



Road Safety Audit Stage 1 & 2

Proposed Section 278 Works

Roundabout for Development Site Access

Imberhorne Lane

East Grinstead

West Sussex

Date: 23rd July 2025

Report produced for: Ardent Consulting Engineers

Report produced by: M & S Traffic

DOCUMENT CONTROL SHEET

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Prepared by:	M & S Traffic
On behalf of:	West Sussex County Council

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CONTENTS

Document Control Sheet	2
Contents	3
1 Introduction	4
2 Safety issues raised at previous Audits	6
3 Items raised at the Stage 1/2 Audit	7
4 Issues identified during the Stage 1/2 Audit that are outside the terms of reference	13
5 Auditors Statement	14

Appendix A..... List of drawings

Appendix B..... Comment Location Drawing

1 INTRODUCTION

- 1.1 This report describes a Stage 1/2 Road Safety Audit carried out on proposed Section 278 works associated with a mixed use development comprising up to 550 dwellings, a care village of up to 150 dwellings, land for a primary school, a mixed use neighbourhood centre, allotments, playing fields, new sports pavilion, and running track associated with Imberhome Secondary School, a Suitable Alternative Natural Greenspace (SANG) with associated car park, access from Imberhome Lane, internal road to the SANG, pedestrian/cycle link from Imberhome Lane and associated landscaping and infrastructure as detailed below:

- New roundabout on Imberhome Lane consisting of 4 arms, two existing main road and two accesses for proposed development.
- Uncontrolled crossing points on each approach arm to the roundabout.
- Areas of existing footway resurfacing.

The Audit was requested by the design organisation, Ardent Consulting Engineers, Third Floor, The Hallmark Building, 52-56 Leadenhall Street, London EC3M 5JE on behalf of West Sussex County Council as the Overseeing Organisation.

- 1.2 The Audit Team membership was as follows:

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

Alex Allen, AMIHE – Audit Team Member
RoSPA Cert. of Professional Competency

- 1.3 The audit was undertaken following the principles of GG119, The Design Manual for Roads and Bridges. The documents available at the time of the report are detailed in Appendix A.
- 1.4 The Audit took place at the Gillingham offices of M&S Traffic during July 2025 and comprised an examination of the documents provided as listed in Appendix A. A joint site visit and inspection was undertaken on the 10th July 2025 between 10:45 and 11:45 hours. Weather conditions at the time were fine and the road surface was dry. Traffic flows were moderate and free flow speeds were moderate to high. Low pedestrian and cycle movements were observed.
- 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 not been informed of any Departures from Standards in this scheme construction.

- 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 ITEMS RAISED BY PREVIOUS AUDITS

- 2.1 No previous safety audits were submitted for assessment.

3 ITEMS RAISED AT THE STAGE 1/2 AUDIT

3.1 General

3.1.1 PROBLEM

Location: Proposed head walls as shown on Appendix B.

Summary: Lack of appropriate protection could lead to severity increase to collisions with head wall.

The proposals indicate the construction of a head wall on the northbound and southeast bound approaches to the roundabout; there is concern that any incident involving the head walls could lead to an increased severity of any collision with this item.

RECOMMENDATION

It is recommended that a Local Road Assessment be undertaken and provided for comment to assess the potential protection requirements of the proposed head walls, should the assessment show that protection is need then appropriate measures should be implemented.

3.1.2 PROBLEM

Location: Approaches to the proposed roundabout.

Summary: Inappropriate surfacing could lead to overshoot collisions or rear end shunt collisions.

The proposals do not include the introduction of anti-skid surfacing or detail the Polished Stone Value (PSV) to be used on the approaches to the roundabout. Surfacing with an insufficient PSV could increase the risk of overshoot or rear end shunt collisions.

RECOMMENDATION

It is recommended high friction surfacing or surfacing with a high PSV be provided on all the approaches to the roundabout.

3.2 Local Alignment

3.2.1 PROBLEM

Location: Eastern side of proposed roundabout.

Summary: Insufficient carriageway clearance could increase the risk of vehicle to pedestrian collisions on the footpath.

The eastern side of the roundabout has a small area of verge separation between the kerb and the existing footpath. With no measurement detail there is concern that this area could be overhung by large vehicles putting them into conflict with pedestrians on the footpath, increasing the risk of vehicle to pedestrian collisions.

