

Road Safety Audit Report

Incorporating

Stage 1a Completion of Initial Preliminary Design.

Stage 1b Completion of Revised Preliminary Design.



**Proposed Access off the
A259 New Road, Rustlington**

Client:
Commercial Development Projects Ltd

Client reference:
REDW-3167

Fenley Partnership
2 Blaenant
Emmer Green
READING
RG4 8PH

O 0118 329 0170

E info@fenley.co.uk
www.fenley.co.uk

Report Status **6**

Job no	RSA-15-002	Issue no	6	Date	September 2015
Prepared by	JJF	Verified by	AJB	Approved by	JJF
Filename and Path	Fenley/Road Safety Audits/RSA-15-002-06				

document control sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
1	Stage 1 Road Safety Audit included	JJF	AJB	JJF	8 th April 2015
2	Stage 1 Designer's Response Incorporated	PM	AJB	JJF	21 st May 2015
3	Stage 1 RSA updated to include an assessment of the proposed footway/cycleway	JJF	AJB	JJF	29 th June 2015
4	Stage 1 Designer's Response Incorporated	PM	AJB	JJF	29 th June 2015
5	Audit updated following scheme revisions due to comments from WSCC	JJF	AJB	JJF	7 th September 2015
6	Revised Footway / Cycleway drawings included	JJF	AJB	JJF	11th September 2015

Contents:

1.0	Introduction	1
2.0	Items Raised in Previous Stage 1 Road Safety Audit	6
3.0	Items Raised at A.b Stage1 Road Safety Audit	11
	A.b.1 General	
	A.b.2 Local Alignment	
	A.b.3 Junctions	
	A.b.4 Non-Motorised User Provision	
	A.b.5 Road Signs, Markings, Lighting and Drainage	
	A.b.6 Stage 1 Audit Team Statement	13

Appendices:

Appendix A	Stage 1 Road Safety Audit
A1	Photos from Site Visit Footage
A2a	Drawings provided with the Audit Brief
A2b	Revised Drawings provided with the Audit Brief
A3	Designer's Response Items

1.0 INTRODUCTION

- 1.1 The Fenley partnership has been appointed by Commercial Development Projects Ltd to revise a Stage 1 Road Safety Audit undertaken in June 2015. The proposals include a junction improvement scheme and footway/cycleway link along the A259 New Road at Rustington and are proposed to facilitate the development of a retail unit and public house/restaurant.

