

# Proposed Tiger Crossings, Haverhill, Suffolk

Stage 1 Road Safety Audit

Client: Redrow

Reference: PB8301\_HTC\_RSA1\_F01

Status: 0.1/Final

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Document title: Proposed Tiger Crossings, Haverhill, Suffolk

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Checked by: Sam Taylor

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Approved by: Vicky Seaton

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Date / initials: 24.03.2020 / VS

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Classification

Project related



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## 1 Introduction

- 1.1.1 Royal HaskoningDHV has been appointed by Redrow Homes to undertake a Stage 1 Road Safety Audit. The Audit relates to four proposed parallel shared pedestrian/ cycle crossings referred to as 'Tiger crossings', associated with the provision of a new residential-led mixed-use development at Haverhill in Suffolk. The location of the proposed development is shown in **Figure 1** of this report.
- 1.1.2 The Audit Team for this Stage 1 Road Safety Audit was as follows:
- Audit Team Leader**  
Vicky Seaton, BSc (Hons), MSoRSA, MCIHT, CoC  
Royal HaskoningDHV
- Audit Team Member**  
Sam Taylor, BEng (Hons), MSoRSA, MCIHT, CoC  
Royal HaskoningDHV
- 1.1.3 The Road Safety Audit took place via Skype on Friday 20<sup>th</sup> March 2020, based on information provided by Dean Johnson of Royal HaskoningDHV's Manchester office. The Road Safety Audit comprised a desk-based examination of the documents listed in **Appendix A** of this report.
- 1.1.4 No site visit has been undertaken in compiling the Road Safety Audit as the proposed Tiger crossings would be provided upon highway currently not yet constructed.
- 1.1.5 The terms of reference for the Road Safety Audit are described in GG 119<sup>1</sup>. The Road Safety Audit has examined and reported only on the road safety implications of the schemes as presented and has not examined or verified the compliance of the designs to any other criteria.
- 1.1.6 The four Tiger crossings would be provided as part of a package of new highway infrastructure in association with a new residential-led mixed-use development, this audit is however, only concerned with four proposed parallel shared pedestrian/ cycle crossings referred to as 'Tiger crossings' and how they interact with the wider highway works.
- 1.1.7 The Tiger crossings would be provided on proposed highway which has not yet been constructed and as such, there are no historic collisions in the specific area which forms part of this Audit.
- 1.1.8 Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems identified. They are only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with GG 119, and in no way imply that a formal design process has been undertaken.
- 1.1.9 There may be alternative measures of addressing a problem which would be equally acceptable or superior in achieving the desired degree of mitigation and these should be considered when responding to this report.

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<sup>1</sup> GG 119 Road Safety Audit (Formerly HD 19/ 15), Revision 2, January 2020

## 2 Matters Arising from this Stage 1 Road Safety Audit

- 2.1.1 It is understood that the audited pedestrian/ cycle infrastructure is at the planning application stage, and as such there are a number of items the Audit Team would wish to see that are not available for this Stage 1 Road Safety Audit.
- 2.1.2 As such, the Design Team should submit a full Stage 2 Road Safety Audit alongside the detailed design package issued to the Local Highway Authority for approval.
- 2.1.3 Items to be considered within the detailed design may include:
- Drainage;
  - Landscaping;
  - Public utilities;
  - Paving and kerbing; and
  - Road signs.

### A1 Local Alignment

- 2.1.4 The Audit Team did not identify any local alignment related safety problems at this stage.

### A2 General

#### A2.1 Basic Design Principles

##### A2.1.1 Problem 1

Location: Proposed Tiger crossings.

Summary: Inappropriate vehicle speeds on approach to the Tiger crossings could result in sudden braking and rear end shunts or to crossing overshoot, leading to collisions with pedestrians/ cyclists.

Description: The proposed Tiger crossings adjacent to Inset C on Drawing PB8301-RHD-DE-HI-DR-D-0150 and to the south-east of the scheme are located on relatively long, straight sections of highway, which could result in high vehicle approach speeds. Inappropriate vehicle approach speeds could result in sudden braking and rear end shunts or to collisions with pedestrians/ cyclists on the crossing.