RECOMMENDATION

It is recommended that measurements of the verge separation area be provided for comment.

3.2.2 PROBLEM

Location: Northbound and northeast bound approaches to roundabout.

Summary: Lack of forward visibility may increase the risk of junction related or shunt type collisions at the roundabout.

Stopping Sight Distances have been provided for assessment, where there is concern that the forward visibility splays on the northbound and northeast bound approaches to roundabout pass over non-highway land. Vegetation or landscaping in these splays could restrict visibility, where insufficient visibility may increase the risk of junction related or shunt type collisions at the roundabout.

RECOMMENDATION

It is recommended that the forward visibility splay should be within the adoptable highway, or that a suitable covenant should be arranged to ensure that the splay is not obstructed by vegetation.

3.3 Junctions

3.3.1 PROBLEM

Location: Proposed roundabout.

Summary: Low angle of entry may increase the risk of side impact collisions.

The angle of entry was provided for assessment, where for three of the arms, the angle of entry is proposed at greater than sixty degrees. Large entry angles can produce excessive entry deflection

which can lead to sharp braking at entries, accompanied by rear end shunts collisions, especially when approach speeds are high.

RECOMMENDATION

It is recommended that the angle of entry should lie between 20° and 60°.

3.4 Non-Motorised User (NMU) Provision

3.4.1 PROBLEM

Location: Proposed pedestrian crossing points throughout the scheme.

Summary: Lack of pedestrian / traffic intervisibility could lead to vehicle to pedestrian collisions.

Pedestrian / traffic intervisibility splays were not provided for assessment. There is concern that should the splays be obstructed, that insufficient visibility could lead to vehicle to pedestrian collisions. This tailored with the speeds observed on site visit could further escalate any collision potential.

RECOMMENDATION

It is recommended that the intervisibility splays be provided for assessment and that vegetation and street furniture be removed from these splays.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 PROBLEM

Location: Proposed islands at roundabout.

Summary: Lack of appropriate lining could lead to loss of control or impacts with street furniture.

Splitter islands are proposed on entry to the roundabout where the lining is currently shown to terminate in line with the island. This could lead drivers to lack appropriate clearance to the kerb face leading to potential kerb strikes and loss of control collisions or impacts with street furniture.

RECOMMENDATION

It is recommended that islands should have the lining running alongside the kerb with a clearance of 150mm to improve visibility and alignment for approaching vehicles.

3.5.2 PROBLEM

Location: Proposed scheme.

Summary: Insufficient street lighting could lead to vehicle to pedestrian collisions or side impact collisions.

No details of street lighting have been provided for assessment. Insufficient street lighting could compromise road safety and may reduce the visibility of pedestrians during the hours of darkness, with existing lighting on provided on the eastern footpath. This could lead to vehicle to pedestrian collisions or side impact collisions.

RECOMMENDATION

It is recommended that a plan showing the light distribution be provided for assessment.

3.5.3 PROBLEM

Location: Existing horse and cycle signage.

Summary: Loss of existing signage could increase the risk of vehicle to cyclist / equestrian collisions.

There is existing signage to warn of horses and cyclist that is not detailed in the provided proposals, see figure 1 below. If the signage is not retained there is a risk that approaching vehicles may not be expecting cyclist and equestrian users to be crossing the road to access the bridleway and national cycle route, increasing the risk of vehicle to cyclist / equestrian collisions.



Figure 1: Existing signage near proposed roundabout.

RECOMMENDATION

It is recommended that the scheme assess the existing local signage for incorporation into the proposed design and layout and where required new or relocated signs be provided to connect with surrounding hazards of the scheme.

3.5.4 PROBLEM

Location: Approaches to roundabout.

Summary: Insufficient lining could increase the risk of vehicle to pedestrian collisions.

The provided designs show warning diagram 1004 markings approaching the roundabout to be 3 in number at the start of the hatching. This puts the uncontrolled crossing with one lead in mark that could see vehicles approaching at inappropriate speed or undertaking inappropriate manoeuvres on the approach to the roundabout on top of the proposed crossing points, which could increase the risk of vehicle to pedestrian collisions.

RECOMMENDATION

It is recommended that lead in diagram 1004 be extended to promote cautious driving behaviour approaching both the roundabout, uncontrolled crossing points and existing junction of Bluebell Close.