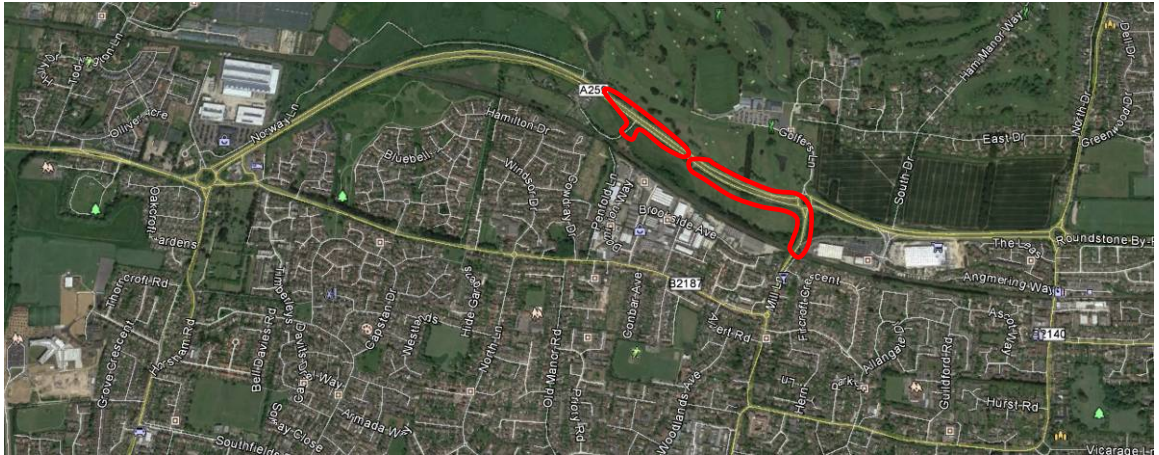


Figure 1: Location of the proposed access

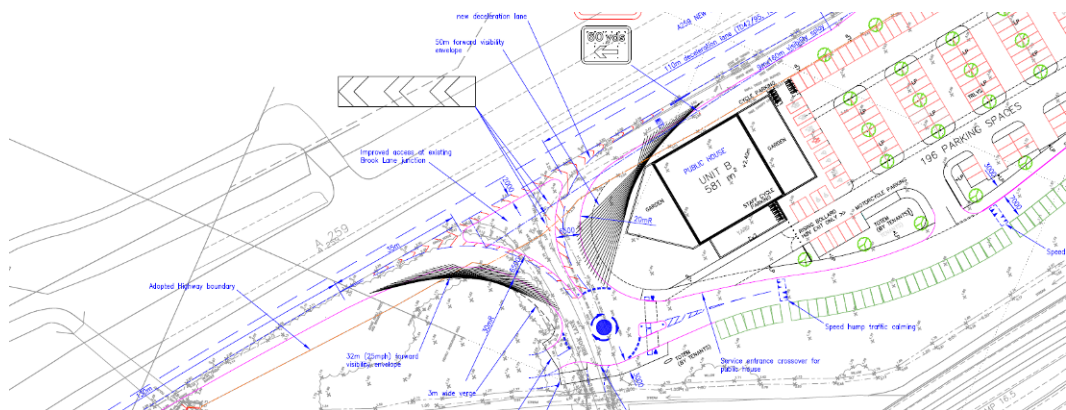


Figure 2: Extract of General Arrangement drawing

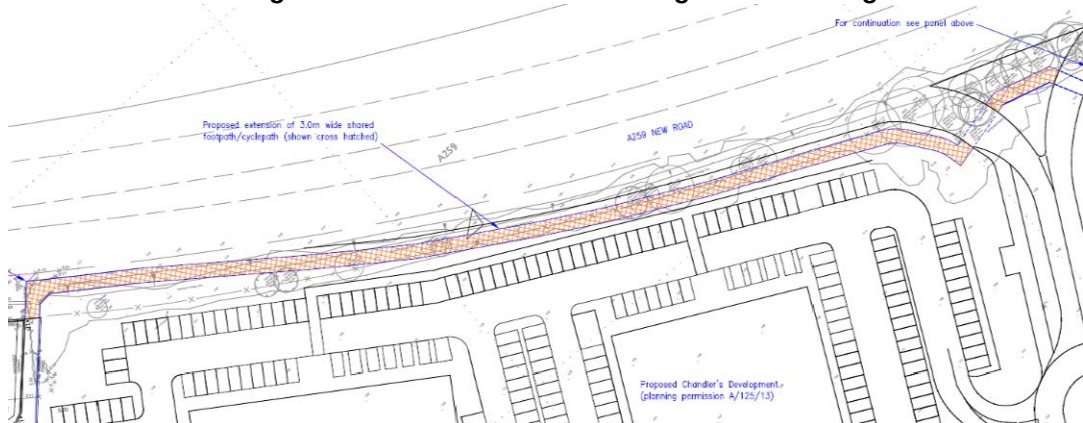


Figure 3: Extract of Proposed Footway / Cycleway

- 1.2 The A259 in proximity of the site is a dual carriageway and is derestricted, therefore subject to a 70mph speed limit. Brook Lane is taken off the south side of the A259 and is therefore only accessible to westbound traffic. Traffic survey data has been provided with the Audit Brief that identifies that the 85th percentile speed of westbound traffic equates to 67mph.
- 1.3 This Road Safety Audit is an assessment of the proposed access improvement and proposed roundabout as well as the footway / cycleway that is to be provided as part of the proposals only and does not include the on-site access road or parking/servicing arrangement.
- 1.4 The site visit associated with this Stage 1 Road Safety Audit commenced during day light at 10am on Monday 6th April 2015. Weather conditions during the site visit were sunny with light wind, the road surface was dry and visibility was clear. Photographs from the site visit are attached at the relevant **Appendix 1**.
- 1.5 No pedestrians were observed during the visit but two cyclists as well as motorised vehicular traffic was observed travelling on the A259 in proximity of the site, speeds were not recorded.
- 1.6 The site visit allowed the team to assess the existing infrastructure in the vicinity of the site and put the proposals in context with conditions on the local highway network.

