green Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided.

Design Team Response

Agreed – Provision of a footpath to be considered so that pedestrian are able to avoid the road walking.

2.16 E14 – Church Lane CCTV (LTN1) (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.17 E16 – Maldon Road (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.18 E17 – Boreham (GRIP 1 – December 2015)

2.18.1 Problem

Location: Hanson Bulls Lodge Access Road.

Summary: Pedestrians walking within the carriageway at risk of collisions with large vehicles.

The diversion route guides pedestrians along the Bulls Lodge Quarry access road which is heavily used by large vehicles. Although the access road is wide and has good forward visibility, it is not recommended that pedestrians walk within the carriageway as any collision with a large vehicle is likely to result in serious injury to pedestrians.

Figure 2.4: Bulls Lodge Quarry access road.



Source: Mott MacDonald

Recommendation

It is recommended that a compacted footpath is provided and set back from the access road to encourage pedestrians to stay clear of the carriageway.

Design Team Response

Agreed – This option was not taken forward and an alternative solution was proposed for this level crossing that removed the need to use Hanson Bulls Lodge Access Road.

2.19 E18 – Noakes (GRIP 1 – December 2015)

2.19.1 Problem

See problems above (2.18 – E17 – Boreham) as proposed diversion route utilises the same quarry access road.

Design Team Response

Agreed – This option was not taken forward and an alternative solution was proposed for this level crossing that removed the need to use Hanson Bulls Lodge Access Road.

2.20 E19 – Potters (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.21 E20 – Snivellers (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.22 E20 – Snivellers (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.23 E21 – Hill House 1 (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.24 E22 – Great Domsey (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.25 E24 – Church 1 (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.26 E25 – Church 2 (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.27 E26 – Barbara Close (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.28 E27 – Puddle Dock (GRIP 1 – December 2015)

2.28.1 Problem

Location: Warley Street railway bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

The carriageway on Warley Street narrows over the railway bridge and only a narrow hardstanding (<0.5m) is present which would force pedestrians to walk within the carriageway. Traffic volumes and speeds were high and pedestrians walking in the carriageway would be at risk of collisions with vehicles, which would likely result in high severity injuries.

Figure 2.5: Reduced widths over railway bridge.



Source: Mott MacDonald

Recommendation

Suitable footway widths should be provided over the railway bridge otherwise an alternative route should be identified.

Design Team Response

Agreed – An appropriate width footway could not be achieved over the bridge and therefore an alternative solution (red route referred to in 2.29 below) is under consideration. However, if this is found to be unsuitable, this level crossing will be removed from the project.

2.29 E27 – Puddle Dock (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.30 E27 – Puddle Dock (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.31 E27 – Puddle Dock (Green Route – August 2016)

2.31.1 Problem

Location: St Marys Lane.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of St Marys Lane where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on St Marys Lane travelling at high speeds and visibility is restricted by the highway geometry. These factors may result in collisions between pedestrians and vehicles.

Figure 2.6: Lack of verge or footway on St Marys Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

Design Team Response

Agreed – Therefore an alternative solution (red route referred to in 2.29 above) is under consideration. However, if this is found to be unsuitable, this level crossing will be removed from the project.

2.32 E28 – Whipps Farmers (GRIP 1 – December 2015)

2.32.1 Problem

See problem above (2.28 – E27 – Puddle Dock) as proposed diversion route utilises the same highway.

Design Team Response

Agreed – An appropriate width footway could not be achieved over the bridge and therefore alternative solutions were taken forward for consideration.

2.33 E28 – Whipps Farmers (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.34 E28 – Whipps Farmers (Green Route – August 2016)

2.34.1 Problem

Location: St Marys Lane.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of St Marys Lane where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on St Marys Lane travelling at high speeds and visibility is restricted by the highway geometry. These factors may result in collisions between pedestrians and vehicles.

Figure 2.7: Lack of verge or footway on St Marys Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

Design Team Response

Agreed – The route was dropped in favour of an alternative solution that reduced the level of road walking.

2.35 E29 – Brown & Tawse (GRIP 1 – December 2015)

2.35.1 Problem

Location: St Marys Lane where it joins with the existing footpath.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

On St Marys Lane to the east of the existing footpath no verge is present and pedestrians would have to walk in the carriageway. A high volume of traffic was observed on St Marys Lane travelling at high speeds and visibility is restricted around the bend. These factors could result in conflict between pedestrians and vehicles.

Figure 2.8: Lack of verge on St Marys Lane.



Source: Mott MacDonald

Recommendation

A suitable footway should be provided otherwise an alternative route should be identified.

Design Team Response

Agreed – An appropriate width footpath could not be achieved. The route was amended to provide a suitable off-road footpath to the south of Saint Mary's Road as a safer alternative.

2.36 E29 – Brown & Tawse (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.37 E29 – Brown & Tawse (Red Route – August 2016)

2.37.1 Problem

Location: St Marys Lane Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of St Marys Lane where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on St Marys Lane travelling at high speeds and visibility is restricted by the highway geometry and the railway road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.9: Lack of verge or footway on St Marys Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

Design Team Response

Agreed – Due to insufficient highway space the footway could not be provided and the blue route was progressed instead.

2.38 E30 – Ferry (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.39 E31 – Brickyard Farm (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.40 E32 – Woodgrange Close (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.41 E33 – Motorbike (Red Route – August 2016)

2.41.1 Problem

Location: Pitsea Hall Lane.

Summary: High HGV flow and speed.

It is proposed that pedestrians will walk along a section of Pitsea Hall Lane on the western side of the carriageway where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high number of HGVs generally travelling at excessive speeds were observed on Pitsea Hall Lane. This may lead to an increased risk of collisions between pedestrians and vehicles.

Figure 2.10: Lack of verge or footway on western side of Pitsea Hall Lane.



Source: Mott MacDonald

Recommendation

It is recommended that suitable crossing facilities are provided to allow pedestrians to cross to the eastern side and utilise the existing segregated footway / cycleway. Vegetation clearance will need to be undertaken to provide a suitable footway / cycleway width.

Design Team Response

Agreed – A crossing point will be provided.

2.42 E33 – Motorbike (Blue Route – August 2016)

2.42.1 Problem

Location: Pitsea Hall Lane.

Summary: High HGV flow and speed.

It is proposed that pedestrians will walk along a section of Pitsea Hall Lane on the western side of the carriageway where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high number of HGVs generally travelling at excessive speeds were observed on Pitsea Hall Lane. This may lead to an increased risk of collisions between pedestrians and vehicles.

Figure 2.11: Lack of verge or footway on western side of Pitsea Hall Lane.



Source: Mott MacDonald

Recommendation

It is recommended that suitable crossing facilities are provided to allow pedestrians to cross to the eastern side and utilise the existing segregated footway / cycleway. Vegetation clearance will need to be undertaken to provide a suitable footway / cycleway width.

Design Team Response

Agreed – A crossing point will be provided.

2.43 E34 – Cousins Number 1 (GRIP 1 – December 2015)

2.43.1 Problem

Location: A120 Underpass.

Summary: Risk of anti-social behaviour.

The proposed diversion will take pedestrians onto a suspended footbridge beneath the railway line and above the A120. The footbridge will not be overlooked and there is a risk some people may act inappropriately with potential to throw objects at westbound vehicles on the A120. Such behaviour may lead to vehicle loss of control and potentially serious collisions.

Recommendation

The footbridge should be enclosed to prevent users interacting with the vehicles on the A120.

Design Team Response

Agreed – However, this proposal was withdrawn due to structural interface issues and this level crossing removed from the project.

2.43.2 Problem

Location: A120 southern verge.

Summary: Risk of vehicle to pedestrian collisions.

The proposed diversion will run along the southern side of the A120 and it is not clear if this will be on the A120 side of the embankment or along the agricultural side at the top of the embankment. Pedestrians walking along the verge are at serious risk of injury in the event of loss of control collisions.

Figure 2.12: A120 westbound verge.



Source: Mott MacDonald

Recommendation

A suitable footway width should be provided behind the barrier and be clear of any obstructions.

Design Team Response

Disagree – Pedestrians would have been routed along the agricultural side and therefore not exposed to errant vehicles. However, this proposal was withdrawn and this level crossing removed from the project.

2.44 E38 - Battlesbridge (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.45 E40 – Creaksea Place 1 (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.46 E40 – Creaksea Place 1 (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.47 E41 – Padget (GRIP 1 – December 2015/ GRIP2 September 2017)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.48 E42 – Sand Pit (GRIP 1 – December 2015)

2.48.1 Problem

Location: Alresford Road.

Summary: Risk of pedestrian trip accidents.

The proposed diversion will run along the north eastern verge of the Arlesford Road and where the wide verge narrows the surface of the existing narrow verge is uneven with a lower worn area and a raised unworn area presenting a level difference. The worn area also features numerous pot holes. There is a risk of pedestrians tripping on the uneven surface and falling into the carriageway, at risk of collisions with vehicles.

Figure 2.13: Alresford Road north eastern verge.



Source: Mott MacDonald

Recommendation

A suitable level hardstanding should be provided to reduce the risk of pedestrians tripping.

Design Team Response

Agreed – Suitable surfacing will be provided as part of the proposed measures on Alresford Road.

2.49 E43 – High Elm (GRIP 1 – December 2015)

2.49.1 Problem

Location: B1027 Ten Penny Hill.

Summary: Risk of vehicle to pedestrian collisions.

The proposed diversion will guide pedestrians along Ten Penny Hill. Currently there is a footway on the north east side of Ten Penny Hill which terminates at Wivenhoe Road and a footway is provided on the south west side of Ten Penny Hill which continues as far as Coach Road, opposite where the proposed diversion will join Ten Penny Hill. Ten Penny Hill is a high speed road with a posted 50mph speed limit and is also quite wide. Pedestrians will be vulnerable to collisions with vehicles if required to cross the road twice to continue their journey.

Figure 2.14: Ten Penny Hill at the western interface looking south east.



Source: Mott MacDonald

Recommend

It is recommended that a suitable compacted footpath is provided on the north east side of Ten Penny Hill to avoid pedestrians having to cross the wide busy road twice.

Design Team Response

Disagree – It is considered that there is a suitable footway on the opposite side of the carriageway. However, to mitigate the problem of pedestrians crossing Ten Penny Hill, as noted on the Road Safety Audit, it is proposed to install a suitable pedestrian refuge island at either end of the pedestrian route.

2.50 E44 – Frating Abbey (Red Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.51 E44 – Frating Abbey (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.52 E45 – Great Bentley Station (September 2017)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.53 E47 - Bluehouse (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.54 E48 – Wheatsheaf (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.55 E49 – Maria Street (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.56 E51 – Thornfield Wood (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.57 E51 – Thornfield Wood (Red Route – August 2016)

2.57.1 Problem

Location: Jupe's Hill Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Jupe's Hill between Oldhouse Farm and Willow Cottage where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. Whilst traffic flows were observed to be low, speeds were excessive with visibility restricted by a road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.15: Lack of verge or footway on Jupe's Hill.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided or that the Blue Route Option is utilised.

Design Team Response

Agreed – The blue route has been taken forward.

2.58 E52 – Golden Square (GRIP 1 – December 2015)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.59 E53 – Josselyns (Blue Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.60 E54 – Bures (September 2017)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.61 E55 – Lamarsh Kings Farm (Green Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.62 E56 – Abbots (Blue Route – August 2016)

2.62.1 Problem

Location: Harwich Road / Little Bromley Road junction.

Summary: Lack of crossing facility may result in trips and falls.

It is proposed that diverted pedestrians will utilise the footway on the northern side of Harwich Road and the carriageway on Little Bromley Road. This will require pedestrians to cross Harwich Road in the vicinity of its junction with Little Bromley Road. No crossing facilities are provided at this location and crossing pedestrians may either cross at inappropriate locations or trip on the full height kerb.

Figure 2.16: Lack of crossing point on Harwich Road at its junction with Little Bromley Road.



Source: Mott MacDonald

Recommendation

It is recommended that an appropriately positioned crossing point is installed on Harwich Road.

Design Team Response

Agreed – To mitigate this problem the route was amended to provide an off-road footpath parallel to the railway.

2.63 E56 – Abbots (Orange Route – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.64 E57 – Wivenhoe Park (August 2016)

2.64.1 Problem

Location: Lightship Way / River Colne waterfront.

Summary: Inappropriate interaction between agricultural vehicles and non-motorised users.

It is proposed that diverted agricultural vehicles will access land to the west of the railway via Lightship Way and the River Colne waterfront path. There was a notable presence of vulnerable road users in the vicinity of Lightship Way whilst the River Colne path is for cyclists and pedestrians. Diverting agricultural vehicles through this residential area and onto the recreational riverside path may increase the risk of collisions between large vehicles and vulnerable road users.

Recommendation

It is recommended that agricultural vehicles are not diverted along this route.

Design Team Response

The diversion route may not be suitable for very large machinery and therefore further discussions with the landowner are being undertaken to ascertain the exact type and frequency of agricultural machinery movements.

2.65 HA3 – Manor Farm (August 2016)

2.65.1 Problem

Location: Ockendon Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Ockendon Road where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on Ockendon Road travelling at high speeds despite the 40mph speed limit and visibility is restricted by the highway geometry and the railway road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.17: Lack of verge or footway on Ockendon Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided. This should extend to Pea Lane with a dropped kerb provided at a suitable position to allow pedestrians to join the carriageway on Pea Lane.

Design Team Response

Disagree – The level crossing and public right of way are not present on site and therefore there are no users to undertake the diversion. However, as the route forms part of the diversion for Eve's crossing, provision of a field walking route adjacent to Ockendon Road to avoid as much road walking as possible will be considered.

2.66 HA4 – Eve's (Blue Route – August 2016)

2.66.1 Problem

Location: Ockendon Road Bridge.

Summary: Narrow road width may lead to conflict between pedestrians and vehicles.

It is proposed that pedestrians will walk along a section of Ockendon Road where no footway or notable verge is present; this will result in pedestrians walking in the carriageway. A high volume of traffic was observed on Ockendon Road travelling at high speeds despite the 40mph speed limit and visibility is restricted by the highway geometry and the railway road bridge. These factors may result in collisions between pedestrians and vehicles.

Figure 2.18: Lack of verge or footway on Ockendon Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided. This should extend to Pea Lane with a dropped kerb provided at a suitable position to allow pedestrians to join the carriageway on Pea Lane.

Design Team Response

The level crossing has very low or no usage and therefore it would be disproportionate to construct the footway measure given the road and verge width available. However, provision of a field walking route adjacent to Ockendon Road to avoid as much road walking as possible will be considered.

2.66.2 Problem

Location: Pea Lane.

Summary: Pedestrians walking for extended period of time in verge.

It is proposed that pedestrians will walk along the length of Pea Lane where no footway or notable verge is present; a high volume of traffic was observed travelling at high speeds and visibility is restricted by the highway geometry and vegetation. These factors may result in collisions between pedestrians and vehicles.

Figure 2.19: Lack of footway on Pea Lane.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided along Pea Lane or that the Red Route is utilised taking into consideration issues raised in **Section 2.65**.

Design Team Response

The level crossing has very low or no users and therefore it would be disproportionate to construct the footway measure given the road and verge width available. There is available verge width for the occasional pedestrian to step out of the carriageway into a position of safety as and when a vehicle passes.

