

# Anglia Level Crossing Reduction Strategy

EIA Screening Request: Suffolk Order  
367516/RPT026 Revision E

18 January 2017







2 Brewery Wharf  
Kendell Street  
Leeds LS10 1JR  
United Kingdom

T +44 (0)113 394 6700  
F +44 (0)113 394 6701  
mottmac.com

Quadrant: MK  
Elder Gate  
Milton Keynes  
MK91EN

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# Issue and Revision Record

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# 1 Introduction

## 1.1 Introduction and Request

- 1.1.1 This Environmental Impact Assessment (EIA) Screening Request has been prepared by Mott MacDonald on behalf of Network Rail in relation to the closure of, and/or changes to rights at, 25 level crossings on railway lines within the county of Suffolk. The changes at these 25 level crossings are to be authorised under the proposed Network Rail Suffolk Level Crossing Reduction Order (herein known as the Suffolk Order) which is part of the wider Anglia Level Crossing Reduction Strategy. A figure showing the locations of the 25 level crossings within the Suffolk Order is shown in Appendix A. The level crossings are on mainlines only and the majority of the level crossings are located centrally in the county and some in the south east.
- 1.1.2 Network Rail requests an EIA Screening Decision from the Secretary of State for Transport in accordance with rule 7 of the Transport and Works Act (Applications and Objections Procedure) (England and Wales) Rules 2006 ("The Rules").

## 1.2 Request Structure

- 1.2.1 In accordance with rule 7(5) of the Rules, this request includes:
- (a) at Appendix A and B, plans sufficient to identify the land affected by the works in question;
  - (b) a brief description of the nature and purpose of the proposed works in Section 1.3; and
  - (c) a brief description of the possible effects of the works on the environment (in Chapter 3) and other information.

## 1.3 The Anglia Level Crossing Reduction Strategy

- 1.3.1 The purpose of the Anglia Level Crossing Reduction Strategy is to improve safety, allow Network Rail to more effectively manage its assets in the Anglia Region, reduce the ongoing maintenance liability of the railway and help enable various separate enhancement schemes to be developed in the future.
- 1.3.2 Closing or modifying level crossings can help to bring about several benefits as follows:
- Improve the safety of level crossing users;
  - Deliver a more efficient and reliable railway, which is vital in supporting the regional and UK economy;
  - Reduce the ongoing operating and maintenance cost of the railway;
  - Reduce delays to trains, pedestrians, and other highway users; and
  - Improve journey time reliability for railway, highway, and other rights of way users.



- 1.3.3 The Anglia Level Crossing Reduction Strategy comprises 5 phases. Phase 1 (mainline) and 2 (branch line) comprise level crossings where the proposals do not include any new form of grade separation across the railway, comprising:
- Private user worked crossings with telephones;
  - Private footpath crossings;
  - Public highway user worked crossings with telephones;
  - Public highway user worked crossings with miniature stop lights;
  - Public byway user worked crossings; and
  - Stop, look and listen public footpath level crossings.
- 1.3.4 The proposals are based on level crossings where benefits may be deliverable and affordable within the Network Rail Control Period 5 (to 31/3/19).
- 1.3.5 Phases 3 to 5 are intended to cover new grade separated crossings of the railway and diversion or downgrading of major highways. Network Rail has advised that these later Phases are likely to be implemented within Control Period 6 (2019 to 2024) after Phases 1 and 2 have been implemented. Phases 1 and 2 are not dependent on later Phases being implemented.
- 1.3.6 Within Phases 1 and 2, the Anglia Level Crossing Reduction Strategy comprises three separate projects, in the following administrative areas:
- The county of Cambridgeshire (the Cambridgeshire Level Crossing Reduction Order);
  - The county of Suffolk (the Suffolk Level Crossing Reduction Order); and
  - The county of Essex, the county of Hertfordshire, the unitary authorities of Thurrock and Southend-on-Sea and the London Borough of Havering (the Essex and Others Level Crossing Reduction Order).
- 1.3.7 Each of the three projects will be the subject of a separate application under the Transport and Works Act (TWA) 1992, and therefore a separate EIA Screening Request will be made for each project. Each Transport and Works Act Order (TWAO) application will include the necessary powers to implement the project with which it is concerned including the closure of certain crossings; the power to construct scheduled works (footpath/bridleway bridges and potentially new or altered roads) and other ancillary works; the extinguishment of or alteration (including downgrading) of the rights of way across certain levels crossings; the creation of new diversionary rights of way and the temporary occupation of, or permanent acquisition of, land or rights in land to construct and maintain works to create the new rights of way.
- 1.3.8 The nature and purpose of the works to be constructed is therefore:
- (a) to close the level crossings and extinguish existing rights of way across them, including erection of fencing; and
  - (b) to provide new rights of way (public or private) on diversionary routes including the construction of a number of footpath/bridleway bridges, and new or altered roads, creation of public paths, bridleways and cycle track and additional footways under the provisions of the Highways Act 1980. These may, in any particular case, require associated fencing, stiles, gates, signs, or other conveniences to create the new rights of way and may in some instances require surfacing to be provided.



## 2 Screening Approach

### 2.1 Requirement for EIA

- 2.1.1 The proposed works resulting from the closures of level crossings in the Suffolk Order have been considered under Annex II of the EIA Directive, Part 13(a) any change or extension of projects listed in Annex I or II, already authorised, executed or in the process of being executed, which may have significant adverse effects on the environment (change or extension not included in Annex I). The project to which the change relates is an Annex II project listed in Part 10(c) the construction of railways and intermodal transshipment facilities, and of intermodal terminals (projects not included in Annex I).
- 2.1.2 For the purpose of this EIA Screening Request, the test to be applied is whether the project would be likely to result in significant effects upon the environment, having regard to the selection criteria in Annex III of the EIA Directive. Specifically:
- The characteristics of the project must be considered having regard, in particular, to; the size of the project, the cumulation with other projects, the use of natural resources, the production of waste, pollution and nuisances and the risk of accidents, having regard in particular to substances or technologies used;
  - The environmental sensitivity of geographical areas likely to be affected by the project must be considered, having regard, in particular, to; the existing land use, the relative abundance, quality and regenerative capacity of natural resources in the area, the absorption capacity of the natural environment, paying particular attention to the following areas: wetlands, coastal zones, mountains and forest areas, nature reserves and parks, areas classified or protected under legislation, areas in which the environmental quality standards laid down in Union legislation have already been exceeded, densely populated areas and landscapes of historical, cultural or archaeological significance; and
  - The potential significant effects of the project must be considered in relation to criteria set out in points 1 and 2, and having regard in particular, to; the extent of the impact (geographical area and size of the affected population), the transfrontier nature of the impact, the magnitude and complexity of the impact, the probability of the impact and the duration, frequency and reversibility of the impact. Annex IV of the EIA Directive specifies a range of environmental issues that should be addressed as part of the EIA screening process. These issues comprise; population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.
- 2.1.3 Climatic factors have not been included within this EIA Screening Request as it is considered that the proposals are small in scale and will be unlikely to affect climate. In addition, whilst it is noted that traffic and transport is not an EIA screening criteria as listed above, owing to the transport elements of the scheme this has been included as other information, as referred to in 7 (5) c of the Rules. As a result, the following



environmental topics have been considered in this EIA Screening Request to comply with the requirements of Annex III:

- Ecology;
- Landscape;
- Historic environment;
- Ground conditions;
- Water resources;
- Traffic and transport;
- Noise;
- Air quality; and
- Socio-economics and community.

## 2.2 Screening Approach

- 2.2.1 In order to determine the likelihood of the Suffolk Order resulting in significant environmental effects, a high level assessment was conducted against the EIA screening criteria outlined in Section 2.1.
- 2.2.2 Table 1 details the screening criteria, as stated in Annex III, and aligns the criteria with either the location within this EIA Screening Request where the results of the assessment are reported or states that the criteria is not applicable to this project.

**Table 1: Annex III Screening Criteria**

<b>Annex III Screening Criteria</b>	<b>Method of Assessment</b>
<b>1 Characteristics of projects</b>	
The size of the project	This screening criteria is detailed in Chapter 1, Section 1.1, and in the screening assessment tables for each level crossing in Chapters 4 - 28
The cumulation with other projects	This screening criteria is assessed in Chapter 29
The use of natural resources	This screening criteria is detailed in Chapter 2, Section 2.5
The production of waste	This screening criteria is detailed in Chapter 2, Section 2.5
Pollution and nuisances	This screening criteria is assessed in the water, ground conditions, traffic and transport, air quality and noise sections of the screening assessment tables for each level crossing in Chapters 4 - 28
The risk of accidents, having regard in particular to substances or technologies used	This screening criteria is not applicable as the objective of the Anglia Level Crossing Reduction Strategy is to reduce the risks of accidents on the rail network
<b>2 Location of projects</b>	
The existing land use	This screening criteria is described in the level crossing context of the screening assessment tables for each level crossing in Chapters 4 - 28
The relative abundance, quality and regenerative capacity of natural resources in the area	This screening criteria is assessed in the landscape, ecology, water environment and ground conditions sections of the screening assessment tables for each level crossing in Chapters 4 - 28
Absorption capacity of natural environment relating to: Wetlands	This screening criteria is assessed in the ecology section of the screening assessment tables for each level crossing in Chapters 4 - 28
Absorption capacity of natural environment relating to: Coastal zones	This screening criteria is not applicable as the Suffolk Order is not near to any coastal areas



Annex III Screening Criteria	Method of Assessment
Absorption capacity of natural environment relating to: Mountain and forest areas	This screening criteria is not applicable as the Suffolk Order is not near to any mountain or forest areas
Absorption capacity of natural environment relating to: Nature reserves and parks	This screening criteria is assessed in the ecology section of the screening assessment tables for each level crossing in Chapters 4 - 28
Absorption capacity of natural environment relating to: Areas classified or protected under Member States' legislation	This screening criteria is assessed in the ecology section of the screening assessment tables for each level crossing in Chapters 4 - 28
Absorption capacity of natural environment relating to: Areas in which the environmental quality standards laid down in Union legislation have already been exceeded	This screening criteria is assessed in the air quality section of the screening assessment tables for each level crossing in Chapters 4 - 28
Absorption capacity of natural environment relating to: Densely populated areas	This screening criteria is assessed in the air quality, noise, traffic and transport, and socio-economic sections of the screening assessment tables for each level crossing in Chapters 4 - 28
Absorption capacity of natural environment relating to: Landscapes of historical, cultural or archaeological significance	This screening criteria is assessed in the landscape and historic environment sections of the screening assessment tables for each level crossing in Chapters 4 - 28
<b>3 Characteristics of the potential impact</b>	
The extent of the impact (geographical area and size of the affected population)	This screening criteria is considered in all environmental topic sections of the screening assessment tables for each level crossing in Chapters 4 - 28
The transfrontier nature of the impact	This screening criteria is considered in all environmental topic sections of the screening assessment tables for each level crossing in Chapters 4 - 29
The magnitude and complexity of the impact	This screening criteria is considered in all environmental topic sections of the screening assessment tables for each level crossing in Chapters 4 - 29
The probability of the impact	This screening criteria is considered in all environmental topic sections of the screening assessment tables for each level crossing in Chapters 4 - 28
The duration, frequency and reversibility of the impact	This screening criteria is considered in all environmental topic sections of the screening assessment tables for each level crossing in Chapters 4 - 28

## 2.3 Information Sources

- 2.3.1 The proposals used to inform this EIA Screening Request are based on design information available on 28 November 2016. These design proposals are presented in Appendix A and B of this document and should be viewed in conjunction with the Environmental Constraints Plans presented in Appendix C of this document.
- 2.3.2 Environmental constraints used to inform this assessment include those identified that are within 1km of the proposals for each level crossing. This is due to the relatively minimal and localised nature of the works, which are not considered to be of a scale sufficient to affect receptors beyond this distance. This assumption is based on previous experience from similar projects and professional judgement.
- 2.3.3 This EIA Screening Request is based upon findings from both field surveys and desk studies where every effort has been made to ensure that the data is accurate and up to



date. These have been undertaken by experienced technical environmental specialists. Other information sources which have been used to inform this report include:

- Department for Food and Rural Affairs (DEFRA), Multi-Agency Geographic Information for the Countryside (MAGIC);
- Environment Agency, What's in your backyard?;
- Historic England, online map search;
- Suffolk County Council planning documentation;
- Ordnance Survey web-based mapping; and
- Web-based aerial and street photography.

- 2.3.4 Initial environmental surveys were undertaken at each level crossing by an environmental consultant during an earlier stage of the project in 2015. Further ecological constraints surveys and protected species surveys were undertaken by a suitably qualified ecologist at the appropriate time of year in 2016.

## 2.4 Consultation

- 2.4.1 Throughout the EIA screening process, consultation has been undertaken or is underway with the relevant statutory consultees. The contact details for these parties are outlined in the cover letter attached with this screening request. These include:

- Environment Agency;
- Natural England;
- Historic England; and
- Suffolk County Council.

- 2.4.2 In addition, consultation with landowners, the public and various other interest groups has been undertaken. Following consultation five level crossings have been removed from the Suffolk order (S14 Steggals, S15 Finningham, S19 Rectory Road, S20 Beecroft, S26 Great Barton and S32 Haughley Green).

## 2.5 Assumptions

- 2.5.1 At this stage of the project, some assumptions have been made regarding detailed design and construction information. Therefore, a list of key assumptions has been developed to enable an assessment to be made for this EIA Screening Request. These are described below:

- It is assumed that unless otherwise approved by the Local Planning Authority (LPA), construction operations on land outside of Network Rail ownership shall not occur:
  - Before 7:30 hours on weekdays and 8:00 hours on Saturdays nor after 19:00 hours on weekdays and 18:00 hours on Saturdays; or
  - At anytime on Sundays, Bank Holidays, or Christmas Day.
- It is assumed that construction operations may occur at anytime on Network Rail land in order to minimise disruption to the railway. Some work at night may be required, only where works cannot be carried out safely during the day due to normal train service operations;



- Where necessary for the safe undertaking of construction operations, temporary lighting shall be provided. This will be directional and set up to minimise obtrusive lighting spill to third parties;
- As Network Rail contractors are required to comply with Network Rail's Contract Requirements Environment (CR-E) document NR/L2/ENV/015 Issue 6 (2011), it has been assumed in considering potential effects for this screening request that all construction work will be carried out in accordance with the standard principles outlined in the CR-E (located in Appendix D). In addition to the CR-E, a Construction Environmental Management Plan (CEMP) will be prepared and implemented by the appointed contractor and will be agreed with the LPA. The CEMP will be aligned to the principles in the CR-E;
- Temporary construction compounds will be less than 1000m<sup>2</sup> in area unless agreed otherwise with the LPA. These will be required during the works, and will accommodate construction vehicles, equipment, materials storage and welfare facilities. It is assumed that the compounds will service multiple level crossing works where it is geographically feasible. The locations for the construction compounds are yet to be decided. Any construction compounds required would be managed through the general application of CR-E that would include appropriate risk management and communication protocols with stakeholders;
- Existing railway access points will be used where possible during construction. Where additional access is required, this will be provided using appropriate routes that may include adopted highway and other rights of way. Any land required for access will be included in the TWA Order limits;
- It is assumed that fencing will be as follows:
  - a. At the points of the crossing to be closed: either type F4 or F7 (as marked on the plans in Appendix B) unless otherwise stated in the scheme description;
  - b. Where a public right of way (PRoW) is diverted alongside the railway line: either type F4 or F7 (as marked on the plans in Appendix B);
  - c. To close off an extinguished length of a PRoW: type F1 unless otherwise stated in the scheme description (not marked on the plans in Appendix B);
  - d. Alongside new PRoW: either type F4 or F7 (not marked on the plans in Appendix B); and
  - e. To tie into existing features for up to 50m either side of the crossing to prevent trespass: either type F4 or F7 (not marked on the plans in Appendix B).

Although fencing in the locations described in c. to e. above has not been surveyed or assessed, but applying professional judgement in those cases, it is unlikely that fencing required for the scheme will have significant effects on the environment given its limited size, type, extent and locations. Furthermore, the fencing works will be carried out in accordance with Network Rail's CR-E which provides for recognised best practice measures to address any environmental concerns found on-site prior to construction;
- Where required, excavation of material for the installation of new footpath or bridleway will be limited to a maximum depth of 100mm, except where earthworks are required to make a suitable gradient and walking surface;
- It is assumed that no new underground structures, watercourse diversions, or substantial changes to ground levels are proposed;
- Where requirements for design and construction are not detailed, it is assumed that standard best practice design specification and construction practice will be used;



- No construction operations shall take place until a scheme detailing the proposed site arrangements, including its phasing, has been submitted to and approved in writing by the LPA;
- The proposed works will necessitate the use of some natural resources, including timber and stone. Appropriate sustainable construction techniques will be adopted; and
- The dismantling of existing level crossing infrastructure will inevitably generate waste. However, the use of resources can be minimised through construction site best practice and by maximising the amount of materials that can be re-used or recycled.
- It is assumed that a request for deemed planning permission under section 90(2A) of the Town and Country Planning Act 1990 for the works will be sought with the TWA Order application which will include any necessary conditions.

## 2.6 Project Design Details

- 2.6.1 Throughout this EIA Screening request, reference has been made to specific design details such as types of footpaths and types of fencing which can be identified by individual codes. As the project progresses, the design details outlined in Table 2 below will be superseded by the Suffolk Urban Design and Access Statement (367516/RPT023) which will be submitted as part of the Suffolk Order documentation. The design details listed in Table 2 are scheme wide and therefore may not be included within the proposal plans for the Suffolk Order.

**Table 2: Project Design Details**

Reference Code	Description
<b>Fencing</b>	
F1	Fencing with concrete posts and six wires without barbed wire - height 1.275m
F2	Fencing with concrete posts and six wires and barbed wire - height 1.275m
F3	Fencing with timber posts and intermediate timber posts and wire - wooden picket fence - height 1.2m
F4	Chain Link Fencing to British Standard 1722: 1 1999 (Fences) - height 1.8m
F5	Wooden Palisade fencing to British Standard 1722: 1 1999 (Fences) - height 1.8m
F6	Wooden Post and Three Rail Fencing - height 1.3m
F7	Stained wire fence with stock proof fence - height 1.35m
F8	Close Boarded wooden fencing to BS 1722 - height 1.80m
F9	Steel palisade security fence – height 2.0m
F10	Acoustic fence - height 2.10m
<b>Footpath/Bridleway/Footway</b>	
P1	Footpath Type 1 - unsurfaced footpath PROW
P2	Footpath Type 2 - unsurfaced bridleway PROW
P3	Footpath Type 3 - gravel/stone surface footpath PROW
P4	Footpath Type 4 - stone block footpath PROW



Reference Code	Description
P5	Tarmac planings surfaced Cyclepath
P6	Wooden Footpath boardwalk
P7	Asphalt footway
P8	Planings footway
P9	Tactile crossing
P10	Pedestrian Refuge Island
P11	Hoggin Footpath - Hoggin is a compactable groundcover that is composed of a mixture of clay, gravel, and sand or granite dust that produces a buff-coloured bound surface.
<b>Bridges</b>	
C-B1	Footbridge Cambridge Type 1 – Sawn timber (hardwood) <5m in length. Will be non-slip and gradients will be EA 2010 compliant. Footbridge will be 1.8m in width with a locked bollard at each end of the bridge. Parapet height will be 1m with post and 2 rail
C-B2	Footbridge Cambridge Type 2 – Galvanised steel and hardwood timber composite, 5-8m in length. Footbridge will be 1.8m in width with a locked bollard at each end of the bridge. Parapet height will be 1m with post and 2 rail
C-B3	Footbridge Cambridge Type 3 - Steel >8m in length
B4	Bridleway Bridge -- 3m width with a locked bollard at each end of the bridge. Parapet height will be 1.8m with in-filled solid panels. A timber toe board to prevent hooves from slipping off the deck is required (at least 250mm)
B5	Culvert
S-B1	Footbridge Suffolk - wooden <5m
<b>Steps</b>	
S1	Wooden sleeper steps
S2	Timber board steps
<b>Gates</b>	
G1	Wooden Footpath Gate
G2	Wooden Bridleway Gate
G3	Steel Footpath Gate - used at Network Rail boundary
G4	Steel Bridleway Gate - used at Network Rail boundary
G5	Single Leaf Acoustic Gate
G6	Double Leaf Acoustic Gate
G8	3.5m wide 3 bar steel farm vehicle gate

## 2.7 Project Terminology

2.7.1 Throughout this EIA Screening request, references have been made to key project terminology and the definitions of these are outlined below:

- For the purposes of EIA screening the “users” of the level crossing has been deemed to include those users who have legal rights to use the crossing e.g. users of a bridleway crossing will include horses and cyclists. Traffic and transport Users of



a private vehicular crossing will include any private vehicles that have been granted rights across the railway; and

- For the purposes of EIA screening, the term “proposals” includes any of the physical works or change to rights associated with each level crossing within the Suffolk Order.