Collision History

- 1.7 Personal Injury Accident data has been provided with the Audit Brief. The data covers the 5 year period to the 30th November 2014 and indicates no history or pattern of personal injury road traffic accidents occurring in proximity of the site that were attended to by the local constabulary.

Scheme Details

- 1.8 The proposals subject to this Stage 1 Road Safety Audit include the improvement of an existing access, known as Brook Lane, off the A259, that consists of an acceleration lane that accords with National Standards for trunk roads as detailed within the Design Manual for Roads and Bridges and a deceleration lane in excess of the requirements at 153 metres.
- 1.9 The 153 metre deceleration lane incorporates a 30 metre direct taper and is followed by an inside corner radius of 20 metres. The carriageway width around the corner equates to 6.5 metres with hatching around the outside of the bend restricting the running lane to approximately 4.5 metres. It is proposed to offset the kerbed island 2.0 metres from the running carriageway of the A259.
- 1.10 Following the corner, the access lane meets a 20 metre ICD mini-roundabout that allows access to the proposed access carriageway, a stub arm to allow for access to future development land to the west and the existing Brook Lane via a vehicular crossover.

- 1.11 The link from the mini-roundabout to the acceleration lane is 6.5 metres wide with hatching on the outside of the bend and follows a 30 metre inside corner radius. Following a 40 metre nose, the 126 metre acceleration lane tapers back to the existing southern channel line of the A259.
- 1.12 The deceleration and acceleration lanes are provided by widening the existing carriageway and require the relocation of a headwall associated with a brook that passes under the A259.
- 1.13 It is understood that the proposed Brook Lane improvement and mini-roundabout is to facilitate safe access and egress to/from a proposed development consisting of an M&S Simply Food retail unit and a pub/restaurant.
- 1.14 As part of the proposals, a 3.0 metre shared surface footway/cycleway link is to be provided to link to a similar facility that is to be implemented as part of an adjacent consented commercial development. The footway / cycleway associated with the adjacent consented development, links to the existing facility along Mill Lane, to the east.

Scheme Documents

- 1.15 Whilst the following Table 1.1 details the drawings that have been examined as part of this audit, copies are attached at the relevant **Appendix 2**.

Table 1.1 – Drawings

<u>Audit Stage</u>	<u>Drawing Number</u>	<u>Rev</u>	<u>Title</u>
Stage 1a	REDW-3167-110	-	Highway Access Plan
	REDW-3167-111	-	Off-site footpath / cyclepath
Stage 1b	REDW-3167-110	D	Highway Access Plan
	REDW-3167-111	C	Highway Access Plan Offsite Footway Cycleway
	REDW-3167-130	-	Offsite Footway Cycleway Cross Sections

- 1.16 Furthermore, the following Table 1.2 identifies the documents that were supplied with the Audit Brief.

Table 1.2 – Documents

<u>Audit Stage</u>	<u>Document No.</u>	<u>Rev</u>	<u>Title</u>
Stage 1	PMcL/3167/d1	Feb15	Transport assessment

- 1.17 With regard to compliance of the scheme with National Standards, the audit team has been made aware of the following departures identified within the following Table 1.3.

Table 1.3 – Departures from standard

<u>Audit Stage</u>	<u>Departure Reference No.</u>	<u>Description</u>
Stage 1	-	No departures notified at this stage

Terms of Reference

- 1.18 The Terms of Reference of the audit are as described in the Department for Transport document HD19/15, entitled 'Road Safety Audit', which is contained in the Design Manual for Roads and Bridges. The audit also takes account of the Chartered Institute of Highways and Transportation publication "Road Safety Audit" published in October 2008 and has been undertaken in accordance with the West Sussex County Council Road Safety Audit Policy, each member of the team holds a Certificate of Competence in accordance with European Legislation.
- 1.19 This audit has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may, in some instances, have referred to a design standard or document without touching on technical audit.
- 1.20 Items identified as **PROBLEM** are considered to be worthy of immediate attention in respect of safety considerations of the proposals. Items that are not a direct result of the proposals or could be outside the scope of the audit to include existing highway defects in proximity are not listed within this audit in accordance with HD19/15.