2.67 HA4 – Eve's (Red Route – August 2016)

2.67.1 Problem

Location: Dennis Road and West Road.

Summary: Pedestrians walking for extended period of time in verge.

It is proposed that pedestrians will walk along a section of Dennis Road and West Road where no footway is present; pedestrians walking in the verge for extended periods of time may be vulnerable to trips and falls or choose to walk in the carriageway. A high volume of traffic was observed travelling at high speeds

and visibility is restricted by the highway geometry and vegetation. These factors may result in collisions between pedestrians and vehicles.

Figure 2.20: Lack of footway on Dennis Road.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided on Dennis Road and West Road.

Design Team Response

Agreed - However, the red route has been discounted and therefore the Road Safety Audit issues have been removed.

2.68 H04 – Tednambury (Blue and Red Routes – August 2016)

2.68.1 Problem

Location: A1184 Layby adjacent to The Gates.

Summary: Excessively overgrown verge.

It is proposed that pedestrians will walk along an existing footway on the eastern side of the A1184. At a point where the footway follows the back of the layby adjacent to The Gates, excessive vegetation encroachment prevents the footway from being used. Pedestrians stepping into the carriageway to pass the vegetation may be struck by passing vehicles increasing the risk of personal injury.

Figure 2.21: Overgrown footway along back of layby.



Source: Mott MacDonald

Recommendation

It is recommended that suitable vegetation clearance is undertaken at this location.

Design Team Response

Agreed – Hertfordshire County Council is to be informed of maintenance issues on their footways.

2.69 H05 – Pattens (December 2015 – August 2016 – September 2017)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.70 H06 – Gilston (December 2015 – August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.71 H07 – Twyford Road (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.72 H09 – Fowlers (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.73 T01 – No 131 (August 2016)

The Audit Team did not identify any road safety related issues associated with the scheme.

2.74 T04 – Jefferies (GRIP 1 – December 2015)

2.74.1 Problem

Location: Manorway.

Summary: Risk of vehicle to pedestrian collisions.

The proposed diversion will run along the south eastbound A1014. The footway was inaccessible at the time of the site visit as it was located behind a large safety barrier and it was therefore difficult to determine the existing width. If there is insufficient width, there is a risk that pedestrians will be forced to travel within the carriageway to cross the railway at risk of collisions with vehicles, which were observed to travel at high speed.

Figure 2.22: Proposed footway behind safety barrier.



Source: Mott MacDonald

Recommendation

A suitable footway width should be provided behind the barrier and be clear of any obstructions.

Design Team Response

Agreed – A suitable footpath will be provided behind the barrier.

2.75 T05 – Howells Farm (December 2015 / August 2016)

2.75.1 Problem

Location: Southend Road / High Road roundabouts.

Summary: Increase in conflict points between pedestrians and vehicles.

The proposed diversion directs pedestrians across a residential service road junction on High Road before guiding them across another access on Southend Road which provides access to a garage and petrol station directly from the roundabout. The route then directs pedestrians onto a grassed island. Each of these crossings increases the potential for conflict between pedestrians and vehicles particularly at the roundabout where vehicles can exit from different angles.

Recommendation

It is recommended that the diversion utilises the existing footway that runs between High Road service road and Southend Road away from the two roundabouts. This removes the need for pedestrians to cross the carriageway, and the potential for conflict between pedestrians and vehicles.

Design Team Response

Agreed – It is the intention that users would be routed along the existing footway that runs between High Road service road and Southend Road on this section of the diversion route.

2.75.2 Problem

Location: Southend Road.

Summary: Lack of footway potentially resulting in conflict between pedestrians and vehicles.

The available verge width on Southend Road appeared restricted which could force pedestrians into the carriageway where they are at risk of collisions with vehicles. A cycleway is also present on Southend Road and cyclists may swerve to avoid pedestrians in the carriageway potentially resulting in conflict either between pedestrians and cyclists or between cyclists and vehicles.

Figure 2.23: Restricted verge width.



Source: Mott MacDonald

Recommendation

It is recommended that a suitable footway is provided along Southend Road.

Design Team Response

Disagree – Pedestrians currently use the verge to walk along this section of Southend Road and we are not proposing to change this part of their current journey. However, a new route running west from the crossing to B1420 on the south side of the railway provides an off road walking route between the footways on each road to the east and west of the crossing.

2.75.3 Problem

Location: High Road.

Summary: Incomplete footway provision.

The footway along the western side of High Road is incomplete in the vicinity of Fobbing Level Crossing. As such, pedestrian will either continue along the verge or cross unnecessarily to the eastern side before crossing back again. Both scenarios increase the risk of trips and falls or collisions with passing vehicles.

Figure 2.24: Incomplete footway.



Source: Mott MacDonald

Recommendation

It is recommended that an additional section of footway is provided on the western side of High Road to the north of the railway, to remove the incomplete section of footway.

Design Team Response

Disagree – Pedestrians currently use the footpath walk along this section of Southend Road and we are not proposing to change this part of their current journey.

2.76 T05 – Howells Farm (September 2017)

The Audit Team did not identify any road safety related issues associated with the scheme.

Appendices

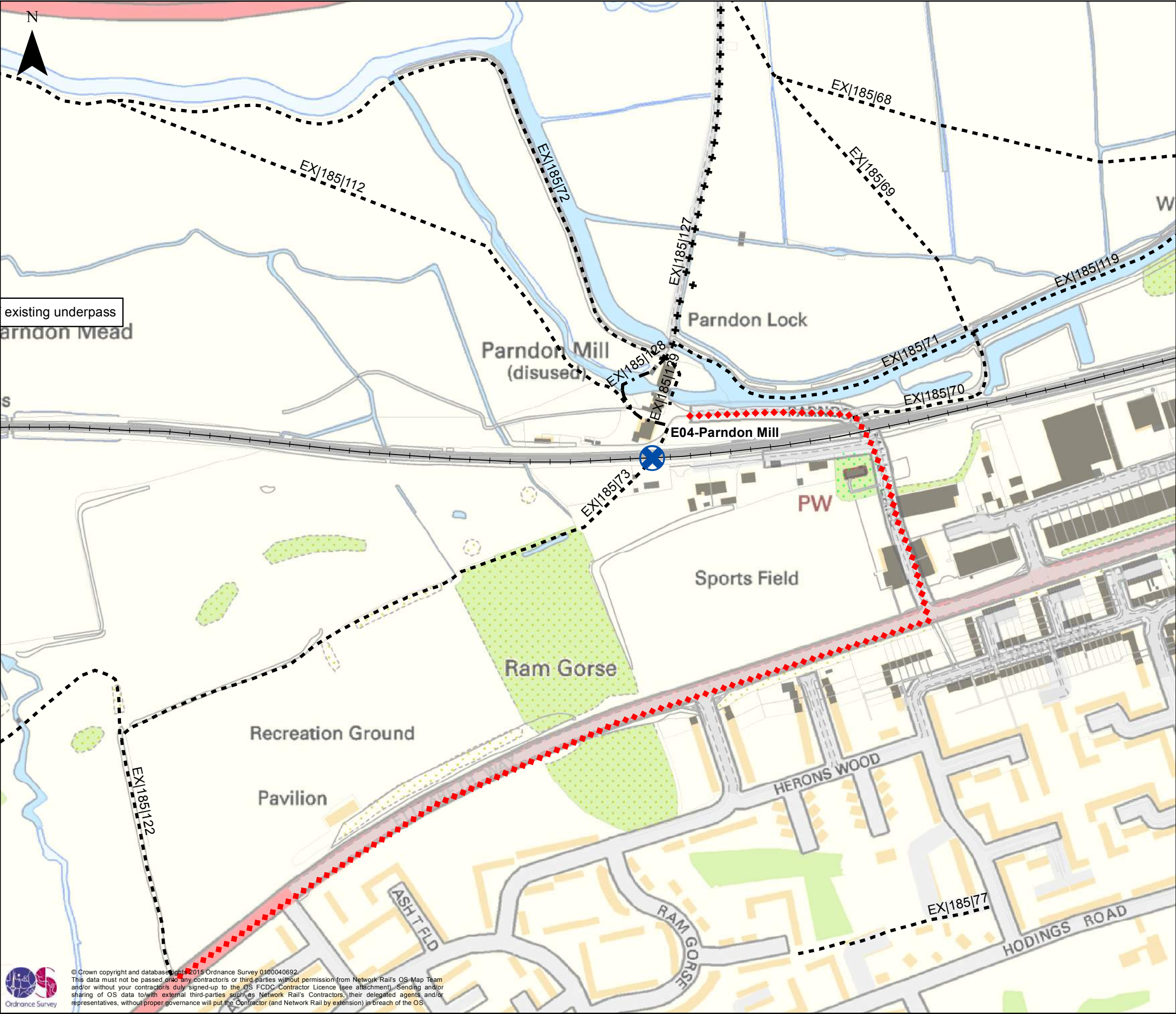
Appendix A. Key Plans	38
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Appendix A. Key Plans

- A.1 MMD-367516-E04-GEN-002**
- A.2 MMD-367516-E09-GEN-002**
- A.3 MMD-354763-E11-GEN-001 GRIP 1**
- A.4 MMD-367516-E13-GEN-002**
- A.5 MMD-354763-E17-GEN-001 GRIP 1**
- A.6 MMD-354763-E27-GEN-001 GRIP 1**
- A.7 MMD-367516-E27-GEN-002**
- A.8 MMD-367516-E28-GEN-002**
- A.9 MMD-354763-E29-GEN-001 GRIP 1**
- A.10 MMD-367516-E29-GEN-002**
- A.11 MMD-367516-E33-GEN-002**
- A.12 MMD-354763-E34-GEN-001 GRIP 1**
- A.13 MMD-354763-E42-GEN-001**
- A.14 MMD-354763-E43-GEN-001 GRIP 1**
- A.15 MMD-367516-E51-GEN-002**
- A.16 MMD-367516-E56-GEN-002**
- A.17 MMD-367516-E57-GEN-002**
- A.18 MMD-367516-HA3-GEN-002**
- A.19 MMD-367516-HA4-GEN-002**
- A.20 MMD-367516-H04-GEN-002**
- A.21 MMD-354763-T04-GEN-001 GRIP 1**

A.22 MMD-354763-T05-GEN-002 GRIP 1

A.23 MMD-367516-T05-GEN-002



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Level crossing being discussed

Alternative Options

- Red Route
- A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

- Footpath
 Bridleway
 Restricted byway
 Byway open to all traffic
 Highway (where used)
- If this line is in a colour, this denotes use by a route option (see above).



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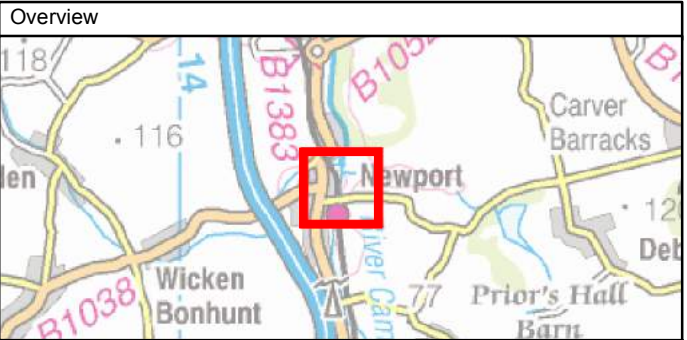
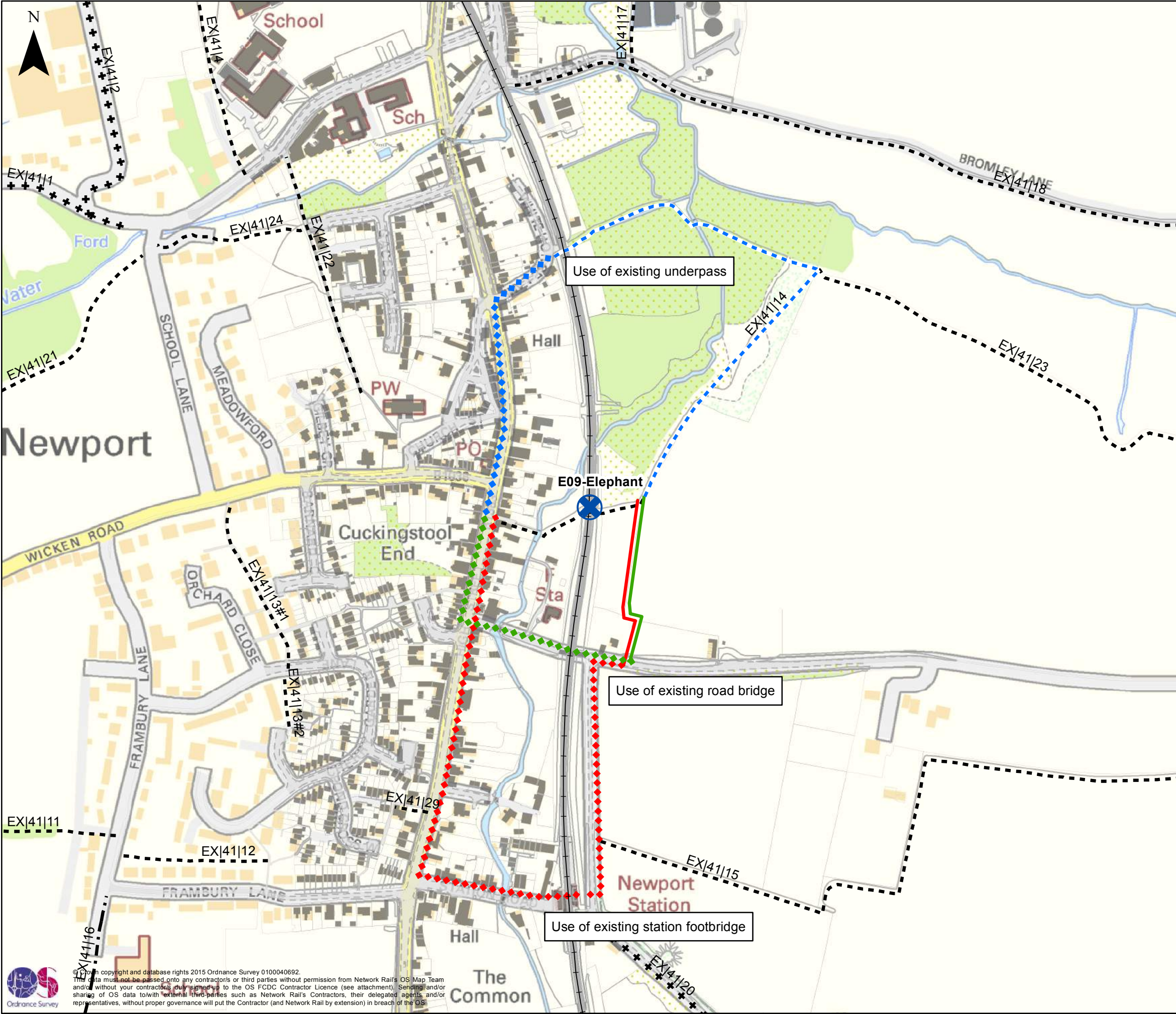
Anglia LX Consultation Stage 1

E04 - Parndon Mill
Essex

P3	20/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:3,500

Drawing No.
MMD-367516-E04-GEN-002



Level crossing being discussed

Alternative Options

Red Route

Blue Route

Green Route

A solid line indicates a proposed new Public Right of Way (type to be determined).

