



**PERSIMMON HOMES THAMES VALLEY
NORTH LITTLEHAMPTON
LYMINSTER BYPASS (SOUTHERN
SECTION)
LITTLEHAMPTON, WEST SUSSEX**

**STAGE 1 - ROAD SAFETY AUDIT 2ND
ADDENDUM**

FEBRUARY 2018



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ADDENDUM**

FEBRUARY 2018

Project Code:	S/PHLYM.1.12ndAD.6a
Prepared by:	Martyn Parr
Approved by:	John Reid
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Status:	FINAL

**Persimmon Homes Thames Valley
North Littlehampton
Lyminster Bypass (Southern Section)
Littlehampton, West Sussex
Stage 1 - Road Safety Audit 2nd Addendum**

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Appendices

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1 Introduction

- 1.1 This report results from a Stage 1 Road Safety Audit 2nd Addendum carried out following instructions from Persimmon Homes at the request of West Sussex County Council, the Overseeing Organisation.
- 1.2 A Stage 1 Road Safety Audit undertaken October 2014 for the A259 Worthing Road and Northern Roundabout junctions, changing the northern junction from a traffic signal junction to a 4-arm roundabout and the A259 roundabout amended to include 3 lane entries.
- 1.3 A Stage 1 Road Safety Audit undertaken October 2015 for the Northern Roundabout junction curtailing the proposed right turn lane at the north end of the Internal Distributor Road (IDR).
- 1.4 The 1st Addendum was carried out on the amended Lyminster Bypass (southern section) proposals following discussions with West Sussex County Council, at the request of WSCC the Overseeing Organisation. The Road Safety Audit 1st Addendum report was carried out in July 2017.
- 1.5 This 2nd Addendum report results from a Stage 1 Road Safety Audit relating to further minor amendments to the highways arrangement, these are detailed in the Audit Brief, provided in **Appendix C** of this report.
- 1.6 The Road Safety Audit Team membership was as follows:
- | | |
|-------------|--|
| Martyn Parr | MSoRSA, RegRSA (IHE), MCIHT, HECoc
Road Safety Manager – Mayer Brown Limited
(Certificate of Competency in Road Safety Audit gained in February 2015) |
| John Reid | MSc, DipHTE, MCIHT, FSoRSA, MITAI, HECoc
Technical Director (Safety) – Mayer Brown Limited
(Certificate of Competency in Road Safety Audit gained in April 2012) |
- 1.7 The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief provided by Mr Adrian Barnley, included as **Appendix C**.

- 1.8 The Design Organisation have been advised that a site inspection is not required on the bypass alignment and the location of the northern roundabout because this is currently a green field site and does not contain any existing roads.
- 1.1 A site visit was conducted by both Road Safety Audit Team Members on 10th July 2017 from 13:00 hrs onwards, during which the weather was fine and the existing road surface was dry. Traffic conditions on Worthing Road were moderate to high and free flowing, Highdown Road they were low and free flowing.
- 1.2 The Audit Team are aware of departures from standard as set out in the Audit Brief provided.
- 1.3 The terms of reference of the Road Safety Audit are as described in HD 19/15, although in this case the members of the Audit Team have not carried out a site inspection. The Road Safety Audit Team 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 designs to any other criteria.
- 1.4 The Audit is concerned only with the new works and their interface with the surrounding highway network.
- 1.5 In outline, the proposals under consideration are to construct a number of major new highway links which will serve to relieve congestion on parts of the existing network and will also provide access to a major residential and commercial development of some 1,800 dwellings a hotel and various business premises on land currently used for commercial horticulture production.
- 1.6 A comprehensive description of the proposed development and highways improvements has been provided by means of an Audit Brief.

1.7 The works which form the subject of this audit report are as shown on Mayer Brown drawings:

A/PHLYM.1/GA-1 Rev P14	General Arrangement Drawing (1 of 2)
A/PHLYM.1/GA-2 Rev P13	General Arrangement Drawing (2 of 2)
A/PHLYM.1/ST-1 Rev P8	Surface Treatment Drawings (1 of 2)
A/PHLYM.1/ST-2 Rev P9	Surface Treatment Drawings (2 of 2)
A/PHLYM.1/VIS-1 Rev P8	Visibility Splay Drawings (1 of 2)
A/PHLYM.1/VIS-2 Rev P9	Visibility Splay Drawings (2 of 2)
A/PHLYM.1/TR-1 Rev P6	Tree Removal Drawings (1 of 2)
A/PHLYM.1/TR-2 Rev P6	Tree Removal Drawings (2 of 2)
A/PHLYM.1/TK-1 Rev P7	Anticipated Swept Paths Drawing
SLB1 Rev C	North Littlehampton: Southern Lyminster Bypass Landscape Proposals 1 of 2
SLB2 Rev C	North Littlehampton: Southern Lyminster Bypass Landscape Proposals 2 of 2

For ease of reference, reduced scale copies of the drawings listed above are given as **Appendix B** to this report.

