



Road Safety Audit Stage 1

Section 278 Works

Level Mare Lane/Fontwell Avenue

Chichester

West Sussex

Date: 18th March 2020

Report produced for: Paul Basham Associates

Report produced by: M & S Traffic

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Project Title Northfield Cottages, Fontwell Avenue, Fontwell.

Report Title Road Safety Audit Stage 1

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Designers Response	Shaan Novitzki	Mark Smith		DR Updated 3 rd July 2020
Authority Response				

Distribution

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1 INTRODUCTION

- 1.1 This report describes a Stage 1 Road Safety Audit carried out on Section 278 works associated with a 42-unit residential development off Fontwell Avenue Road, comprising of:

- The provision of a priority junction access.
- The provision of a right turn lane with carriageway widening.
- The provision of a footway link and pedestrian refuge island.

The Audit was requested by the design organisation, Paul Basham Associates, Lancaster Court, 8 Barnes Wallis Road, Fareham, Hampshire, PO15 on behalf of West Sussex County Council, as the Highway Authority.

- 1.2 The Audit Team membership was as follows:

Martin Morris, PGD, MCIHT, MSoRSA – Audit Team Member
Highways England Approved RSA Certificate of Competency

Bryan Shawyer B.Eng. (Hons), MSc, MCIHT, MSoRSA – Audit Team Leader
Highways England Approved RSA Certificate of Competency

- 1.3 The audit was undertaken in accordance with GG 119, The Design Manual for Roads and Bridges. The documents available at the time the report was compiled are detailed in Appendix A.

- 1.4 The Audit took place at the Gillingham offices of M&S Traffic in March 2020 and comprised an examination of the documents provided as listed in Appendix A, plus a joint visit to the site of the proposed scheme during the afternoon of the 9th March 2020 between 10:45 and 11:15. Weather conditions at the time were fine and the road surface was dry. Traffic flows were moderate and free flow speeds were moderate. There were no pedestrian flows or cyclist movements observed during the site visit.

- 1.5 The report has been compiled, only with regards to the safety implications for road users of the layout presented in the supplied drawings. It has not been examined or verified for compliance with any other standards or criteria. This safety audit does not perform any “Technical Check” function on these proposals. It is assumed that the Project Sponsor is satisfied that such a “Technical Check” has been successfully completed prior to requesting this safety audit.

- 1.6 The auditors have been informed of the following Departure from Standards in this scheme construction.

- The tapering of the junction should be 1:20 (CD 123 para 6.11 /6.12) however due to the proximity of neighbouring junction c.50m to the north and c.50m to the south of the site this cannot be provided without affecting the operation of the two neighbouring junctions. Given the constraints taper at the junction is 1:11.
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- 1.7 All comments and recommendations are referenced to the detailed drawings and the locations have been detailed relating to the plans supplied with the audit brief, Appendix B.

2 SAFETY ISSUES RAISED AT PREVIOUS AUDITS

2.1 No previous Road Safety Audits were supplied for assessment.

3 ITEMS RAISED AT THE STAGE 1 AUDIT

3.1 General

3.1.1 PROBLEM

Location: Proposed scheme.

Summary: Ponding of surface water could lead to loss of control accidents.

The carriageway is being widened and new kerblines are being introduced, where no details of carriageway drainage or carriageway vertical profiles and horizontal profiles have been provided for assessment. Ponding on the carriageway or water moving across the carriageway at junctions could lead to loss of control accidents.

RECOMMENDATION

It is recommended that drainage details should be provided at Safety Audit Stage 2, or that the carriageway should be shaped so that the highway drains.

3.1.2 PROBLEM

Location: Proposed traffic island.

Summary: Inappropriate island construction could lead to loss of control collisions.

No details of the traffic island have been provided for assessment, where inappropriate signage and construction could lead to island strikes and loss of control collisions particularly during the hours of darkness.

RECOMMENDATION

It is recommended that full details of the traffic islands should be supplied for assessment at Safety Audit Stage 2 and that the traffic island should have a high mast beacon with signs to diagram 610.

3.2 Local Alignment

3.2.1 PROBLEM

Location: Proposed access and right turn lane.

Summary: Insufficient carriageway space may lead to head on collisions or side swipe collisions.

No vehicle swept paths have been provided for assessment, where the insufficient carriageway space could cause conflict with vehicles travelling in the opposing direction leading to possible head on collisions or side swipe collisions. In addition, the introduction of the pedestrian refuge may impact on the left turn movement into Wandleys Lane for large vehicles, and could lead to shunting at the junction mouth, leading to possible rear end shunt collisions.

RECOMMENDATIONS

It is recommended that:

- Swept paths and lane widths should be provided for assessment at the proposed access.
- Swept paths should be provided for the left turn movement into Wandleys Lane.
- Swept paths should be provided at normal driving speeds through the short transition south of the proposed junction.

3.2.2 Location: Proposed access.

Summary: Insufficient visibility could side impact collisions or rear end shunts.

