

Road Safety Audit Report

Incorporating
Stage 2 Completion of Detailed Design;
Design Organisation Response to items raised.



Proposed Development Spine Road off the Leap Gate Roundabout, Trowbridge

Client:
PFA Consulting

Client reference:
P876

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Report Status 3

Job no	RSA-20-045	Issue no	3	Date	August 2020
Prepared by	JJF	Verified by	FB	Approved by	JJF
Filename and Path	Fenley/Road Safety Audits/RSA-20/RSA-20-045-3				

1.0 PROJECT DETAILS

Report Title:	Stage 2 Road Safety Audit
Date:	July 2020
Document reference and revision:	RSA-20-045-2
Prepared by:	Fenley Road Safety Limited
On behalf of the Overseeing Organisation:	Wiltshire County Council
Design Organisation:	PFA Consulting
Project Sponsor:	CEREP III and Persimmon Homes Wessex

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
0	Stage 2 Road Safety Audit drafted for Audit Team discussions	JJF			9 th July 2020
1	Stage 2 Road Safety Audit finalised and issued to the Design Organisation	JJF	FB	JJF	23 rd July 2020
2	Stage 2 Road Safety Audit Report format amended to incorporate a row for inclusion of a Design Organisation Response in order to maintain a concise record of items raised	JJF			23 rd July 2020
3	Design Organisation Response incorporated	Richard Lucas on behalf of PFA Consulting			25 th August 2020

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	B2	Item Location Plan
	B3	Drawings associated with the Design Organisation Response

2.0 INTRODUCTION

- 2.1 This report has been prepared by Fenley Road Safety Limited and results from a Stage 1 Road Safety Audit of proposal for a Development Spine Road which meets the existing public highway as a fourth arm on the West Ashton Road roundabout with Leap Gate, passes across a bridge structure and accommodates a right turn lane to a minor access road that allows a left turn out only as well as a toucan crossing. The works are to be undertaken as part of a larger scheme which provides the Yarnbrook and West Ashton Relief Road and releases a number of parcels of land for the development known as Ashton Park; that is proposed to consist of 2,500 dwellings, 13.6 hectares of employment, two local centres, two primary schools and one secondary school.
- 2.2 The Audit Team has not been informed that the scheme subject to this Stage 2 Road Safety Audit, is subject to any Relaxations or Departures from Standard.
- 2.3 The Road Safety Audit was undertaken during July 2020 in accordance with the Road Safety Audit Brief provided, on the 26th June 2020 by the Design Organisation, PFA Consulting, on behalf of the Project Sponsor, CEREP III and Persimmon Homes Wessex. The Road Safety Audit comprised of a site visit as well as an examination of the documents provided which are identified in **Appendix B1**. The Audit Team were satisfied that that the Audit Brief was sufficient for the purpose of the Audit instructed.
- 2.4 The Road Safety Audit has been undertaken by an Audit Team whose qualifications and experience accord with the requirements of GG119. The Audit Team consists of the following members:

Audit Team Leader

Jamie Fenning *BSc(Hons), MIHE, MCIHT, MSoRSA, Highways England RSA Certificate of Competency*
Road Safety / Highway Engineer

Audit Team Member

Farouk Bhatti *MCIHT*
Road Safety Auditor

- 2.5 The site visit associated with this Road Safety Audit was undertaken by the Audit Team Leader and Audit Team Member, during the early afternoon of Friday 3rd July 2020 between 2:15pm and 4:15pm. The site visit involved walking and driving around the local highway network for a 120-minute period whilst observing local infrastructure and current off-peak traffic conditions. The weather during the site visit was overcast, the road surface was dry and visibility was good. A number of pedestrians and cyclists were observed during the site visit. Vehicular traffic to include motorcycles, cars, passenger service vehicles, agricultural vehicles, light and heavy goods vehicles were also observed.

- 2.6 The terms of reference of this Road Safety Audit are as described in GG119. The scheme has been examined and this report compiled, only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. All comments and recommendations are referenced to the design drawings supplied with the Audit Brief and the location of road safety concerns raised have been illustrated beneath the items along with relevant photographs for clarity, where appropriate, as well as on the Location Plan attached at **Appendix A2**.