### 3 Screening Summary

- 3.1.1 For the Anglia Level Crossing Reduction Strategy Suffolk Order, in applying the screening test as to whether the scheme would be likely to result in significant effects upon the environment during the construction and operational phases, Table 3 below presents a summary of the findings of the screening exercise in relation to each environmental topic as described in section 2.1.3. Therefore, for the scheme as a whole, it is considered that an EIA is not required in support of the Suffolk TWAO application, due to the size, nature and location of the works and this EIA Screening Request provides the evidence base.
- 3.1.2 No potential significant environmental effects have been identified during construction or operation of the proposed works. All construction contractors will be obliged to comply with Network Rail's Contract Requirements-Environment (CR-E) (included in Appendix D to this EIA screening request). Compliance with each section of the CR-E identified as relevant to each environmental subject in this EIA Screening Request will be demonstrated through the contractor's Construction Environment Management Plan (CEMP) that will be produced and implemented before physical works begin.
- 3.1.3 The requirement to complete a CEMP in advance of physical works is a mandatory requirement on Network Rail schemes.

**Table 3: Screening Summary for each Environmental Topic**

Subject	Screening Summary
<b>Ecology</b>	<b>Construction</b> No likely significant effects: legal requirements will be managed through the application of Wildlife and Countryside Act 1982 with any associated licencing, mandated through compliance with CR-E Section 9.5.
	<b>Operational</b> No likely significant effects.
<b>Landscape</b>	<b>Construction</b> No likely significant effects: minimising or reducing visual effects of construction works will be managed through compliance with CR-E Section 9.8.
	<b>Operational</b> No likely significant effects.
<b>Historic Environment</b>	<b>Construction</b> No likely significant effects: with limited excavation the potential for buried archaeology will be managed through compliance with CR-E Section 9.3.
	<b>Operational</b>



Subject	Screening Summary
	No likely significant effects.
<b>Air Quality</b>	<p><b>Construction</b></p> <p>No likely significant effects: minimising or reducing nuisance will be mandated through compliance with CR-E Section 9.2 and Section 9.9.</p> <p><b>Operation</b></p> <p>No likely significant effects.</p>
<b>Noise</b>	<p><b>Construction</b></p> <p>No likely significant effects: minimising or reducing noise effects will be mandated through compliance with CR-E Section 9.11.</p> <p><b>Operational</b></p> <p>No likely significant effects.</p>
<b>Ground Conditions</b>	<p><b>Construction</b></p> <p>No likely significant effects: with limited excavation, legal requirements will be managed through the application of "Duty of care", Hazardous Waste Regulations, Waste Acceptance Criteria mandated through compliance with CR-E Section 9.4.</p> <p><b>Operational</b></p> <p>No likely significant effects.</p>
<b>Water Resources</b>	<p><b>Construction</b></p> <p>No likely significant effects: minor works that require pollution control will be managed through compliance with CR-E Section 9.14.</p> <p><b>Operational</b></p> <p>No likely significant effects.</p>
<b>Traffic and Transport</b>	<p><b>Construction</b></p> <p>No likely significant effects: Traffic management considerations will be mandated through compliance with CR-E Section 9.12.</p> <p><b>Operational</b></p> <p>No likely significant effects.</p>
<b>Socio-economics and Community</b>	<p><b>Construction</b></p> <p>No likely significant effects.</p> <p><b>Operation</b></p> <p>No likely significant effects.</p>
<b>Cumulative</b>	No cumulative effects have been identified. See Chapter 30.

- 3.1.4 An overview for each level crossing is provided below in Table 4 summarising the existing context of each level crossing, the proposed works, and based particularly on the size, nature and location of the works, any potential for significant effects. This table should be viewed with the overview plan in Appendix A, the design proposal plans in



Appendix B and the environmental constraints plans in Appendix C of this EIA Screening Request.

- 3.1.5 For the detail of the specific environmental information considered at each level crossing site, please refer to Chapters 4 to 28.



**Table 4: Screening Summary for each Level Crossing**

Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
S01 Sea Wall Brantham Parish Grid reference: 611060, 233044	<p>The level crossing connects Footpath E-159/013/0 south of Brantham Industrial Estate to a Footpath leading from the level crossing east bound along the Coastline (E-159/013/0). Restricted byway (E-159/014/0) surrounds the Industrial Estate to the north and connects to Footpath E-159/013/0 to the east of the Industrial Estate Boundary. The Restricted byway (E-159/014/0) leads along the north side of the railway line past Sewage works and then connects to Footpaths E-159/015/0 (which continues north west away from the railway line) and E 159/011/0 (which runs north bound parallel along the east side of the railway line as well as E-159/012/0 (leading south east towards the coast).</p> <p>The footpath lead past Brantham Industrial Estate, through managed grassland, agricultural fields and along the coast. The borders of the railway line are lined by trees.</p> <p>The nearest residential properties are located approximately 470 m north of the level crossing at Cattawade, north of Brantham Industrial Estate. These properties are screened from the level crossing by the Industrial Estate.</p> <p>There are numerous grade II listed buildings within 1km of the works as well as a grade II* listed building (List Entry ID 1033431) and two grade I listed buildings and a scheduled monument at Mistley Towers (List Entry ID 1240764; 1261061; 1002154). However, Mistley Towers is approximately 1km and the grade II* listed church is 650m from the works. Manningtree and Mistley Conservation Area is also approximately 450m south of the works.</p> <p>Stour and Orwell Estuaries is designated as Ramsar, SPA and SSSI and located 20m south of the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Footpath E-159/013/0 will be diverted onto a new footpath, approximately 700m in length, on the south east side of the railway heading north west across field and then north east following the railway within a field margin outside of Network Rail land, connecting to footpath E-159/012/0. Users can then use the existing footbridge to cross the railway to connect onto restricted byway E-159/014/0. This new footpath will be a 2m wide and unsurfaced.</p> <p>A timber footbridge (&lt;5m in length) is required along the new footpath to allow users to cross a drainage ditch. Footpath E-159/013/0 on the north side of the railway leading from restricted byway E-159/014/0 to Sea Wall level crossing will be extinguished (approximately 300m in length). Approximately 300m of footpath E-159/013/0 heading south from Sea Wall level crossing will be extinguished.</p> <p>Crossing infrastructure at Sea Wall level crossing will be removed and 1.8m high chain link fencing will be installed on the north side of the railway and 1.35m high stained wire fence with stock proof fence on the south side of the railway to prevent trespass. New public wayfinding signage will be provided.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of the listed buildings, Scheduled Monument and Manningtree and Mistley Conservation Area which are in any event, a minimum of 450m from the proposed works. A Habitats Regulations Assessment has been undertaken in relation to the Stour and Orwell Estuaries Ramsar, SPA and SSSI and this has concluded that are no likely effects on the designated site as a result of the proposed works.</p>	No (see Chapter 4 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
<p>S02 Brantham High Bridge</p> <p>Brantham Parish</p> <p>Grid reference: 612102, 234895</p>	<p>Footpath E-159/006/0 starts on an unnamed track north of the Junction of Church Lane and Ipswich Rd A137 along the west and north boundary of an agricultural field. Leading east bound it passes Victoria Cottage and the surrounding Woodland to the south to the level crossing. Footpath E-159/011/0 runs parallel to the east side of the Railway towards the A137 Ipswich Road connecting Brantham Lodge to Hill Farm settlement and Footpath E-159/009/0 runs along Newmill Lane from Brantham Farm northbound to A137 Ipswich Road. The footpaths lead along the verges of agricultural fields and Woodlands north of Jimmy Lane.</p> <p>The nearest residential properties are located approximately 240 m south at Hill Farm.</p> <p>There are four grade II and one grade II* listed building within 1km of the works. Three of these (including the grade II* listed St Michael and All Saints Church (List Entry ID 1033431) are over 500m from the works and therefore the minor nature of the works are not anticipated to impact on the setting of the assets. Two of the listed buildings are approximately 200m east of the works, however both are visually screened from the works by modern residential development and there appears to be no historic link between the buildings and the location of the works.</p> <p>There are no designated sites near the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Footpath E-159/006/0 will be diverted onto a new 2m wide footpath over existing track (Jimmy Lane), approximately 200m in length, heading south to connect to Ipswich Road. The section of E-159/006/0 to the east of the woodland, to the crossing, would be extinguished to prevent the creation of a dead end whilst maintaining access into the woodland. Boundary fencing will be installed where the footpath is to be extinguished. Users will then use existing footway, heading east to cross the railway via the existing highway bridge on Ipswich Road before continuing along the Street. Users will then be diverted via the creation of new footpath rights over existing private road (The Street), heading north, to the west of Hill Farm. A new footpath will be required for users to cross from the existing private road into a field to the west, where the new footpath will continue north as a 2m wide unsurfaced path along the field margin outside of Network Rail land. This new footpath will then connect into existing footpath E-159/006/0 to the east of the railway.</p> <p>Crossing infrastructure at Brantham High Bridge level crossing will be removed and 1.35m high stained wire and stock proof fence to be installed to prevent trespass onto the railway. New signage will be provided.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of the listed buildings which are in any event, a minimum of 200m from the proposed works.</p>	No (see Chapter 5 for details)
<p>S03 Buxton Wood Bentley Parish</p> <p>Grid reference: 612026, 237076</p>	<p>The footpaths run along agricultural fields and areas of woodland. Footpath E-514/045/0#1 connects Stutton Bridge to Station Road approximately 120 m east of Bentley level crossing along a field verge and unnamed stream. Bridleway E-514/037/A leads from Station road approximately 490 m east of Bentley Crossing along an unpaved</p>	<p>Existing public rights of way over the level crossing will be extinguished. Footpath W-138/022/01, to the west of Buxton Wood level crossing will be extinguished up to footpath W-138/021/0, approximately 450m in length. To the west of the railway users will make use of existing footpath W-138/021/0 up to Falstaff level</p>	No (see Chapter 6 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>access road to a works site. Footpath W-138/022/0#2 leads from Station road approximately 50 m east of the Bentley level crossing north bound towards Buxton Wood level crossing (W-138/022/0#3). The existing W-138/022/0#1 runs west of the Buxton Wood level crossing northbound towards a path connection to Falstaff crossing (W-138/019/0).</p> <p>The nearest residential properties are located approximately 230 m south at Bentley Junction. There are four grade II* and six grade II listed buildings within 1km of the works. The closest of these is approximately 650m north of the works. It is anticipated that there will be no impact to the setting of these assets due to the proposed works. The works will be minimal and related to footpath creation and will be at a sufficient distance to prevent visual impact on setting furthermore there does not appear to be a historic link between the listed buildings and the works locations. There are no designated sites near the level crossing.</p>	<p>crossing where users will cross the railway. Users can then continue east on footpath W-138/019/0 or head south via a new footpath. The footpath will be 2m wide and unsurfaced (approximately 550m in length) along a field margin, besides an area of woodland and a watercourse to the east before heading west to connect to existing footpath W-138/022/02 to the east of Buxton Wood level crossing.</p> <p>Crossing infrastructure at Buxton Wood level crossing will be removed and 1.8m high chain link fence installed to the north of the railway and extend the existing palisade fencing to the south of the railway to prevent trespass. New public wayfinding signage will be provided.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of the listed buildings which are in any event a minimum of 650m from the proposed works.</p>	
<p>S04 Island Bentley Parish</p> <p>Grid reference: 612307, 238239</p>	<p>ProW W-138/018/#2 leads from Bentley Hall along a paved track on an east-west axis to connect with W-138/018/#1, which leads to the Island crossing. ProW W-138/036/0#2 is a footpath leading from Church Road west of Malting Farm to the west across the Island level crossing to connect with Footpath W-138/018/#1.</p> <p>The nearest residential properties are located approximately 270 m south-west of the level crossing (Uplands Fruit Farm) and 280 m east of the level crossing (building near Maltings Farm).</p> <p>There are four grade II* and six grade II listed buildings within 1km of the works. A number of these are in close proximity to the works. Two grade II listed buildings are located immediately adjacent to an existing footpath which forms part of the diversion route for the level crossing closure and are approximately 300m east of the footpath creation area.. Three grade II* listed buildings are</p>	<p>Existing public rights of way over the level crossing will be extinguished. Footpath W-138/018/01 to the west of the railway will be diverted onto a new 2m wide, unsurfaced footpath (approximately 500m in length). This new footpath will be within a field margin, outside of Network Rail land to the west of the woodland and then heading north parallel to the railway connecting onto the existing highway. Users will make use of the existing footway, heading west over Bentley Bridge to cross the railway. To the east of the railway, users will be diverted onto a new 2m wide unsurfaced footpath within Network Rail land, approximately 200m in length, heading south to connect to existing footpath W-138/018/02. It will be necessary to use the private field margin to complete the last 50m section of the footpath to the existing level crossing. The new footpath within Network Rail land will be fenced off by 1.8m high chain link</p>	No (see Chapter 7 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	50m from a section of existing road which will for part of the PRow diversion and 280m west of footpath creation works. There are no designated sites near the level crossing.	<p>fence for a length of 250m to prevent trespass onto the railway.</p> <p>Crossing infrastructure at The Island level crossing will be removed and 1.35m high stained wire and stock proof fence to be installed to prevent trespass onto the railway. New signage will be provided.</p> <p>There is not anticipated to be an impact on the setting of these assets as the existing footpath is currently part of the route to be diverted and the footpath creation on the east side of the railway will be aligned adjacent to railway line. Three grade II* listed buildings are 50m from a section of existing road which will for part of the PRow diversion and 280m west of footpath creation works. As the road is already in use for traffic and footpath creation works will be minor, at sufficient distance and for much of its route along the existing railway embankment, it is not anticipated that the works will impact on the setting of these assets.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings. In any event the diversion route will utilise existing footpaths and roads that are already in use, and the footpath creation will be aligned adjacent to railway line. No impact on the adjacent watercourse is expected.</p>	
S05 Pannington Hall (Broomhaughton) Wherstead Parish Grid reference: 614087, 240608	<p>Footpaths E-559/03/031/0, E-559/005/0, E-559/02/0</p> <p>Footpath E-559/033/0 leads from Jimmy's Farm north-west towards Belstead across the railway line. It connects a number of footpaths along the verges of fields north of the railway line to footpath E-559/041/0 south of Jimmy's Farm. The paths cut through agricultural land and along woodland to around Belstead.</p> <p>The nearest residential properties are located approximately 490 m south east (Jimmy's Farm).</p>	Existing public rights of way over the level crossing will be extinguished. Footpath E-559/034/0 will be extinguished on both the north and south sides of the railway (approximately 675m in length). South of the railway, users of footpath E-559/024/0 heading north towards Pannington Hall (Broomhaughton) level crossing will be diverted via a new 2m wide unsurfaced footpath within a field margin, running parallel to the west of the existing highway, heading north west (approximately 500m in length). A timber	No (see Chapter 8 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>There are numerous grade II listed buildings within 1km of the works. All but two of these are located over 500m from the works. Bluegates Farmhouse (List Entry ID 1203987) is located approximately 200m east of footpath creation works, these will however be immediately adjacent to existing tracks and footpaths identified on historic maps therefore no impact to setting is anticipated. Pannington Hall (List Entry ID 1281450) 130m of an existing PRow which will be extinguished as a result of the proposed works. This extinguishment is however not anticipated to impact on the setting of the asset as it will remain publicly accessible as it is next to a busy commercial property.</p> <p>There are no designated sites near the level crossing.</p>	<p>footbridge (less than 5m in length) will be required to cross a drainage ditch along the route of the new footpath. Users can continue west onto bridleway E-559/029/0 or cross the highway to connect to a new 2m wide, unsurfaced footpath within the field margin to the east of the highway. This footpath (approximately 550m in length) heads north west to connect users to the existing highway bridge going over the railway, which is where users will cross the railway. On the north east side of the railway bridge, a new 2m wide unsurfaced footpath (approximately 100m in length) will be created within a field margin to connect in to existing footpath E-559/033/0.</p> <p>Crossing infrastructure will be removed at Pannington Hall level crossing and 1.35m high stained wire and stock proof fence will be installed on both sides of the railway to prevent trespass onto the railway. New signage will be provided.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings. In any event the listed buildings are a minimum of 130m from the proposed works and the proposed footpath will be aligned immediately adjacent to existing tracks.</p>	
S07 Broomfield Barham Parish Grid reference: 611964, 251146	<p>Footpath E120/0/12/0#1 connects Barham CP (east of railway) to Great Blakenham CP (west of railway) via tracks through an open space of manmade waterbodies and the Gipping Valley River.</p> <p>The nearest residential properties are located approximately 290 m south of the level crossing at Great Blakenham and 300 east of the crossing at Barham. The Gipping Valley River Path also crosses the railway approximately 350 m north and approximately 310 m south of the level crossing.</p> <p>There are 11 grade II and one grade I listed buildings and one registered park and garden (List</p>	<p>Existing public rights of way over the level crossing will be extinguished. To the west of the railway, users of footpath W-273/023/0 will be diverted east onto a new 2m wide footpath to be made out of compacted stone, (approximately 175m in length) set north of existing footpath E-120/012/01 that heads east to the existing underbridge. The section of footpath E-120/012/01 heading north towards Broomfield level crossing, on the west side of the railway, will be extinguished (approximately 245m in length) and the section of footpath E-120/012/01 heading east</p>	No (see Chapter 9 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>Entry ID 1000155) within 1 km of the works. The majority of these are either within a built up setting or of sufficient distance not to be affected by the minor works proposed. Two grade II (List Entry ID 1250931 and 1262876) and the grade I listed building (List Entry ID 1251271) are within 150m of an area of footpath creation. However, this section of footpath will be aligned immediately adjacent to the existing footpath and is therefore not expected to result in an impact to the setting of the assets. There are no designated sites near the level crossing.</p>	<p>towards the underbridge will be extinguished (approximately 195m in length).</p> <p>Users will use the existing underbridge approximately 320m south of Broomfield level crossing to cross the railway heading east. Users will continue north east along an existing footpath to connect into a new 2m wide footpath on an existing track (approximately 280m in length). This new footpath will connect into existing footpath E-120/012/01.</p> <p>Crossing infrastructure will be removed at Broomfield level crossing and 1.35m stained wire and stock proof fence will be installed on the west of the railway and 1.8m high chain link fence to the east of the railway to prevent trespass. New public wayfinding signage will be provided.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the adjacent watercourses and lakes. Similarly, the setting of listed buildings is not expected to be impacted due to the limited size and nature of the works which are in any event a minimum of 150m from the proposed works and the footpath will be aligned immediately adjacent to the existing footpath.</p>	
<p>S08 Stacpool Needham Market Parish Grid reference: 610476, 253450</p>	<p>Footpath W-121/034/0 leads from Darmsden Hall (approximately 620 m west of Railway) across Lower Street the level crossing to connect with the Gipping Valley River Path east of the railway line. The nearest residential properties are located approximately 450 m north east of the level crossing (Pipps Hall).</p> <p>There are 11 grade II listed buildings, a registered park and garden (List Entry ID 1000155) and a scheduled monument (List Entry ID 1006033) within 1km of the works. The closest of these to the works is the Baylham Roman Site scheduled monument at 350m south east. As the footpath creation in this location will be aligned along the</p>	<p>Existing public rights of way over the level crossing will be extinguished. Users of footpath W-121/033/0 heading west towards the railway will be diverted onto a new 2m wide unsurfaced footpath within a field margin, outside of Network Rail's land, running parallel to the railway on the west and an existing quarry track to the east. This new footpath is approximately 400m in length and heads north west to connect into existing footpath W-121/031/0. 1.275m high fencing with concrete posts and six wires will be installed to separate the new footpath and the existing quarry track for safety and security purposes. Users can make use</p>	No (see Chapter 10 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>existing railway it is not anticipated that the setting of any of these assets will be affected.</p> <p>There are no designated sites near the level crossing.</p>	<p>of the existing overbridge approximately 400m north of the Stacpool level crossing. The existing footpath to the west of Stacpool level crossing will be extinguished (approximately 100m in length).</p> <p>Crossing infrastructure will be removed at Stacpool level crossing and 1.35m high stained wire and stock proof fence and wooden footpath gate to be installed to prevent trespass to the railway. New signage will be provided.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings, the registered park and garden or scheduled monument. In any event these historic assets are a minimum of 350m from the proposed works and the diversion routes will use existing PRoWs that are already in use and are in a central village location.</p>	
<p>S11 Leggetts Old Newton with Dagworth Parish Grid reference: 604538, 264580</p>	<p>Footpaths W-155/033/0 and W-419/006/0 connect run along field tracks connectin Ward Green via the existing level crossing south of Old Bells Farm.</p> <p>The nearest residential property is located approximately 170 m to the north of the crossing (Old Bell's Farm).</p> <p>Although there are several listed buildings within 1km of the site there will be no new footpath creation and only existing footpaths will be used to divert foot traffic. The closest listed building to these diversion routes is 200m west therefore no impact to setting is anticipated.</p> <p>There are no designated sites near the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Footpath W-297/012/0 and W-419/006/0 which head east towards the railway will be closed and users will be diverted along the existing restricted byway W-297/013/0 which heads south towards Wassicks Lane along the west side of the railway. Users will use the existing Wassicks crossing, approximately 580m south of the Leggetts crossing, and head north along the east side of the railway along existing footpath W-297/048/0 and W-419/061/0 to connect with footpath W-115/033/0 which heads east from the railway. The length of footpath to be extinguished is approximately 300m.</p> <p>Crossing infrastructure will be removed at Leggetts level crossing and 1.35m high stained wire and stock proof fence to be installed to prevent trespass to the railway.</p>	No (see Chapter 11 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
		The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings due to the distance of the assets to the proposed works and the fact that the diversion routes will use existing PRoWs that are already in use and are in a central village location.	
S12 Gooderhams Bacton Parish Grid reference: 605009, 265452	<p>The existing Footpath W-115/021/0 and W-115/018/0#2 surround Bacton Green (1.1 km west) and connect to Canhams Farm (280 m east of the crossing) via W-115/019/0. The paths run along field margins.</p> <p>The nearest residential property is located approximately 280 m to the east of the crossing (Canhams Farm).</p> <p>Although there are several listed buildings within 1km of the site there will be no new footpath creation and only existing footpaths will be used to divert foot traffic. The closest listed building to these diversion routes is approximately 50m north (Kerry's Farmhouse) therefore no impact to setting is anticipated from potential increased foot traffic on existing paths</p> <p>There are no designated sites near the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Private crossing rights will be retained. Footpath W-115/019/0 will be extinguished on both the west and east sides of the railway (approximately 1.08km in length). Users will be diverted north east along existing footpath W-115/018/0#2 and then eastwards towards the railway along W-115/018/0#1. Users will use the existing Cow Creek level crossing, approximately 530m north east of Gooderhams crossing, and continue east along the existing footpath on Kerrys Farm Lane to join the existing carriageway.</p> <p>Crossing infrastructure will be removed and 1.275m high fencing with wooden concrete posts and six wires without barbed wire will be installed at the crossing to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings and in any event the diversion routes will use existing PRoWs that are already in use and are in a central village location.</p>	No (see Chapter 12 for details)
S13 Fords Green Bacton Parish Grid reference: 605536, 266425	The agricultural fields south of Bacton and to the west of the railway line are bordered by a number of footpaths leading to Rectory Rd to the east and Roswell's lane to the souths. Footpath W-115/022/0#2 connects the paths to the east of the railway line and continues along Kerry's Farmlane which ends at Finningham Rd.	Existing public rights of way over the level crossing will be extinguished. On the west side of the railway line, users will be diverted either west along existing footpath W-115/014/0, or south along a new 2m wide unsurfaced public footpath in the field margin which runs parallel with and adjacent to the railway. The new	No (see Chapter 13 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>The closest residential property is Kerry's Farmhouse, which is also the closest listed building. Bacton level crossing is located approximately 550m north of the level crossing.</p> <p>There are numerous listed buildings within 1km of the study area including two grade II* and two grade I listed buildings. All but one of the listed buildings are over 500m from the footpath creation works. Grade II listed Kerry's Farmhouse (List Entry ID 1352289) is approximately 150m from the works. Footpath creation will however be confined to the area immediately adjacent to the existing railway line and are therefore not anticipated to impact on the setting of the listed building next to this larger intrusion.</p> <p>There are no designated sites near the level crossing.</p>	<p>footpath would be approximately 550m long and join existing footpath W-115/018/0#1 which crosses the railway at the Cow Creek level crossing, approximately 570m to the south east of Fords Green level crossing. On the east side of the railway, users will be diverted either east along existing footpath W-115/014/0, or north along a new 2m wide unsurfaced public footpath in the field margin which runs parallel with and adjacent to the railway. The new footpath would be approximately 670m long and would join existing footpath W-115/013/0 at its northern end.</p> <p>Crossing infrastructure will be removed at Fords Green level crossing and 1.35m high stained wire and stock proof fence to be installed to prevent trespass to the railway on the west side and 1.8m high chain link fencing will be installed on the east side.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 150m from the proposed works and are within the existing setting adjacent to a railway.</p>	
S16 Gislingham Finningham Parish Grid reference: 607474, 270011	<p>The existing crossing leads from Redhouse Farm 620 m north of the crossing via a restricted byway that connects to Eastlands Lane, a carriage way leading from Eastlands Farm at the level crossing to Wickham Road (600 m to the south of the crossing).</p> <p>The nearest residential property is located approximately 20m east of the crossing (Eastlands Farm).</p> <p>There are numerous listed buildings and the Finningham Conservation Area within 1km of the works, all but two of these are located within the village of Finningham approximately 400m from the works and the conservation area is approximately 350m west. A further two listed buildings are</p>	<p>Existing public rights of way over the level crossing will be extinguished. The southern end of public bridleway W-246/010/0 will be extinguished (approximately 50m in length). Users will be diverted south along a new 3m unsurfaced public bridleway which will connect with existing public byway W-246/022/0. The new bridleway will follow the field boundary and be approximately 550m in length. Users will head east towards the railway along the existing byway and use the existing underbridge to cross the railway, approximately 400m south west of the Gislingham level crossing. Users will continue eastwards along the byway and join Eastlands Lane, which then heads north to</p>	No (See Chapter 14 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>located over 550m north of the works over open land. Footpath creation will be limited to adjacent to the existing railway line and PRoW and therefore is unlikely to affect the setting of the listed buildings or conservation area.</p> <p>There are no designated sites near the level crossing.</p>	<p>Eastland Farm where the Gislingham crossing is located.</p> <p>Crossing infrastructure will be removed at Gislingham level crossing and 1.8m high chain link will be installed to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings or Finningham Conservation Area which in any event are a minimum of 350m from the proposed works and are within the context of a built up area.</p>	
<p>S17 Paynes Finningham Parish Grid reference: 608026, 271031</p>	<p>Footpath W-267/027/0#1 lead from the High Street in Gislingham to agricultural fields and a number of connecting footpaths to the south east of the settlement. The existing Footpath W-267/022/0 connects Starhouse Farm, 600 m south east of the level crossing to Gislingham approximately 540m to the north-east.</p> <p>The closest residential properties are at Gislingham, approximately 500 m east of the level crossing.</p> <p>There are numerous listed buildings within 1km of the works. The closest of these to the works is 200m and is visually screened from the works by modern farm buildings.</p> <p>There are no designated sites near the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Public footpath W-267/022/0 will be extinguished on both the west and east sides of the railway (approximately 50m to the west and 500m to the east). To the west of the railway, users will be diverted northwards and eastwards along existing public footpaths W-267/026/0#1, W-267/026/0#2 and W-267/029/0 which heads east towards the railway. Users will cross at an existing bridge, approximately 350m north east of Paynes crossing, and continue east along W-267/021/0. Users will then head south along a new 2m wide unsurfaced public footpath in a field margin. The new footpath will be approximately 700m in length and will join existing public footpath W-563/004/0 at its southern end.</p> <p>Crossing infrastructure will be removed at Paynes level crossing and 1.8m high chain link fencing will be installed on the western side of the crossing and 1.35m high stained wire and stock proof fence to be installed on the eastern side.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 200m from the proposed works and</p>	<p>No (see Chapter 15 for details)</p>