1.8 Whilst recommendations have been made within this report, there may be equally satisfactory alternatives. The Audit Team will be pleased to consider alternatives if required.

2 Items Raised at Previous Stage 1 Road Safety Audit(s)

- 2.1 The road safety aspects of the proposed Lyminster Bypass (southern section) were the subject of comment in the following documents:
- Stage 1 Road Safety Audit - September 2011
 - Stage 1 Road Safety Audit - October 2014.
 - Stage 1 Road Safety Audit - October 2015
 - Stage 1 Road Safety Audit Addendum - July 2017
- 2.2 The following items 3.3 – 3.6 raised during the previous Stage 1 Road Safety Audits are considered to remain a problem, or partly a problem, and are referred to again in this Stage 1 Road Safety Audit 2nd Addendum.
- 2.3 The authors of this report are satisfied that all other issues raised in the previous Stage 1 Road Safety Audits have been resolved, either by means of adopting the recommendation made in the Stage 1 Audit(s) or by proposing a satisfactory alternative solution.

3 Items Raised at the Stage 1 Road Safety Audit 2nd Addendum

Matters Arising From This Audit

Departures from Standards

- 3.1 The previous Audit Brief(s) provided to the Auditors identifies two relaxations and six Departures from standards. The auditors have considered these together with the Designer's supporting comments. The Auditors are satisfied that no material increase in risk to road users will arise as a result of the proposed Relaxations and Departures.
- 3.2 The Audit Brief (for this 2nd Addendum report) provided to the Auditors identifies one further Departure from standard from those highlighted in the previous Audit Brief(s). The Auditors have considered these together with the Design Team's supporting comments, and are satisfied that no material increase in risk to road users will arise as a result of this Departures.

Remaining Issues from previous Stage 1 Road Safety Audits

3.3 Problem

Location: General.

Summary: Proposed signage

This matter can be dealt with at the detailed design stage.

It will be important that the new highway network is clearly signed throughout.

Stage 1 - 2nd Addendum comment:

- i. There appears to be insufficient signage provided on the bypass on each approach to the proposed roundabout junctions.
- ii. Whilst map-type signs are generally detailed on approaches to the roundabout junctions, there are no map-type signs detailed on the new bypass.
- iii. Visibility to proposed road signs (bypass) has not been shown at this stage.
- iv. Whilst details of sign types, dimensions and locations have been generally detailed. Sign posts should not be located where they will cause an obstruction/hazard to pedestrians/cyclists. For example, one of the two posts

supporting the map-type sign on the eastbound approach to the A259 Worthing Road roundabout junction is located in the centre of the footway.

Recommendation

- i) Provide signing on each approach to new and modified junctions.
- ii) Map-type signs will be required at roundabout junctions.
- iii) Ensure adequate forward visibility to signs, and ensure adequate clearance between sign face and carriageway.
- iv) Where appropriate ensure adequate clearance for pedestrians and cyclists beneath sign face.
- v) ~~Provide maximum speed limit signs at all changes of speed restriction.~~ This no longer remains relevant as maximum speed limit signs are provided at all changes of speed restriction

A259 Worthing Roundabout

3.4 Problem

Location: Fitzalan Link / Worthing Road Roundabout.

Summary: Confusion / conflict on the circulatory carriageway

There are three-lane approaches on the eastern and western arms of the roundabout, with only two-lanes (or exit width sufficient for two lanes of vehicular traffic) being provided on the four exit arms, this could therefore lead to potential conflict within the circulatory carriageway, potentially resulting in sharp braking or side swipe collisions.

Recommendation

Provide lane destination guidance on all approaches and provide appropriate demarcation and merge arrows on all exit arms.

Northern Roundabout

3.5 Problem

Location: Exit arms

Summary: Confusion / conflict on the circulatory carriageway and/or exit arms

There are two-lane approaches on all entry arms (apart from the east approach which consists of one lane) and one-lane on all exit arms of this roundabout.

Whilst the Auditors acknowledge that the proposed width of the exit arms is sufficient to accommodate two cars, without appropriate lane demarcation indicating a two-lane exit it could result in conflict within the circulatory carriageway, late braking and/or side swipe collisions.

Recommendation

Provide appropriate demarcation and merge arrows on all exit arms.

Bypass

3.6 Problem

Location: Elevated bypass

Summary: Restraint barriers - embankment

The proposals as shown include a bridge over an existing road and railway.

Recommendation

- i) Provide vehicle restraint barriers and pedestrian fencing as required.
- ii) Ensure that adequate embankment width is provided as required for the provision of barriers or fencing.