Other line types using the above route option colours indicate use of existing Public Rights of Way.

Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

Footpath

Bridleway

Restricted byway

Byway open to all traffic

Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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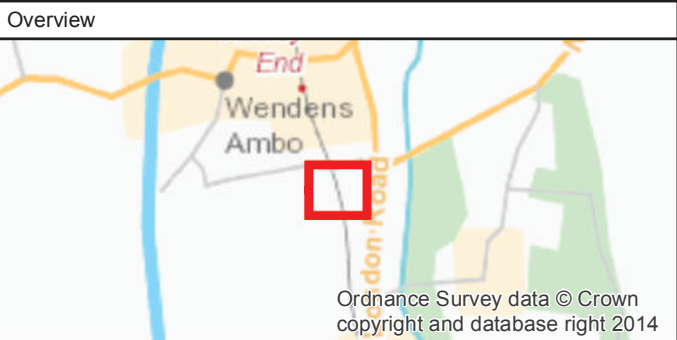
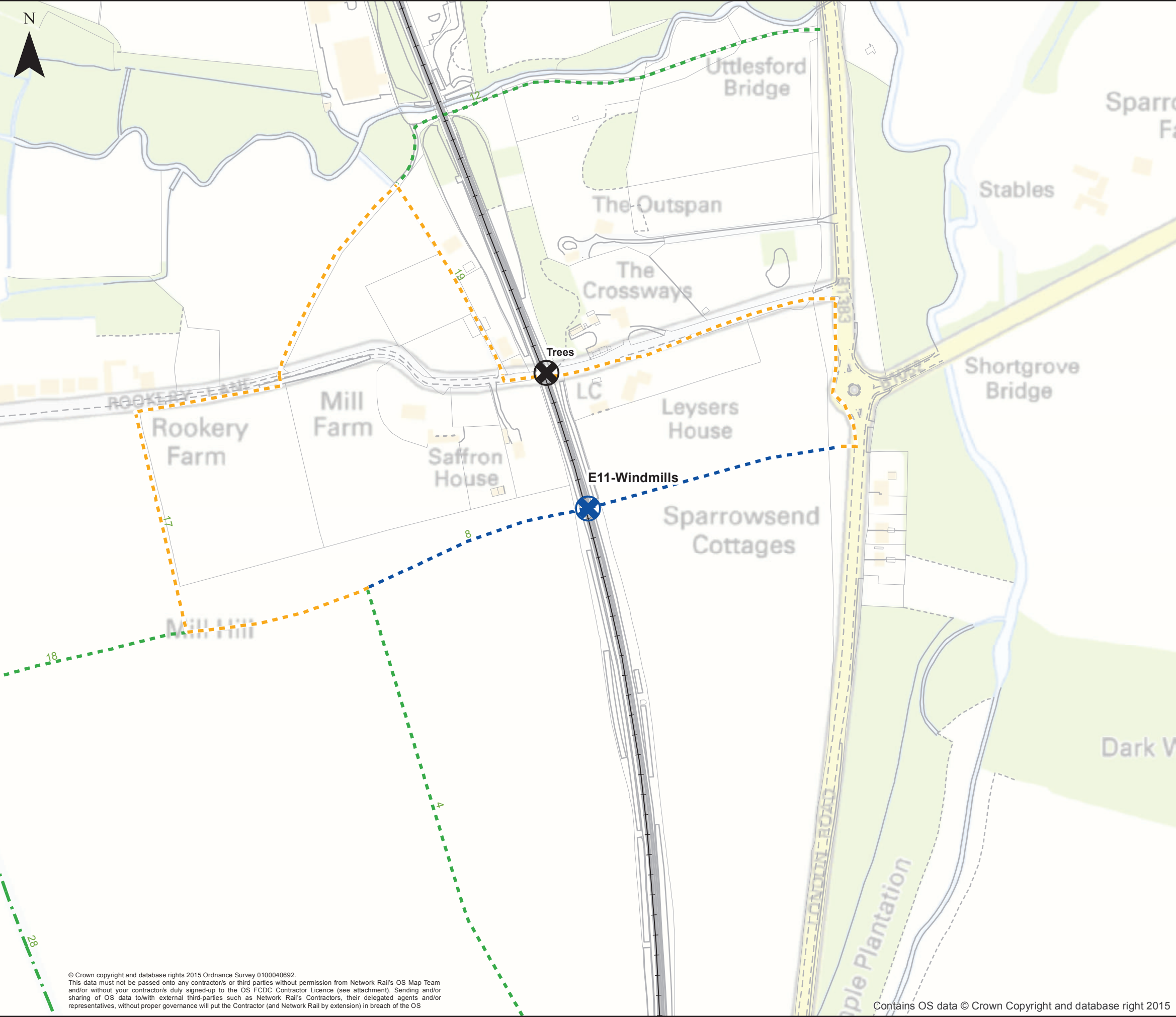
Anglia LX Consultation Stage 1

E09 - Elephant
Essex
Newport CP

P3	16/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:4,000

Drawing No.
MMD-367516-E09-GEN-002



Current level crossing

Other level crossing

Right of way/highway symbology by type

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (only shown where a change of use is proposed)

Right of way/highway symbology by proposed status

- Creation
- Extinguishment
- Use of existing
- Change of status
- No change to existing status

 2 Brewery Wharf
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GRIP 1 Proposals

E11 - Windmills Essex Newport CP

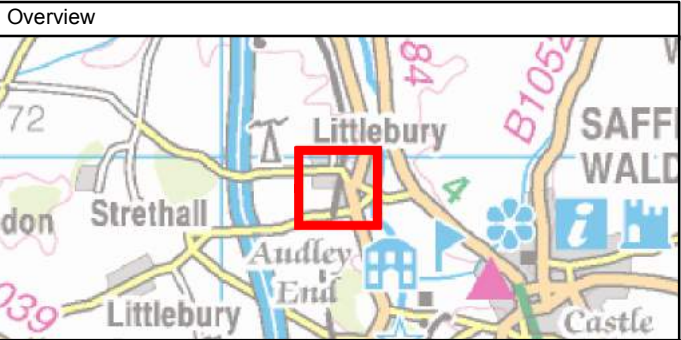
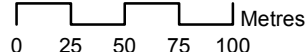
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3 1:3,000	Drawing No. MMD-354763-E11-GEN-001
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Level crossing being discussed

Alternative Options

Red Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

--- Footpath

- - - Bridleway

— Restricted byway

+ + + Byway open to all traffic

◆◆◆◆ Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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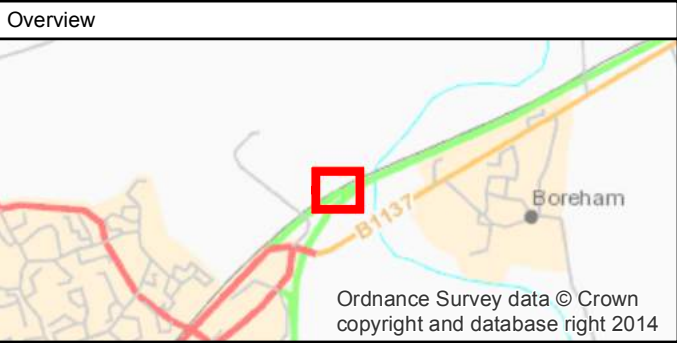
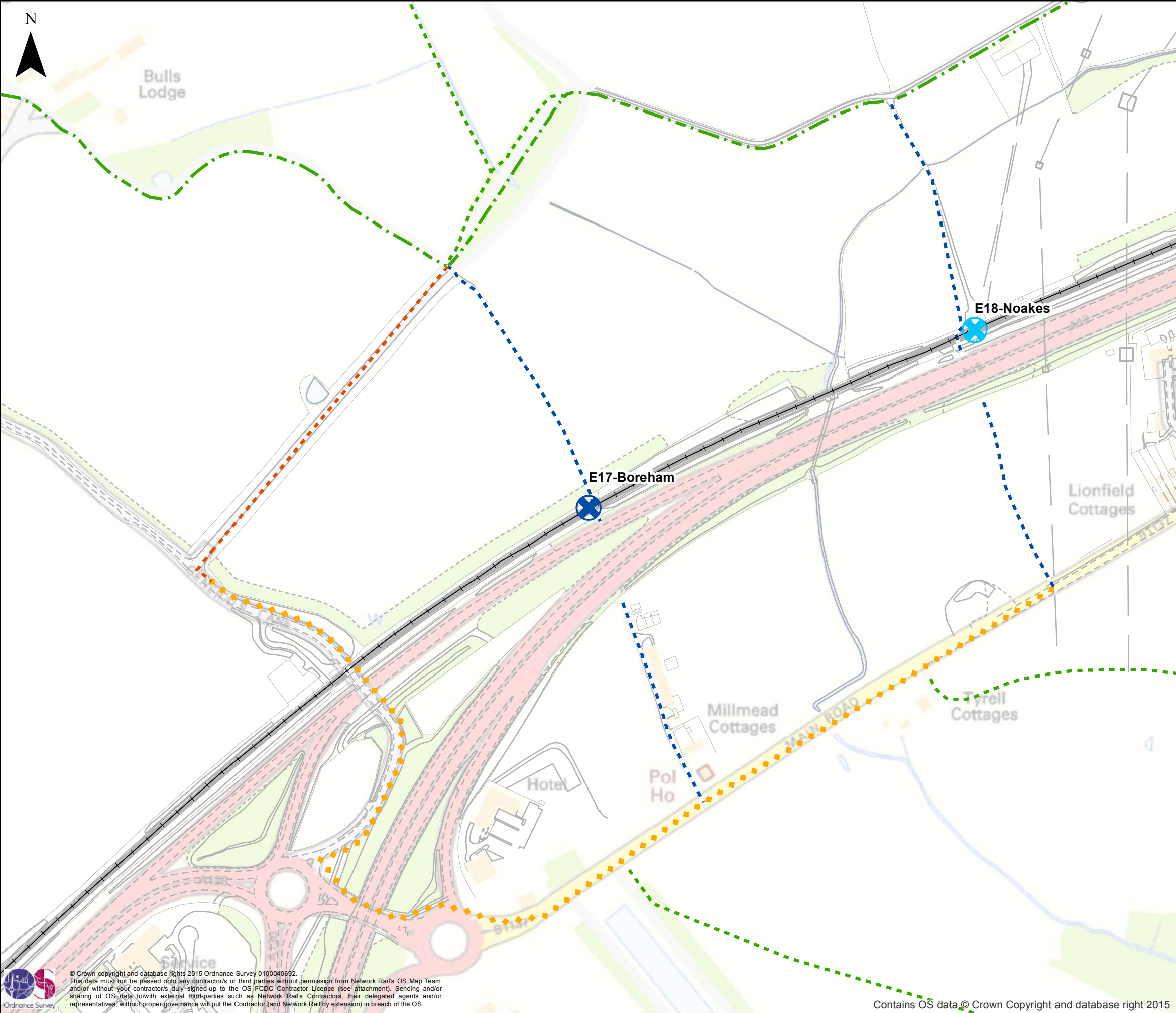
Anglia LX Consultation Stage 1

E13 - Littlebury Gate House Essex Littlebury CP

P3	16/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:3,500

Drawing No.
MMD-367516-E13-GEN-002



Current level crossing

Other level crossing in study

Type_2

- Bridleway
- Footpath

Right of way/highway symbology by type

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (only shown where a change of use is proposed)

Right of way/highway symbology by proposed status

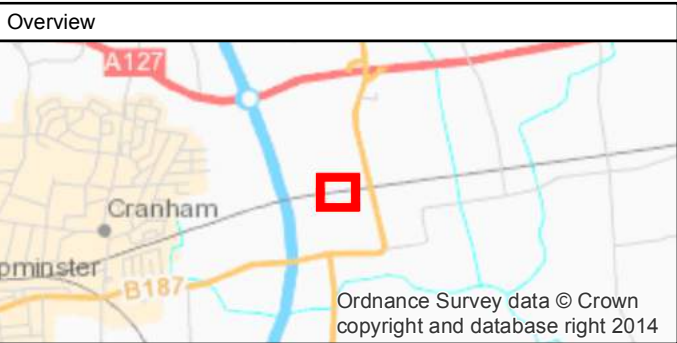
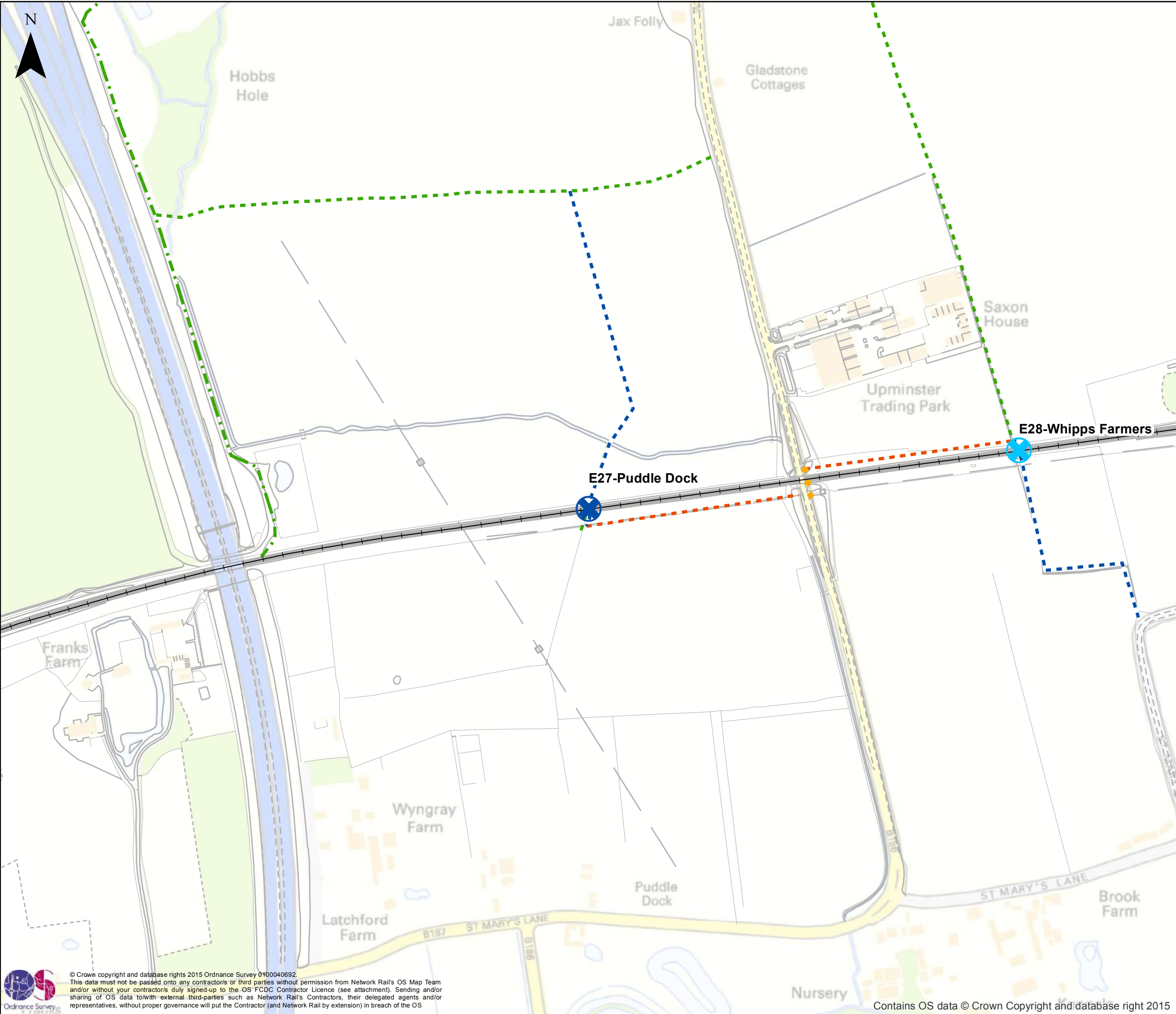
- Creation
- Extinguishment
- Use of existing
- Change of status
- No change to existing status