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
		are visually screened from the works by modern farm buildings,	
S18 Cow Pasture Lane Mellis Parish Grid reference: 609446, 273657	<p>The existing byway (Cowpasture Lane) connects Willow Farm approximately 320 m north of the railway to Chapelfarm approximately 700 m south east of the railway line. The track then goes on towards Thornham Parva.</p> <p>The unpaved track cuts through agricultural fields and woodlands approximately 500 m south of Mellis.</p> <p>The nearest listed building is Chapel Farm house approximately 700 m south east of the railway line. There are no designated sites near the level crossing.</p>	<p>The Cow Pasture Lane crossing will be downgraded from a public byway open to all traffic, to a public bridleway crossing. The existing gates will be replaced with 1.5m bridleway gates and associated equipment will be installed on both the east and west side of the crossing.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have any environmental effects.</p>	No (see Chapter 16 for details)
S21 Abbotts Mellis Parish Grid reference: 609828, 274368	<p>The level crossing is in a central village location and connects east and west Mellis via a private track. The private road connects to Earlsford Road approximately 50 m east of the railway line which runs along the railway north east to Mellis Road.</p> <p>The closest residential property is located approximately 30 m to the west of the level crossing.</p> <p>The closest listed buildings is 70 m east of (Bullocks Farm House) and it is within the Mellis Conservation Area.</p> <p>There are no designated sites near the level crossing.</p>	<p>There is no public right of way at this crossing and the level crossing will be closed with all rights extinguished. To the west of the railway, users will be diverted along the existing private carriageway, join Mellis Road briefly (with verge walking) and head north east along existing footpath W-389/001/0 which re-joins Mellis Road at its northern end. Users will cross the railway at the Mellis automatic half barrier road level crossing, approximately 280m north east of Abbotts, and continue east along Mellis Road. To the east of the railway, users will head south down Earlsford Road.</p> <p>Crossing infrastructure will be removed at Abbotts level crossing and 1.8m high chain link fencing will be installed on both sides of the crossing to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings. In addition, the diversion routes will use existing PRoWs that are already in use and are in a central village location.</p>	No (see Chapter 17 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
S22 Weatherby Newmarket Parish Grid reference: 564723, 262970	<p>The existing level crossing is in a central village location and connects Cricket Field Road (east of the railway) to Park Lane (north west of the railway).</p> <p>There are a number of residential properties along Willow Crescent and Granary Road and Sovereign court, the closest of which are at a distance of approximately 30 m. There is a Sports playing field south of Cricket Field Road. Users can also access Park Lane from Cricket Field Road via a 1 km diversion via new Chieveley Road and Green Road.</p> <p>The closest listed building is Thattershals Arch, approximately 500 m east of the level crossing.</p> <p>There are no designated sites near the level crossing.</p>	<p>There is no public right of way at this crossing and the level crossing will be closed to all users. Existing users will be diverted along existing public highways on both sides of the railway. To the west of the railway, users will head south west along Granary Road, parallel with the railway, and then head south east along The Avenue, crossing the railway using the existing underbridge. To the east of the railway, users will continue eastwards along New Chevely Road and head back towards Weatherby along Cricket Field Road.</p> <p>On the west side of the crossing, between the railway and Granary Road, 4.5m of existing 2m wide tarmac footway will be replaced with grass. On the eastern side of the crossing, between the railway and the western end of Cricket Field Road, 30m of existing 2.25m wide tarmac footway will be removed and replaced with grass and a landscape buffer. 2m high steel palisade security fencing will be installed on both sides of the crossing to prevent trespassing.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 500m from the proposed works and the diversion routes will use existing PRoWs that are already in use.</p>	No (see Chapter 18 for details)
S23 Higham Higham Parish Grid reference: 574337, 266091	<p>Footpath W316/001/0#3 runs north-south between the A14 and the railway line approximately 300 m west of Coalpit Lane. To the south of the level crossing, it continues south bound as W316/001/0#2 leading to Higham road. Higham Rd connects to Gazely approximately 3.3 km to the south west and to Coalpit Lane approximately 430 m to the east. The paths lead through agricultural fields either side of the A14 and railway line.</p> <p>The closest residential property is Tollhouse Cottage approximately 300 m to the east.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Existing footpath W-316/001/0#3 to the north of the railway (approximately 130m in length) and W-316/001/0#2 to the south of the railway (approximately 200m in length) will be extinguished. To the north of the railway, users will be diverted eastwards along the A14 slip road, along the verge, which runs parallel with the railway. Users will then turn south and follow Higham Road, crossing the railway at the</p>	No (see Chapter 19 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>There are four grade II listed buildings and Higham Conservation Area within 1km of the level crossing to be closed. However, all diversion routes will use existing PRow over 150m from the listed buildings and although a small section of the diversion route is through the conservation area this is not expected to impact on the setting of the assets as the routes are already in use.</p> <p>There are no designated sites near the level crossing.</p>	<p>existing bridge approximately 300m east of Higham level crossing. To the south of the railway, users will be diverted along Higham Road. Pedestrian users will make use of existing verges and carriageways.</p> <p>Crossing infrastructure will be removed at Higham level crossing and 1.35m high stained wire and stock proof fence to be installed to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings or Higham Conservation Area. In addition, the diversion routes will use existing PRow that are already in use.</p>	
<p>S24 Higham Ground Frame</p> <p>Barrow Parish</p> <p>Grid reference: 575747, 266033</p>	<p>The level crossing is located approximately 140m south of the A14 connecting footpaths W-316/003/0 to W-127/006/01 running north to south. Footpath W-316/003/0 is currently intersected by the A14. There is a small area of woodland and dense vegetation immediately north east of Higham Ground Frame and arable land to the south.</p> <p>The closest residential properties are located approximately 560m south west of the level crossing.</p> <p>There is an area of historic landfill approximately 120m north of the level crossing and Breckland Farmland SSSI and SPA are located approximately 1.4km from the level crossing. Breckland Farmland SSSI and SPA are located approximately 150m north of proposed bridleway creation works.</p>	<p>Existing public rights of way over the level crossing will be extinguished. A section of existing footpath W-127/006 to the north of the railway (approximately 130m in length) will be extinguished. To the south of the railway, users will either be diverted eastwards on a new 2m wide unsurfaced footpath in the private field margins, which runs parallel with the railway to the Needles Eye underpass. Users will then turn east along a proposed 3m unsurfaced bridleway, crossing the railway at the existing bridge approximately 2500m east of Higham Ground Frame level crossing. An alternative to the south of the railway, users will be diverted westwards on a new 2m wide unsurfaced footpath in the private field margins, which runs parallel with the railway to Coalpit Lane. A new footbridge (&lt;5m long) and steps will be needed to cross and embankment to Coalpit Lane. Pedestrian users will use field margins to walk south to existing footpath W-316/005 and then make use of the existing bridge on Higham Lane to cross the railway. A new tarmac footway will be constructed on the south side of the A14 slip road between Higham Lane and Coalpit Lane.</p>	No (see Chapter 20 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
		The construction and operation of the works being limited in size and nature, are not expected to have an impact on the area of Historic Landfill or the Breckland Framland SSSI and SPA which are in any event are approximately 150m from the proposed works.	
S25 Cattishall Great Barton Parish Grid reference: 588560, 265101	<p>The level crossing connects a paved track running south-north Mount Road (Cherry Trees property) and Green Lane via Cattishall Farm. The agricultural fields south of the level crossing and west of Cattishall Farm are allocated for development.</p> <p>The closest residential properties are located at Cattishall Farm 120 m north of the level crossing and 200 m west at Great Barton.</p> <p>There are no designated assets within 1km of the footpath creation works.</p> <p>There are no designated sites near the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Users will be diverted along a new 3m wide surfaced tarmac planings surfaced bridleway which will form part of the National Cycle Route network. The new track will be approximately 420m in length and will run parallel to and along the north side of the railway.</p> <p>Users will cross the railway using the existing underpass, approximately 420m west of the Cattishall level crossing. To the south of the railway, users will head south along the highway and turn eastwards along Mount Road, making use of the existing footpath and cycle lane.</p> <p>Crossing infrastructure will be removed at Cattishall level crossing and 1.8m high chain link fencing will be installed on both sides of the crossing to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the nearby properties.</p>	No (see Chapter 21 for details)
S27 Barrels Thurston Parish Grid reference: 593608, 264847	<p>The crossing is located on a public footpath that runs from north to south through agricultural land from the end of Birds Road in the south to Barrels Road to the north. There are a small number of dispersed properties in the vicinity of the crossing, the nearest of which are located 70m to the south, 120m to the north east and 150m to the north.</p> <p>The village of Thurston is located approximately 350 north west of the crossing at its nearest point.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Existing footpath W-523/005/0#3 to the north of the railway (approximately 200m in length) and south of the railway (approximately 100m in length) will be extinguished. To the north of the railway, users heading west will be diverted along Barrell's Road where they would use the verge. Barrell's Road crosses over the railway, approximately 360m west of Barrels level crossing. As part of the works, pedestrian improvement measures would</p>	No (see Chapter 22 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
		<p>be implemented at the existing bridge. Users heading east would be diverted briefly along Barrell's Road and then south along a new 2m wide unsurfaced public footpath. Users would then turn east along another new 1.5m wide unsurfaced footpath which runs parallel to and adjacent to the railway within Network Rail land, and joins existing footpath W-523/011/0#1, which in turn joins an existing carriageway which crosses over the railway at an existing bridge approximately 670m east of Barrel level crossing. The total length of new footpath to the north of the railway is approximately 400m.</p> <p>South of the railway, users heading west would follow Birds Road, where users would utilise the carriageway and head north along Barrells Road, crossing the railway at the existing Barrells Road bridge. Users heading east would be diverted along existing footpath W-523/011/0#2 and then along a new 2m wide unsurfaced public footpath in the field margin which runs parallel to and adjacent to the railway. The new footpath would be approximately 480m in length and would join an existing highway at its eastern end. Users would cross the railway using the existing highway bridge.</p> <p>Crossing infrastructure will be removed at Barrells level crossing and 1.35m high stained wire and stock proof fence to be installed to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event are a minimum of 130m from the proposed works and the intervening railway line,</p>	



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
<p>S28 Grove Farm Thurston Parish Grid reference: 593810, 264817</p>	<p>The crossing is located on a public footpath that runs in a north-easterly direction through agricultural land from the end of Birds Road 180m to the west to an unnamed public highway 400m to the east. There are a small number of dispersed properties in the vicinity of the crossing, the nearest of which are located 70m to north east and 100m to the north west. The footpath passes West Cottage, a Grade II listed building approximately 400m east of the crossing.</p> <p>The village of Thurston is located approximately 550 north west of the crossing at its nearest point.</p>	<p>Existing public rights of way over the level crossing will be extinguished. To the north of the railway, users heading west will be diverted along a new 1.5m wide unsurfaced footpath which runs parallel to and adjacent to the railway, and another new 2m wide unsurfaced public footpath which runs north joining Barrells Road. Users would head west using the verge on Barrells Road which crosses over the railway, approximately 550m west of Grove Farm level crossing. As part of the works, pedestrian improvement measures would be implemented at the existing bridge. The total length of new footpath to the north of the railway is approximately 400m.</p> <p>Users heading east would be diverted along existing footpath W-523/011/0#1, which joins an existing carriageway and crosses over the railway at an existing bridge approximately 490m east of Grove Farm level crossing. Pedestrian users would utilise the carriageway.</p> <p>Crossing infrastructure will be removed at Grove Farm level crossing and a 1.8m high chain link fencing to be installed to prevent trespass on the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 130m from the proposed works and the intervening railway line,</p>	<p>No (see Chapter 23 for details)</p>
<p>S29 Hawk End Lane Elmswell Parish Grid reference: 598752, 264054</p>	<p>The crossing is located at the junction of two footpaths, one that runs north eastwards through an industrial area, and one the runs south and joins Hawk End Lane approximately 20m to the south. The land to the south of the railway is occupied by a densely populated residential area of Elmswell with the nearest properties within 10m of the</p>	<p>Existing public rights of way over the level crossing will be extinguished. A short length of existing public footpath between the railway and Hawk End Lane (approximately 30m in length) will be extinguished. To the north of the railway, users heading west will be diverted along a new 2m</p>	<p>No (see Chapter 24 for details)</p>