The proposed junction follows a left-hand curve where forward visibility of traffic slowing or turning into the development could be restricted. No details of the Stopping Sight Distance (SSD) at the bend were provided for assessment. Insufficient SSD could lead to side swipe collisions or rear end shunts.

RECOMMENDATION

It is recommended that forward visibility splays should be checked to ensure that they are consistent with the design speed.

3.3 Junctions

3.3.1 PROBLEM

Location: At the junction with Level Mare Lane.

Summary: Restricted visibility could lead to side swipe collisions or rear end shunts.

Widening is being undertaken on the western side of Fontwell Avenue where the visibility splay for Level Mare Lane has been provided but does go to the western kerbline. There is an area of

carriageway that could be hidden, and a powered two-wheel rider or cyclist could be hidden and suddenly emerge, leading to possible side impact collisions or rear end shunts.

RECOMMENDATION

That the visibility splay should extend to the western kerbline.

3.3.2 PROBLEM

Location: Fontwell Avenue.

Summary: Excessive flows could lead to side impact collisions or rear end shunts.

No information was supplied regarding the predicted movements or queuing at the proposed access were provided. Excessive queuing at the junction could lead to rear end shunt or side impact collisions.

RECOMMENDATION

It is recommended that a Picady, or similar, programme should be checked to ensure that there is no excessive queuing at the access or in the right turn lane on Fontwell Avenue.

3.3.3 PROBLEM

Location: Approaches to proposed access.

Summary: Lack of visibility could lead to side impact or rear end shunt collisions

Visibility splays have been proposed at the junction; however, the splays appear to pass over non-highway land. Vegetation or landscaping features in these splays could restrict visibility, where insufficient visibility could lead to side impact or rear end shunt collisions.

RECOMMENDATION

It is recommended that the splays should be within the adoptable highway, or that suitable covenants should be arranged to ensure that the splay is not affected by planting or landscaping features.

3.4 Non-Motorised User Provision

3.4.1 No comment.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 PROBLEM

Location: The scheme.

Summary: Inappropriate speeds could lead to overshoot, rear end shunt or side impact type collisions.

An existing 40mph speed limit covers the proposed access; and vehicle approach speeds may be high. In addition, development is at the fringes of Eastergate and extended development could effectively change the nature of Fontwell Avenue. As such, a 40mph speed limit may give rise to vehicles approaching the junction at inappropriate speeds, which could lead to overshoot, rear end shunt or side impact type collisions.

RECOMMENDATION

It is recommended that the existing 30 mph speed limit terminal and should be relocated north of the proposed access

4 ISSUES IDENTIFIED DURING THE STAGE 1 AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

- 4.1 Any issues that the Audit Team wish to bring to the attention of the Client Organisation, which are not covered by the road safety implications of this audit have been included in the following section. These issues could include maintenance items, operational issues or poor existing provision. It should be understood however, that in raising these issues, the Audit Team do not warrant that a full review of the existing highway environment has been undertaken beyond the scope of the audit.
- 4.2 The Audit Team had no issues to raise within this section.

5 AUDITOR TEAM STATEMENT

5.1 We certify that this audit has been carried out in accordance with GG 119.

Audit Team Leader

Martin Morris
PGD, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency
M & S Traffic Ltd
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32 Hamelin Road
Gillingham
Kent ME7 3EX

Signed:



Date: 18/03/2020

Audit Team Member

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Signed:



Date: 18/03/2020

APPENDIX A

List of drawings and documentation submitted for auditing:

Drawing Number	Title
020.0360.006 B	Level Mare lane/Fontwell Avenue Junction Visibility Splays.
020.0360.002	Pedestrian Visibility Splays.
020.0360.001	Access Design
29662A 100L	Site Block Plan

Supporting Documentation:

- Road Safety Audit Brief Paul Basham Associates March 2020.

APPENDIX B

Plan attached showing the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

APPENDIX C: Road Safety Audit Decision Log.

Auditors: Martin Morris (Team Leader) and Bryan Shawyer (Team Member).

Scheme: S278 Works Level Mare lane/Fontwell Avenue, Eastergate.

Date Audit Completed: 18th March 2020

This response is to a Stage 1 Road Safety Audit to the design standard detailed within GG 119 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges, as detailed by the Highways Agency.