Whilst the remaining three crossings are situated adjacent to roundabouts, one the inbound approaches are also after relatively long straight sections.

#### RECOMMENDATION

The Audit Team acknowledge that accesses associated with future development could increase activity on the proposed highway approaches to the Tiger crossings, potentially leading to reduced vehicle speeds. However, during off-peak traffic periods vehicle speeds could be inappropriate and, as such it is recommended that the Tiger crossings are situated on raised tables, or humped, slowing traffic on the approach and reducing the potential for sudden braking or collisions with pedestrians/ cyclists on the crossings.

## **A3 Junctions**

2.1.5 The Audit Team did not identify any junction related safety problems at this stage.

## **A4 Walking, Cycling and Horse Riding**

### **A4.1 Cycling**

#### **A4.1.1 Problem 2**

Location: Footway/ cycleway approaches to all proposed Tiger crossings.

Summary: Inappropriate transition between the footway/ cycleway and the proposed Tiger crossings could result in pedestrian trips/ falls or cycle loss of control collisions or injuries due to a fall.

Description: Details of the type of transition between the proposed Tiger crossing and the footway/ cycleway have not been provided to the Audit Team at this stage. Inappropriate transition between the footway/ cycleway and the proposed Tiger crossings could result in pedestrian trips/ falls, particularly for those pedestrians with additional mobility requirements such as wheelchair users, the elderly or those with pushchairs/ buggies. An inappropriate transition could also result in the destabilisation of cyclists, leading to loss of control collisions or injuries due to a fall.

### **RECOMMENDATION**

Transitions with an upstand of between zero millimetres (mm) and 6mm should be provided at the kerb face approach to the Tiger crossings. A flush transition, or one with a small upstand, would reduce the potential for pedestrian trips and falls, cycle loss of control collisions or injuries sustained as a result of a fall from a bicycle.