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GRIP 1 Proposals

E17 - Boreham Essex Boreham CP EX/213/23						
P2	07/12/2015	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3 1:4,000	Drawing No. MMD-354763-E17-GEN-001
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Current level crossing

Other level crossing in study

Type_2

- Bridleway
- Footpath

Right of way/highway symbology by type

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (only shown where a change of use is proposed)

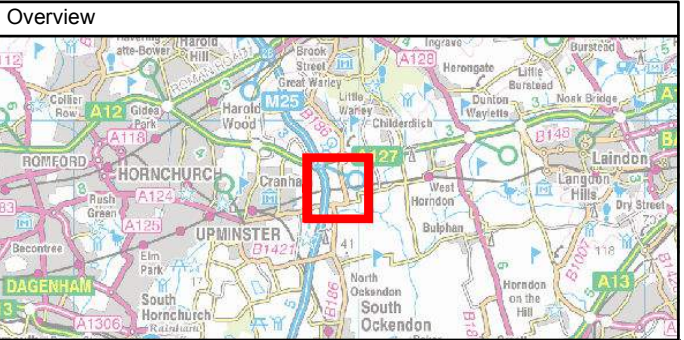
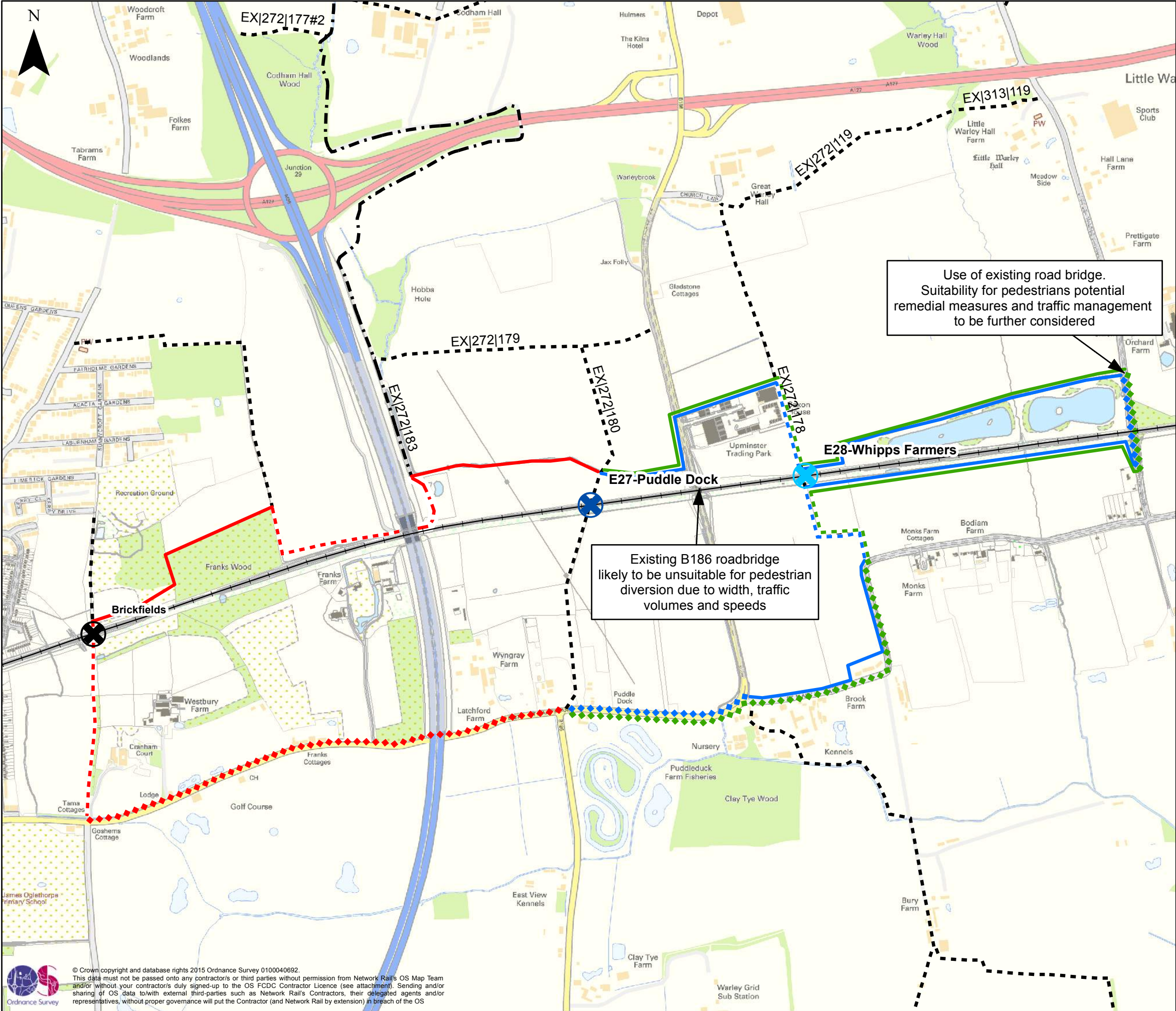
Right of way/highway symbology by proposed status

- Creation
- Extinguishment
- Use of existing
- Change of status
- No change to existing status

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GRIP 1 Proposals

E27 - Puddle Dock Essex Brentwood District (B) EX/272/180						
P2	07/12/2015	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd



- Level crossing being discussed
- Other level crossing in the project
- Other level crossings

Alternative Options

- Red Route
- Blue Route
- Green Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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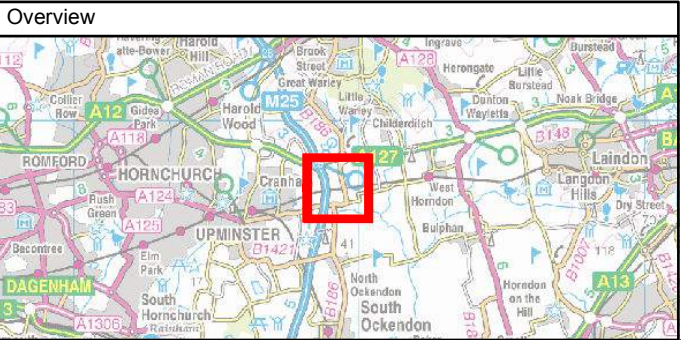
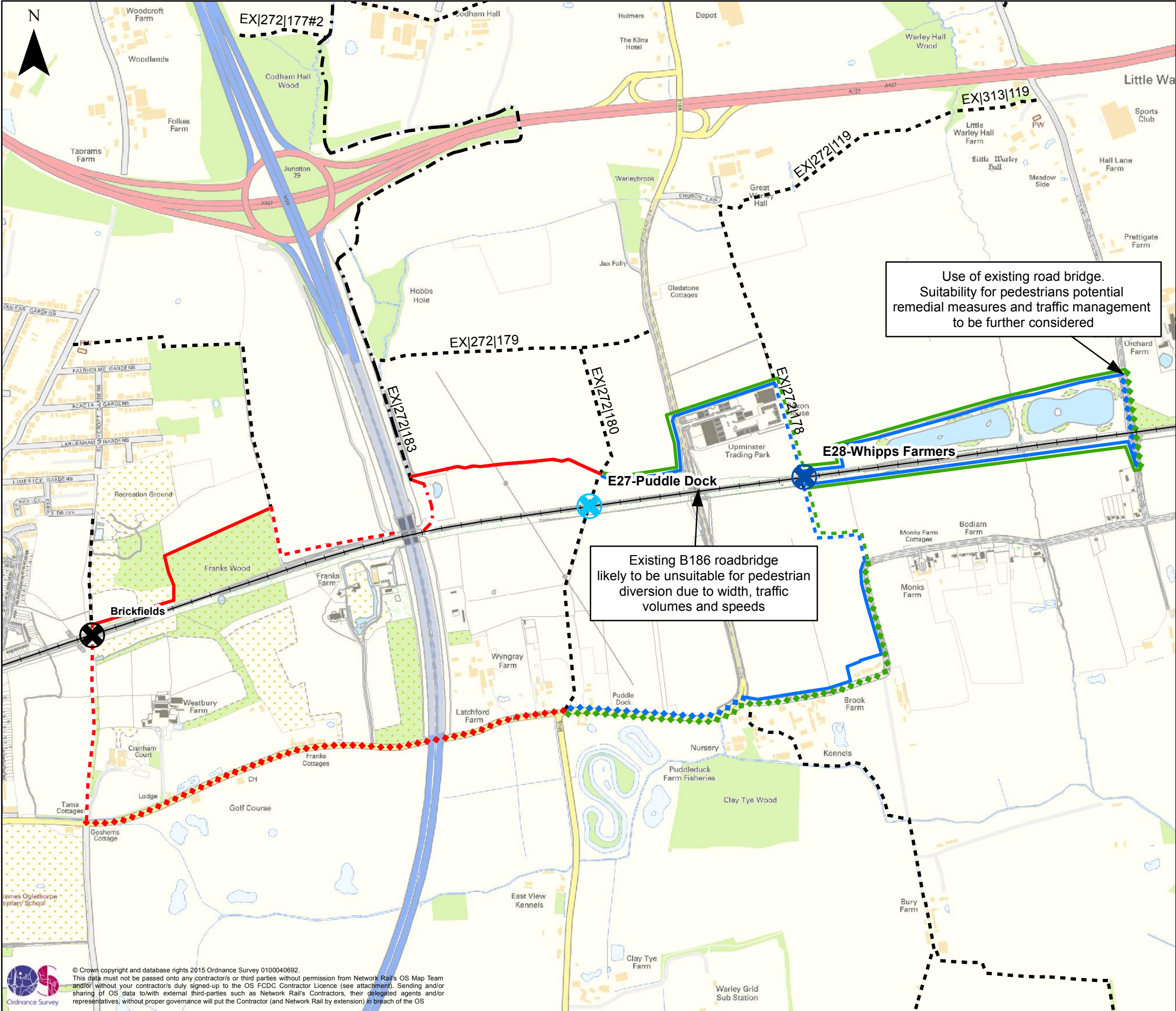
Anglia LX Consultation Stage 1

E27 - Puddle Dock
Essex
Brentwood District (B)

P3	21/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:10,000

Drawing No.
MMD-367516-E27-GEN-002



- Level crossing being discussed
- Other level crossing in the project
- Other level crossings

Alternative Options

- Red Route
- Blue Route
- Green Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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Anglia LX Consultation Stage 1

E28 - Whipps Farmers
Essex
Brentwood District (B)

P3	21/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

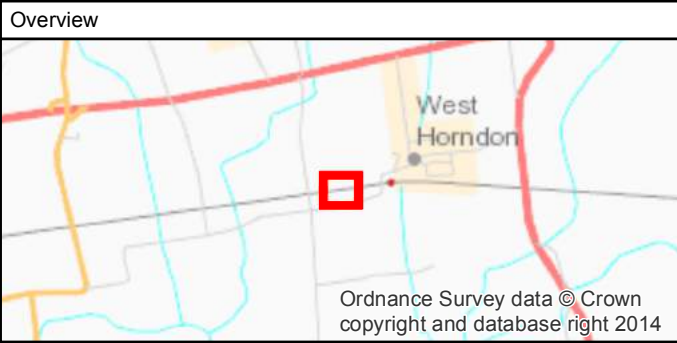
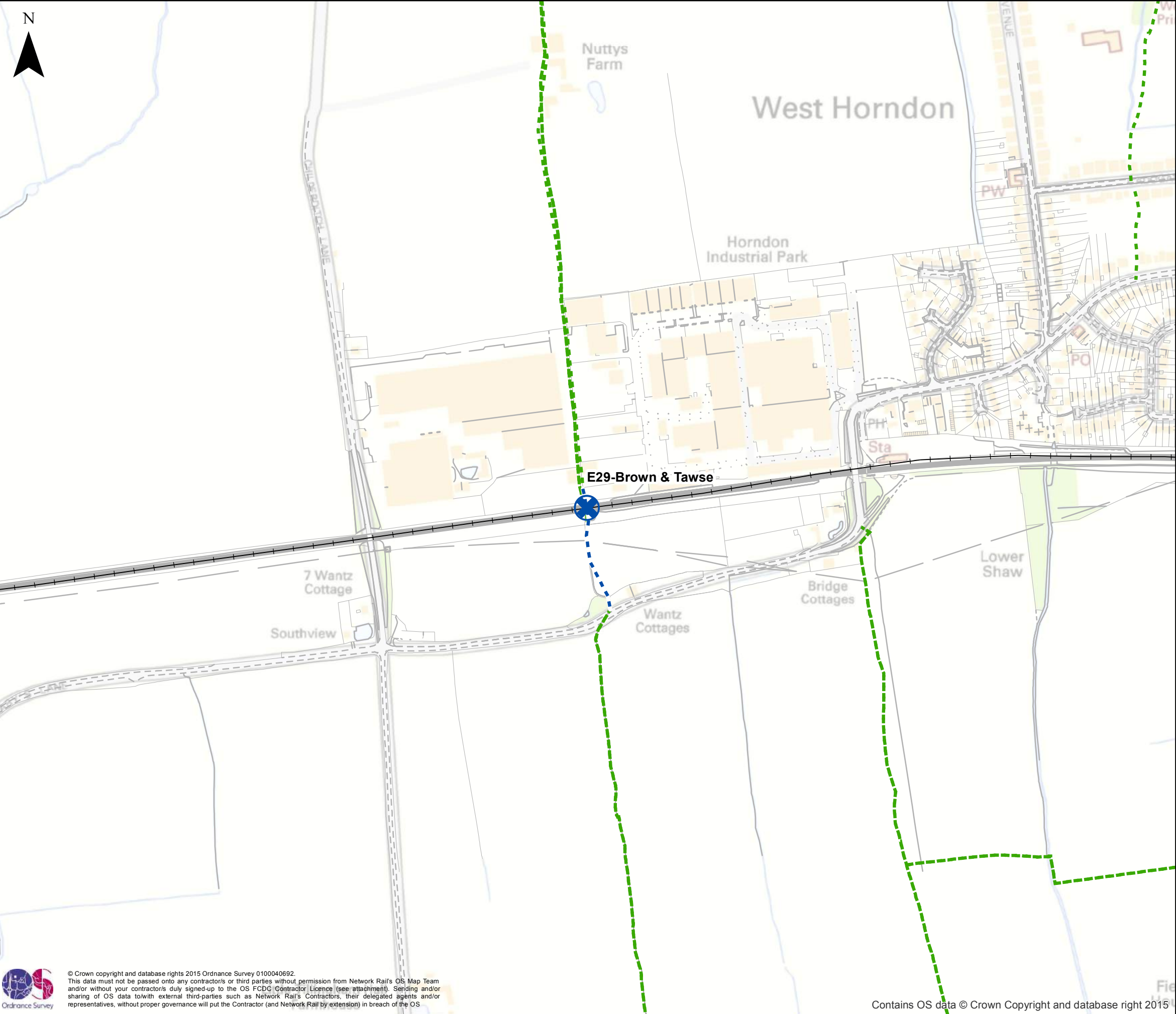
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1:10,000