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	<p>crossing. There are also a number of listed properties in the vicinity, the nearest of which is on Hawk End Lane, approximately 50m south east.</p> <p>The land to the immediate north and north east of the crossing is occupied by depot with industrial and commercial uses including sewage works. There are agricultural fields 75m north west of the crossing and in the wider surrounding area.</p>	<p>wide unsurfaced public footpath, mostly in field margins, which runs parallel to and adjacent to the railway, to Hall Farm, where the new footpath will join Parnell Lane. Users will cross the railway using the existing Parnell Lane underbridge. A short length of steps is required to traverse a small embankment to reach Parnell Lane. The total length of new footpath to the north of the railway is approximately 430m. Users heading east would be diverted along existing footpath W-234/012/0, an existing carriageway and Station Road which crosses the railway approximately 270m east of Hawk End level crossing.</p> <p>South of the railway, users heading west would be diverted along Hawks End Land and along existing footpath W-234/013/0#2 which runs parallel with the railway and joins Parnell Lane at its western end. Users heading east will be diverted along Hawk End Lane, School Road and Station Road.</p> <p>Crossing infrastructure will be removed at Hawk End Lane level crossing and 1.8m high chain link fencing to British Standard 1722:1 1999 (Fences) will be installed on both sides of the crossing to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 50m from the proposed works.</p>	
S30 Lords No.29 Elmswell Parish Grid reference: 599898, 263789	The crossing is located on an unsurfaced path that runs in north to south direction in an agricultural area. The land surrounding the crossing comprises of agricultural fields. The town of Elmswell is located to the west, with the nearest residents located approximately 240m to the west. Mutton	Existing public rights of way over the level crossing will be extinguished. Users will be diverted along two new 2m wide unsurfaced field margin public footpaths running parallel with and adjacent to the railway, one on the north side and one on the south side. Both footpaths will run	No (see Chapter 25 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
	Hall, a Grade II listed building is located approximately 500m to the south east.	<p>eastwards from existing footpath W-234/025/0 which crosses over the railway with a footbridge, approximately 230m to the west of Lords No. 29 level crossing. The new footpaths are approximately 230m long each, and join existing footpath W-234/009/0#2 which runs perpendicular to the railway at Lords No. 29.</p> <p>Crossing infrastructure will be removed at Lords No. 29 level crossing and 1.35m high stained wire and stock proof fence to be installed to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 500m from the proposed works.</p>	
S31 Mutton Hall Wetherden Parish Grid reference: 601181, 263600	The crossing is located at the junction of three footpaths, one the runs west along the north side of the railway, one that runs west along the south side of the railway before turning south to follow the course of a stream, and one that runs east along the north of the railway. The area surrounding the crossing is predominantly agricultural with a small number of dispersed farm buildings and residential properties in the vicinity. The nearest is Batts Farm, also a listed building, approximately 200m to the north east. An unnamed stream is located approximately 120m west of the crossing.	Existing public rights of way over the level crossing will be extinguished. To the north of the railway, users will be diverted along existing footpaths W-554/036/0 and W-554/020/0, which joins an existing carriageway. Users will head south along the carriageway and cross over the railway using the existing road bridge, approximately 210m east of Mutton Hall level crossing. As part of the works, a short length of the carriageway on the south side of the bridge will be widened and improvement measures will be implemented for pedestrians walking along the carriageway. To the south of the railway, users will be diverted along a new 2m wide unsurfaced public footpath in the field margin which will run parallel with and adjacent to the railway, joining the existing carriageway at its eastern end. The new footpath would be approximately 200m long.	No (see Chapter 26 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
		<p>Crossing infrastructure will be removed at Mutton Hall level crossing and 1.35m high stained wire and stock proof fence to be installed to prevent trespass to the railway.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 200m from the proposed works.</p>	
S33 Westerfield District of Ipswich Grid reference: 616804, 247201	<p>Fonnereau Way (Footpath E-014/018/0#1), an unpaved path, leads along treeline bordering fields from The Grove at the north-east border The Dales/Ipswich to Lower Road in Westerfield, approximately 1.3km north-east. The path crosses the railway approximately 210 m west of the Westerfield Rd crossing.</p> <p>The closest residential properties are at Westerfield, approximately 180m to the east of the level crossing. There six grade II and one grade II* listed buildings within 1km of the works. Two sections of footpath creation will be required. The southern section will be immediately adjacent to the railway embankment and is therefore unlikely to impact on the settings of surrounding assets. The northern section of footpath creation passes approximately 50m south of Mill Farmhouse (List Entry ID 1236091). This will however be aligned along an existing trackway and farm access track. The work is therefore not considered to impact on the setting of the listed building.</p> <p>There are no designated sites near the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. Crossing users would make use of Westerfield Road level crossing to the east. Westerfield Road and footpath E-014/018/01 will be connected via a new unsurfaced 2m wide footpath (approximately 70 m in length) situated in a field margin to the south of the railway, and towards Westerfield Road a footpath within Network Rail land (approximately 120m in length). A 2m high palisade fence will be installed between the railway and the new footpath. To the north of the railway footpath E-14/018/01 will be linked to Westerfield Road via a proposed footpath running along an existing track for approximately 230 m in length. Users shall make use of the footway along the west side of the Westerfield Road to connect the two new footpaths. The new footpaths will be constructed to an appropriate standard with new wayfinding signs with details to be discussed and agreed with the local authority.</p> <p>Crossing infrastructure will be removed at Westerfield level crossing and 1.8m high chain link fencing to be installed to prevent trespass to the railway. New wayfinding signage will be provided. The construction and operation of the works, being limited in size and nature, are not</p>	No (see Chapter 27 for details)



Level Crossing	Existing Context	Proposed Works	Potential Significant Effect?
		expected to have an impact on the setting of listed buildings.	
S69 Bacton Bacton Parish Grid reference: 605858, 267021	<p>The existing Footpaths run along the boundaries of agricultural fields. W-115/022/0#2 leads to a number of footpaths along agricultural field connecting to Church Road Bacton, approximately 900m north-west of the level crossing. To the east, the Footpath leads to Finningham Road in Fords Green (approximately 550 m).</p> <p>The nearest residential property is located approximately 450 m to the east of the crossing (Fords Green).</p> <p>There are numerous listed buildings within 1 km of the works including two grade I and two grade II* listed buildings. The use of existing PRow is not considered to impact on the setting of the listed buildings. There will be an area of footpath creation which will be approximately 150m south of three grade II and one grade I listed building; Church of St Mary (List Entry ID 1032755) this work is however not anticipated to impact on the setting of these buildings because the new footpath will be along the existing field boundaries which feature substantial hedgerows, the area also features a significant amount of modern development especially Bacton Primary School, immediately south of the church. These features act to visually shield the assets from the proposed works.</p> <p>There are no designated sites near the level crossing.</p>	<p>Existing public rights of way over the level crossing will be extinguished. An existing right of way to the west of the level crossing (approximately 90m in length) will be removed. Users will be diverted to the existing underbridge on Pound Hill (no footway through the bridge). Users will get to Pound Hill underbridge via Broad Road to the east of the railway (Network Rail are currently assessing the feasibility of a new approximately 50m long footway along this road) and Birch Avenue (existing footway) to the west of the railway. Users can connect to the existing public right of way network to the west of the railway (public footpath W-115/014/0) via an existing track and the addition of a new 2m wide public footpath (approximately 225m in length and proposed wooden bridge (less than 5m in length) over the existing ditch. In addition, a new 2m wide public footpath (approximately 650m in length) will run down the east side of the railway to connect to S13 Fords Green. The new footpath and timber footbridge will be constructed to an appropriate standard with new wayfinding signs with details to be discussed and agreed with the local authority.</p> <p>Crossing infrastructure will be removed at Fords Green level crossing and 1.8m high chain link fence will be installed on both sides of the railway to prevent trespass onto the railway. New signage will be provided.</p> <p>The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of listed buildings which are in any event a minimum of 150m from the proposed works.</p>	No (see Chapter 28 for details)



## 4 S01 Sea Wall

### 4.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
611060, 233044	Brantham Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>Located south of an industrial estate and north of the River Stour estuary which is designated as a SSSI. There are fields to the north east of the crossing on both sides of the railway.</p>
<b>Description of proposed works (See Appendix B for S01 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will be diverted to an existing footbridge to the northeast of the crossing. The diversion route will make use of byway E-159/014/0 to the north of the railway to connect to the footbridge. A new circular route will be provided on the south of the railway with the creation of a new 2m wide type P1 footpath looping E-159/013/0 back to the footbridge. This new footpath will follow the railway to the footbridge and a type S-B1 timber footbridge will be provided over a drainage ditch. New public wayfinding signs with details to be discussed and agreed with the local authority. The sections of E-159/013/0 either side of Sea Wall shall be extinguished to prevent a dead end section of path being created up to the level crossing. Crossing infrastructure will be removed and type F4 and F7 fences installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S01 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 05/04/16, the results of which are presented in Section 3.2. To summarise, the level crossing and proposed works are within close proximity to and adjacent to the Stour and Orwell Estuaries SSSI, SPA and Ramsar site. The survey identified potential for the presence of breeding birds, reptiles, otters and water voles. Habitats Regulations Assessment Task 1 screening for likely significant effects (alone or in combination with other projects or plans) resulting from proposal has been completed. This Task 1 Screening concluded that there is no likely significant effect (in HRA terms).</p>	



	<p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and the proposed route alignment would direct walkers away from the designated site and therefore reduce disturbance. Therefore, it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area. However, the footpath creation may result in the need to remove the lineside vegetation and mature group of trees, south of the level crossing which connects E-159/012/0 and E-159/015/0. This has potential to open previously screened views to the south west from Branthan Hall Farm (grade II listed) to the rail line and industrial area at Cattawade. However, this removal of vegetation is not to a scale that would cause significant effects.</p>
<b>Historic Environment</b>	<p>There are numerous grade II listed buildings within 1km of the works as well as a grade II* listed building (List Entry ID 1033431) and two grade I listed buildings and a scheduled monument at Mistley Towers (List Entry ID 1240764; 1261061; 1002154). However, Mistley Towers is approximately 1km and the grade II* listed church is 650m from the works. Manningtree and Mistley Conservation Area is also approximately 450m south of the works. Due to the distance of works from the assets and the minimal nature and size of the works there is not expected to be an impact on the setting of the assets.</p> <p>There is a potential for low impact to unknown buried archaeological remains as a result of excavations required to provide suitable foundations for the bridge abutments and fencing. However, the area of excavation will be small, relatively shallow and will be located adjacent to the railway and over a drain where earlier remains are likely to have been disturbed, therefore the magnitude of this impact is likely to be negligible and not significant.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and</p>



	<p>it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the removal of whistle boards at the level crossing as part of the proposals (which require the train to whistle when approaching) will reduce the amount of noise associated with every passing train.</p> <p>The proposals divert users along a proposed footpath that will partly run adjacent to the railway line. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing, a timber footbridge, and a new unsurfaced footpath. The works will involve soil stripping.</p>




	<p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The construction works associated with the proposals will be carried out adjacent to a small pond. The limited nature, size, location and temporary duration of the construction works will limit the impacts on water resources and it is anticipated that there will be no significant water resources effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.14 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing, a timber footbridge, a new unsurfaced footpath, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Traffic and transport Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>




<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However the limited nature, size, location and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts. It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	<p>None identified</p>

## 4.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 4.1.

Crossing: S01 (C1) Sea Wall (CO11 1NL/TM 11060 33038)	Survey Date: 05/04/16
<div>  </div> <p>Habitats: Scattered scrub, coastal sea wall and industrial.</p>	



Constraint		Further Action Required?	Required actions
Designated sites		Y	<p>Stour and Orwell Estuaries Ramsar, SPA and SSSI.</p> <p>Habitats Regulations Assessment Task 1 screening for likely significant effects (alone or in combination with other projects or plans) resulting from proposal has been completed. This Task 1 Screening identified that there is no direct impact in terms of habitat loss anticipated on the European sites resulting from the proposed plan. The HRA Task 1 Screening concluded that there is no likely significant effect (in HRA terms) during the operational phase of the new footpath alone or in combination. The HRA task 1 screening concluded the following actions will need to be undertaken during the construction phase of the project.,</p> <ul style="list-style-type: none"> <li>Construction works such as removal of level crossing infrastructure, footbridge installation and fence installation need to be undertaken between September – March inclusive (the winter period for waterbirds) and within 300m of mean high water springs (MHWS)</li> </ul> <p>Industry best practice would be adhered to as set out in the CIRIA Control of water pollution from construction sites guidance (C532) and 'BS 5228-1:2009: Code of practice for noise and vibration control on construction and open sites' to minimise the likelihood of water pollution or noise disturbance events occurring. Acoustic barriers and screening bund may also be used where practicable.</p>
Habitat Presence	Sensitive Habitat	N	 <p>Reed bed and estuarine marsh adjacent to works. Approximately 4m of reed would be removed along the margins of a watercourse, outside of the designated site. Long term the reeds would grow back to the footbridge with no significant loss of connectivity. At 3m wide the footbridge would not cause a significant amount of shading long the watercourse. The construction of the footbridge would be bank to bank with no disruption of waterflow. By locating the crossing away from the main reed area this will minimise disturbance on protected species that may be present.</p> <p>Industry best practice would be adhered to as set out in the CIRIA Control of water pollution from construction sites guidance (C532).</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>



Constraint		Further Action Required?	Required actions
	Pond	N	None present, no further action.
	Watercourse	Y	<p>Proposed new route will new timber footbridge to cross existing dike. Industry best practice would be adhered to as set out in the CIRIA Control of water pollution from construction sites guidance (C532).</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	None present, no further action.
Invasive Species		N	None observed, no further action
Species Potential	Breeding Birds	Y	<p>There is potential for common species of breeding birds in reeds, trees and scrub along the new route option. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and the nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	Foraging/commuting potential along field margins. No impact anticipated to the foraging and commuting habitat. As vegetation clearance will be minimal the habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required..
	Badgers	N	No evidence of badger activity identified along the proposed route, no further action.



Constraint		Further Action Required?	Required actions
	Dormice	N	No suitable habitat. No further action.
	Reptiles	Y	<p>Suitable habitat along field margins and banks of existing sea wall. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p>
	Water Voles	Y	<p>Further required to assess habitat suitability at location of water course crossings. If present, the proposed works would have a low impact on this species. Any loss of foraging habitat will be temporary and the area very small in the context of the surrounding habitats. Works will not result in any long-term loss of large areas of suitable water vole habitat or result in permanent or temporary habitat fragmentation.</p> <p>Works will be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	White-clawed Crayfish	N	No suitable habitat. No further action.



Constraint		Further Action Required?	Required actions
	Otters	N	<p>No potential holt identified along the route of the proposed alignment. Existing dyke has potential to support commuting and forging otter.</p> <p>No long-term loss of large areas of suitable otter habitat. No permanent or temporary habitat fragmentation. The dyke will not be obstructed during construction and otters could continue commuting along the watercourse, if present.</p> <p>Works will be carried out in accordance with Network Rail's CRE whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Great crested newts	N	No suitable habitat. No further action.



## 5 S02 Brantham High Bridge

### 5.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
612102, 234895	Brantham Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>There are fields directly adjacent to the crossing on both the east and west sides of the railway. To the north and the west of the crossing there are small areas of woodland.</p>
<b>Description of proposed works (See Appendix B for S02 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will make use of the dedicated footway on to the side of the highway bridge on Ipswich Road to cross the railway. The existing public right of way network to the west of the railway shall be used by connecting E-159/006/0 to Ipswich Road via a new 2m wide footpath along Jimmy Lane, an existing track. The section of E-159/006/0 to the east of the woodland to the crossing would be extinguished to prevent the creation of a dead end whilst maintaining access into the woodland. Boundary fencing (type F1) will be installed where the footpath is to be extinguished. To the east of the crossing a new 2m wide type P1 footpath running parallel to the railway would be provided from E-159/006/0 within field margins to The Street via a proposed footbridge over a drainage ditch. A new public right to use The Street would be required. The new proposed footpath would be separated from the railway within Network Rail land using type F7 fencing. New wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure would be removed and type F7 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S02 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 03/04/16 &amp; 26/09/16 the results of which are presented in Section 4.2. To summarise, the survey identified potential for the presence of breeding birds, reptiles and great crested newts.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These</p>	



	<p>minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will redirect users from a route with views across arable farmland to a route with views across a major road (The Street), and partially running alongside the railway line. This may result in impacts upon the visual amenity of the PRoW users. However this is not anticipated to cause significant effects due to the proposed route remaining in the same character area and the length of the diversion relative to the wider PRoW network.</p>
<b>Historic Environment</b>	<p>There are four grade II and one grade II* listed building within 1km of the works. Three of these (including the grade II* listed St Michael and All Saints Church (List Entry ID 1033431)) are over 500m from the works and therefore the minor nature and size of the works are not anticipated to impact on the setting of the assets. Two of the listed buildings are approximately 200m east of the works, however both are visually screened from the works by modern residential development and there appears to be no historic link between the buildings and the location of the works.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the removal of whistle boards at the level crossing as part of the proposals (which require the train to whistle when approaching) will reduce the amount of noise associated with every passing train.</p> <p>The proposals divert users along a proposed footpath that will run adjacent to the railway line and along a residential road and the A137. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties the A137.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing, a proposed stile and a new unsurfaced footpath. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects</p>




	<p>during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within a Flood Zone 1 (lowest flood risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include minor intrusive works such as fencing, a proposed footbridge and a new unsurfaced footpath, which is not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The</p>



	<p>construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed/change in status. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 5.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April and September 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 5.1.