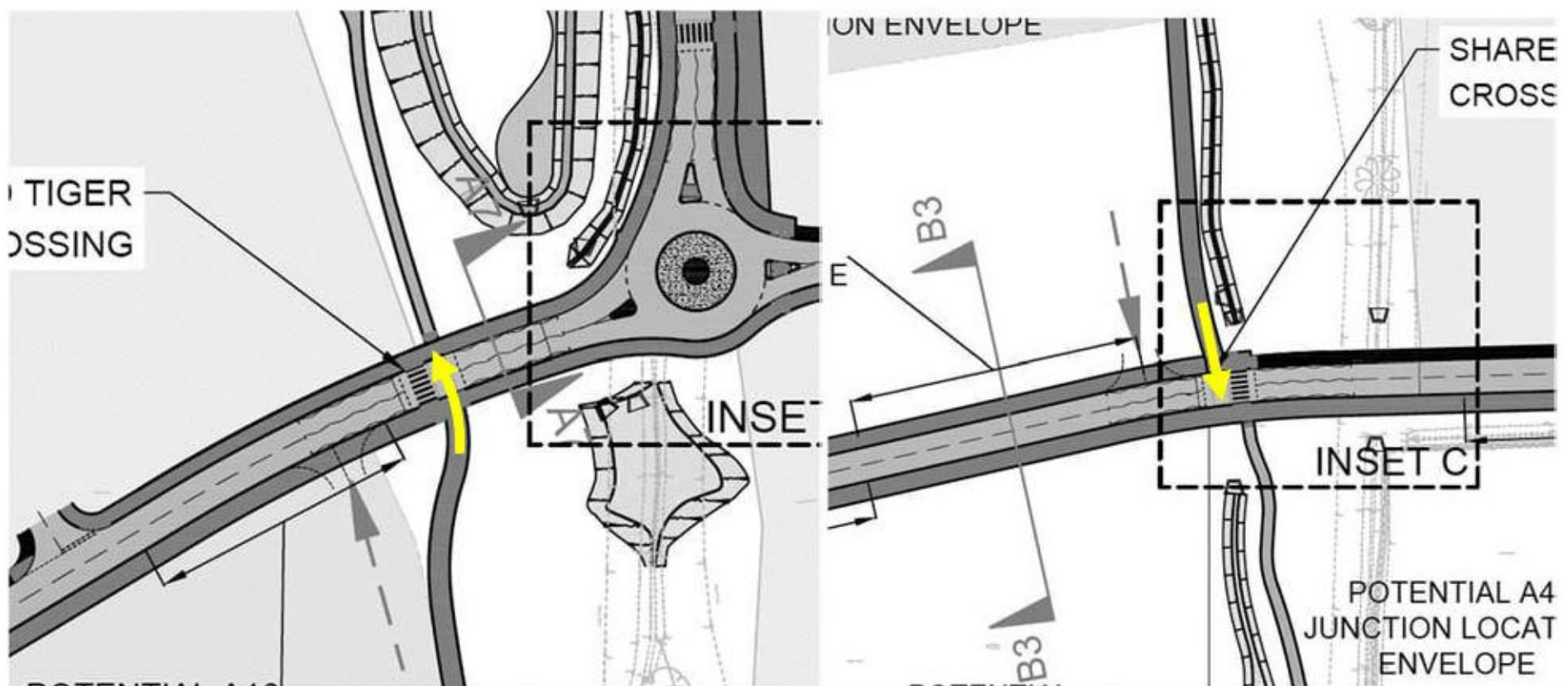
#### A4.1.2 Problem 3

**Location:** Footway/ cycleway approach to proposed Tiger crossing (shown at western extent of Inset A, on Inset C and at the south-eastern extent of drawing PB8301-RHD-DE-HI-DR-D-0150).

**Summary:** Absence of deflection on approach to the cycle crossing element of the proposed Tiger crossing could result in inappropriate cycle speeds, leading to collisions between road users or sudden braking and rear end shunts on the main road.

**Description:** No deflection or deviation of the footway/ cycleway approach to the Tiger crossing has been provided. The cycle element of the Tiger crossing is directly in line with the footway/ cycleway, which allows cyclists to approach and enter the crossing at speeds. Drivers on the main road may brake sharply upon seeing a cyclists approaching the crossing at speed, resulting in rear end shunts.

Furthermore, cyclists approaching the crossing at speed may be unable to slow/ stop sufficiently before entering the carriageway, resulting in collisions with road users on the main road.



Extracts from drawing PB8301-RHD-DE-HI-DR-D-0150, showing absence of deflection on approach to the Tiger crossing for cyclist

#### RECOMMENDATION

Provide deflection on approach to the Tiger crossings to slow cyclists as they approach the facilities. If it is not possible to provide adequate deflection, measures such as bollards or 'SLOW' markings should be installed. The installation of any bollards should consider the footway width requirements of wheelchair users and those pedestrian with additional mobility requirements, such as those with pushchairs/ walking frames.

In conjunction with the above, sufficient forward visibility should be provided on the deflected approaches to the Tiger crossings from the footway/ cycleways, increasing intervisibility between all road users.

## **A5 Traffic Signs, Carriageway Markings and Lighting**

- 2.1.6 The Audit Team was not provided with any details relating to traffic signs or carriageway markings. Full details of proposed traffic signs, carriageway markings and street furniture such as Belisha beacons, should be provided as part of a detailed design Stage 2 Road Safety Audit drawing package.



### 3 Audit Team Statement

3.1.1 We certify that this Stage 1 Road Safety Audit has been carried out in accordance with GG 119.

#### Road Safety Audit Team Leader

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Dated: 24.03.2020

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Signed: 