Design Organisation Response

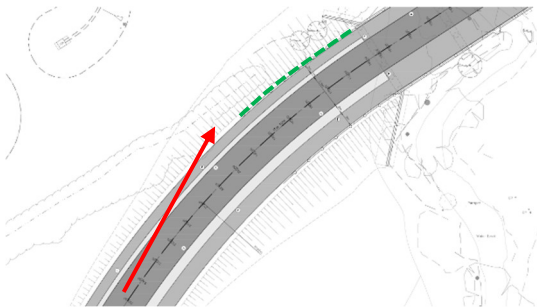
- 2.7 In accordance with national standards, this Road Safety Audit was finalised and issued to the Design Organisation as per the Road Safety Audit Report Template within Appendix D of GG119, which can be provided upon request from either the Audit Team or Design Organisation. The format of the Audit Report was subsequently revised to incorporate these paragraphs under the sub-heading as well as sufficient space beneath the items and recommendation, within Section 4, for the inclusion of a Design Organisation Response. This is generally contained within a separate Design Organisation Response Report but is included within this document in order to maintain a single record of all problems, recommendations and responses for the benefit of a concise Road Safety Audit trail to be held on file for Quality Assurance purposes.
- 2.1 The Design Organisation Response has been prepared by:
- | | |
|--------------------------|--|
| Name: | Richard Lucas |
| Position / Organisation: | Principal Engineer, PFA Consulting Ltd |
- 2.2 And approved by:
- | | |
|--------------------------|---------------------------------------|
| Name: | Chris Isherwood |
| Position / Organisation: | Managing Director, PFA Consulting Ltd |
- 2.3 Any drawings or documents associated with the Design Organisation Response are listed at **Appendix A3**, if applicable.

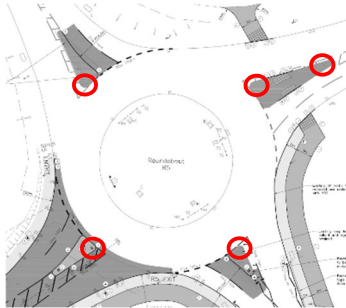
3.0 ITEMS RAISED IN ANY PREVIOUS ROAD SAFETY AUDITS

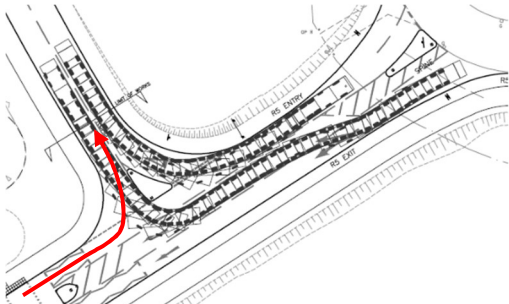
- 3.1 The scheme associated with this Stage 2 Road Safety Audit was subject to a Stage 1 Road Safety Audit which was carried out by TMS Consultancy in March 2014. The following tables list the items raised in the Stage 1 Road Safety Audit.

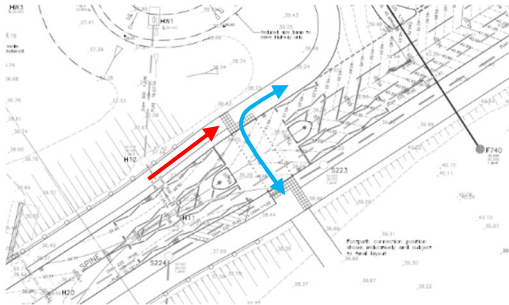
2.9	PROBLEM
Location:	Access road to the west of Roundabout 5
Summary:	Potential confusion to pedestrian
The proposed controlled crossing on the access road to the west of Roundabout 5 is shown to have a pedestrian refuge island in the mid crossing. The presence of the refuge may confuse visually impaired pedestrians into thinking they have to wait in the refuge and make the crossing in two attempts, which is unnecessary as the crossing is not particularly wide.	
RECOMMENDATION:	
It is acknowledged that the refuge has been provided because of its location within the hatching markings, however, the tactile paving should be omitted to discourage pedestrians from waiting and instead completing the crossing in one movement. The timing of the signals should also allow sufficient time for a single movement crossing.	