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MMD-367516-E28-GEN-002

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Metres
0 25 50 100



Current level crossing

RoW_Thurrock

Type

- Footpath

Type_2

- Footpath

Right of way/highway symbology by type

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (only shown where a change of use is proposed)

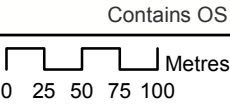
Right of way/highway symbology by proposed status

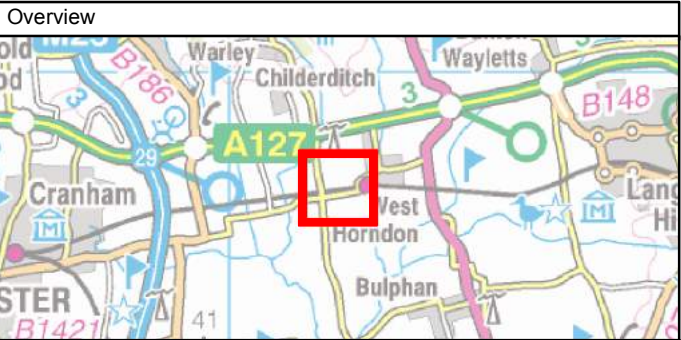
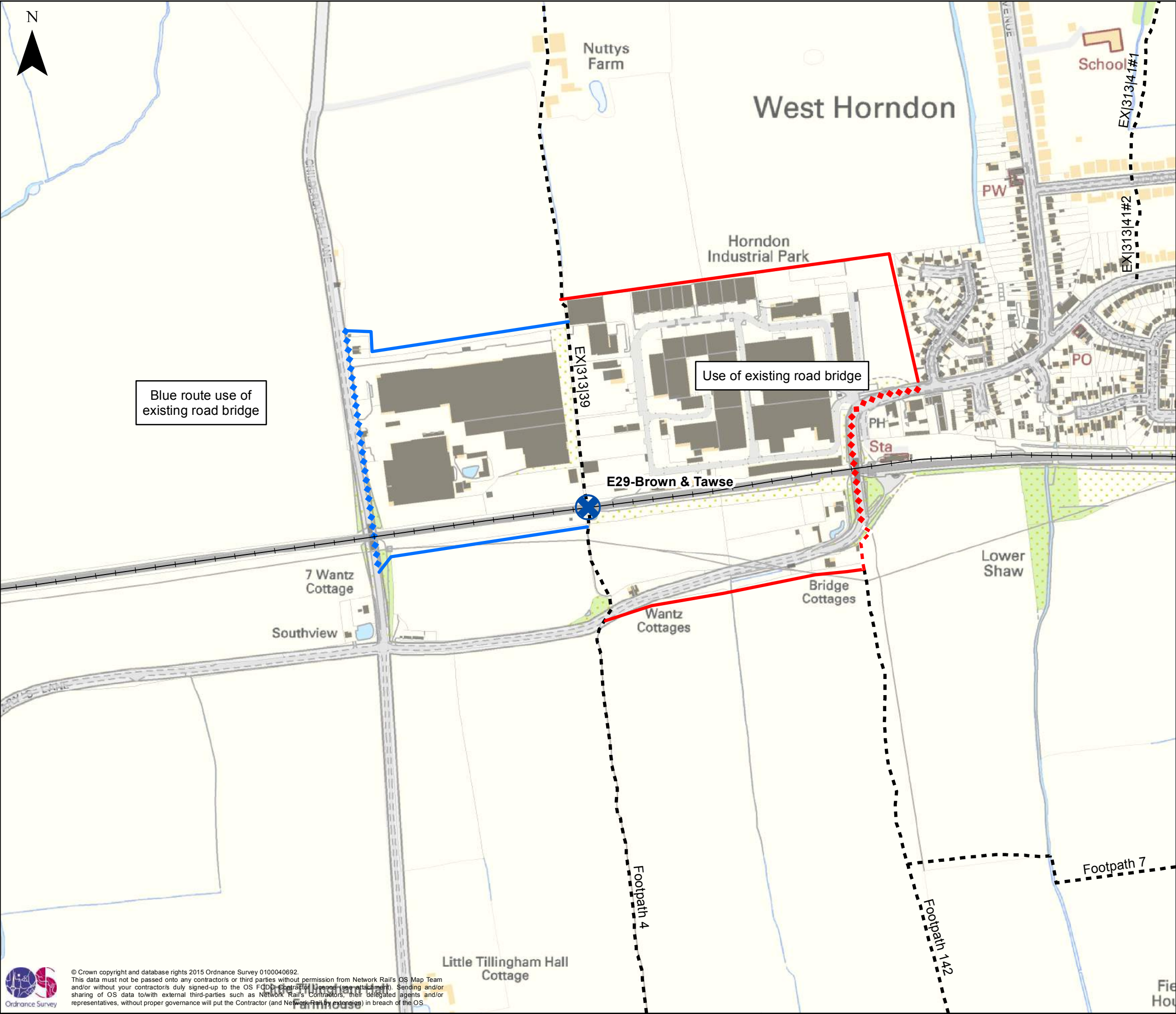
- Creation
- Extinguishment
- Use of existing
- Change of status
- No change to existing status

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GRIP 1 Proposals

E29 - Brown & Tawse Essex West Horndon CP EX/313/39						
P2	07/12/2015	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd





Level crossing being discussed

Alternative Options

- Red Route
- Blue Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



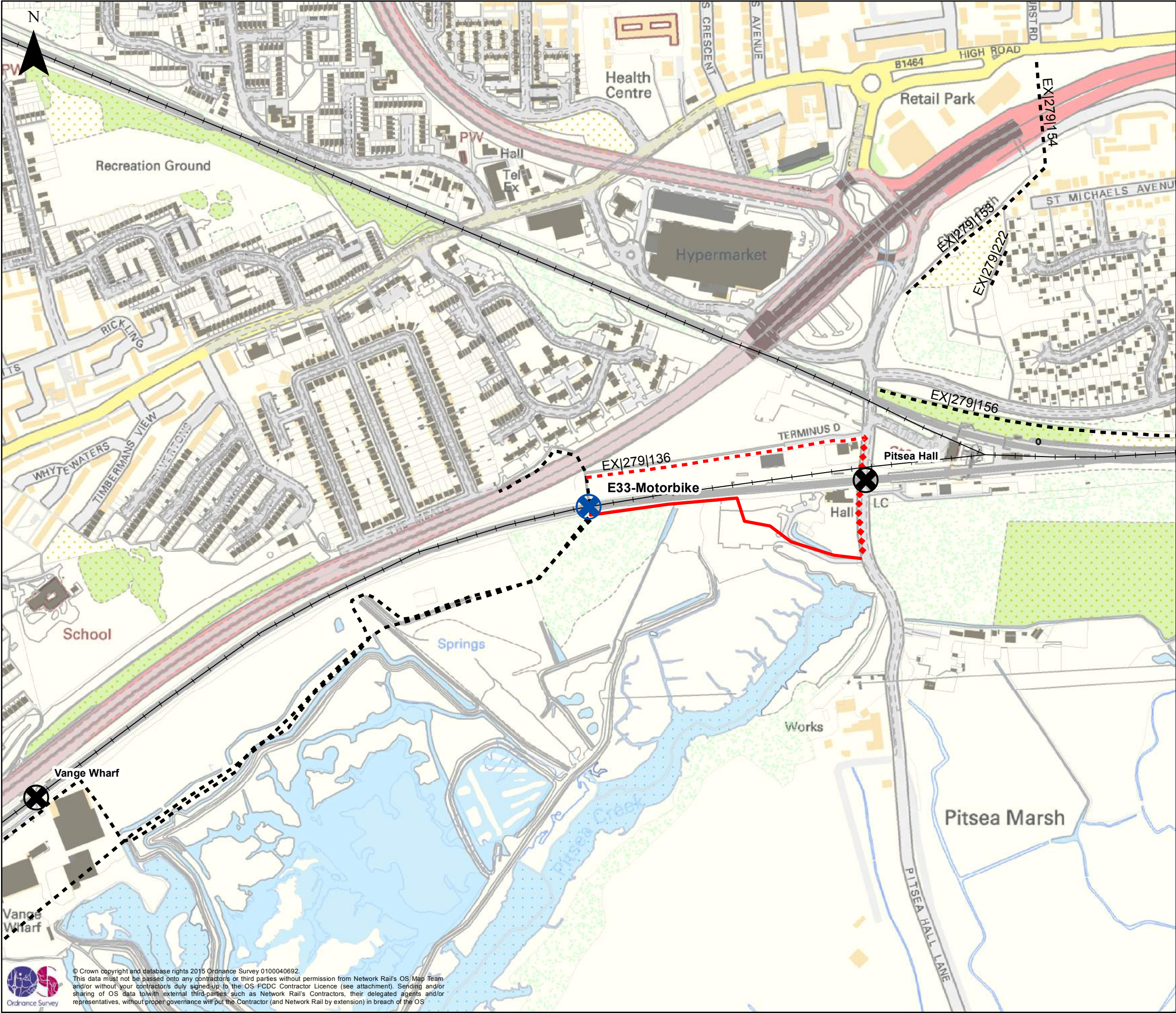
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Anglia LX Consultation Stage 1

E29 - Brown & Tawse
Essex
West Horndon CP

P3	16/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3 1:5,000	Drawing No. MMD-367516-E29-GEN-002
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- Level crossing being discussed
- Other level crossings

Alternative Options

Red Route

A solid line indicates a proposed new Public Right of Way (type to be determined).

Other line types using the above route option colours indicate use of existing Public Rights of Way.

Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

- Footpath
 - Bridleway
 - Restricted byway
 - Byway open to all traffic
 - Highway (where used)
- If this line is in a colour, this denotes use by a route option (see above).



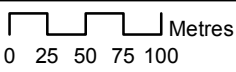
2 Brewery Wharf
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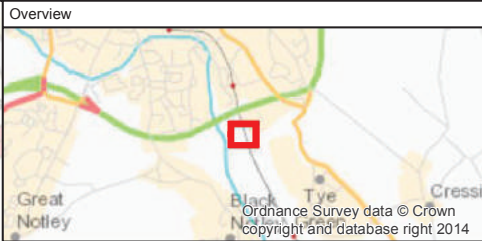
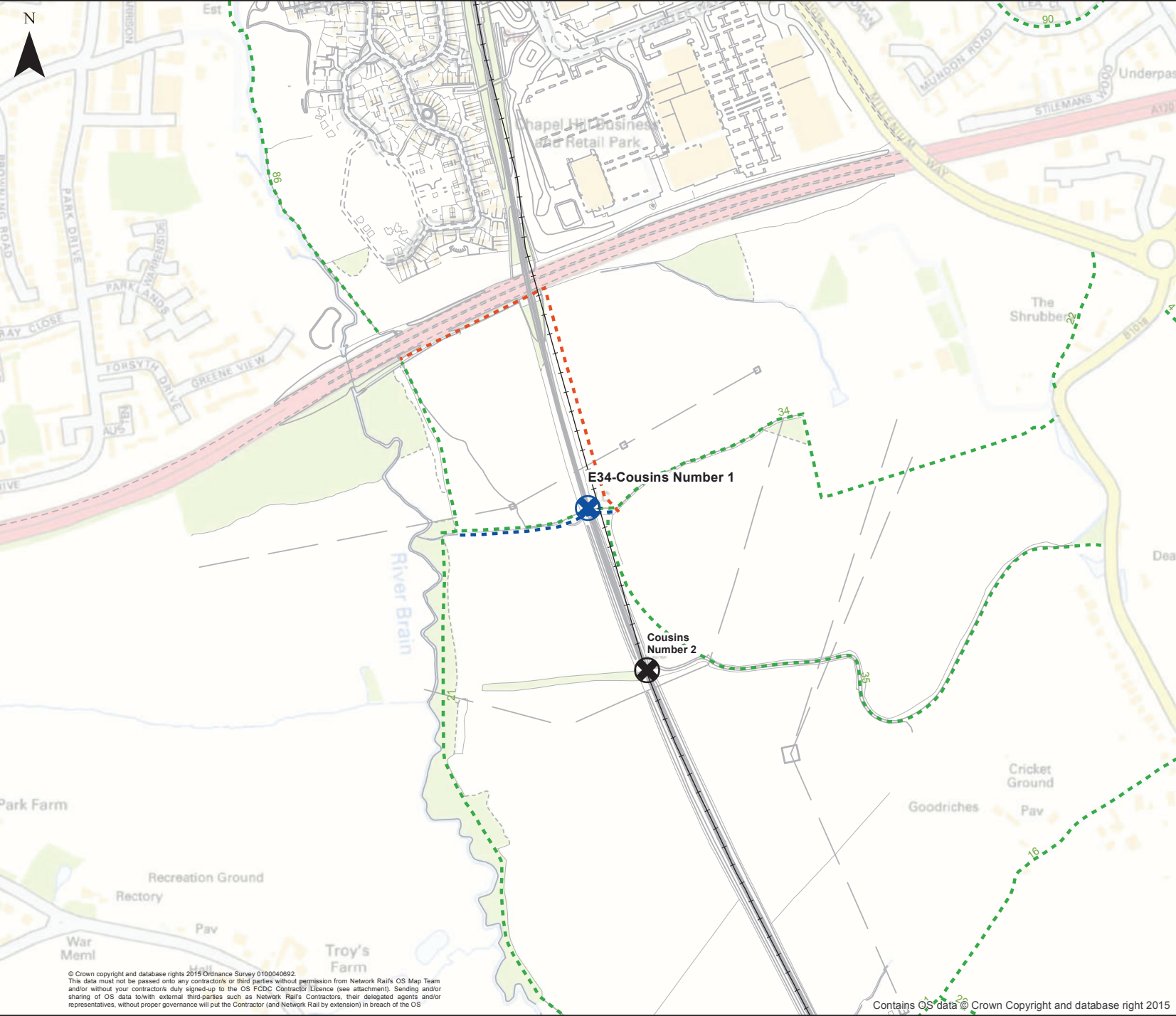
Anglia LX Consultation Stage 1

E33 - Motorbike
Essex
Basildon District

P3	16/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3 1:5,000	Drawing No. MMD-367516-E33-GEN-002
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Current level crossing