RSA Problem	RSA Recommendation	Design Organisation response)	Overseeing Organisation response	Agreed RSA action
3.1.1 The carriageway is being widened and new kerblines are being introduced, where no details of carriageway drainage or carriageway vertical profiles and horizontal profiles have been provided for assessment. Ponding on the carriageway or water moving across the carriageway at junctions could lead to loss of control collisions.	It is recommended that drainage details should be provided at Safety Audit Stage 2, or that the carriageway should be shaped so that the highway drains.	The measure identified by the auditor is accepted and details of drainage would be provided to inform the Stage 2 Road Safety Audit.		
3.1.2 No details of the traffic island have been provided for assessment, where inappropriate signage and construction could lead to island strikes	It is recommended that full details of the traffic islands should be supplied for assessment at Safety Audit Stage 2 and that the traffic island	Details of the traffic island would be provided for assessment as part of the Stage 2 Road Safety Audit.		

and loss of control collisions particularly during the hours of darkness.	should have a high mast beacon with signs to diagram 610.			
3.2.1 No vehicle swept paths have been provided for assessment, where the insufficient carriageway space could cause conflict with vehicles travelling in the opposing direction leading to possible head on collisions or side swipe collisions. In addition, the introduction of the pedestrian refuge may impact on the left turn movement into Wandleys Lane for large vehicles, and could lead to shunting at the junction mouth, leading to possible rear end shunt collisions.	It is recommended that: Swept paths and lane widths should be provided for assessment at the proposed access. Swept paths should be provided for the left turn movement into Wandleys Lane. Swept paths should be provided at normal driving speeds through the short transition south of the proposed junction.	Swept paths of these manoeuvres has been provided, which demonstrates that the carriageway space provided is acceptable.		
3.2.2 The proposed junction follows a left-hand curve where forward visibility of traffic slowing or turning into the development could be restricted. No details of the Stopping Sight Distance (SSD) at the bend were provided for assessment. Insufficient SSD could lead to side impact collisions or rear end shunts.	It is recommended that forward visibility splays should be checked to ensure that they are consistent with the design speed.	While the concern of the auditor is noted, a significant distance of invisibility between vehicles achievable and given the relatively flat gradient of the carriageway it is not considered that visibility for vehicles travelling along Fontwell Avenue would be restricted or result in collisions when vehicles are slowing to access the site.		

3.3.1 Widening is being undertaken on the western side of Fontwell Avenue where the visibility splay for Level Mare Lane has been provided but does go to the western kerbline. There is an area of carriageway that could be hidden, and a powered two-wheel rider or cyclist could be hidden and suddenly emerge, leading to possible side impact collisions or rear end shunts.	That the visibility splay should extend to the western kerbline.	Drawing 020.0360.006 Rev B shows that visibility to the western kerbline from Level Mere Lane is achievable in line with 85 th percentile speeds, addressing this concern.		
3.3.2 No information was supplied regarding the predicted movements or queuing at the proposed access were provided. Excessive queuing at the junction could lead to rear end shunt or side impact collisions.	It is recommended that a Picady, or similar, programme should be checked to ensure that there is no excessive queuing at the access or in the right turn lane on Fontwell Avenue.	A junction capacity modelling assessment has been undertaken of the site access which indicates that the junction would operate well under capacity, with no queuing anticipated on Fontwell Avenue or the site access road.		
3.3.3 Visibility splays have been proposed at the junction; however, the splays appear to pass over non-highway land. Vegetation or landscaping features in these splays could restrict visibility, where insufficient visibility could lead to side impact or rear end shunt collisions.	It is recommended that the splays should be within the adoptable highway, or that suitable covenants should be arranged to ensure that the splay is not affected by planting or landscaping features.	A suitable covenant to address this could be included within the site decision notice, however a landscaping/tree strategy has been proposed as part of this application.		
3.5.1 An existing 40mph speed limit covers the proposed access; and	It is recommended that the existing 30 mph speed limit terminal	The proposed junction has been designed in accordance with 85th percentile speeds of 41mph on		

vehicle approach speeds may be high. In addition, development is at the fringes of Eastergate and extended development could effectively change the nature of Fontwell Avenue. As such, a 40mph speed limit may give rise to vehicles approaching the junction at inappropriate speeds, which could lead to overshoot, rear end shunt or side impact type collisions.	should be relocated north of the proposed access	Fontwell Avenue. Whilst it may be beneficial to relocate the 30mph speed limit, this change is not considered necessary to provide a safe and suitable means of access to the proposed development. It should also be taken into account that the nature of Fontwell Avenue would change following the completion of the A29 Realignment Scheme.		
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APPENDIX D: DESIGN ORGANISATION STATEMENT

PROJECT NAME: Stage 1 RSA S278 Works Level Mare lane/Fontwell Avenue, Eastergate.	
On behalf of the Design Organisation I certify that:	
1) The actions identified in response to the problems raised in this RSA have been discussed and agreed with the Overseeing Organisation	
Name	

Signed	
Position	
Organisation	Paul Basham Associates Ltd
Date	

APPENDIX E: OVERSEEING ORGANISATION STATEMENT

PROJECT NAME: Stage 1 S278 Works Level Mare lane/Fontwell Avenue, Eastergate...
On behalf of the Overseeing Organisation I certify that: 1) The actions identified in response to the problems raised in this RSA have been discussed and agreed with the Design Organisation; and 2) The agreed RSA actions will be progressed.

Name	
Signed	
Position	
Organisation	
Date	