Main Parties to the Audit

- 1.21 In accordance with the above documents, this audit has been carried out by an 'Audit Team' consisting of the following members:

Audit Team Leader

Jamie Fenning BSc (Hons), MIHE, CofC
Highway / Road Safety Engineer

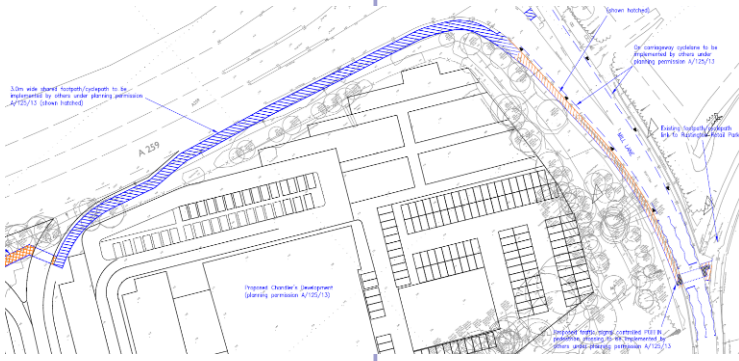
Audit Team Member

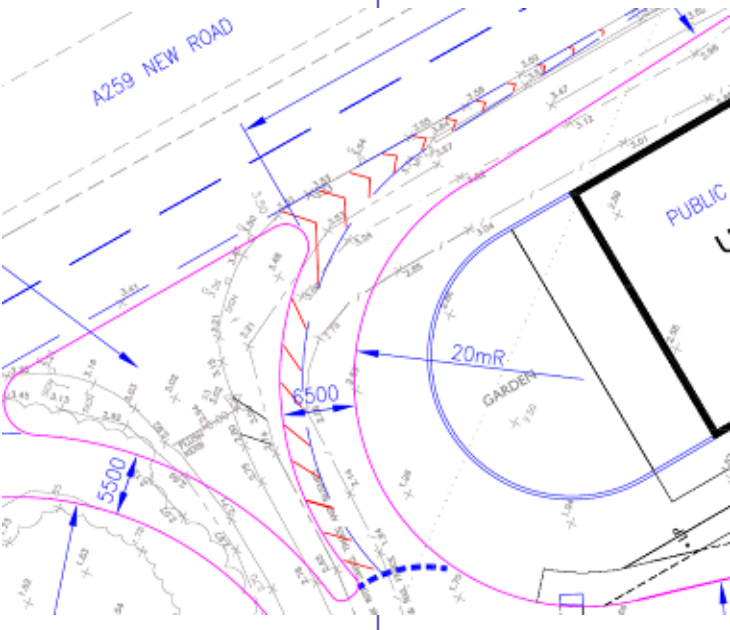
Angharad Bradley BEng (Hons), MCIHT, MSoRSA, CofC
Road Safety Engineer

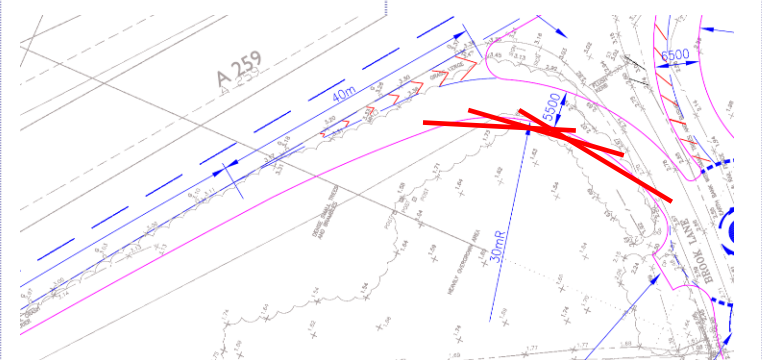
General Information

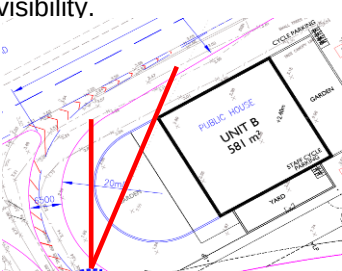
- 1.22 The following **Section 2.0** identifies any previous Road Safety Audits that have been undertaken prior to this document being prepared by ourselves and summarises the items raised. The safety implications of the current proposals are discussed within the relevant paragraphs of **Section 3.0** along with a Response, prepared by the Designer, to the items raised.
- 1.23 Any new or revised plans associated with the Designer's Response are included at the relevant **Appendix 3** along with any further information that the designer considers appropriate to support their response if any is provided. A signature of the professional who prepared the Designer's Response is included within the Audit Team Statement.