4.0 ITEMS RAISED AT THIS STAGE 2 ROAD SAFETY AUDIT

B.1	LOCAL ALIGNMENT
B.1.1	PROBLEM
Location:	North of the western section of Development Spine Road
Summary:	Errant northbound vehicles could leave the public highway down the adjacent embankment
Acc Type:	Vehicle loss of control
The proposed Development Spine Road passes over the River Biss and through an area of open space and is set above the surrounding lane with embankments bound either side of the carriageway. The scheme drawings identify that a Vehicle Restraint System (VRD) is to be provided in close proximity of the proposed bridge structure, however, no VRS is present on the outside of a bend that consists of a 180 metre centreline radius without any super elevation. A northbound vehicle travelling around the bend in the road on approach to the bridge crossing of the River Biss to head in an eastbound direction, may loss control and leave the carriageway falling down the proposed embankment to the 2.85 metre embankment exacerbating the severity of an incident.	
RECOMMENDATION:	
It is recommended that a Vehicle Restraint System is extended, if appropriate	
Location Plan:  	
DESIGN ORGANISATION RESPONSE provided by PFA Consulting on the 25th August 2020 following formal issue of this Stage 2 Road Safety Audit on the 30th July 2020	
Disagree. A Road User Risk Assessment (reference P881-FN01) has been undertaken in accordance with guidance published by the UK Roads Liaison Group and Department for Transport, which confirms that the vehicle restraint system currently proposed does not need to be extended.	
B.2	GENERAL
	No Road Safety Concerns in GENERAL have been raised at this stage

B.3	JUNCTIONS
B.3.1	PROBLEM
Location:	Leap Gate Roundabout
Summary:	Drivers approaching splitter island may not become aware of the feature at a safe distance
Acc Type:	Vehicle loss of control
The existing splitter islands situated on all three of the Leap Gate Roundabout arms benefit from the provision of illuminated bollards, albeit some incorporate left turn arrows. The proposals provide a fourth arm on the Leap Gate Roundabout in order to allow access to a development Spine Road. The scheme drawings provided with the Audit Brief illustrate that a Toucan Crossing is to be provided on the southern arm of West Ashton Road and that the existing splitter island of Leap Gate to the east, is to be modified to accommodate dropped kerbs and tactile paving in order to accommodate an uncontrolled crossing point. However, the scheme drawings do not highlight that the existing bollards or signage are to be retained measures to ensure that approaching drivers become aware of the feature at a safe distance. This could lead to vehicles striking the kerb of the traffic calming feature and loss of control type incidents. Moreover, it is proposed to provide “Keep Left” face on the illuminated bollard on the Spine Road exit from the roundabout as the existing West Ashton Road exits, which could confuse drivers who are permitted to pass either side of the bollard.	
RECOMMENDATION:	
It is recommended that illuminated bollards are provided to increase the presence of the feature with plain faces towards the circulatory where vehicles pass either side and “Keep Left” where traffic must pass to the left.	
Location Plan:    	
DESIGN ORGANISATION RESPONSE provided by PFA Consulting on the 25th August 2020 following formal issue of this Stage 2 Road Safety Audit on the 30th July 2020	
Agreed. Keep left bollard annotation amended on drawing P881/04 Revision D to make clearer the direction the “keep left” sign should be facing, and annotation added confirming existing bollards to be retained.	

B.3.2	PROBLEM
Location:	Proposed minor road off north side of Development Spine Road
Summary:	HGV's may not be able to access the parcel of residential development safely
Acc Type:	Vehicle loss of control and sideswipe type collisions
The proposals include the provision of a right turn lane to a side road off the northern side of the proposed Development Spine Road, that accommodates a splitter island to deter the right turn out manoeuvre. The swept path analysis provided with the Audit Brief includes an illustration of a large Refuse / Recycling Collection Vehicle (RCV) turning right into the site road which is tight but proves that the manoeuvre can be undertaken, however, the scheme drawing does not illustrate the left turn in. Should a RCV or similar size removals HGV, attempt to access the parcel of development and the manoeuvre not be possible, the vehicle could stop abruptly which could give rise to rear end collisions or loss of control as a result of encroaching the kerbing.	
RECOMMENDATION:	
It is recommended that the junction is sufficient to allow for the expected manoeuvres	
Location Plan:  	
DESIGN ORGANISATION RESPONSE provided by PFA Consulting on the 25 th August 2020 following formal issue of this Stage 2 Road Safety Audit on the 30 th July 2020	
Agreed. Addition swept path shown on drawing P881/14 demonstrating a refuse vehicle can centre the side road from an eastbound direction along the spine road.	
B.4	WALKING CYCLING AND HORSE RIDING
B.4.1	PROBLEM
Location:	Development Spine Road
Summary:	Pedestrians may not become aware of cyclists
Acc Type:	Cyclist pedestrian collision
The scheme drawings provided with the Audit Brief, detail that a 3 metre footway cycleway is to be provided along the southern side of the Development Spine Road and that a 2 metre footway is to be provided along the northern side. The proposed footway terminates at a Toucan crossing just to the east of the proposed bridge crossing where cyclists cross the proposed Development Spine Road in order to travel between the proposed parcel of residential development just to the north as well as the proposed South Trowbridge Business Park that is accessible via the development and a Toucan crossing over West Ashton Road. Eastbound pedestrians travelling	