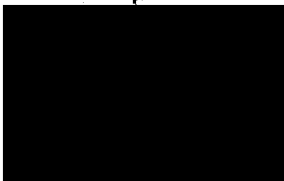
4 Audit Team Statement

4.0 AUDIT TEAM STATEMENT

We certify that this Road Safety Audit has been carried out as described in HD 19/15, with the exception that no site visit was carried out on the bypass alignment and the location of the northern roundabout because this currently consists of greenfield and does not contain any existing roads.

ROAD SAFETY AUDIT TEAM LEADER

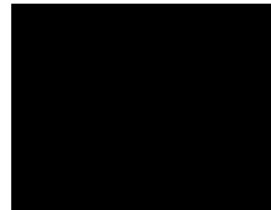
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GU22 8AR

Signed 

Date 07/02/18

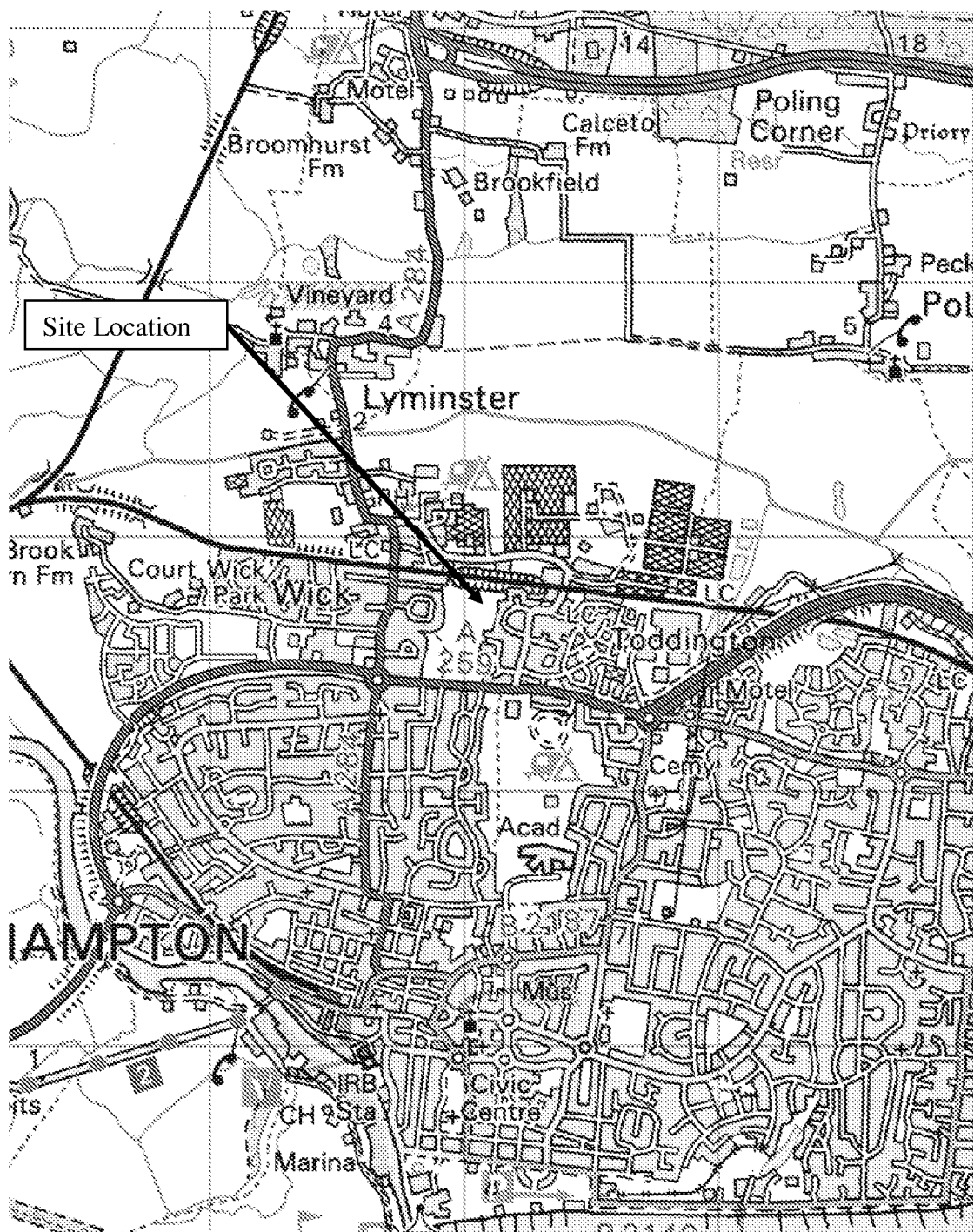
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GU22 8AR

Signed 

Date 07/02/18

APPENDIX A: Site Location Plan



APPENDIX B: Reference Plans

APPENDIX C: Audit Brief