<b>Crossing:</b> S02 Bantham High Bridge (CO11 1PL/TM12104 34890)	<b>Survey Date:</b> 13/04/2016 & 26/09/2016
<p>Habitats: Improved and semi-improved grassland, dense-continuous scrub, arable farmland, mixed woodland rail embankment of scrub and trees.</p> <p>Photo: </p>	



Constraint		Further Action Required ?	Required actions
Designated sites		N	None present. No further action.
Habitat Presence	Sensitive Habitat	N	None present. No further action.
	Pond	N	Small pond within 250m west of the proposed footpath. Separated from route by residential properties and associated land. This water body will not be directly affected by the works. Therefore, no impact is anticipated and no further action is required.
	Watercourse	N	No impact, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	No impact, no further action.
	Mature Trees	N	Mature trees present. No impact. No further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in scrub and trees along the new route option. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	Foraging/commuting potential along linear habitats (line of trees). No impact anticipated to the foraging and commuting habitat. As vegetation clearance will be minimal the habitat lost will be very small in the



Constraint		Further Action Required ?	Required actions
			context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.
	Badgers	N	Suitable habitat, but no setts noted. No further action.
	Dormice	N	None present. No further action.
	Reptiles	Y	<p>There is potential for reptiles within railside grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be trimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p>



Constraint		Further Action Required ?	Required actions
			Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.
	Water Voles	N	None present. No further action.
	White-clawed Crayfish	N	None present. No further action.
	Otters	N	None present. No further action.
	Great crested newts	Y	<p>One water body is within 250m of the proposed works. In the absence of detailed survey information, a precautionary approach will be adopted whereby it is assumed that great crested newts may be present in the potential foraging and/or commuting habitats (any piles of wood, brash and rubble) along the proposed route.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the works it is not considered likely that the works will result in the injuring, killing, disturbance of, or damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. .All suitable habitats within the working area will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further</p>



Constraint		Further Action Required ?	Required actions
			<p>vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.</p>



## 6 S03 Buxton Wood

### 6.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
612026, 237076	Bentley Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>There are fields on both the east and the west side directly adjacent to the crossing. There is a small area of woodland further the east of the crossing and a ditch running alongside the route.</p>
<b>Description of proposed works (See Appendix B for S03 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will make use of Falstaff level crossing to the north. The footpath W-138/022/0#1 to the west of the railway will be extinguished to prevent a long section of footpath with a dead end. To maintain connectivity in the network footpath W-138/022/0#3 shall be extended with a new 2m wide footpath to connect to W-138/019/0 at Falstaff level crossing. New wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure at Buxton Wood level crossing would be removed and type F7 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S03 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 13/04/2016 and the results of this survey are presented in section 6.2 of this request. The survey identified the potential for the presence of breeding birds, bats, reptiles and Great crested newts. There is a watercourse adjacent to the proposed route. Industry best practice would be adhered to as set out in the CIRIA Control of water pollution from construction sites guidance (C532). Suitability of trees to support a bat roost are to be assessed. To inform detailed mitigation and licencing requirements preliminary ground level tree assessment survey will be undertaken in the 2016/17 winter with additional surveys undertaken, as required. However, the limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are</p>	



	<p>outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore there it is anticipated that there will be no significant effects on the visual amenity of PRow users or other sensitive receptors.</p>
<b>Historic Environment</b>	<p>There are four grade II* and six grade II listed buildings within 1km of the works. The closest of these is approximately 650m north of the works. It is anticipated that there will be no impact to the setting of the these assets due to the minor nature and size of the proposed works. The works related to footpath creation will be at a sufficient distance to prevent visual impact on setting furthermore there does not appear to be a historic link between the listed buildings and the works locations.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best</p>



	<p>practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, it is anticipated that there will be no significant effect on users from noise in the vicinity of the proposals as the proposals do not divert users near to any existing potential noise sources.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new, unsurfaced right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The construction works associated with the proposals will be carried out adjacent to a stream. The limited nature, size, location and temporary duration of the construction works will limit the impacts on water resources and it is anticipated that there will be no significant water resources effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.14 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>The existing right of way is within Flood Zone 1 whilst the new right of ways are within Flood Zone 3. Users are diverted to areas with a greater flood risk than the existing routes, however, it is anticipated that there will be no significant effect on the flood risk to users due to the minimal nature of the proposals and the mobility of the users.</p>




	<p>The works will include fencing and a new, unsurfaced right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>



<b>Potential Significant Effects</b>	None identified
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## 6.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 6.1.

<b>Crossing:</b> S03 Buxton Wood (IP9 2DB/TM 12023 37072)	<b>Survey Date:</b> 13/04/2016
<p>Habitats: Arable farmland, tall ruderal, scattered mature trees, scrub, marshy grassland and a stream.</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	Watercourse adjacent to the proposed route, no crossings proposed. Industry best practice would be adhered to as set out in the CIRIA Control of water pollution from construction sites guidance (C532). Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.
	Species-rich Hedge	N	None present, no further action.



Constraint		Further Action Required ?	Required actions
	Structures	N	No impact, no further action.
	Mature Trees	N	Mature trees present. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in scrub and trees along the new route option. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	Y	<p>Habitats adjacent to the proposed route have potential to support foraging/commuting activity by bats (watercourse, woodland). No impact anticipated to these. No vegetation clearance of woodland. Clearance of trees and scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Suitability of trees to support a bat roost is to be assessed. To inform detailed mitigation and licencing requirements preliminary ground level tree assessment survey will be undertaken in the 2016/17 winter with additional surveys undertaken, as required. Removal of trees is not anticipated at this location however if unavoidable tree removal would result in the loss of a roost the requirements for mitigation to ensure no impact on the local population and/or net loss of roosting opportunities would be captured within a European Protected</p>



Constraint		Further Action Required ?	Required actions
			Species mitigation licence, agreed with Natural England prior to works. Works will be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.
	Badgers	N	No sett observed, suitable foraging habitat. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within long grass and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p>



Constraint		Further Action Required ?	Required actions
			Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.
	Water Voles	N	No watercrossings. No impact, no further action.
	White-clawed Crayfish	N	No watercrossings. No impact, no further action.
	Otters	Y	<p>No watercrossings proposed but route lies adjacent to suitable commuting and foraging habitat. Further surveys are to be undertaken in 2017 to inform appropriate mitigation during construction and operation.</p> <p>If a potential holt site is identified the application of best practice will be undertaken and/or avoidance of impacts through appropriate timing of works. This would prevent any adverse impact to otter as a result of increased noise associated with the presence of machinery/increased human presence during construction and human presence during operation.</p> <p>Although unlikely, where night works are required adjacent to habitat considered suitable for otter, directional lighting will be used to reduce light spill.</p> <p>Works will be carried out in accordance with Network Rail's CRE whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Great crested newts	N	<p>One water body is within 250m of the proposed works. In the absence of detailed survey information, a precautionary approach will be adopted whereby it is assumed that great crested newts may be present in the potential foraging and/or commuting habitats (any piles of wood, brash and rubble) along the proposed route.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the works it is not considered likely that the works will result in the injuring, killing, disturbance of, or</p>



Constraint		Further Action Required ?	Required actions
			<p>damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. All suitable habitats within the working area will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.</p>



## 7 S04 Island

### 7.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
612307, 238239	Bentley Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>On the east side of the crossing lies arable farmland, and directly adjacent to the crossing on the west side is a small area of woodland. To the north west of the crossing lies Bentley Park, a registered park and garden.</p>
<b>Description of proposed works (See Appendix B for S04 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. The diversion route for users will make use of the highway bridge footway (Bentley Bridge) to the north. New 2m footpaths will be provided to the east and west of the railway along field margins linking existing footpaths to Bentley Bridge. The new footpath to the east of the railway will be mainly within Network Rail land and will have type F4 fencing to prevent trespass on to the railway. New wayfinding signs with details to be discussed and agreed with the local authority. The section of W-138/018/0#1 through the woodland leading to the crossing will be extinguished to prevent a dead end path being formed. Crossing infrastructure shall be removed and type F7 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S04 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 13/04/2016 and the results of this survey are presented in section 7.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	<p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area. There may be the requirement for removal of vegetation to create the footpaths however, this removal of vegetation is not to a scale that would cause significant effects. .</p>
<b>Historic Environment</b>	<p>There are four grade II* and six grade II listed buildings within 1km of the works. A number of these are in close proximity to the works. Two grade II listed buildings are located immediately adjacent to an existing footpath which forms part of the diversion route for the level crossing closure and are approximately 300m east of the footpath creation area. There is not anticipated to be an impact on the setting of these assets due to the minor nature and size of the works. Also the existing footpath is currently part of the route to be diverted and the footpath creation on the east side of the railway will be aligned adjacent to railway line. Three grade II* listed buildings are 50m from a section of existing road which will for part of the PRow diversion and 280m west of footpath creation works. As the road is already in use for traffic and footpath creation works will be minor, at sufficient distance and for much of its route along the existing railway embankment, it is not anticipated that the works will impact on the setting of these assets.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the removal of whistle boards at the level crossing as part of the proposals (which require the train to whistle when approaching) will reduce the amount of noise associated with every passing train.</p> <p>The proposals divert users along a proposed footpath that will run adjacent to the railway line and along Church Road. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as a new unsurfaced rights of way and fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the</p>




	implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles
<b>Water Resources</b>	<p>The construction works associated with the proposals will be carried out adjacent to a stream. The limited nature, size, location and temporary duration of the construction works will limit the impacts on water resources and it is anticipated that there will be no significant water resources effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.14 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include a new unsurfaced rights of way and fencing, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed</p>



	<p>through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 7.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 7.1.

<b>Crossing:</b> S04 Island (IP9 2LP/ TM 12309 38236)	<b>Survey Date:</b> 13/04/16
<p>Habitats: Arable farmland, dense-continuous scrub, semi-improved grassland, tall ruderal, broad-leaved/mixed woodland.</p> <div>  </div> <p>Photo:</p>	



Constraint		Further Action Required ?	Required actions
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	Stream approximately 175m west of the crossing. No impact, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Bentley Bridge at northern end of the proposed footpath diversion. As part of the proposal there will be no engineering works or lighting scheme designs that impact the structure. No impact, no further action.
	Mature Trees	N	Woodland and scattered trees. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub along the new route option. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	Moderate potential for roosting bats in several trees in the woodland immediately west of the existing crossing. Habitats adjacent to the proposed route



Constraint		Further Action Required ?	Required actions
			have potential to support foraging/commuting activity by bats (woodland). No impact anticipated to these. No vegetation clearance of woodland. Clearance of trees and scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.
	Badgers	N	Evidence of badgers on site (e.g. snuffle holes), but no setts were noted. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within long grass and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their</p>



Constraint		Further Action Required ?	Required actions
			<p>place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 8 S05 Pannington Hall (Broomhaughton)

### 8.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
614087, 240608	Wherstead Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>Arable farmland lies on both sides of the track at this level crossing, with Jimmy's Farm located further to the south east.</p>
<b>Description of proposed works (See Appendix B for S05 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will be diverted to The Street highway bridge to the southwest to cross the railway. To the north of the railway users will make use of the existing PROW and highway network. To the south of the railway two new sections of 2m wide footpath shall be provided. One will follow the field boundary on the north side of The Street to connect the highway bridge with E-559/041/0. The other will follow the field boundary on the south side of the street to connect E-559/029/0 to E-559/030/0. A short section of new 2m wide footpath will be provided north of The Street highway bridge in the field margin. New wayfinding signs with details to be discussed and agreed with the local authority. The section of E-559/030/0 leading to the crossing shall be extinguished to prevent a dead end path being formed. Crossing infrastructure will be removed and type F7 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S05 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 04/05/2016 and the results of this survey are presented in section 8.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	<p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are numerous grade II listed buildings within 1km of the works. All but two of these are located over 500m from the works. Bluegates Farmhouse (List Entry ID 1203987) is located approximately 200m east of footpath creation works, these will however be immediately adjacent to existing tracks and footpaths identified on historic maps therefore no impact to setting is anticipated. Pannington Hall (List Entry ID 1281450) 130m of an existing PRow which will be extinguished as a result of the proposed works. This extinguishment is however not anticipated to impact on the setting of the asset as it will remain publicly accessible as it is next to a busy commercial property and due to minor nature and size of the works.</p> <p>There is a potential for a low impact to unknown buried archaeological remains as a result of the excavations required to provide suitable foundations for the tarmac verge. The archaeological potential of this area is unknown however their location by an existing tarmac road and small area required suggests the potential would be low and therefore the effects not significant</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath that will run adjacent to The Street. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as new, unsurfaced rights of way and fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>




<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest flood risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include new, unsurfaced rights of way and fencing, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p>



	<p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 8.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in May 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 7.1.

<b>Crossing:</b> S05 Pannington Hall (IP9 2AR/TM 13974 40549 )	<b>Survey Date:</b> 04/05/16
<p>Habitats: Arable/fallow fields, minor hedgerow, small immature tree plantation and ancient woodland.</p> <div>  </div> <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.



Constraint		Further Action Required ?	Required actions
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	Mature oak. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub along the new route option. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	Roosting potential in mature tree. Habitats adjacent to the proposed route have potential to support foraging/commuting activity by bats (woodland). No impact anticipated to these habitats. No vegetation clearance of woodland required. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required. No impact, no further action.
	Badgers	N	No suitable habitat, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile



Constraint		Further Action Required ?	Required actions
			<p>habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 9 S07 Broomfield

### 9.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
611964, 251146	Barham Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>The crossing is adjacent to farmland on east side of the railway track and a small wooded and un-cultivated patch of land to the west.</p>
<b>Description of proposed works (See Appendix B for S07 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will make use of an existing underpass to the south to cross the railway. An improvement to E-120/030/0#1 shall provide a 2m wide compacted stone footpath immediately to the north of existing footpath up to the underpass. To the east of the railway a new footpath will be provided to connect E-120/011/0#1 and E-120/012/0#1. This will be a 2m wide footpath right on the existing track. New wayfinding signs with details to be discussed and agreed with the local authority. The section of E-120/012/0#1 to the west of Broomfield crossing will be extinguished to prevent a dead end path being formed. Crossing infrastructure at will be removed and type F7 and F4 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S07 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 06/04/2016 and the results of this survey are presented in section 9.2 of this request. During construction, there is potential for the presence of breeding birds. The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>	



<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are 11 grade II and one grade I listed buildings and one registered park and garden (List Entry ID 1000155) within 1 km of the works. The majority of these are either within a built up setting or of sufficient distance not to be affected by the minor works proposed. Two grade II (List Entry ID 1250931 and 1262876) and the grade I listed building (List Entry ID 1251271) are within 150m of an area of footpath creation. However, this section of footpath will be aligned immediately adjacent to the existing footpath and is therefore not expected to result in an impact to the setting of the assets.</p> <p>The depth of earth removal required for the creation of the footpaths (330mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



	<p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, it is anticipated that there will be no significant effect on users from noise in the vicinity of the proposals as the proposals do not divert users near to any existing potential noise sources.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as new, rights of way with compacted stone surfacing and fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The construction works associated with the proposals will be carried out adjacent to watercourses (the River Gipping and man-made lakes). The limited nature, size, location and temporary duration of the construction works will limit the impacts on water resources and it is anticipated that there will be no significant water resources effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.14 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>The existing paths and majority of proposed diversions are all located within Flood Zone 3 (highest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include new, rights of way with compacted stone surfacing and fencing, which are not expected to require substantial below ground works or ground level changes. As there will be no</p>




	substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>



<b>Potential Significant Effects</b>	None identified
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## 9.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 9.1.

<b>Crossing:</b> S07 Broomfield (IP6 0NJ/ TM 11969 51150 )	<b>Survey Date:</b> 06/04/2016
<p>Habitats: Improved grassland, running water and open water.</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	Gravel pits lake on the east side. No impact, no further action.
	Watercourse	N	Drainage ditch 130m west of the crossing. River Gipping 225m south-west. No impact, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.



Constraint		Further Action Required ?	Required actions
	Mature Trees	N	Scattered mature trees. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub along the new route option. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rail's CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Bat potential in some of the mature trees. Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. No vegetation clearance required. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No setts or evidence noted, suitable foraging habitat. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	N	No suitable habitat, no further action.



Constraint		Further Action Required ?	Required actions
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



# 10 S08 Stacpool

## 10.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
610476, 253450	Needham Market Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>The crossing is located directly adjacent to grassland on the west side of the track and to a live mineral extraction quarry on the eastern side. The crossing lies a short distance north of the town of Great Blakenham.</p>
<b>Description of proposed works (See Appendix B for S08 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will make use of an existing bridge on W-121/031/0 to the north of the crossing. Users shall be routed along of a new 2m wide public footpath to the east of the railway between W-121/033/0 and W-121/031/0. Fencing will be installed to separate the new footpath from quarry traffic. New wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure will be removed and type F1 fencing installed to the west side of the railway and type G1 gate to the east side to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S08 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 07/04/2016 and the results of this survey are presented in section 10.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is</p>	



	<p>anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are 11 grade II listed buildings, a registered park and garden (List Entry ID 1000155) and a scheduled monument (List Entry ID 1006033) within 1km of the works. The closest of these to the works is the Baylham Roman Site scheduled monument at 350m south east. As the footpath creation in this location will be aligned along the existing railway it is not anticipated that the setting of any of these assets will be affected.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



	<p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath that will run adjacent to the railway line. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing, new gates and a new right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles..</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing, new gates and a new, unsurfaced right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed</p>




	works are anticipated to have no significant effect on groundwater flows or levels.
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified




## 10.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 10.1.

<b>Crossing:</b> S08 Stacpool (IP6 8LJ/ TM 10477 53452)	<b>Survey Date:</b> 07/04/2016
<p>Habitats: Tall ruderal, arable field margins, scrub, ephemeral/short perennial grassland, open water and bare ground (active quarry).</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	Gravel pits on the east side. Bare earth banks, no aquatic/marginal vegetation. Series of large fish ponds within wider landscape. No impact, no further action.
	Watercourse	N	River Gipping 248m to east. No impact, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Bridge at northern end of the proposed footpath diversion. As part of the proposal there will be no engineering works or lighting scheme designs that impact the structure. No impact, no further action.



Constraint		Further Action Required ?	Required actions
			
	Mature Trees	N	Scattered mature trees. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub along the new route option. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Habitats adjacent to the proposed route have potential to support foraging/commuting activity by bats (woodland). No impact anticipated to these habitats. No vegetation clearance of woodland. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required. No impact, no further action.</p>



Constraint		Further Action Required ?	Required actions
	Badgers	N	No evidence of badger setts. No further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. Pile of debris, including rubble, with refuge potential located west of the crossing. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall</p>
	Water Voles	N	No suitable habitat, no further action.



Constraint		Further Action Required ?	Required actions
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



# 11 S11 Leggetts

## 11.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
604538, 264580	Old Newton with Dagworth Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>The site is surrounded by arable farmland both sides of the railway track and lies a short distance south east of a small farm.</p>
<b>Description of proposed works (See Appendix B for S11 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. The crossing users will make use of Wassicks level crossing to the south. The local network will be used to access Wassicks with the use of W-297/013/0 to the west and W-297/048/0 to the east. The section of W-419/006/0 on the west side of Leggetts crossing will be extinguished to prevent a dead end path being formed. Crossing infrastructure at shall be removed and type F7 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S11 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 06/04/2016 and the results of this survey are presented in section 11.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is</p>	



	<p>anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. There are no proposed changes to the PRoW network for this proposal, therefore it is anticipated that there will be no significant effects on the visual amenity of PRoW users.</p>
<b>Historic Environment</b>	<p>Although there are several listed buildings within 1km of the site there will be no new footpath creation and only existing footpaths will be used to divert foot traffic. The closest listed building to these diversion routes is 200m west therefore no impact to setting is anticipated.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during</p>



	<p>construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along an existing footpath that will run adjacent to the railway line. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing, which is not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport.</p>




	<p>Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 11.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 11.1.



<b>Crossing:</b> S11 Leggets (IP14 4EY/ TM 04537 64595)	<b>Survey Date:</b> 06/04/2016
Habitats: Arable farmland, semi-improved grassland and intact hedgerows  	
Photo:	

Constraint		Further Action Required ?	Required actions
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	Pond adjacent to the farmyard. No impact, no further action.
	Watercourse	N	Drainage ditches of low ecological potential. No impact, no further action
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	Mature tree to the east of the crossing. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	There is potential for breeding birds in areas of scrub, hedgerow and trees that surround the location of the level crossing. Methods of best practice are recommended where vegetation removal is required for installation of new fencing. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided



Constraint		Further Action Required ?	Required actions
			<p>during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Potential for bat roosts in mature trees. Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. No vegetation clearance of woodland. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No setts or evidence observed, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble</p>



Constraint		Further Action Required ?	Required actions
			<p>within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	Pond approximately 190m north-west of the crossing. No impact, no further action.