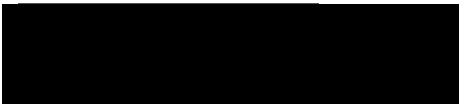
along the northern footway, may not become aware of the potential presence of cyclists at or to the east of the Toucan crossing which could give rise to cyclist pedestrian collisions.	
RECOMMENDATION:	
It is recommended that measures are provided to ensure pedestrians become aware of the potential for cyclists to be present and cyclists dismount accordingly.	
Location Plan:  	
DESIGN ORGANISATION RESPONSE provided by PFA Consulting on the 25th August 2020 following formal issue of this Stage 2 Road Safety Audit on the 30th July 2020	
Agreed. Corduroy paving and bollard with appropriate signage now shown on drawing P881/04 Revision D to make pedestrians aware of the potential of cyclists, and for cyclists to dismount accordingly.	
B.5	ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING
	No Road Safety Concerns regarding ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING have been raised at this stage

5.0 STAGE 2 ROAD SAFETY AUDIT TEAM STATEMENT

5.1 We certify that this Road Safety Audit has been carried out in accordance with GG119.

Audit Team Leader

Name: **Jamie Fenning** *BSc (Hons), MIHE, MCIHT, MSoRSA, HE RSA Certificate of Competency*

Signed: 

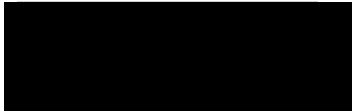
Position: Road Safety / Highway Engineer

Organisation: Fenley Road Safety Limited

Date: 30th July 2020

Audit Team Member

Name: **Farouk Bhatti** *MCIHT*

Signed: 

Position: Road Safety Engineer

Organisation: Fenley Road Safety Limited

Date: 30th July 2020

Appendix B1

Documents and Drawings provided for this Stage 2 Road Safety Audit

<u>Audit Stage</u>	<u>Doc. No.</u>	<u>Rev</u>	<u>Title</u>
Stage 2	P876-DOC09	-	Road Safety Audit Brief
	P876	-	YWARR Compliance Non-compliance Report
	P876-FN14	-	Supporting Statement to Engineering Design Compliance Report
	11403	-	TMS RSA Stage 1
	<u>Dwg No.</u>	<u>Rev</u>	<u>Title</u>
	P876/100	-	Whole Scheme Overview
	45196-STN-SBR-1411-DR-CB-0101	P02	Yarnbrook and West Ashton Relief Road Northern Site Access Crabbe Bridge. Structure No. 1411 General Arrangement
	P881/01	-	Site Location Plan
	P881/02	-	Proposed Drainage, Levels and Contours Plan Sheet 1 of 2
	P881/03	-	Proposed Drainage, Levels and Contours Plan Sheet 2 of 2
	P881/04	C	Surface Treatment & External Works Plan Sheet 1 of 2
	P881/05	C	Surface Treatment & External Works Plan Sheet 2 of 2
	P881/06	-	Traffic Signals Plan Sheet 1 of 2
	P881/07		Traffic Signals Plan Sheet 2 of 2
	P881/08		Longitudinal Sections
	P881/09		Road Cross Sections
	P881/10	A	Construction Details
	P881/11	-	Section 278 Agreement Plan
	P881/12	B	Proposed Road Signs
	P881/13	-	Visibility Analysis
	P881/14	-	Swept Path Analysis
	P19372-06-01	A	Roundabout 5 and Spine Road Calculation Summary, MF = 0.83

Appendix B2

Item Location Plan



Appendix B3

Drawings associated with the Design Organisation Response

<u>Audit Stage</u>	<u>Drawing No.</u>	<u>Rev</u>	<u>Title</u>
Stage 2	P881/04	D	Surface Treatment & External Works Plan Sheet 1 of 2
	P881/05	D	Surface Treatment & External Works Plan Sheet 2 of 2
	P881/14	A	Swept Path Analysis
	P881-FN01		Road User Risk Assessment

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