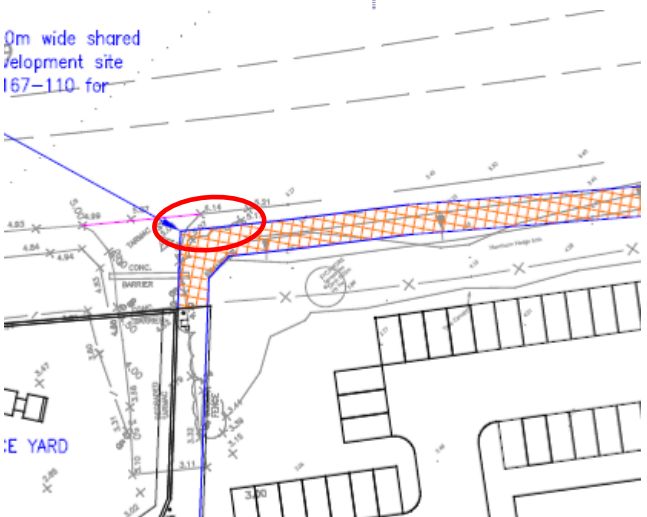
2.0 ITEMS RAISED IN PREVIOUS ROAD SAFETY AUDITS

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.a.1.	GENERAL		
A.a.1.1.	<i>The proposals to improve an existing access off the A259, New Road to facilitate the safe access and egress to / from a proposed development consisting of a food retail store and pub/restaurant at this location does not raise any road safety concerns in general at this stage, provided that the items raised within this audit in the following specific sections are addressed appropriately. The access road associated with the development is of sufficient length to allow for the free flow of vehicles off the A259 without the need to stop to allow vehicles to access and egress parking spaces.</i>		
A.a.1.2	PROBLEM Footway/cycleway link potentially terminates at unsafe location Accident Type <i>Vehicle/Pedestrian/Cyclist Collision</i> Location East of proposals <i>The proposed footway / cycleway to the east, links to the facility associated with the adjacent consented development, however that development is yet to be commenced and there is no control of when the footway/cycleway link is to be implemented. As such, the footway / cycleway that is proposed may not link to any facilities until such time as the link associated with the adjacent development is implemented.</i>	The proposed footway / cycleway link to the east, should not be implemented until such time as the whole link is constructed to include that associated with the adjacent consented development.	The applicant has undertaken to implement the entire footway / cycleway link should the adjacent development not come forward prior to construction. 

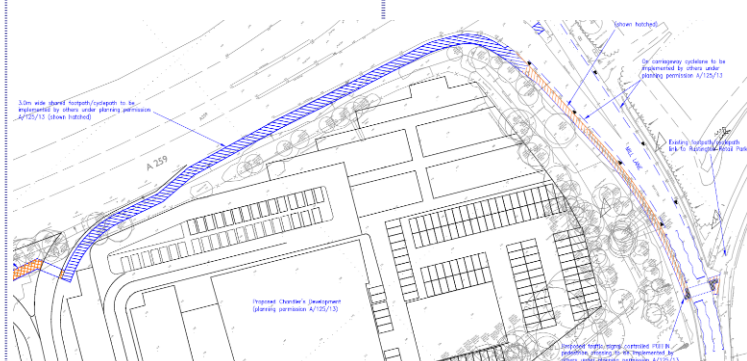
A.a.2	LOCAL ALIGNMENT	
A.a.2.1	PROBLEM Tight entry corner radius Accident Type <i>Loss of Control</i> Location Entry radius from deceleration lane <i>The proposed deceleration lane is provided for vehicles to decelerate from the derestricted A259. Vehicles could therefore be travelling in excess of the speed required to safely manoeuvre around the 20 metre corner radius. This could result in vehicles losing control and striking the island.</i> The appropriate chevron and warning signs should be installed in clear view of vehicles utilising the deceleration lane to ensure that drivers are aware of the corner. 	Chevron sharp deviation of route signs (Diag. 515) have been included on the central approach island as shown on Drg.No. REDW-3167-110-Rev A