Other level crossing

Right of way/highway symbology by type

Footpath

Bridleway

Restricted byway

Byway open to all traffic

Highway (only shown where a change of use is proposed)

Right of way/highway symbology by proposed status

Creation

Extinguishment

Use of existing

Change of status

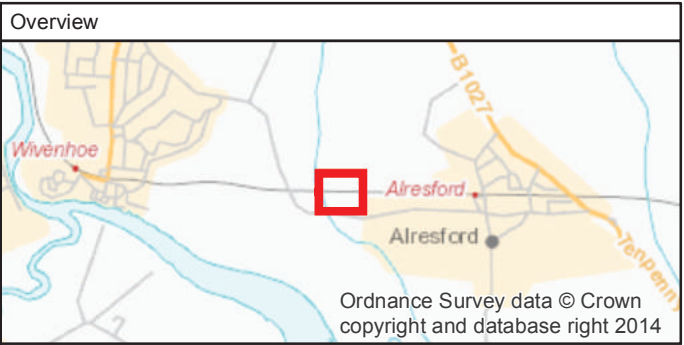
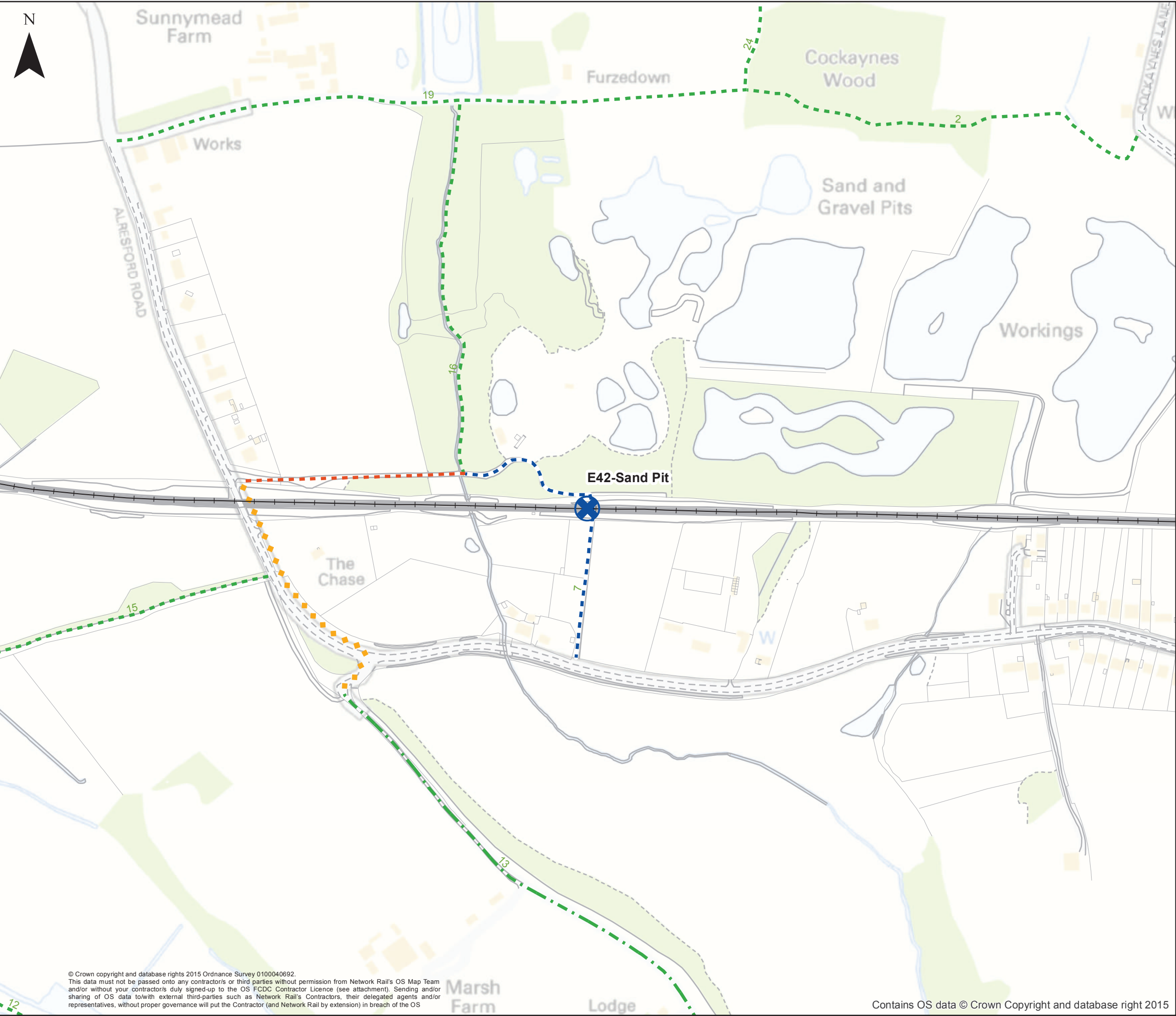
No change to existing status

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GRIP 1 Proposals

E34 - Cousins Number 1 Essex Crossing CP

P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd



Current level crossing

Right of way/highway symbology by type

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (only shown where a change of use is proposed)

Right of way/highway symbology by proposed status

- Creation
- Extinguishment
- Use of existing
- Change of status
- No change to existing status

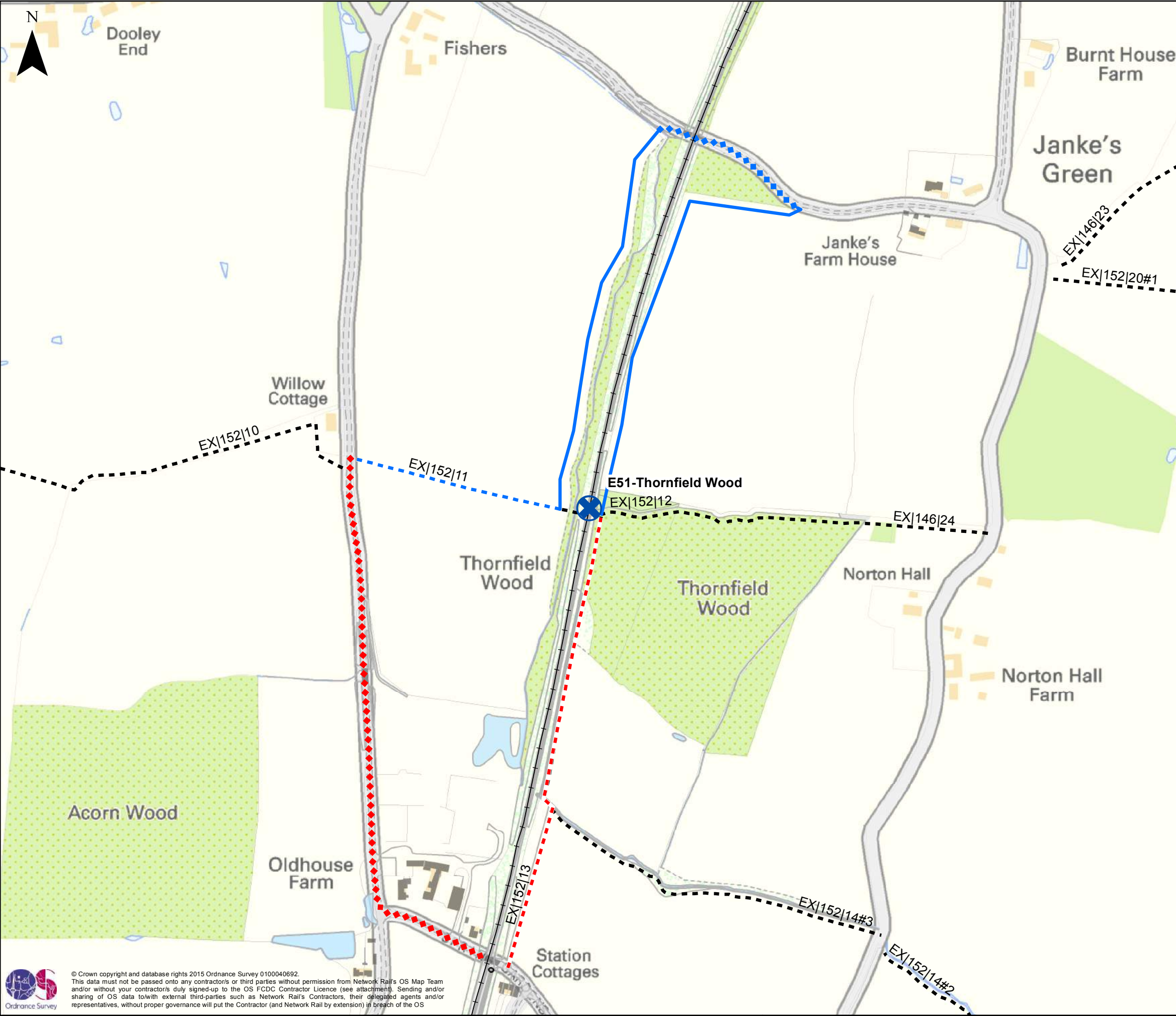
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GRIP 1 Proposals

E42 - Sand Pit Essex Elmstead CP						
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

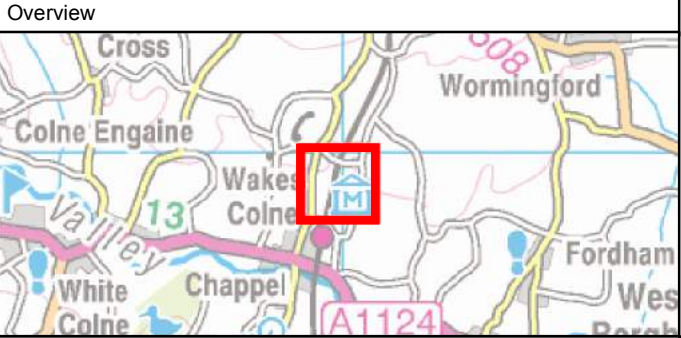
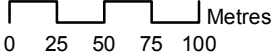
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1:4,000

Drawing No.
MMD-354763-E42-GEN-001



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Level crossing being discussed

Alternative Options

Red Route

Blue Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

Footpath

Bridleway

Restricted byway

Byway open to all traffic

Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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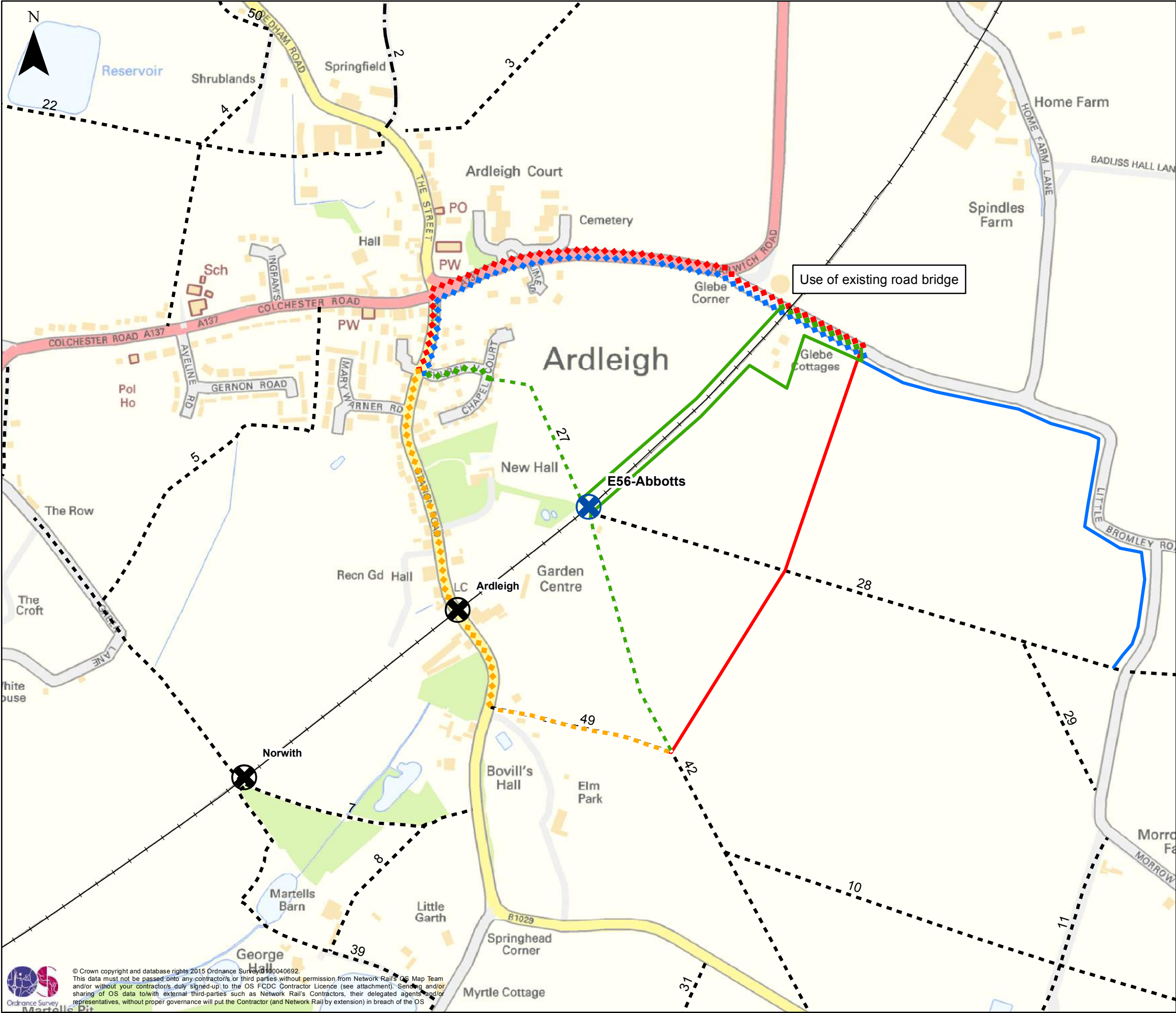
Anglia LX Consultation Stage 1

E51 - Thornfield Wood
Essex
Wakes Colne CP

P3	15/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:4,000

Drawing No.
MMD-367516-E51-GEN-002



- Level crossing being discussed
- Other level crossings

Alternative Options

- Red Route
- Blue Route
- Green Route
- Orange Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