Dated: 24.03.2020

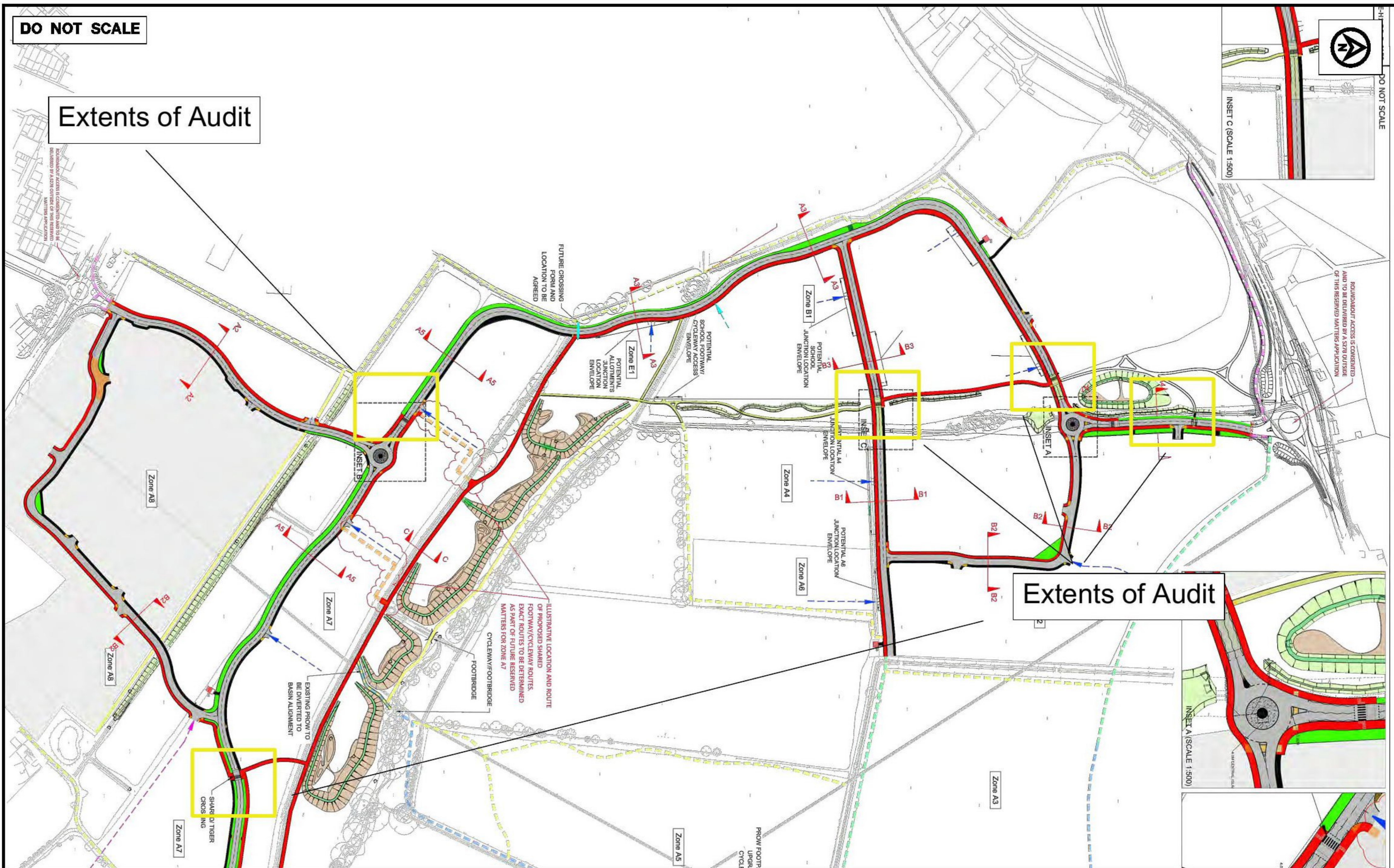
## Figures

Figure 1 – Site Location Plan

Figure 2 – Problem Location Plan

DO NOT SCALE

# Extents of Audit



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TITLE

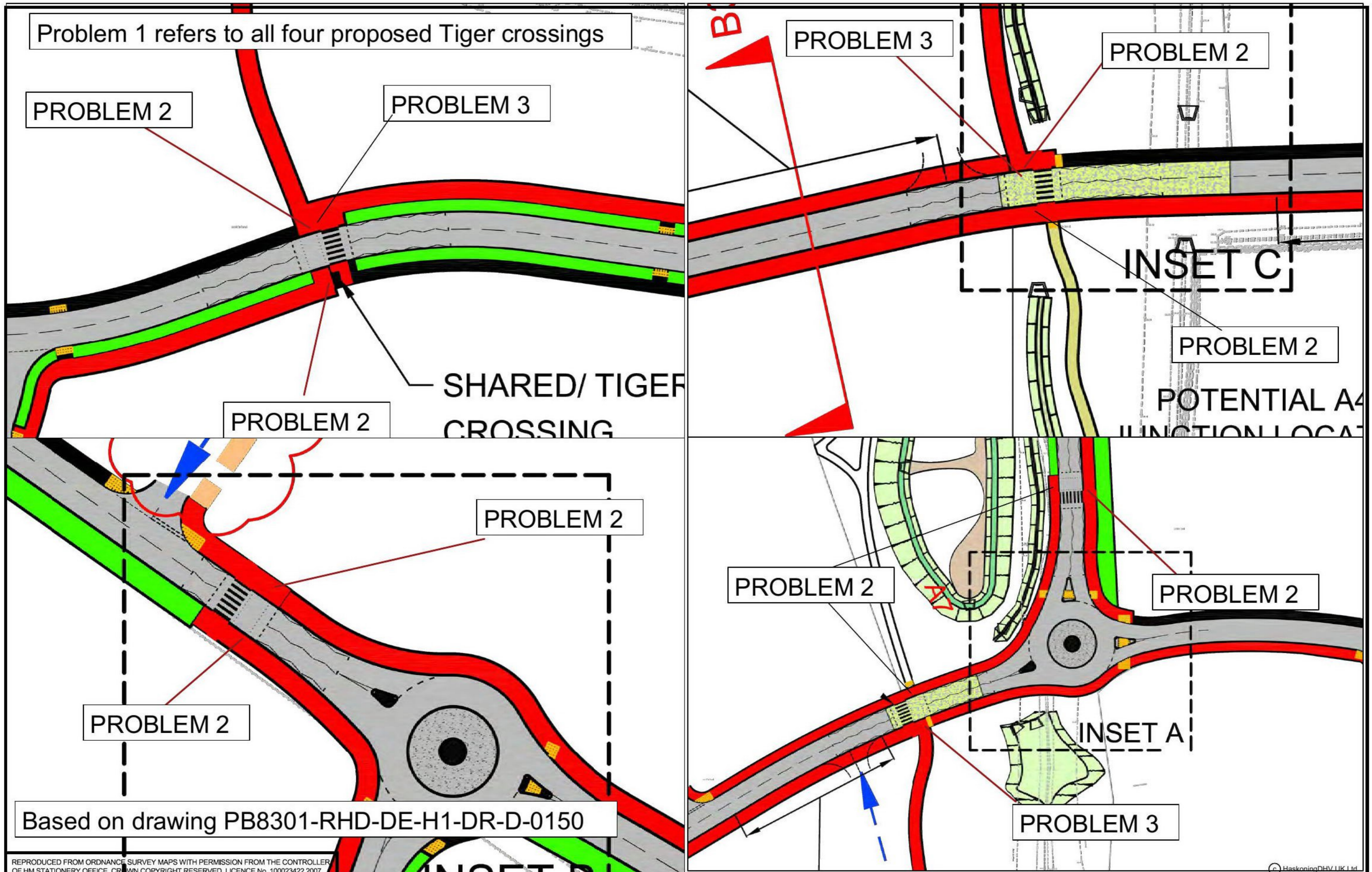
**SITE LOCATION PLAN**

PROJECT

**PROPOSED TIGER CROSSINGS, HAVERHILL  
STAGE 1 ROAD SAFETY AUDIT**



DRAWN	VS	CHECKED	SKT	APPROVED	VS
DATE	24.03.2020	SCALE	AT A1	REF.	-
DRAWING No.	FIGURE 1			REVISION	



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TITLE	PROJECT
PROBLEM LOCATION PLAN	PROPOSED TIGER CROSSINGS, HAVERHILL STAGE 1 ROAD SAFETY AUDIT