# 12 S12 Gooderhams

## 12.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
605009, 265452	Bacton Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross and a private user worked crossing with a telephone.</p> <p>The site lies directly adjacent to farmland on both the north west and south east sides of the track at the site of the level crossing.</p>
<b>Description of proposed works (See Appendix B for S12 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users, with private crossing rights to be maintained. Public users will be diverted to Cow Creek level crossing to the north of the crossing via the existing public rights of way and highway network. To the west of the railway users will make use of public footpaths W-115/018/0#2 and W-115/018/0#1. To the east of the railway, users will use existing Kerry's Farm Lane and the B1113. Public footpath W-115/019/0 would be extinguished to prevent a dead end path being formed up to the railway. Crossing infrastructure shall be removed and type F1 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S12 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 07/04/2016 and the results of this survey are presented in section 12.2 of this request. During construction, there is potential for the presence of breeding birds, reptiles and Great crested newts.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is</p>	



	anticipated that there will be no significant ecology effects during operation.
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>Although there are several listed buildings within 1km of the site there will be no new footpath creation and only existing footpaths will be used to divert foot traffic. The closest listed building to these diversion routes is approximately 50m north therefore no impact to setting is anticipated from potential increased foot traffic on existing paths.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during</p>



	<p>construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along Kerry's Farm Lane. This and the farm adjacent to it are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on Kerry's Farm Lane.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing, which is not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and</p>




	<p>transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 12.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 12.1.



<b>Crossing:</b> S12 Gooderhams (IP14 4HH/ TM 04994 65465)	<b>Survey Date:</b> 07/04/2016
Habitats: Arable farmland, improved grassland, standing water (drainage ditches) and a line of semi-mature/mature trees 	
Photo:	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	Pond approximately 165m north-west of the crossing. No impact, no further action.
	Watercourse	N	Drainage ditches of low ecological potential. No impact, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	Present adjacent to the access track. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	There is potential for breeding birds in areas of trees and scrub that surround the location of the level crossing. Methods of best practice are recommended where vegetation removal is required for installation of new fencing. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance



Constraint		Further Action Required ?	Required actions
			<p>activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Low potential for bat roosts in mature trees. Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. No vegetation clearance of woodland. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No setts or evidence noted. No further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the</p>



Constraint		Further Action Required ?	Required actions
			<p>ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	Y	<p>Pond approximately 165m north-west of the crossing. One water body is within 250m of the proposed works. In the absence of detailed survey information, a precautionary approach will be adopted whereby it is assumed that great crested newts may be present in the potential foraging and/or commuting habitats (any piles of wood, brash and rubble) along the proposed route.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the</p>



Constraint	Further Action Required ?	Required actions
		<p>works it is not considered likely that the works will result in the injuring, killing, disturbance of, or damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. All suitable habitats within the working area will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.</p>



## 13 S13 Fords Green

### 13.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
605536, 266425	Bacton Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>Arable farmland lies on both the north west and south east sides of the footpath. The small village of Ford's Green is located a short distance to the east of the crossing.</p>
<b>Description of proposed works (See Appendix B for S13 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Crossing infrastructure will be removed and type F7 and F4 fencing installed to prevent trespass onto the railway. Users shall make use of Cow Creek to the south. A new 2m wide public footpath following on the west side of the railway will be created in field margins to connect footpath W-115/022/0#2 and W-115/018/0#1. The new footpath will be constructed to an appropriate standard with new wayfinding signs with details to be discussed and agreed with the local authority.</p>		
<b>EIA Screening Assessment (See Appendix C for S13 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 04/05/2016 and the results of this survey are presented in section 13.2 of this request. During construction, there is potential for the presence of breeding birds, reptiles and Great crested newts.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is</p>	



	<p>anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are numerous listed buildings within 1km of the study area including two grade II* and two grade I listed buildings. All but one of the listed buildings are over 500m from the footpath creation works. Grade II listed Kerry's Farmhouse (List Entry ID 1352289) is approximately 150m from the works. Footpath creation will however be confined to the area immediately adjacent to the existing railway line and are therefore not anticipated to impact on the setting of the listed building.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of</p>



	<p>Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a footpath that will run adjacent to the railway line. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new, unsurfaced right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature,</p>




	size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified



### 13.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in May 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 13.1.

Crossing: S13 Fords Green (IP14 4HN/ TM 05527 66425)	Survey Date: 04/05/16
Habitats: Arable fields and hedgerow with ditch.  	
Photo:	

Constraint		Further Action Required ?	Required actions
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	Within 250m of works. No direct impacts, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	None present, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	There is potential for breeding birds in areas of scrub that surround the location of the level crossing.



Constraint		Further Action Required ?	Required actions
			<p>Methods of best practice are recommended where vegetation removal is required for installation of new fencing. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	No suitable habitat, no further action.
	Badgers	N	No suitable habitat, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out</p>



Constraint		Further Action Required ?	Required actions
			<p>with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	Y	<p>Waterbodies within 250m of the proposed works. In the absence of detailed survey information, a precautionary approach will be adopted whereby it is assumed that great crested newts may be present in the potential foraging and/or commuting habitats (any piles of wood, brash and rubble) along the proposed route.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the works it is not considered likely that the works will result in the injuring, killing, disturbance of, or damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. .All suitable habitats within the working area</p>



Constraint		Further Action Required ?	Required actions
			<p>will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.</p>



# 14 S16 Gislingham

## 14.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
607474, 270011	Finningham Parish	<p>This is a stop, look and listen public bridleway level crossing where the user should decide whether it is safe to cross.</p> <p>The site lies directly adjacent to Eastlands Farm on the east side of the railway track and arable farmland and a small wooded area on the west side. The town of Finningham lies a short distance to the south west.</p>
<b>Description of proposed works (See Appendix B for S16 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users and a new 3m wide bridleway to the south will be provided. It will provide a link to an existing public byway. This diversion makes use of the existing underpass on byway W-246 022 to allow users to cross the railway. The new bridleway will be constructed to an appropriate standard with new wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure shall be removed and type F4 fencing installed to prevent trespass onto the railway. A short length of the bridleway W-246 010/0 will be extinguished as it would form a dead end.</p>		
<b>EIA Screening Assessment (See Appendix C for S16 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 06/05/2016 and the results of this survey are presented in section 14.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.
<b>Landscape</b>	The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.
<b>Historic Environment</b>	<p>There are numerous listed buildings and the Finningham Conservation Area within 1km of the works, all but two of these are located within the village of Finningham approximately 400m from the works and the conservation area is 350m west. The built up context of these assets means their setting is unlikely to be affected by these works which are minor in nature and size. A further two listed buildings are located over 550m north of the works over open land. Footpath creation will be limited to adjacent to the existing railway line and PRow and therefore is unlikely to affect the setting of the listed buildings or conservation area.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best</p>



	<p>practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath that will run adjacent to the railway line. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new public right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing right of way is within Flood Zone 1 whilst the new right of way is partially within Flood Zone 3. Users are diverted to areas with a greater flood risk than the existing routes, however, it is anticipated that there will be no significant effect on the flood risk to users due to the minimal nature of the proposals and the mobility of the users.</p> <p>The works will include fencing and a new public right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or</p>




	<p>ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>There is potential that bridleway users of Eastlands Farm will experience minor increases in journey times as a result of the closure of the level crossings, however these are unlikely to be detrimental to business viability.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance or business viability.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be</p>



	improvements in safety and journey reliability for the majority of level crossing users.
<b>Potential Significant Effects</b>	None identified

## 14.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in May 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 14.1.

<b>Crossing:</b> S16 Gislingham (IP9 2DB/TM 07479 70010)	<b>Survey Date:</b> 06/05/16
<p>Habitats: Scattered trees, scrub, arable and railside grassland.</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Nearby farm buildings and house. No impact, no further action.



Constraint		Further Action Required ?	Required actions
	Mature Trees	N	None present, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of trees and scrub. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. No vegetation clearance of woodland. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	Foraging potential. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat



Constraint		Further Action Required ?	Required actions
			<p>fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



# 15 S17 Paynes

## 15.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
608026, 271031	Gislingham Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>The site is surrounded by arable farmland on both the east and west side of the track. The proposed footpath runs north with a wooded area and several ponds along the route. The village of Gislingham is located a short distance to the North West of the site.</p>
<b>Description of proposed works (See Appendix B for S17 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will make use of an existing bridge to the north. A new 2m wide public footpath approximately 350m to the east of the railway will be created to connect footpath W-267/022/0 and W-267/021/0. This footpath shall be constructed to an appropriate standard with new wayfinding signs, the details of which are to be discussed and agreed with the local authority. The existing public right of way network to the west of the railway will be used to link to the existing bridge. Crossing infrastructure shall be removed and type F4 fencing installed on the west side of the railway and type F7 on the east side to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S17 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 11/04/2016 and the results of this survey are presented in section 15.2 of this request. During construction, there is potential for the presence of breeding birds, reptiles and Great crested newts.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.
<b>Landscape</b>	The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.
<b>Historic Environment</b>	<p>There are numerous listed buildings within 1km of the works. The closest of these to the works is 200m and is visually screened from the works by modern farm buildings.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>



<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, it is anticipated that there will be no significant effect on users from noise in the vicinity of the proposals as the proposals do not divert users near to any existing potential noise sources.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new public right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles</p>
<b>Water Resources</b>	<p>The construction works associated with the proposals will be carried out adjacent to four small ponds. The limited nature, size, location and temporary duration of the construction works will limit the impacts on water resources and it is anticipated that there will be no significant water resources effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.14 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new, permeable public right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>



<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified



## 15.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 15.1.

Crossing: S17 Paynes (IP23 8JF/TM 08021 71028)	Survey Date: 11/04/2016
Habitats: Arable farmland, intact hedgerows, scattered mature/semi-mature trees, drainage ditches. <div> </div> Photo:	

Constraint		Further Action Required ?	Required actions
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	Field boundary ditches of low ecological potential. No impact, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Bridge at northern end of footpath diversion. Low potential for roosting bats. As part of the proposal there will be no engineering works or lighting scheme designs that impact the structure. No impact, no further action.
	Mature Trees	N	Scattered mature trees. No impact, no further action.



Constraint		Further Action Required ?	Required actions
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	There is potential for breeding birds in areas of scrub. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.
	Bats	N	Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. No vegetation clearance of woodland. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.  Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.
	Badgers	N	No setts or evidence noted. No further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.  Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the



Constraint		Further Action Required ?	Required actions
			<p>works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	Y	<p>Waterbodies within 250m of the proposed works. In the absence of detailed survey information, a precautionary approach will be adopted whereby it is assumed that great crested newts may be present in the potential foraging and/or commuting habitats (any piles of wood, brash and rubble) along the proposed route.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of</p>



Constraint		Further Action Required ?	Required actions
			<p>suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the works it is not considered likely that the works will result in the injuring, killing, disturbance of, or damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. All suitable habitats within the working area will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.</p>



# 16 S18 Cow Pasture Lane

## 16.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
609446, 273657	Mellis Parish	<p>This is a stop, look and listen byway open to all traffic level crossing where the user must decide whether it is safe to cross.</p> <p>This crossing lies on Cow Pasture Lane and has arable farmland on both the north west and south east sides of the railway track.</p>
<b>Description of proposed works (See Appendix B for S18 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be downgraded to a bridleway. There is already an existing traffic regulation order prohibiting vehicle movements north of Locks Cottage along Cow Pasture Lane which extends to the north side of the level crossing. Therefore, this legal downgrade will not affect existing users and formalises the existing use.</p>		
<b>EIA Screening Assessment (See Appendix C for S18 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>The requirement for an ecological constraints survey was scoped out due to the minimal nature of works proposed at this level crossing. The only construction works to be undertaken will be the replacement of the existing gates for bridleway gates. Therefore these works are minor in nature and size and it is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	
<b>Landscape</b>	<p>The only construction works to be undertaken will be the replacement of the existing gates for bridleway gates. Therefore, these works are minor in nature and size and it is anticipated that there will be no</p>	



	<p>significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the proximity to existing transport infrastructure. The proposed diversion will require a change of rights over the railway, however pedestrian and bridleway rights will be retained. Therefore, it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>The only intrusive works will be the posts for the bridleway gates therefore, it is predicted there will be no effect on the historic environment.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, there is already an existing traffic regulation order prohibiting vehicle movements north of Locks Cottage along Cow Pasture Lane which extends to the north side of the level crossing. Therefore, this legal downgrade will not affect existing users and formalises the existing use.</p> <p>Therefore it is anticipated that there will be no significant effect on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which</p>



	<p>are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, it is anticipated that there will be no significant effect on users from noise in the vicinity of the proposals as the proposals do not divert users near to any existing potential noise sources. Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The works include a change in status and users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include new gates, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p>



	<p>Operationally, the proposals prevent access across the level crossing for vehicular traffic and as such an alternative route on public highways at Park Lane and Mellis Road would need to be used. There is already an existing traffic regulation order prohibiting vehicle movements north of Locks Cottage along Cow Pasture Lane which extends to the north side of the level crossing. Therefore, this legal downgrade will not affect existing users and formalises the existing use.</p> <p>It is anticipated that there will be no significant effect on the local traffic network due to the limited number of vehicles being diverted.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will change in status (i.e. the byway will be downgraded to a bridleway). However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>There is potential that some farm businesses who own fields either side of the level crossing will experience minor increases in journey times as a result of the downgrade of the level crossing to a bridleway, however these are unlikely to be detrimental to business viability.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance or business viability.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified



# 17 S21 Abbotts

## 17.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
609828, 274368	Mellis Parish	<p>This is a private footpath crossing.</p> <p>This crossing is located at the edge of an area of residential property to the east of the tracks and directly adjacent to residential property to the west. To the north of the crossing lies arable farmland. The railway at this level crossing is lined with a small wooded area.</p>
<b>Description of proposed works (See Appendix B for S21 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will need to cross the railway by using the Mellis automatic half barrier road level crossing to the north. This diversion uses the footway on Mellis Road as well as rural roads without footways and existing footpaths. Crossing infrastructure will be removed and type F4 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S21 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 07/04/2016 and the results of this survey are presented in section 17.2 of this request. During construction, there is potential for the presence of breeding birds, reptiles and Great crested newts.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is</p>	



	<p>anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>All diversions will use existing PRow, although five listed buildings are adjacent to the diversion route and it is within Mellis Conservation Area the diversion is in a central village location. Therefore any additional pedestrian footfall which may result from the diversion are unlikely to be noticeable and will therefore not impact on the setting of the assets.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



	<p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along Mellis Road and Earlsford Road. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on Mellis Road.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as a fencing. The works will involve soil stripping. The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing, which is not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>




<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the proposals do not contain the closure or change of status of any existing rights of way apart from the extinguishment of the actual level crossing. It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 17.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 17.1.



<b>Crossing:</b> S21 Abbots (IP23 8DN/ TM 09897 74499)	<b>Survey Date:</b> 07/04/2016
<p>Habitats: On east side. Residential with associated amenity grassland. Mature trees and a pond.</p> <p>On the west side are ponds, deciduous woodland, semi-improved grassland and marshy grassland.</p>	
	
Photo:	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	Ponds on both sides of the crossing. No impact, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	Mature trees present. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance



Constraint		Further Action Required ?	Required actions
			<p>(within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Moderate potential for bat roosts in the mature trees. Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. No vegetation clearance of woodland. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No setts or evidence noted. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand</p>



Constraint		Further Action Required ?	Required actions
			<p>and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	Y	<p>Waterbodies within 250m of the proposed works. In the absence of detailed survey information, a precautionary approach will be adopted whereby it is assumed that great crested newts may be present in the potential foraging and/or commuting habitats (any piles of wood, brash and rubble) along the proposed route.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the works it is not considered likely that the works will result in the injuring, killing, disturbance of, or</p>



Constraint		Further Action Required ?	Required actions
			<p>damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. All suitable habitats within the working area will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.</p>



# 18 S22 Weatherby

## 18.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
564723, 262970	Newmarket Parish	<p>This is a stop, look and listen permissive footpath level crossing where the user must decide whether it is safe to cross.</p> <p>This crossing is located in the town of Newmarket. To the North of the crossing is an area of residential buildings and Newmarket Town Football Club is located to the South of the crossing. The New Cheveley Road Allotment Site is located a short distance to the North east.</p>
<b>Description of proposed works (See Appendix B for S22 Design Freeze Proposal Plan)</b>		
<p>There is no public right of way at this crossing and the level crossing will be closed to all users. The nearest public crossing of the railway is New Cheveley Road underbridge, and all current users will be diverted to use the underbridge. This means walking along the existing footways on Cricket Field Road, New Cheveley Road, and Granary Road. Type F9 fencing will be provided to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S22 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 11/04/2016 and the results of this survey are presented in section 18.2 of this request. During construction, there is potential for the presence of breeding birds.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. There are no proposed changes to the PRow network for this proposal, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>Although there are several listed buildings and the Newmarket Conservation Area within 1km of the site there will be no new footpath creation and only existing footpaths will be used to divert foot traffic therefore no impact to setting of designated assets are anticipated.</p> <p>The depth of earth removal required for the removal of the existing tarmac footpaths and grass reinstatement will not extend beyond the level of previous disturbance resulting from the initial creation of the footpath and will therefore not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



	<p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along Cricket Field Road, the B1103 and Granary Road. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on the B1103 and Granary Road.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as the removal of an existing tarmac footway and tactile paving with a tarmac footway elsewhere. The works will involve soil stripping. The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include the removal of an existing tarmac footway and tactile paving with a tarmac footway elsewhere, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels. The new paths will be</p>




	<p>surfaced with tarmac, which may increase the risk of localised flooding, however, due to the size of paved area and its location within an open field/ floodplain, this effect is not considered to be significant.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the proposals do not contain the closure or change of status of any existing rights of way apart from the extinguishment of the actual level crossing.</p> <p>The existing crossing has over 500 users a day. However, there is no legal right to cross the level crossing. Users are diverted by a maximum distance of 1km to an existing underbridge. Therefore, the closure of it is unlikely to result in community severance impacts.</p> <p>There is potential that some residents and businesses either side of the level crossing will experience minor increases in journey times as a result of the closure of the level crossings, however these are unlikely to be detrimental to business viability.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance or business viability.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for</p>



	users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.
<b>Potential Significant Effects</b>	None identified

## 18.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 18.1.

<b>Crossing:</b> S22 Weatherby (CB8 8GR/ TL 64718 567718)	<b>Survey Date:</b> 11/04/2016
<p>Habitats: Urban area of hardstanding, amenity grassland and introduced shrub. Some limited scrub along the railway</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.



Constraint		Further Action Required ?	Required actions
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	None present, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.
	Bats	N	No suitable habitat, no further action.
	Badgers	N	No setts or evidence noted. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	N	No suitable habitat, no further action.
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



# 19 S23 Higham

## 19.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
574337, 266091	Higham Parish	<p>This is a stop, look and listen public footpath level crossing where the user has to decide whether it is safe to cross, however the crossing has currently been closed for safety reasons due to the condition of the approach to the railway.</p> <p>This crossing lies adjacent to arable farmland on both the north and south sides of the railway track. To the south of the crossing lies the small village of Higham and to the North, the A14 dual carriage way runs east to west.</p>
<b>Description of proposed works (See Appendix B for S23 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Crossing infrastructure shall be removed and type F7 fencing installed to prevent trespass onto the railway. Users shall be diverted via existing rural roads, to cross over the railway at the road bridge on Higham Road to the east of the existing level crossing.</p>		
<b>EIA Screening Assessment (See Appendix C for S23 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 11/04/2016 and the results of this survey are presented in section 19.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	<p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. There are no proposed changes to the PRow network for this proposal, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are four grade II listed buildings and Higham Conservation Area within 1km of the level crossing to be closed. However, all diversion routes will use existing PRow over 150m from the listed buildings and although a small section of the diversion route is through the conservation area this is not expected to impact on the setting of the assets as the routes are already in use.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



	<p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along Highham Road and the A14 approach road. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on Higham Road.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing, a timber footbridge and a new public right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new, permeable public right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>




<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified



## 19.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 19.1.

<b>Crossing:</b> S23 Higham (IP28 6NJ/ TL 74343 66072)	<b>Survey Date:</b> 11/04/2016
<p>Habitats: Arable farmland with young hedgerows. Some semi-mature mixed woodland.</p> <div>  </div> <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	Dried-out pond approximately 185m south of the crossing. No impact, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	Semi-mature trees. No impact, no further action.
Invasive Species		N	None present, no further action.