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.a.2.2	PROBLEM Restricted visibility around the exit corner radius Accident Type <i>Shunt</i> Location <i>Inside of exit radius to the acceleration lane</i> <i>Forward visibility vehicles accelerating from the roundabout to the acceleration lane to vehicles utilising the acceleration lane, is restricted by vegetation. Therefore drivers will not have a clear view of preceding vehicles. This could result in shunt type accidents should a driver hesitate and stop along the acceleration lane.</i>	Vegetation should be cleared to the appropriate level to allow for the clear forward visibility.	Vegetation will be cleared to a distance of 3m from the kerb line of the site at the radius of the site egress. The verge area adjacent to the carriageway will be offered for adoption as Public Highway
			

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.3	JUNCTIONS		
A.a.3.1	PROBLEM Forward visibility to the roundabout is restricted Accident Type <i>Shunt type accidents</i> Location Roundabout Forward visibility to the give-way road marking at the roundabout from the deceleration lane is restricted to approximately 50 metres based on the building line of the adjacent pub/restaurant. This could be further restricted should a fence be erected around the associated grounds and could result in shunt type accidents where vehicles are stopped at the give-way.	Warning signs should be installed to ensure that approaching vehicles are aware of the presence of the roundabout and the pub/restaurant should be restricted from erecting a fence where it blocks forward visibility. 	Forward visibility to the site roundabout is restricted due to a boundary wall proposed around the public house garden area. The achievable forward visibility envelope is shown on Drg.No. REDW-REDW-3167-110-Rev A. An advanced warning sign of roundabout ahead (Diag. 510) and REDUCE SPEED NOW supplementary sign (Diag. 511) and SLOW road marking is proposed in advance of the roundabout which will mitigate the reduced forward visibility to the roundabout give way.
A.a.4	NON-MOTORISED USER PROVISION		
A.a.4.1	<i>The proposals make a provision for pedestrians to travel between Brook Lane and the proposed development utilising a crossing facility and footway located along the private access road as well as a footway linking to Brook Lane. This allows for safe non-motorised user access from the area to the south of the railway line utilising the associated underpass. Therefore no road safety concerns have been raised at this stage regarding non-motorised users.</i>		

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.a.4.2	PROBLEM Footway / Cycleway link guides into A259 carriageway Accident Type <i>Vehicle/Pedestrian, Cyclist Collisions</i> Location East of service yard The footpath/cyclepath link that is proposed, heads in a northerly direction adjacent to a service yard and bends 90° to a facility that is to run alongside the A259 carriageway. The 90° bend could result in cyclists losing control and pedestrians travelling into the path of vehicles on the A259. 	A section of guard railing should be introduced to ensure that non-motorised users follow the line of the footway/cycleway and do not enter the A259 carriageway.	A section of guardrail will be included at the detailed design stage. The guardrail will prevent non-motorised users from entering the A259 carriageway.
A.a.5	ROAD SIGNS, CARRIAGEWAY MARKINGS, LIGHTING AND DRAINAGE		
A.a.5.1	<i>No road safety concerns are raised at this stage regarding road signs, carriageway markings, lighting or drainage provided that the items raised within this audit are addressed appropriately.</i>		