3.5.5 PROBLEM

Location: Approaches to roundabout.

Summary: Lack of appropriate destination signage could lead to rear end shunt or side swipe collisions due to lack decision making.

The designs do not detail any advance directional signage on the approaches to the roundabout. This could lead users of the roundabout to be confused on entry leading to late braking or late exit attempts, putting the users at risk of side swipe or rear end shunt style collisions on the roundabout and its approaches.

RECOMMENDATION

It is recommended that advance directional signage be provided on the approaches to the roundabout.

3.5.6 **PROBLEM**

Location: Proposed roundabout.

Summary: Inappropriate signage could increase the risk of side-swipe collisions or rear end shunts.

No plain faced bollards at the roundabout exits are shown, where insufficient signage could lead to sudden and unexpected manoeuvres or turning movements. This could increase the risk of sideswipe or rear end shunt type collisions.

RECOMMENDATION

It is recommended that a plain faced bollards be provided at the roundabout exits.

4 ISSUES IDENTIFIED DURING THE ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

4.1 Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.

4.2 PROBLEM

Location: Existing uncontrolled drop kerb crossing of Bluebell Close.

Summary: Upstand of drop kerb presents a trip hazard.

The existing drop kerb crossing at the entrance to Bluebell Close has a significant upstand, see figure 2 below that poses a risk to pedestrian as a trip hazard. Additionally, the crossing point is misaligned.



Figure 2: Existing alignment and upstand issues at crossing point.

RECOMMENDATION

It is recommended that the kerbing be flush and that tactile be provided in accordance with Department for Transport guidelines.

5 AUDITOR TEAM STATEMENT

5.1 We certify that this audit has been carried following the principles of GG 119.

Audit Team Leader

Bryan Shawyer
BEng (Hons), MSc, MCIHT, MSoRSA
National Highways Approved RSA Certificate of Competency

Signed:  Date: 23/07/2025

Audit Team Member

Alex Allen, AMIE
RoSPA Cert. of Professional Competency

Signed:  Date: 23/07/2025

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APPENDIX A

List of Drawings and other information submitted for auditing:

Drawing Number	Title
2206781-ACE-XX-00-DR-C-1100 – P4	Section 278 General Arrangement
2206781-ACE-XX-00-DR-C-1101 – P3	Section 278 Arrangement Plan
2206781-ACE-XX-00-DR-C-1110 – P3	Section 278 Site Clearance Plan
2206781-ACE-XX-00-DR-C-1120 – P4	Section 278 Construction Plan
2206781-ACE-XX-00-DR-C-1130 – P3	Section 278 Drainage Layout
2206781-ACE-XX-00-DR-C-1131 – P3	Section 278 Gully Catchment Plan
2206781-ACE-XX-00-DR-C-1140 – P2	Section 278 Construction Details
2206781-ACE-XX-00-DR-C-1150 – P3	Section 278 Highways Longsections – Sheet 1
2206781-ACE-XX-00-DR-C-1151 – P3	Section 278 Highways Longsections – Sheet 2
2206781-ACE-XX-00-DR-C-1152 – P3	Section 278 Highways Longsections – Sheet 3
2206781-ACE-XX-00-DR-C-1160 – P1	Section 278 Geometry Check
2206781-ACE-XX-00-DR-C-1700 – P3	Section 278 Lining and Signage – Sheet 1
2206781-ACE-XX-00-DR-C-1701 – P2	Section 278 Lining and Signage – Sheet 2
2206781-ACE-XX-00-DR-C-1800 – P1	Section 278 CBR Plan
2206781-ACE-XX-00-DR-C-1900 – P1	Section 278 Refuse Vehicle Tracking – Sheet 1
2206781-ACE-XX-00-DR-C-1901 – P1	Section 278 Refuse Vehicle Tracking – Sheet 2
2206781-ACE-XX-00-DR-C-1910 – P1	Section 278 Articulated Vehicle Tracking – Sheet 1
2206781-ACE-XX-00-DR-C-1911 – P1	Section 278 Articulated Vehicle Tracking – Sheet 2

Supporting documentation:

- ARCADY, Ardent Consulting Engineers, June 2023
- Covering emails, Ardent Consulting Engineers

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).