Constraint		Further Action Required ?	Required actions
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>No bat roost potential within adjacent trees identified. Habitats adjacent to the proposed route have potential to support foraging/commuting activity by bats. No impact anticipated to these habitats. Clearance of scrub may be along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No evidence of badger observed. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile</p>



Constraint		Further Action Required ?	Required actions
			<p>season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 20 S24 Higham Ground Frame

### 20.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
575747, 266033	Barrow Parish	<p>This is a stop, look and listen public footpath level crossing where the user has to decide whether it is safe to cross.</p> <p>This level crossing is located on the outskirts of Bury St Edmunds, north of the village of Barrow. The level crossing is located approximately 150m south of the A14 and there is arable land to the south of the level crossing.</p>
<b>Description of proposed works (See Appendix B for S24 Design Freeze Proposal Plan)</b>		
<p>Existing public rights of way over the level crossing will be extinguished. Users south of the railway will be diverted along a new 2m wide type P1 footpath from footpath W-127/006/01 heading either west towards Coalpit Lane or west towards an existing underbridge. The new footpath heading west from the level crossing on the south side of the railway will be approximately 700m in length and the new footpath heading east towards the underbridge will be approximately 1120m in length. On the north side of the railway heading east from the underbridge, a new 3m wide type P2 bridleway along field margin will be created to link to New Road. In addition, a new 2m wide type P1 footpath will be created south of the railway to link existing footpaths W-127/006/01 and W-127/018/0.</p> <p>Crossing infrastructure will be removed at Higham Ground Frame level crossing and type F7 fence to be installed to prevent trespass to the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S24 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 11/04/16 the results of which are presented in Section 20.2. To summarise, the survey identified potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	<p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are seven listed buildings and Higham Conservation Area within 1km of the works, one of which is a grade I listed building (List Entry ID 1376863). All designated assets are over 250m from footpath creation locations and the majority of the works are located adjacent to the existing railway and are therefore not considered to affect the setting of the assets. The Toll-House Cottage (List Entry ID 1037619) is immediately adjacent to a diversion route which uses an existing PRow which is a busy road. Additional pedestrian footfall is therefore not considered to impact on the setting of the asset.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best</p>



	<p>practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath and bridleway that will run adjacent to the railway line and along Higham Road. Both of these are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the anticipated number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on Higham Road.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new footpath and bridleway. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The construction works associated with the proposals will be carried out adjacent to a stream. The limited nature, size, location and temporary duration of the construction works will limit the impacts on water resources and it is anticipated that there will be no significant water resources effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.14 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>The existing rights of way are within Flood Zone 1 whilst the new bridleway crossed a narrow an area of land adjacent to a stream that is</p>




	<p>within Flood Zone 3. Users are briefly diverted across areas with a greater flood risk than the existing routes, however, it is anticipated that there will be no significant effect on the flood risk to users due to the minimal nature of the proposals, the small area of Flood Zone 3 and the mobility of the users.</p> <p>The works will include fencing and new unsurfaced right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p>



	In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.
<b>Potential Significant Effects</b>	None identified

## 20.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 20.1.

<b>Crossing:</b> S24 Higham Ground Frame (IP28 6NS/ TL 75738 66047)	<b>Survey Date:</b> 11/04/2016
<p>Habitats: Arable fields, bramble hedgerow, scattered scrub, semi-improved grassland, and ditch south of the line.</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.



Constraint		Further Action Required ?	Required actions
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	None present, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CRE whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	No suitable habitat, no further action.
	Badgers	N	No suitable habitat, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental</p>



Constraint		Further Action Required ?	Required actions
			<p>representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CRE whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 21 S25 Cattishall

### 21.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
588560, 265101	Great Barton Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>This crossing is located on the outskirts of the town of Bury St Edmonds. Farmland surrounds the crossing and the village of Cattishall lies a short distance to the north of the crossing. The Old Stable Bed and Breakfast is located approximately 150m to the north of the crossing. The proposed route is within arable fields.</p>
<b>Description of proposed works (See Appendix B for S25 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Crossing infrastructure will be removed and type F4 fencing installed to prevent trespass onto the railway. Users shall be diverted on a new public track in farm fields on the north side of the railway which provides a link to Mount Road via an existing railway underpass and the shared cycle/foot path. This will be suitable for use as a cycle trail.</p>		
<b>EIA Screening Assessment (See Appendix C for S25 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 11/04/2016 and the results of this survey are presented in section 21.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.
<b>Landscape</b>	The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.
<b>Historic Environment</b>	<p>There are no designated assets within 1km of the footpath creation works.</p> <p>The depth of earth removal required for the creation of the a surfaced cycleway (250mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>



<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath that will run adjacent to the railway line and along Bradbrook Close and Mount Road. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on Bradbrook Close and Mount Road.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as a new, surfaced cycle path and fencing. The works will involve soil stripping. The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include a new, surfaced cycle path and fencing, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p> <p>The new surfaced path may increase the risk of localised flooding, however, due to the size of paved area and its location within an open field/ floodplain, this effect is not considered to be significant.</p>



<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the proposals do not contain the closure or change of status of any existing rights of way apart from the extinguishment of the actual level crossing. Bridleway users are diverted to an existing underpass west of the crossing. As the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified



## 21.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 21.1.

<b>Crossing:</b> S25 Cattishall (IP32 7GQ/ TL 88556 65083)	<b>Survey Date:</b> 11/04/2016
<p>Habitats: Arable farmland, semi-improved grassland, hedgerows and scattered mature trees.</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Underbridge, currently closed, which is proposed for re-opening. Low potential for roosting bats. As part of the proposal there will be no engineering works or lighting scheme designs that impact the structure. No impact, no further action.
	Mature Trees	N	Mature trees along the railway boundary. No impact, no further action.



Constraint		Further Action Required ?	Required actions
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Currently closed underbridge which is proposed for re-opening is considered to have low potential for use by roosting bats following an inspection survey, September 2016. Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats. No impact anticipated to these habitats. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No evidence of badger observed. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat



Constraint		Further Action Required ?	Required actions
			<p>fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 22 S27 Barrels

### 22.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
593608, 264847	Thurston Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>The track is lined by a small wooded area on the south side and farmland on north. Located a short distance to the north of the crossing is Peasants Mead Farm.</p>
<b>Description of proposed works (See Appendix B for S27 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Crossing infrastructure will be removed and type F7 fencing installed to prevent trespass onto the railway. Users heading west will be diverted to Barrel's Road (west) and shall cross the railway at the existing road bridge. Users heading east will be diverted on new 1.5m wide footpath and existing public footpaths to Barrel's Road (east). The new footpath on the north side of the railway shall be in Network Rail land, will be fenced off from the railway and shall be constructed to an appropriate standard, including new wayfinding signs. Details will be discussed and agreed with the local authority.</p>		
<b>EIA Screening Assessment (See Appendix C for S27 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 03/04/2016 and the results of this survey are presented in section 22.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is</p>	



	anticipated that there will be no significant ecology effects during operation.
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. There are no proposed changes to the PRoW network for this proposal, therefore it is anticipated that there will be no significant effects on visual amenity of PRoW users.</p>
<b>Historic Environment</b>	<p>There are 14 listed buildings within 1km of the works. Two of these are within 130m of the footpath creation works however these will largely be on the opposite side of the existing railway line and will be aligned with the railway embankment. Therefore an impact on the setting of these assets is not anticipated.</p> <p>There is a potential for a low impact to unknown buried archaeological remains as a result of the excavations required to provide suitable foundations for the two tarmac verges. The archaeological potential of these areas are unknown however their location by an existing tarmac road and small areas required suggests the potential would be low.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of</p>



	<p>Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along Bird's Road and Barrell's Road. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on Bird's Road and Barrell's Road.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as a new footpath and fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles..</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include a new footpath and fencing, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>




<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified



## 22.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 22.1.

Crossing: S27 Barrels (IP31 3RJ /TL 93607 64848)	Survey Date: 03/04/16
<p>Habitats: Pasture, scrub and grassland.</p>  <p>Photo:</p>	

Constraint		Further Action Required ?	Required actions
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	None present, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required.



Constraint		Further Action Required ?	Required actions
			<p>Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	<p>Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. No vegetation clearance of woodland. Clearance of scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No suitable habitat, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the</p>



Constraint		Further Action Required ?	Required actions
			<p>ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 23 S28 Grove Farm

### 23.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
593810, 264817	Thurston Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>The level crossing is located within arable farmland. To the North of the track lies scattered residential buildings and wooded areas.</p>
<b>Description of proposed works (See Appendix B for S28 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Crossing infrastructure will be removed and type F4 fencing installed to prevent trespass onto the railway. Users heading west will be diverted to Barrels Road (west) and shall cross the railway at the existing road bridge. Users heading east will be diverted on new 1.5m wide footpath and existing public footpaths to Barrels Road (east). The new footpath will be in Network Rail land, shall be fenced off from the railway and will be constructed to an appropriate standard, including new wayfinding signs. Details will be discussed and agreed with the local authority.</p>		
<b>EIA Screening Assessment (See Appendix C for S28 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 12/04/2016 and the results of this survey are presented in section 23.2 of this request. During construction, there is also potential for the presence of breeding birds, bats, badgers and reptiles. Suitability of trees to support a bat roost is to be assessed. To inform detailed mitigation and licencing requirements preliminary ground level tree assessment survey will be undertaken in the 2016/17 winter with additional surveys undertaken, as required. A preconstruction survey will also be undertaken to determine presence/absence of badgers along the proposed route alignment.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in</p>	



	<p>section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area. However, a small section of vegetation clearance may be required to the south of the railway where the proposed footpath crosses hedgerows but is at a scale which will not result in any significant effects in terms of landscape.</p>
<b>Historic Environment</b>	<p>There are 14 listed buildings within 1km of the works. Two of these are within 130m of the footpath creation works however these will largely be on the opposite side of the existing railway line and will be aligned with the railway embankment. Therefore an impact on the setting of these assets is not anticipated.</p> <p>There is a potential for a low impact to unknown buried archaeological remains as a result of the excavations required to provide suitable foundations for the two tarmac verges. The archaeological potential of these areas are unknown however their location by an existing tarmac road and small areas required suggests the potential would be low.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p>



	<p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath that will run adjacent to the railway line, and along an unnamed road to the east of the proposed footpath. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as a new footpath and fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p>




	<p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new footpath, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p>



	In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.
<b>Potential Significant Effects</b>	None identified

## 23.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 23.1.

<b>Crossing:</b> S28 Grove Farm (IP31 3SF/ TL 93866 64802)	<b>Survey Date:</b> 12/04/2016
Habitats: Arable farmland, improved grassland, dense-continuous scrub, hedgerows, mature trees, drainage ditches.	
	
Photo:	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	A dry-ditch of low-ecological value at eastern end of the scheme. No impact, no further action.



Constraint		Further Action Required ?	Required actions
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	Line of mature trees. No access for assessment. If tree removal is necessary, then bat roost potential survey will be required.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	Y	<p>Habitats adjacent to the proposed route have potential to support roosting/foraging/commuting activity by bats (mature trees). Clearance of trees and scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. Suitability of trees to support a bat roost to be assessed. To inform detailed mitigation and licencing requirements preliminary ground level tree assessment survey will be undertaken with additional surveys undertaken, as required. If unavoidable tree removal would result in the loss of a roost the requirements for mitigation to ensure no impact on the local population and/or net loss of roosting opportunities would be captured</p>



Constraint		Further Action Required ?	Required actions
			<p>within a European Protected Species mitigation licence, agreed with Natural England prior to works.</p> <p>Works will be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	Y	<p>No evidence of badger observed. However, the land south of the railway was not surveyed due to lack of access. No setts observed, but evidence of badger activity recorded in habitats along the route comprising snuffle holes. An area of proposed footpath to the south of the railway was not surveyed due to access issues. A preconstruction survey to be undertaken to determine presence/absence of a badger along the proposed route alignment. If any proposed route alignment are deemed to be too close to a badger sett or considered to cause a disturbance the route alignment will be adjusted so as they are sufficient distance so as not to cause an offence.</p>
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of</p>



Constraint		Further Action Required ?	Required actions
			<p>reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 24 S29 Hawk End Lane

### 24.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
598752, 264054	Elmswell Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>This level crossing lies within the town of Elmswell with largely residential property to the south of the railway tracks and industrial/commercial buildings to the north.</p>
<b>Description of proposed works (See Appendix B for S29 Design Freeze Proposal Plan)</b>		
<p>Close the level crossing to all users. Users walking on the north side of the railway would be diverted west on a new 2m wide public footpath, mostly along field margins, to an existing underbridge at Hall Farm. New wayfinding signs with details to be discussed and agreed with the local authority. Users on the south side of the railway would use the existing public footpath, W-234/013/0#2 to travel to the underbridge. In addition to this, users wishing to travel east would be able to cross the railway at Elmswell manned barrier and CCTV monitored level crossing on Station Road. To get to Elmswell level crossing users on the north side of the railway will use the existing public footpath, W-234/012/0 and the business park footways. Users on the south side of the railway would use the footways on Station Road and School Road to access Elmswell level crossing. Crossing infrastructure would be removed and type F4 steel fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S29 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 12/04/2016 and the results of this survey are presented in section 24.2 of this request. During construction, there is potential for the presence of breeding birds, reptiles and Great crested newts.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	<p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRoW users.</p>
<b>Historic Environment</b>	<p>There are 18 listed within 1 km of the works. The majority of these are located in Elmswell village where diversion routes will use existing PRoW. These are not expected to impact on the setting of the listed buildings as the routes are already in use and are in a central village location. An area of footpath creation along the existing railway line extends out to the west of the village and is opposite the grade II listed Elmswell Hall (List Entry ID 1032472) the majority of this route is on a historic footpath shown on historic maps. The west section has the potential to impact the setting of Elmswell Hall (List Entry 1032472) where there will be footpath creation works along the existing railway approximately 100m south of the hall. During operation there will be pedestrian footfall south of the property. The historic setting of the property is agricultural in context and for the most part continues to be so despite the presence of the active railway with several modern large farm buildings arranged around the north of property. Pedestrian footfall along the railway and the temporary presence of small plant are therefore considered to result in a negligible impact on the setting of the asset as the presence of plant will be temporary and when considered against the context of the railway pedestrians will not constitute a noticeable intrusion on the agricultural setting.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E.</p>



	The construction contractor will produce a CEMP based on these principles.
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath that will run adjacent to the railway line and past a factory on St Edmund's and along Hawk End Lane. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on Hawk End Lane.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as a new footpath and fencing. The works will involve soil stripping.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are</p>



	outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The proposals include the closure of the existing crossing only. The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new footpath, which is not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the</p>



	<p>number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 24.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 24.1.

<b>Crossing:</b> S29 Hawk End Lane (IP30 9ED/ TL 98742 64060)	<b>Survey Date:</b> 12/04/2016
<p>Habitats: Urban area of hardstanding, buildings and amenity grassland, standing water, ephemeral grassland and mature trees.</p> <p>Scattered scrub along the railway corridor.</p> <div> </div> <p>Photo:</p>	



Constraint		Further Action Required ?	Required actions
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Surrounding houses. No impact, no further action.
	Mature Trees	N	Mature trees present. No impact, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	Habitats adjacent to the proposed route have potential to support roosting/foraging/commuting activity by bats (residential houses/mature trees). No impact anticipated to these habitats. Vegetation clearance along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats.



Constraint		Further Action Required ?	Required actions
			<p>No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	N	No evidence of badger observed. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.



Constraint		Further Action Required ?	Required actions
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.



Constraint		Further Action Required ?	Required actions
	Great crested newts	N	<p>One water body is within 250m of the proposed works. In the absence of detailed survey information, a precautionary approach will be adopted whereby it is assumed that Great crested newts may be present in the potential foraging and/or commuting habitats (any piles of wood, brash and rubble) along the proposed route.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the works it is not considered likely that the works will result in the injuring, killing, disturbance of, or damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. All suitable habitats within the working area will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and</p>



Constraint		Further Action Required ?	Required actions
			ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.



## 25 S30 Lords No.29

### 25.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
599898, 263789	Elmswell Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>This level crossing is surrounded by arable farm land with hedgerows extending away from the tracks to the north and south.</p>
<b>Description of proposed works (See Appendix B for S30 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will be diverted to the existing bridge to the west via a new 2m wide public footpath in field margins on the north side of the railway. An additional new 2m wide public footpath will be created parallel to the railway on the south side (to be confirmed with the landowner) to allow users to continue to utilise the existing network of permissive footpaths on the Mutton Hall estate. The new footpaths shall be constructed to an appropriate standard with new wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure shall be removed and type F7 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S30 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 12/04/2016 and the results of this survey are presented in section 25.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is</p>	



	anticipated that there will be no significant ecology effects during operation.
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are numerous grade II listed buildings within 1km of the works, however all are over 500m from the works. Two areas of footpath creation will be located immediately adjacent to the railway on both the north and south side. It is therefore considered that the distance from the works and the proximity to the live railway will mean that the setting of designated heritage assets will not be affected.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>



	<p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along proposed footpaths that will run adjacent to either side of the railway line. This is a potential noise source however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new, unsurfaced right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>



<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified



## 25.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 25.1.

Crossing: S30 Lords No29 (IP30 9UD/ TL 99892 63778)	Survey Date: 12/04/2016
Habitats: Arable farmland, semi-improved grassland, dense-continuous scrub, scattered semi-mature trees.	
	
Photo:	

Constraint		Further Action Required ?	Required actions
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Surrounding houses. No impact, no further action.
	Mature Trees	N	Semi-mature trees. No impact, no further action.
Invasive Species		N	None present, no further action.



Constraint		Further Action Required ?	Required actions
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	Foraging potential. No impact, no further action.
	Badgers	N	No evidence of badger observed. No impact, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the</p>



Constraint		Further Action Required ?	Required actions
			<p>initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 26 S31 Mutton Hall

### 26.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
601181, 263600	Wetherden Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>This level crossing is surrounded by arable farm land with hedgerows lining the railway tracks running east to west.</p>
<b>Description of proposed works (See Appendix B for S31 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will be diverted via existing public footpath W-554/020/0 to the north of the railway and via a new 2m wide public footpath to the south of the railway to the existing road bridge on Westerden Street. The new footpath will be constructed to an appropriate standard with new wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure shall be removed and type F7 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S31 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 12/04/2016 and the results of this survey are presented in section 26.2 of this request. During construction, there is also potential for the presence of breeding birds, bats, badgers and reptiles. Suitability of trees to support a bat roost is to be assessed. To inform detailed mitigation and licencing requirements preliminary ground level tree assessment survey will be undertaken in the 2016/17 winter with additional surveys undertaken, as required. A preconstruction survey will also be undertaken to determine presence/absence of badgers along the proposed route alignment.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in</p>	



	<p>section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure.</p>
<b>Historic Environment</b>	<p>There are numerous listed buildings within 1km of the works. The majority of these are within Wetherden village approximately 750m south of the works. Due to this distance it is unlikely the setting of these assets will be affected by these minor works. The footpath creation works will be located immediately adjacent to the existing railway and are therefore unlikely to have an impact on the setting of surrounding listed buildings.</p> <p>There is a potential for a low impact to unknown buried archaeological remains as a result of the excavations required to provide suitable foundations for the two tarmac verges. The archaeological potential of these areas are unknown however their location by an existing tarmac road and small areas required suggests the potential would be low.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and</p>



	<p>temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along a proposed footpath that will run adjacent to the railway line and along an existing footpath that passes a farm. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Similarly, it is anticipated that there will be no significant effects on nearby noise sensitive receptors as there are no such receptors in the vicinity of the proposals.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p>




	<p>The works will include fencing and a new, unsurfaced right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required due to the minor nature, size, and location of the works, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>



<b>Potential Significant Effects</b>	None identified
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## 26.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 26.1.

<b>Crossing:</b> S31 Mutton Hall (IP14 3LR/ TL 01179 63597)	<b>Survey Date:</b> 12/04/2016
Habitats: Arable farmland, semi-improved grassland, dense-continuous scrub, hedgerows, mature trees.	
	