Based on drawing PB8301-RHD-DE-H1-DR-D-0150

DRAWN	VS	CHECKED	SKT	APPROVED	VS
DATE	24.03.2020	SCALE	AT A1	REF.	-
DRAWING No.	FIGURE 2			REVISION	

## **Appendix A**

### **Documents Forming the Audit Brief**

# APPENDIX A

## Documents Forming the Audit Brief

### DRAWING NUMBER

PB8301-RHD-DE-H1-DR-D-0150  
PB8301-RHD-DE-H1-DR-D-0157  
PB8301-RHD-DE-H1-DR-D-0158  
PB8301-RHD-DE-H1-DR-D-0159  
PB8301-RHD-DE-H1-DR-D-0210  
PB8301-RHD-DE-H1-DR-D-0211  
PB8301-RHD-DE-H1-DR-D-0213  
PB8301-RHD-DE-H1-DR-D-0230  
PB8301-RHD-DE-H1-DR-D-0231  
PB8301-RHD-DE-H1-DR-D-0230  
PB8301-RHD-DE-H1-DR-D-0500  
PB8301-RHD-DE-H1-DR-D-0501  
PB8301-RHD-DE-H1-DR-D-0502  
PB8301-RHD-DE-H1-DR-D-0503  
PB8301-RHD-DE-H1-DR-D-0504  
PB8301-RHD-DE-H1-DR-D-0550  
PB8301-RHD-DE-H1-DR-D-0551  
PB8301-RHD-DE-H1-DR-D-0552  
PB8301-RHD-DE-H1-DR-D-0553  
PB8301-RHD-DE-H1-DR-D-0554  
PB8301-RHD-DE-H1-DR-D-0555  
PB8301-RHD-DE-H1-DR-D-0556  
PB8301-RHD-DE-H1-DR-D-0557  
PB8301-RHD-DE-H1-DR-D-0710  
PB8301-RHD-DE-H1-DR-D-1301  
PB8301-RHD-DE-H1-DR-D-1302  
PB8301-RHD-DE-H1-DR-D-1303  
PB8301-RHD-DE-H1-DR-D-1304

### DRAWING TITLE

Reserved Matters – General Arrangement  
Reserved Matters – Red Line Boundary  
Reserved Matters – Highway Adoption  
Reserved Matters – Swept Paths: Bus  
Reserved Matters – Swept Paths: Large Vehicles  
Reserved Matters – Swept Paths: Refuse  
Reserved Matters – Visibility (Sheet 1 of 3)  
Reserved Matters – Visibility (Sheet 2 of 3)  
Reserved Matters – Visibility (Sheet 3 of 3)  
Reserved Matters – Drainage Strategy  
Reserved Matters – Drainage Layout (Sheet 1 of 4)  
Reserved Matters – Drainage Layout (Sheet 2 of 4)  
Reserved Matters – Drainage Layout (Sheet 3 of 4)  
Reserved Matters – Drainage Layout (Sheet 4 of 4)  
Reserved Matters – Pond 1 Details  
Reserved Matters – Detention Basin 2.1 Details  
Reserved Matters – Detention Basin 2.2 Details  
Reserved Matters – Detention Basin 3.1 Details  
Reserved Matters – Detention Basin 3.2 Details  
Reserved Matters – Detention Basin 4.1 Details  
Reserved Matters – Detention Basin 4.2 Details  
Reserved Matters – Detention Basin 4.3 Details  
Reserved Matters – Swales Detail  
Reserved Matters – Standard Construction Details  
Reserved Matters – Street Lighting Layout (Sheet 1 of 4)  
Reserved Matters – Street Lighting Layout (Sheet 2 of 4)  
Reserved Matters – Street Lighting Layout (Sheet 3 of 4)  
Reserved Matters – Street Lighting Layout (Sheet 4 of 4)

### DOCUMENTS

- Safety Audit Brief
- Site Location Plan
- Traffic signal details
- Departures from standard
- Previous Road Safety Audits
- Previous Designer Responses
- Collision data
- Collision plot
- Traffic flow / modelling data
- Pedestrian flow / modelling data
- Speed survey data
- Other documents

### DETAILS (where appropriate)