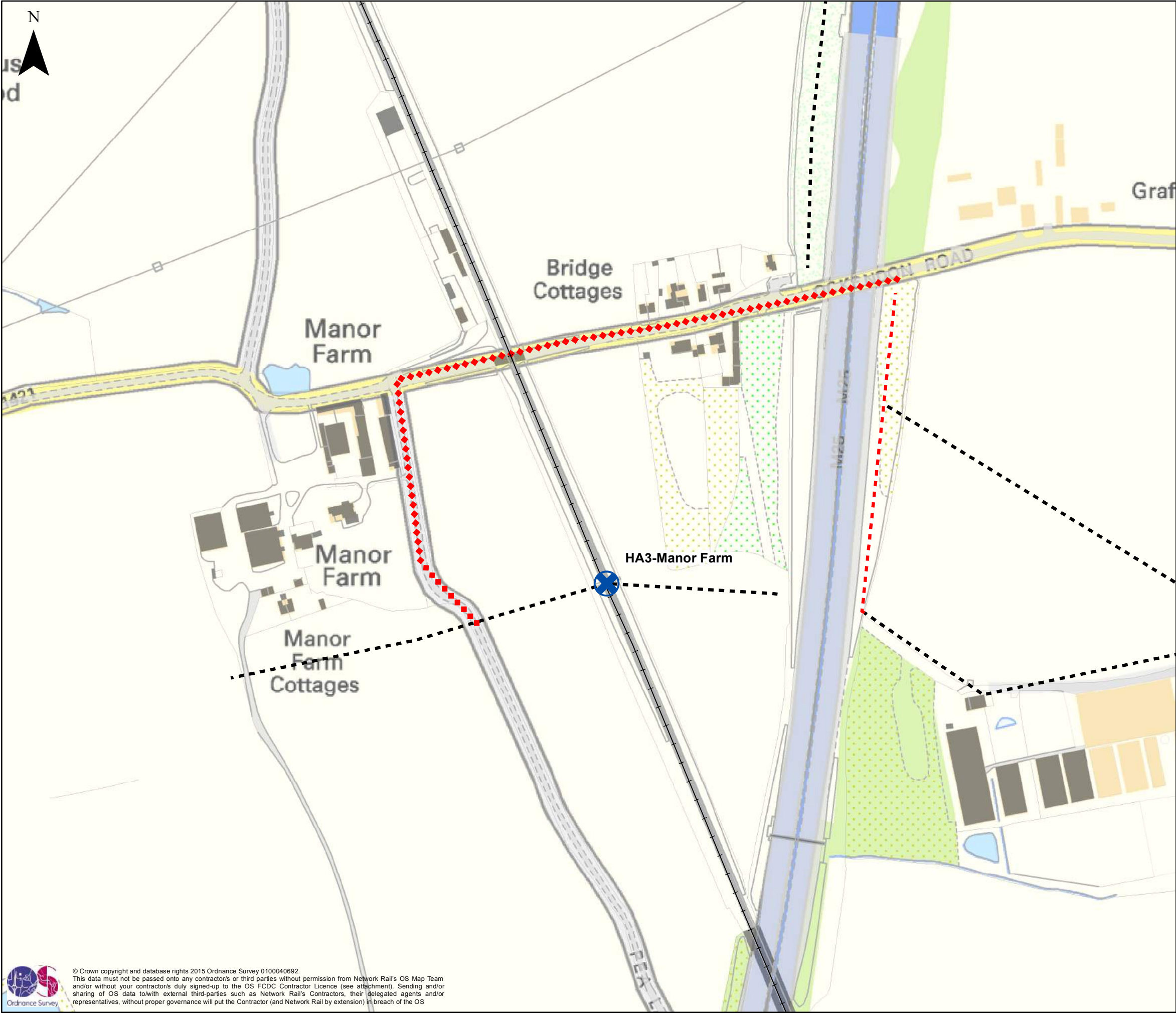
- Footpath
 - Bridleway
 - Restricted byway
 - Byway open to all traffic
 - Highway (where used)
- If this line is in a colour, this denotes use by a route option (see above).



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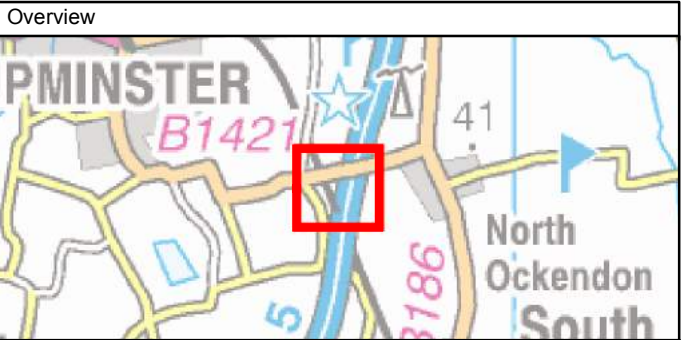
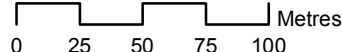
Anglia LX Consultation Stage 1

E56 - Abbots Essex FP27/ FP28 Ardleigh						
P3	15/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd



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Level crossing being discussed

Alternative Options

Red Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

Footpath
 Bridleway
 Restricted byway
 Byway open to all traffic
 Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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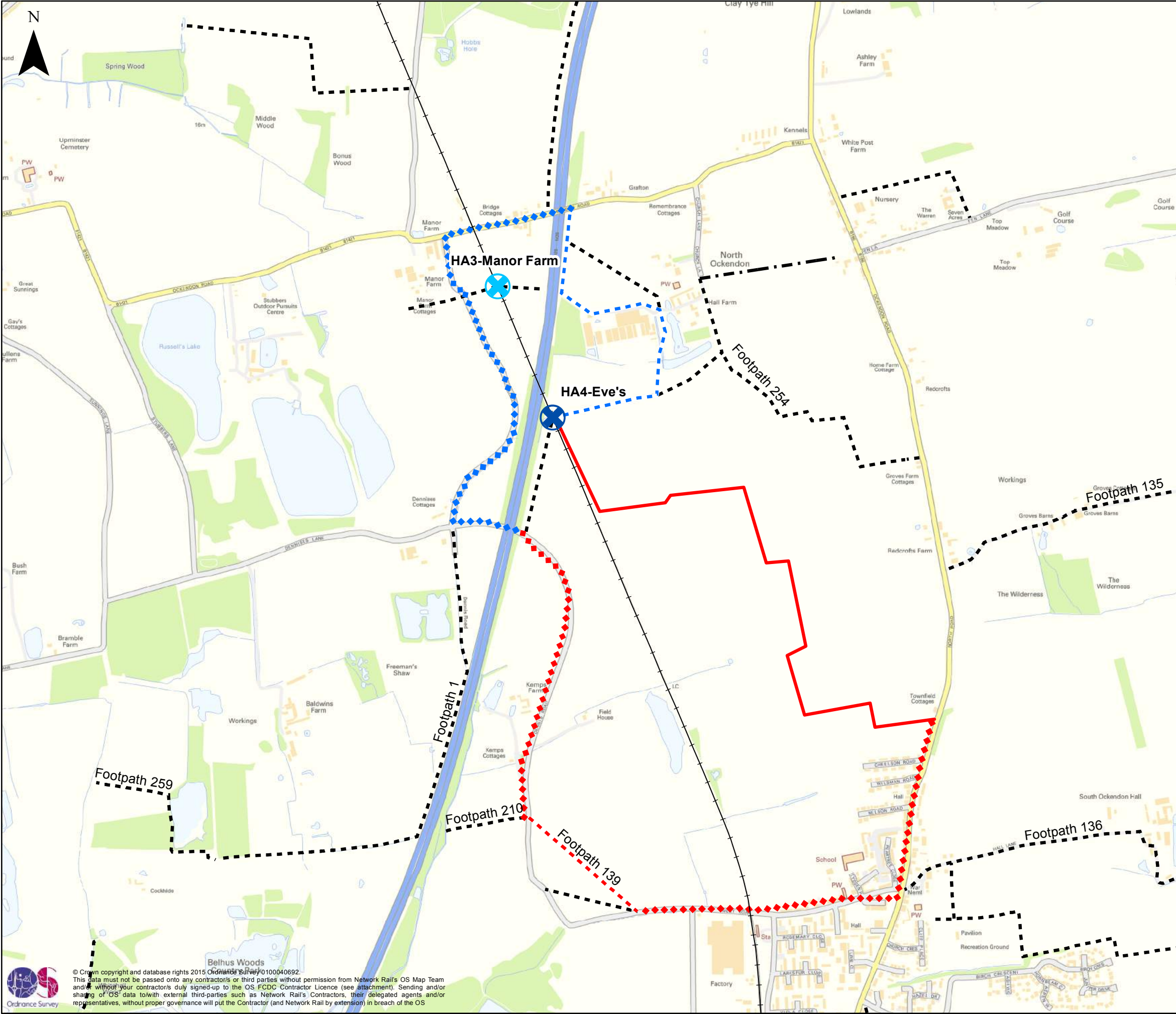
Anglia LX Consultation Stage 1

HA3 - Manor Farm
Essex
FP251 Havering

P3	17/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:3,000

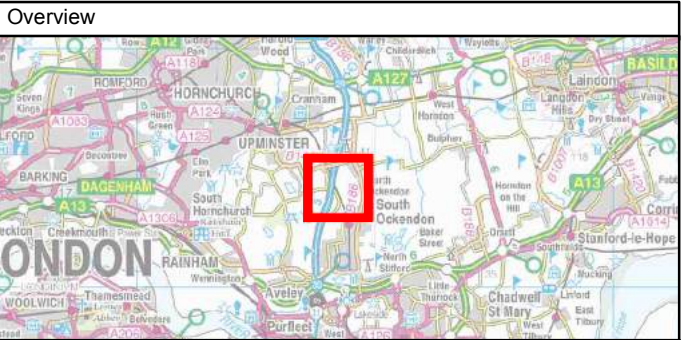
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Metres
02507500



- Level crossing being discussed
- Other level crossing in the project

Alternative Options

- Red Route
- Blue Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



2 Brewery Wharf
Kendell Street
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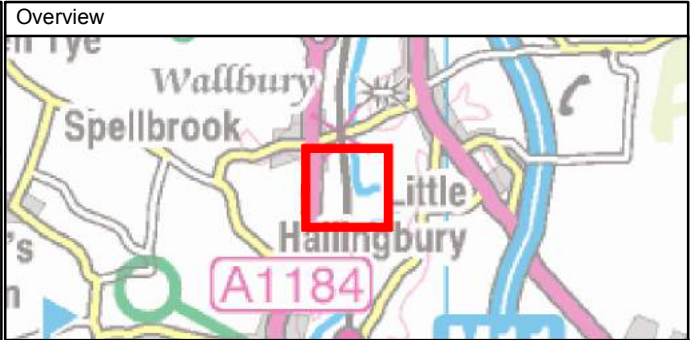
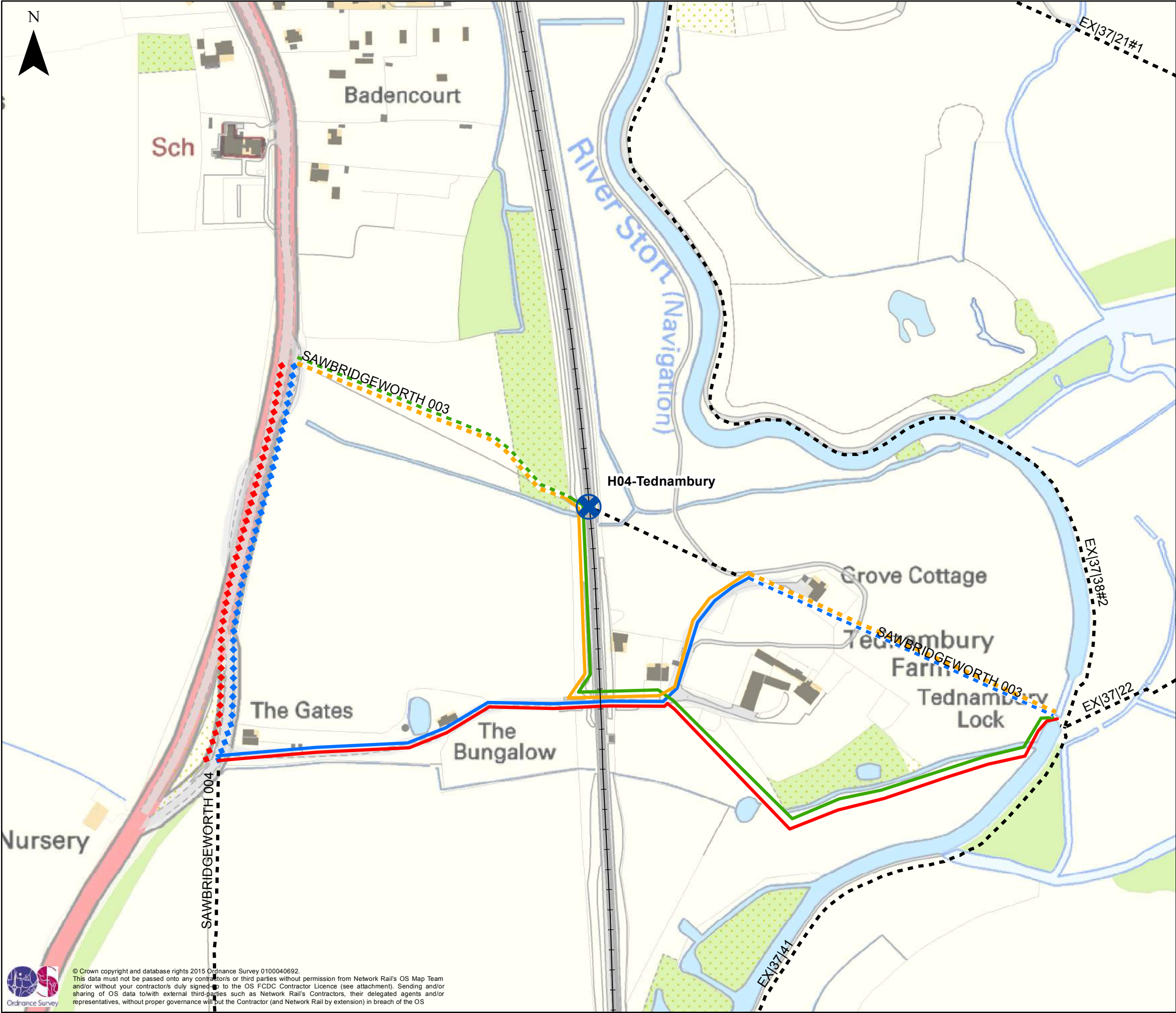
Anglia LX Consultation Stage 1


HA4 - Eve's
Essex
FP252 Havering

P3	17/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:12,000

Drawing No.
MMD-367516-HA4-GEN-002








 Level crossing being discussed

Alternative Options

-  Red Route
-  Blue Route
-  Green Route
-  Orange Route

A solid line indicates a proposed new Public Right of Way (type to be determined).
Other line types using the above route option colours indicate use of existing Public Rights of Way.
Right of way extinguishments are still to be determined and are not shown for clarity given multiple options.