3.0 ITEMS RAISED IN THIS STAGE 1 ROAD SAFETY AUDIT OF THE REVISED PROPOSALS (A.b.)

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.b.1	GENERAL		
A.b.1.1	<i>The proposals to improve an existing access off the A259, New Road to facilitate the safe access and egress to / from a proposed development consisting of a food retail store and pub/restaurant at this location does not raise any road safety concerns in general at this stage, provided that the items raised within this audit in the following specific sections are addressed appropriately. The access road associated with the development is of sufficient length to allow for the free flow of vehicles off the A259 without the need to stop to allow vehicles to access and egress parking spaces.</i>		
A.b.1.2	PROBLEM Accident Type Location <i>The proposed footway / cycleway to the east, links to the facility associated with the adjacent consented development, however that development is yet to be commenced and there is no control of when the footway/cycleway link is to be implemented. As such, the footway / cycleway that is proposed may not link to any facilities until such time as the link associated with the adjacent development is implemented.</i>	Footway/cycleway link potentially terminates at unsafe location <i>Vehicle/Pedestrian/Cyclist Collision</i> East of proposals The proposed footway / cycleway link to the east, should not be implemented until such time as the whole link is constructed to include that associated with the adjacent consented development.	The applicant has undertaken to implement the entire footway / cycleway link should the adjacent development not come forward prior to construction. 

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.b.2	LOCAL ALIGNMENT		
A.b.2.1	<i>The alignment of the proposals allow for the expected vehicles to access and egress the A259 as well as the proposed development safely and efficiently without any road safety concerns, provided the further items raised within this audit report are addressed sufficiently.</i>		
A.b.3	JUNCTIONS		
A.b.3.1	<i>The proposal to improve an existing access of the A259 to incorporate slip roads to current standards and the introduction of a 3 arm roundabout to allow access to the proposed development as well as future development and the existing Brook Lane is acceptable and does not raise any road safety concerns at this stage provided the further items raised within this audit report are addressed sufficiently.</i>		
A.b.4	NON-MOTORISED USER PROVISION		
A.b.4.1	<i>The proposals make a provision for pedestrians to travel between Brook Lane and the proposed development utilising a crossing facility and footway located along the private access road as well as a footway linking to Brook Lane. This allows for safe non-motorised user access from the area to the south of the railway line utilising the associated underpass. Therefore no road safety concerns have been raised at this stage regarding non-motorised users.</i>		
A.5	ROAD SIGNS, CARRIAGEWAY MARKINGS, LIGHTING AND DRAINAGE		
A.b.5.1	<i>No road safety concerns are raised at this stage regarding road signs, carriageway markings, lighting or drainage provided that the items raised within this audit are addressed appropriately.</i>		

A.b.6 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

A.b.6.1 We certify that we have examined the relevant drawing and documents listed at Section 1.0 in respect of road safety. The examination of the proposed works has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme or any adjacent highway affected by it. The issues identified have been noted in this report together with associated safety improvement recommendations, where possible, which should be studied for implementation. This Stage 1 road safety audit has been carried out in accordance with HD19/15 as well as the "West Sussex County Council - Safety Audit Adopted Policy".

A.b.6.2 No one on the Audit Team has been involved with the design of the scheme. The Audit Team consists of the following

Audit Team Leader

Name: Jamie Fenning
BSc (Hons), MIHE, CofC
Position: Highway / Road Safety Engineer
Address: 2 Blaenant
Emmer Green
Reading
RG4 8PH
Tel: 0118 329 0170
e-mail: jamie@fenley.co.uk

Signed: 
Date: 11th September 2015

Audit Team Member

Name: Angharad Bradley
BEng (Hons), MCIHT, MSoRSA CofC
Position: Road Safety Engineer