Photo:	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.
	Pond	N	None present, no further action.
	Watercourse	N	Small drainage ditch on east side of Kate's Lane/Tomit's Lane. No impact, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	Overbridge of Kate's Lane/Tomit's Lane. As part of the proposal there will be no engineering works or



Constraint		Further Action Required ?	Required actions
			lighting scheme designs that impact the structure. No impact, no further action
	Mature Trees	Y	Mature trees present throughout the site. Due to land access issues, close inspection of trees was not possible. Where no vegetation removal is required, no impact, no further action. If tree removal is required then survey for bat roost potential required.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	Y	<p>Habitats adjacent to the proposed route have potential to support roosting/foraging/commuting activity by bats (mature trees). Clearance of trees and scrub along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. Suitability of trees to support a bat roost to be assessed preconstruction. To inform detailed mitigation and licencing requirements preliminary ground level tree assessment survey will be undertaken with additional surveys undertaken, as required. If unavoidable tree removal would result in the loss of a roost the requirements for mitigation to ensure no impact on the local population and/or net loss of roosting opportunities would be captured within a European</p>



Constraint		Further Action Required ?	Required actions
			<p>Protected Species mitigation licence, agreed with Natural England prior to works.</p> <p>Works will be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Badgers	Y	<p>No setts observed, but evidence of badger activity recorded in habitats along the route comprising snuffle holes. An area of proposed footpath to the south of the railway was not surveyed due to access issues. A preconstruction survey to be undertaken to determine presence/absence of a badger along the proposed route alignment. If any proposed route alignment are deemed to be too close to a badger sett or considered to cause a disturbance the route alignment will be adjusted so as they are sufficient distance so as not to cause an offence.</p>
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	<p>There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If</p>



Constraint		Further Action Required ?	Required actions
			<p>works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 27 S33 Westerfield

### 27.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
616804, 247201	District of Ipswich	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>This level crossing is surrounded by arable farmland. The city of Ipswich lies to the south and the small village of Westerfield lies to the north east.</p>
<b>Description of proposed works (See Appendix B for S33 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Crossing users would make use of Westerfield Road level crossing to the east. Westerfield Road and E-014/018/01 will be connected with a new 2m wide footpath within field margin in third party land south of the railway. The footpath will then connect into Network Rail land through the existing palisade fencing to connect users to Westerfield Road. To the north of the railway E-14/018/0#1 will be linked to Westerfield Road along a new 2m wide footpath on an existing track. Users shall make use of the footway along the west side of the Westerfield Road to connect the two new footpaths. New wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure at shall be removed and type F4 fencing installed on the north and type F9 to the south of the railway to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S33 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 04/05/2016 and the results of this survey are presented in section 27.2 of this request. During construction, there is potential for the presence of great crested newt, breeding birds, hazel dormice and reptiles. The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>	



	<p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works and their proximity to existing transport infrastructure. The proposed diversion may require minimal vegetation clearance avoiding trees where possible and cutting through an arable field, which has the potential to open previously screened views from residential properties to the railway line. However this is not anticipated to cause significant effects. Additionally, the proposed diversion will redirect users from a route with views across arable farmland to a route which a small part has views across a main road, running alongside the railway line, again this is not anticipated to cause significant effects.</p>
<b>Historic Environment</b>	<p>There six grade II and one grade II* listed buildings within 1km of the works. Two sections of footpath creation will be required. The southern section will be immediately adjacent to the railway embankment and is therefore unlikely to impact on the settings of surrounding assets. The northern section of footpath creation passes approximately 50m south of Mill Farmhouse (List Entry ID 1236091). This will however be aligned along an existing trackway and farm access track. The work is therefore not considered to impact on the setting of the listed building.</p> <p>There is a potential for a low impact to unknown buried archaeological remains as a result of the excavations required to provide suitable foundations for the two tarmac verges. The archaeological potential of these areas are unknown however their location by an existing tarmac road and small areas required suggests the potential would be low.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the</p>



	<p>principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along proposed footpath that will run adjacent to the railway line, past a farm and along the B1077. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on the B1077.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new right of way. The works will involve soil stripping.</p> <p>The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are</p>




	outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new, unsurfaced right of way, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles.</p> <p>Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the</p>



	<p>number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 27.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in May 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 27.1.

<b>Crossing:</b> S33 Westerfield (IP6 9AE/TM 16804 47192)	<b>Survey Date:</b> 04/05/16
<p>Habitats: Arable field and woodland.</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.



Constraint		Further Action Required ?	Required actions
	Pond	N	Two ponds located within 250m of the northern section of the proposed route. The proposed route will not cross or require the removal of these ponds.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	No access for survey of hedgerow and trees along arable field. No loss of hedgerows anticipated as proposed route utilises existing gaps.
	Structures	N	None present, along the proposed route. No additional lighting proposed. No further action.
	Mature Trees	N	Mature trees adjacent to the proposed route. No removal required. No additional lighting. No resurfacing works.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>Minimal vegetation clearance works (trimming) of suitable habitat anticipated in areas of scrub and trees along the arable field margin.</p> <p>Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>



Constraint		Further Action Required ?	Required actions
	Bats	N	<p>Habitats adjacent to the proposed route have potential to support roosting / foraging/commuting activity by bats (mature trees). No impact anticipated to these habitats. Vegetation clearance along the proposed route will be minimal. Habitat lost will be very small in the context of the wide areas that bats can forage and commute and works would not result in fragmentation of habitats. No additional lighting proposed. No further action is required.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity..</p>
	Badgers	N	<p>No badger field signs identified during the survey. The works are low impact and would not result in the loss of suitable foraging habitat.</p>
	Dormice	Y	<p>Records of dormice within 500m of the proposed route.</p> <p>Assumed no vegetation removal required of existing hedgerow along arable field boundary through utilization of existing gaps.</p>



Constraint		Further Action Required ?	Required actions
	Reptiles	Y	<p>There is potential for reptiles within habitats along arable field margins. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.</p> <p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.



	Great crested newts	Y	<p>Two ponds located within 250m of the northern section of the proposed route. The proposed route will not cross or require the removal of these ponds.</p> <p>In the absence of detailed survey information, a precautionary approach would be adopted whereby it is assumed that great crested newts may be present in the potential foraging and/or commuting habitats identified.</p> <p>Works are to be limited to above ground clearance only and no resurfacing along suitable habitat is proposed. Vegetation clearance will be minimal and will not result in any long-term loss of large areas of suitable habitat or result in permanent or temporary habitat fragmentation. Due to the small scale of the works it is not considered likely that the works will result in the injuring, killing, disturbance of, or damage or destruction of the breeding sites of the newts.</p> <p>Any vegetation clearance should be undertaken during the active great crested newt season (March – October). A tool box talk will be given to all contractors working within the area to ensure that all contractors are aware of the potential presence for newts. All suitable habitats within the working area will be checked by the Ecologist or an Ecological Representative for the presence of great crested newts, prior to works. Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. A further vegetation cut will be carried out with the presence of an Ecologist/ Ecological Representative following the initial cut to reduce the vegetation to the required height. If works are occurring during the hibernation period for great crested newts (November to February), potential refuges are to be left undisturbed.</p> <p>If great crested newts are found within the habitat, works can be undertaken under a low impact licence from Natural England. In the unlikely event that a great crested newt is found all works would stop and ecological advice sought. The discovery of a newt may trigger the requirement for the application of a licence from Natural England and appropriate</p>
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Constraint		Further Action Required ?	Required actions
			mitigation on how works should proceed to avoid impacts to this species would be agreed with Natural England as part of this process.



## 28 S69 Bacton

### 28.1 EIA Screening Assessment

Grid Reference	Parish	Level Crossing Context
605858, 267021	Bacton Parish	<p>This is a stop, look and listen public footpath level crossing where the user must decide whether it is safe to cross.</p> <p>This level crossing lies directly to the south of the small village of Bacton. Arable farmland lies on both sides of the railway track.</p>
<b>Description of proposed works (See Appendix B for S69 Design Freeze Proposal Plan)</b>		
<p>This level crossing will be closed to all users. Users will be diverted to the existing underbridge on Pound Hill (no footway through the bridge). Users will get to Pound Hill underbridge via Broad Road to the east of the railway (Network Rail are currently assessing the feasibility of a new footway along this road) and Birch Avenue (existing footway) to the west of the railway. Users can connect to the existing public right of way network to the west of the railway (public footpath W-115/014/0) via an existing track and the addition of a new 2m wide public footpath and a proposed bridge over the existing ditch. In addition, a new 2m wide public footpath will run down the east side of the railway to connect to S13 Fords Green. The new footpath and timber footbridge will be constructed to an appropriate standard with new wayfinding signs with details to be discussed and agreed with the local authority. Crossing infrastructure shall be removed and type F4 fencing installed to prevent trespass onto the railway.</p>		
<b>EIA Screening Assessment (See Appendix C for S69 Environmental Constraints Plan)</b>		
<b>Ecology</b>	<p>An ecological constraints survey was undertaken on 04/04/2016 and the results of this survey are presented in section 28.2 of this request. During construction, there is potential for the presence of breeding birds and reptiles.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on ecology. It is anticipated that there will be no significant ecology effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in</p>	



	<p>section 9.5 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the overall impact on ecology will be limited due to the minor nature, size and location of the works and therefore it is anticipated that there will be no significant ecology effects during operation.</p>
<b>Landscape</b>	<p>The limited nature, size, location and temporary duration of the works will limit the impacts on landscape and visual amenity. It is anticipated that there will be no significant landscape and visual amenity effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.8 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. Operationally, the overall impact on landscape setting will be limited due to the minor nature, size and location of the works including their proximity to existing transport infrastructure. The proposed diversion will remain within the existing landscape character area, therefore it is anticipated that there will be no significant effects on the visual amenity of PRow users.</p>
<b>Historic Environment</b>	<p>There are numerous listed buildings within 1 km of the works including two grade I and two grade II* listed buildings. The use of existing PRow is not considered to impact on the setting of the listed buildings. There will be an area of footpath creation which will be approximately 150m south of three grade II and one grade I listed building; Church of St Mary (List Entry ID 1032755) this work is however not anticipated to impact on the setting of these buildings because the new footpath will be along the existing field boundaries which feature substantial hedgerows, the area also features a significant amount of modern development especially Bacton Primary School, immediately south of the church. These features act to visually shield the assets from the proposed works.</p> <p>There is a potential for low impact to unknown buried archaeological remains as a result of excavations required to provide suitable foundations for the bridge abutments. However, the area of excavation will be small and will be located adjacent to the railway and over a drain where earlier remains will likely have disturbed therefore the magnitude of this impact is predicted to be negligible.</p> <p>The depth of earth removal required for the creation of the footpaths (60-100mm) and a tarmac footway (250mm) will not be sufficient to impact archaeological remains.</p> <p>The limited nature, size, location, and temporary duration of the construction works will limit the impacts on the historic environment and it is anticipated that there will be no significant historic environment effects during construction. These minor construction works will be managed through the implementation of best practice measures, the</p>



	<p>principles of which are outlined in section 9.3 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p>
<b>Air Quality</b>	<p>The existing air quality in the vicinity of the proposals is good, with low background pollutant concentrations and no nearby designated air quality management areas.</p> <p>The construction works have the potential to cause a temporary increase in the emission of pollutants to the atmosphere that may affect local air quality. However, as the construction works are minimal and temporary in nature, it is therefore anticipated there will be no significant air quality effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.2 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals do not result in changes to local traffic flows, therefore it is anticipated that there will be no significant effects on air quality.</p>
<b>Noise</b>	<p>The construction works associated with the proposals have the potential to temporarily increase noise levels. However, as the construction works are minimal and temporary in nature, it is therefore anticipated that there will be no significant noise effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.11 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.</p> <p>Operationally, the proposals divert users along the B1113, Pound Hill and Birch Avenue. These are potential noise sources however the anticipated degree of change in noise levels is small as the existing route is close to the railway which itself is a source of intermittent noise caused by the passing of high speed trains. It is therefore anticipated that there will be no significant noise effect on users.</p> <p>Due to the number of users using the proposals it is anticipated that there will be no significant effect on nearby noise sensitive receptors i.e. the residential properties on the B1113, Pound Hill and Birch Avenue.</p>
<b>Ground Conditions</b>	<p>The proposals will require minor intrusive works such as fencing and a new right of way and footbridge. The works will involve soil stripping. The limited nature, size, location and temporary duration of the construction works will limit the impacts on ground conditions and it is anticipated that there will be no significant ground conditions effects during construction. Any potential ground contamination associated with these minor construction works will be managed through the implementation of best practice measures, the principles of which are</p>




	outlined in section 9.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles.
<b>Water Resources</b>	<p>The works will not be carried out near a watercourse, therefore it is anticipated that there will be no significant effects to watercourses during construction.</p> <p>The existing paths and proposed diversions are all located within Flood Zone 1 (lowest risk). The users are not diverted to areas with a greater flood risk than the existing routes. Therefore, it is anticipated that there will be no significant effect on the flood risk of the area and to users.</p> <p>The works will include fencing and a new, footpath and footbridge, which are not expected to require substantial below ground works or ground level changes. As there will be no substantial below ground structures or ground level changes required, consequently the proposed works are anticipated to have no significant effect on groundwater flows or levels.</p>
<b>Traffic and Transport</b>	<p>It is assumed that the majority of access for works can be made via existing railway access points. If this is not achievable at this location, construction vehicles will require access to the level crossing and therefore there will be a temporary increase in the number of light goods vehicles on the local road network during the construction period. Given the limited nature, size, location, and temporary duration of the construction works and therefore the associated construction traffic being minimal, this will limit the impacts on traffic and transport. Therefore, it is anticipated that there will be no significant traffic and transport effects during construction. Traffic and transport will be managed through the implementation of best practice measures, the principles of which are outlined in section 9.12 of Network Rail's CR-E. The construction contractor will produce a Construction Traffic Management Plan (CTMP) based on these principles. Operationally, the proposals do not require the diversion of vehicular traffic onto public highways, therefore it is anticipated that there will be no significant effect on the local traffic network.</p>
<b>Socio-economics and Community</b>	<p>The construction works associated with the proposals have the potential to cause temporary minor impacts to local businesses or community. However, the limited nature, size, location, and temporary duration of the construction works will limit the impact on socio-economics and the community. It is therefore anticipated that there will be no significant socio-economics or community effects during construction. These minor construction works will be managed through the implementation of best practice measures, the principles of which are outlined in section 7.5.3 -7.5.4 of Network Rail's CR-E. The construction contractor will produce a CEMP based on these principles. It is acknowledged that some of the rights of way that are part of the proposal will be permanently closed. However, as the level crossing itself does not appear to provide a direct route purpose in linking residential properties and community amenities, and in view of the</p>



	<p>number of users of the crossing, the closure of it is unlikely to result in community severance impacts.</p> <p>It is therefore anticipated that operationally, there will be no significant socio-economic or community effects due to community severance.</p> <p>In addition, a key objective of the Anglia Level Crossing Reduction Strategy is to provide alternative routes and maintain connectivity for users of the level crossings upon their closure. There will be improvements in safety and journey reliability for the majority of level crossing users.</p>
<b>Potential Significant Effects</b>	None identified

## 28.2 Ecological Constraints Survey Results

The results outlined in the table below contain details of ecological constraints identified during the desk study and preliminary ecology surveys as undertaken in April 2016 along with recommended actions to be considered during the detailed design and construction phases of the project. For discussion on potential significant ecology effects please see Section 28.1.

<b>Crossing:</b> S69 Bacton (IP14 4HN/ TM 05857 67023)	<b>Survey Date:</b> 04/04/16
<p>Habitats: Arable fields south east of line and north of line</p>  <p>Photo:</p>	

<b>Constraint</b>		<b>Further Action Required ?</b>	<b>Required actions</b>
Designated sites		N	None present, no further action.
Habitat Presence	Sensitive Habitat	N	None present, no further action.



Constraint		Further Action Required ?	Required actions
	Pond	N	None present, no further action.
	Watercourse	N	None present, no further action.
	Species-rich Hedge	N	None present, no further action.
	Structures	N	None present, no further action.
	Mature Trees	N	None present, no further action.
Invasive Species		N	None present, no further action.
Species Potential	Breeding Birds	Y	<p>There is potential for breeding birds in areas of scrub and trees. Methods of best practice are recommended where vegetation removal is required. Vegetation clearance should be undertaken outside the breeding season (October – February). Where vegetation clearance activities cannot be avoided during the breeding season, a check for breeding birds will be undertaken before vegetation clearance (within 48 hours). If breeding birds are discovered, then works within a 10m buffer of the active nest will be postponed until the chicks have fledged and nest inactive.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Bats	N	Foraging habitat. No impact, no further action.
	Badgers	N	No suitable habitat, no further action.
	Dormice	N	No suitable habitat, no further action.
	Reptiles	Y	There is potential for reptiles within grassland and scrub. The proposed works will not result in any long-term loss of large areas of suitable reptile habitat or result in permanent or temporary habitat fragmentation, therefore impacts on this species are considered low.



Constraint		Further Action Required ?	Required actions
			<p>Methods of best practice are recommended where vegetation clearance is required. If vegetation clearance is undertaken during the active reptile season (March – October). Immediately prior to the works all suitable habitats within the working area will be checked by an ecologist or environmental representative (having been advised by the ecologist). Any piles of wood, brash and rubble within the working area will be dismantled by hand and immediately removed to outside the working area. Where it is not essential to remove potential refuges in order to undertake the works, these will be left undisturbed. Once the hand search is complete the vegetation will be strimmed/ cut by the Contractor to approximately 150mm. Following the initial cut the area will be checked for the presence of reptiles. A further vegetation cut will be carried out with the presence of an ecologist following the initial cut to reduce the vegetation to the required height. If works are required to take place during hibernation, an ecologist would be present to check the area for suitable hibernation sites. Should hibernating reptiles be recorded, they will be left undisturbed and their place of shelter returned to its original condition due to the increased chance of mortality at this time of year.</p> <p>Works will also be carried out in accordance with Network Rails CR-E whereby the contractor shall protect and enhance the existing biodiversity.</p>
	Water Voles	N	No suitable habitat, no further action.
	White-clawed Crayfish	N	No suitable habitat, no further action.
	Otters	N	No suitable habitat, no further action.
	Great crested newts	N	No suitable habitat, no further action.



## 29 Cumulative Effects

### 29.1 Cumulative Effects across the Suffolk Order

29.1.1 Cumulative effects have been considered at a high level for the level crossing proposals covered by this EIA Screening Request as follows:

- Inter-project effects – effects due to interactions between the Project together with one or more other reasonably foreseeable future developments in the locality; and
- Intra-project effects – effects due to interactions between different elements of the same project.

29.1.2 The intended construction works at each level crossing are minor and short-term in nature. On this basis, it is not envisaged that any significant inter-project cumulative effects will be caused in the event that the works are undertaken simultaneously with construction of any other nearby schemes. Once the level crossing proposals are operational, it is also anticipated that there will be no likely significant inter-project cumulative effects due to the minor size, nature and location of the works and the limited change to the environment.

29.1.3 The potential intra-project effects between both the potential combined impacts at each of the level crossings (i.e. for the different environmental topics at one level crossing), and the potential for cumulative project-wide impacts (i.e. across some or all the level crossings), are not considered to be significant. This is due to the minor size, nature and location of the of the works and the limited anticipated change to the environment, even when the level crossings are located nearby to each other.



## 30 Summary and Conclusions

- 30.1.1 This EIA Screening Request has been produced in order to support a request for an EIA Screening Decision from the Secretary of State for Transport in accordance with rule 7 of The Rules.
- 30.1.2 The request has provided EIA screening information on the potential environmental effects of the Suffolk Order which relates to the closure of, and/or changes to rights at, 25 level crossings on railway lines within the county of Suffolk and is part of the wider Anglia Level Crossing Reduction Strategy.
- 30.1.3 In order to determine the likelihood of Network Rail's proposals resulting in significant environmental effects, a high level assessment was conducted against the EIA screening criteria outlined in Section 2.1 of this EIA Screening Request. The results of the assessment, presented in Chapters 4 to 29 indicate that there are no likely significant effects arising from the proposals, given the limited size, nature, and location of the works.



# Appendices



## A. Suffolk Order Overview Plan



## **B. Suffolk Order Design Freeze Plans**



## **C. Suffolk Order Environmental Constraints Plans**



## **D. Network Rail Contract Requirements Document (2011)**