Existing Public Rights of Way

-  Footpath
-  Bridleway
-  Restricted byway
-  Byway open to all traffic
-  Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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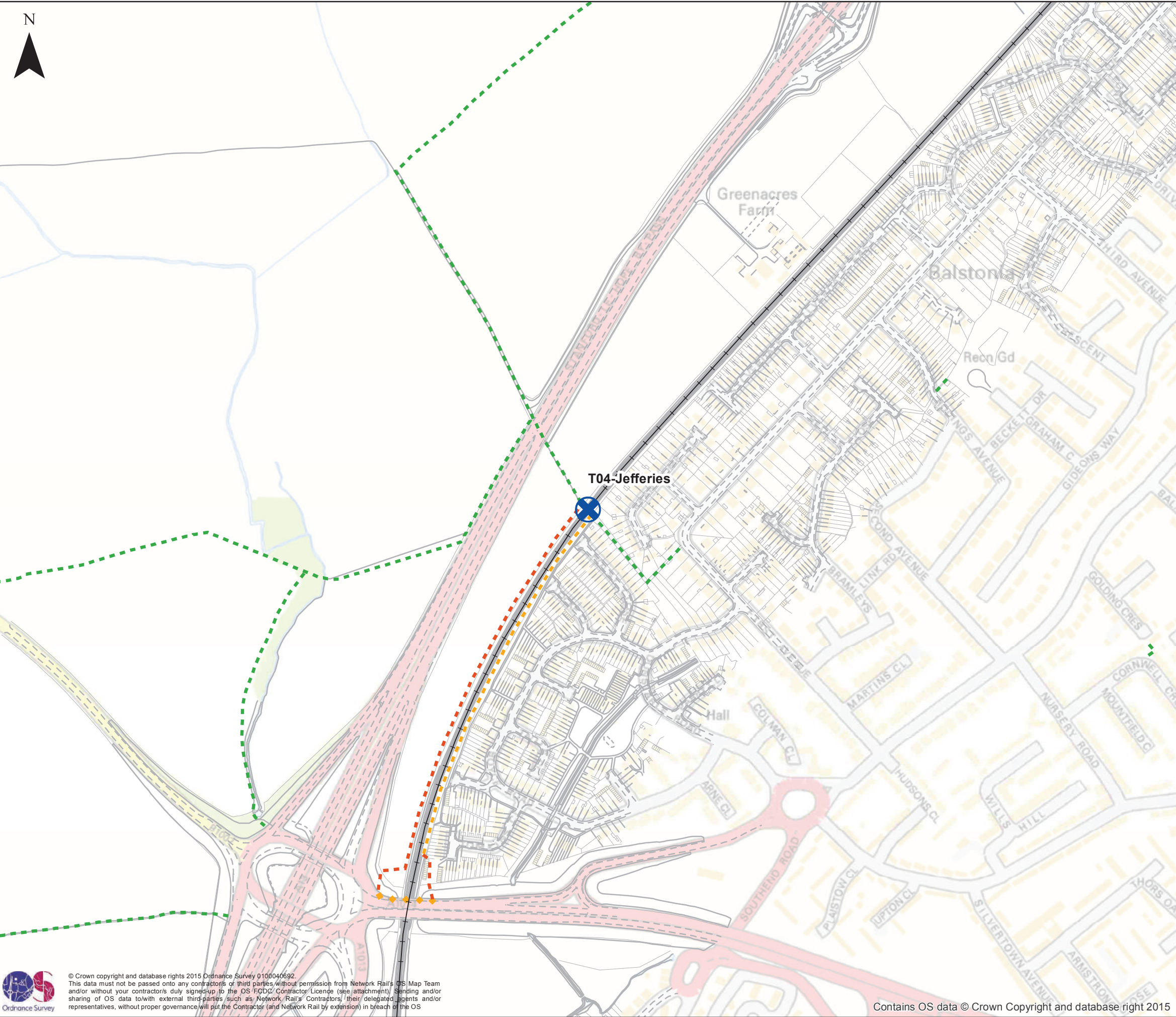
Anglia LX Consultation Stage 1

H04 - Tednambury
Hertfordshire
Sawbridgeworth CP

P3	20/06/2016	Revised Format	WC	-	SJP	JAS
P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

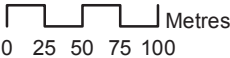
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Drawing No.
MMD-367516-H04-GEN-002

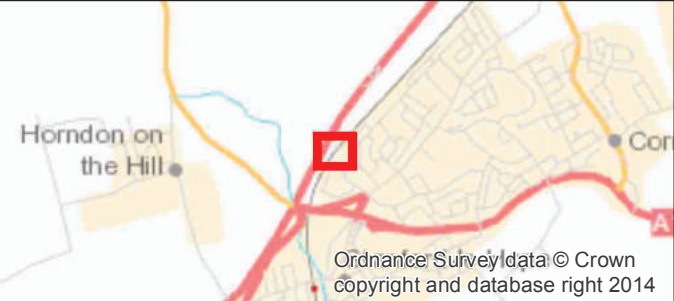


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Overview



Current level crossing

RoW_Thurrock

Type

Footpath

Right of way/highway symbology by type

Footpath

Bridleway

Restricted byway

Byway open to all traffic

Highway (only shown where a change of use is proposed)

Right of way/highway symbology by proposed status

Creation

Extinguishment

Use of existing

Change of status

No change to existing status



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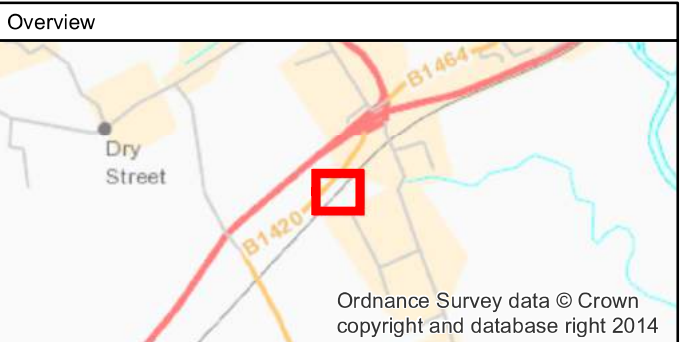
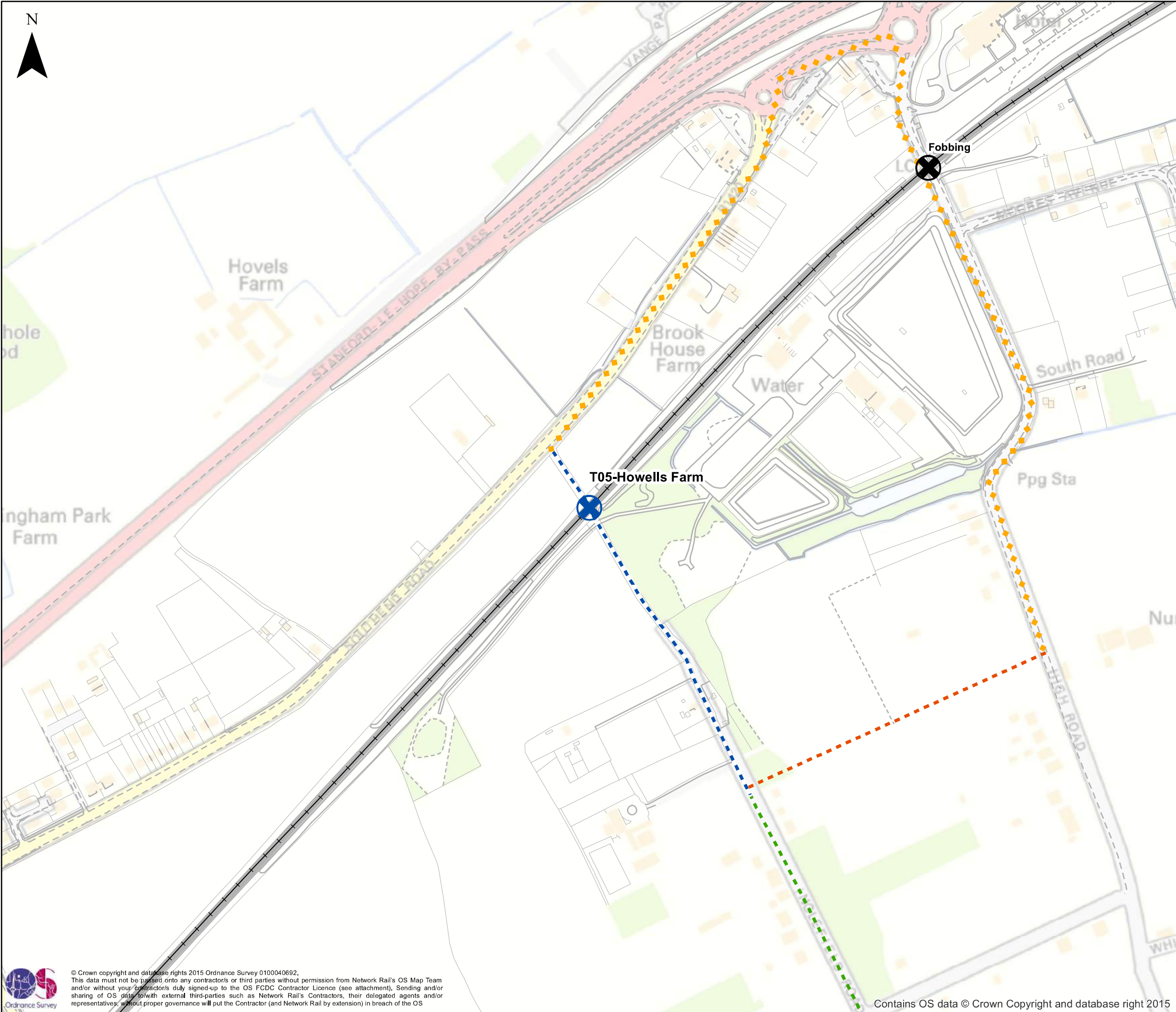
GRIP 1 Proposals

T04 - Jefferies
Thurrock Unitary Authority
Thurrock (B)

P2	07/12/2015	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
1:5,000

Drawing No.
MMD-354763-T04-GEN-001



Current level crossing

Other level crossing

RoW_Thurrock

Type

Footpath

Right of way/highway symbology by type

Footpath

Bridleway

Restricted byway

Byway open to all traffic

Highway (only shown where a change of use is proposed)

Right of way/highway symbology by proposed status

Creation

Extinguishment

Use of existing

Change of status

No change to existing status

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GRIP 1 Proposals

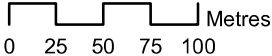
T05 - Howells Farm
Thurrock Unitary Authority
Thurrock (B)

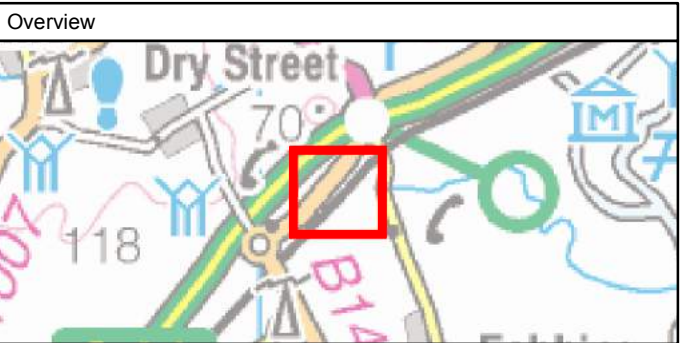
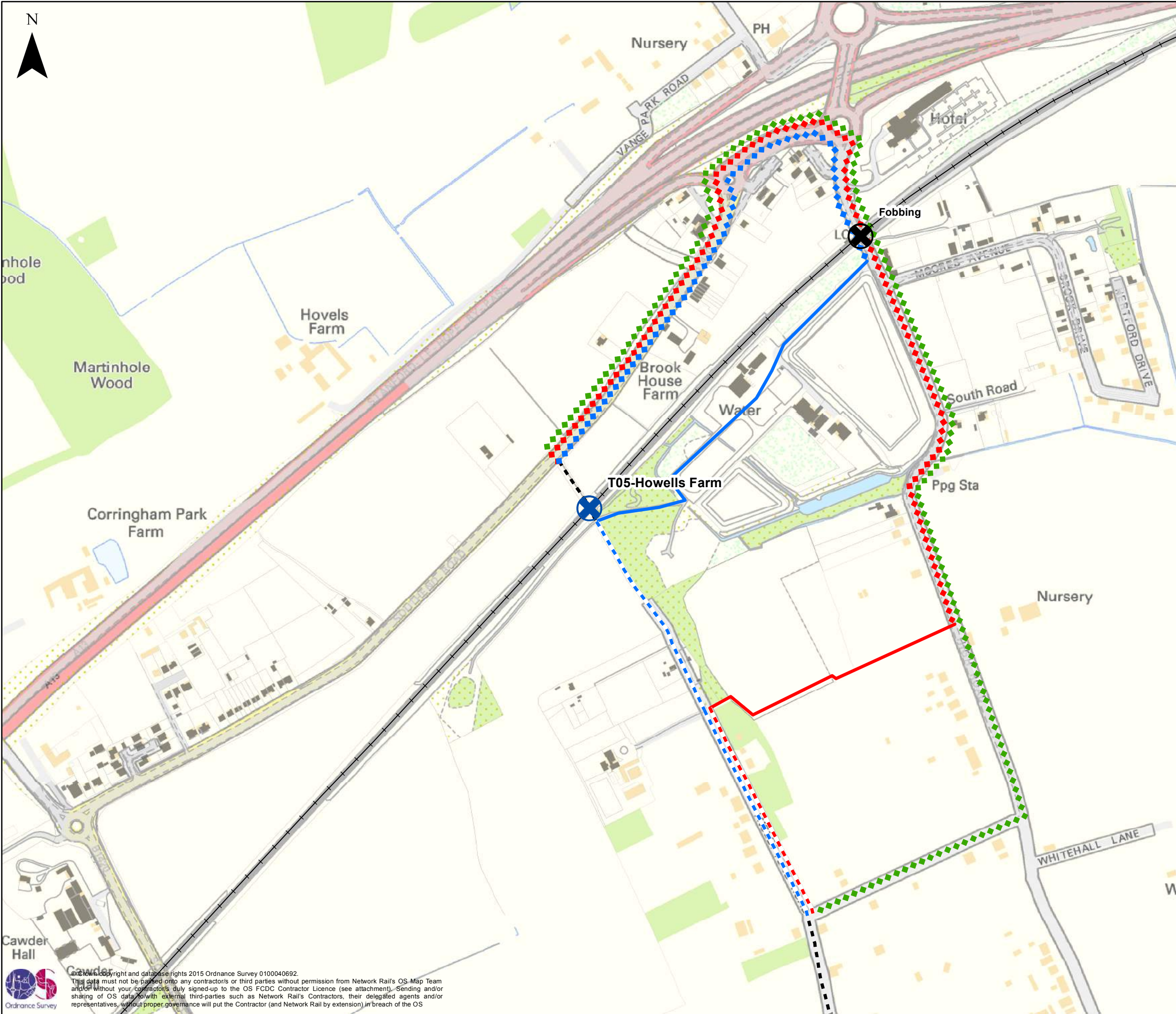
P2	07/12/2015	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3 1:4,000	Drawing No. MMD-354763-T05-GEN-001
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- Level crossing being discussed
- Other level crossings

Alternative Options

- Red Route
- Blue Route
- Green Route

A solid line indicates a proposed new Public Right of Way (type to be determined).

Other line types using the above route option colours indicate use of existing Public Rights of Way.

Existing Public Rights of Way

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic
- Highway (where used)

If this line is in a colour, this denotes use by a route option (see above).



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T05 - Howells Farm
Thurrock Unitary Authority
Thurrock (B)

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P2	20/01/2016	NR Comments	WC	-	SJP	JAS
P1	16/10/2015	For Information	WC	-	SJP	JAS
Rev	Date	Description	Dwn	E Chk	Ch'k'd	App'd

Scale at A3
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Drawing No.
MMD-354763-T05-GEN-002

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