Signed: 
Date: 11th September 2015

Designer's Response Prepared By

Name: Paul McLaughlin

Position and company: Director
Redwood Partnership Transportation Ltd

Signed: 
Date: 11th September 2015

Appendix A1

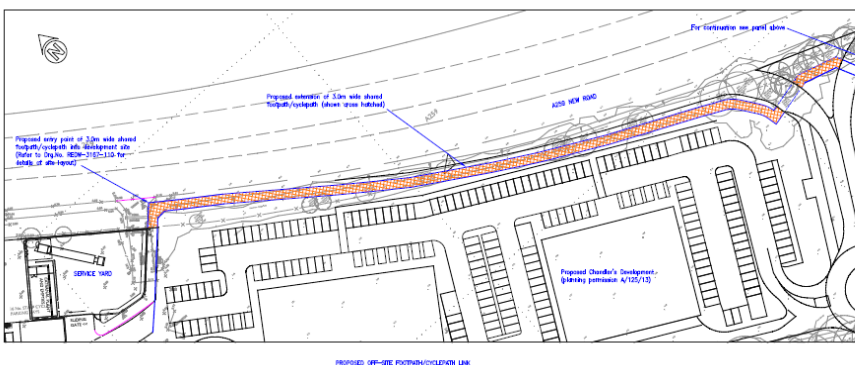
Photographs from site visit





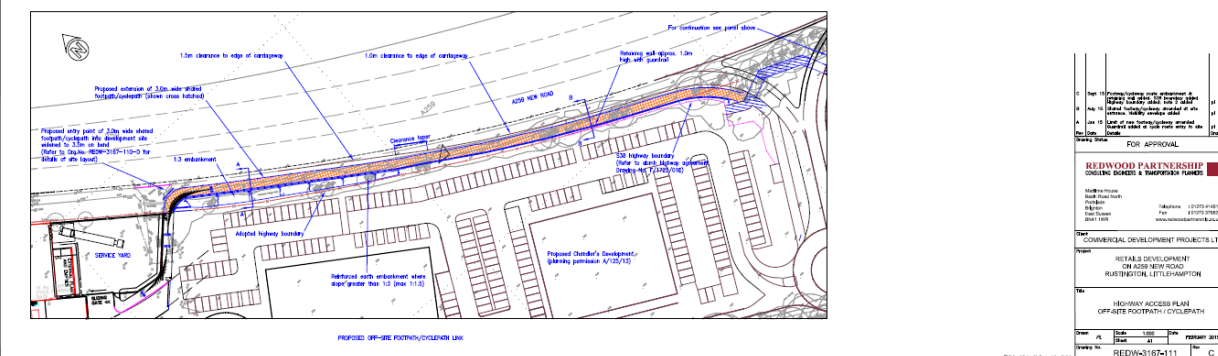
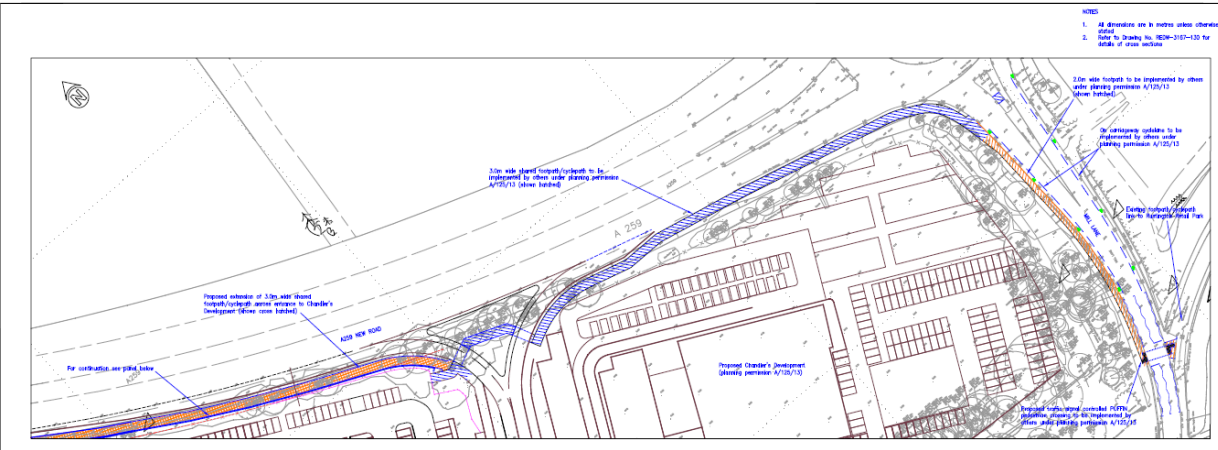
Appendix A2a

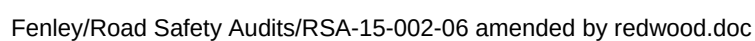
Drawings provided with the Initial Stage 1 Audit Brief



Appendix A2b

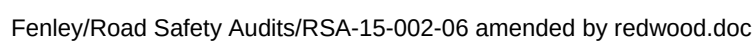
Revised Drawings provided with this Stage 1 Audit Brief





Appendix A3

Drawings and Documents associated with the Designer's Response to the Initial Stage 1 Road Safety Audit



fenley