



**Hartcliff Road, Penistone
Proposed Residential Development
Designers Response to Stage 1 Road Safety
Audit for the Proposed Highway Works
At Hartcliff Road/Chapel Lane**

August 2014 (Initial Issue)

Contents

1	Introduction	1
2	Items Raised In Stage 1 Road Safety Audit.....	2

Appendices

Appendix A	Stage 1 Road Safety Audit
Appendix B	Optima Drawing 12006-ATR-05 Rev B

1 INTRODUCTION

- 1.1 This report describes the designer's responses to the problems and recommendations identified within a Stage One Road Safety Audit associated with proposed highway works for a residential development off Hartcliff Road, Penistone.
- 1.2 The Stage 1 Road Safety Audit prepared by HY Consulting is attached to this Designers Response in Appendix A.
- 1.3 The following (in red) are the designer's responses to the comments of the Audit Team.



2 ITEMS RAISED IN STAGE 1 ROAD SAFETY AUDIT

A1 General

A1.4 **Problem: Drainage**

Location: Hartcliff Road and Chapel Lane– proposed build outs

Summary: *The proposed build outs to accommodate the signal heads obstruct the free passage of surface water to the adjacent gullies which could result in ponding.*

In order to accommodate the new primary signal heads it is proposed to locate them adjacent to build outs in the existing kerb line to protect them from accidental vehicle collision. It is unclear from the information provided to the Audit Team as to how surface water will be able to flow past these features and allow the carriageway to drain properly.

Failure to provide adequate drainage to lead to localised ponding and so potential loss of control type incidents particularly in rainy or icy weather.

Recommendation

The Design Team shall determine whether surface water will be able to drain past the build outs without ponding and if not new road gullies shall be provided.

Designers Response

Appropriate drainage will be considered at the Detailed Design Stage.

A1.5 **Problem: Landscaping**

Location: Hartcliff Road – bend to west of proposed works

Summary: *The presence of vegetation will obscure visibility of proposed signals and queuing traffic.*

The Audit Team noted that alignment of Hartcliff Road approaching the proposed signals will result in the vegetation in the southern verge obscuring the required forward visibility afforded to drivers of the traffic signal heads and potentially of any queuing traffic.





Failure to provide adequate forward visibility of a stationary vehicle / traffic signal heads could result in shunt type incidents.

Recommendation

The Highway Authority should be asked to serve notice on the owner of the vegetation to arrange for it to be cut back / removed as necessary.

Designers Response

Noted. The Highway Authority will be supplied with a copy of the Safety Audit and Designers response and are requested to take appropriate action.



A3 Junctions

A3.1.1 **Problem: Layout**

Location: Hartcliff Road – approach to proposed works

Summary: *Existing road surface is in poor state of repair and may lead to skidding / shunt type incidents.*

The Audit Team noted that the carriageway surface on Hartcliff Road on the approach to the proposed signals is in a poor state of repair and is badly potholed in places. The introduction of the signals will tend to concentrate where drivers will brake to a halt leading to further deterioration of the road surface. The narrow width of Hartcliff Road may also result in some braking taking place over the centre line of the road.





Failure to provide adequate skid resistance on the approach to a potential hazard could lead to increased braking, skidding and shunt type incidents.

Recommendation

The carriageway of Hartcliff Road shall be resurfaced over its full width for at least 50m from the proposed stop line using high PSV chippings / materials as appropriate / approved by the Highway Authority.

Designers Response

High friction surfacing will be provided, the full extent of which will be considered at the Detailed Design Stage.

A3.1.2

Problem: Layout

Location: Chapel Lane – proposed build out

Summary: *The proposed build out is close to a private drive serving several properties. Vehicles using this drive may be obstructed by the new feature and mount the footway placing pedestrians at risk.*

The proposed build out on the Chapel Lane approach to the signals is located almost opposite a private drive serving several residential properties. Whilst some vehicle



swept path information was provided to the Audit Team for a vehicle turning left in to the drive this appears to be very tight with no margin for driver error and there was no swept path shown for a vehicle turning right out of the drive. It is therefore unclear whether a vehicle will be able to turn left in to or right out of the drive without either over running the northern footway or mounting the build out and be in conflict with pedestrians and the new signal equipment placed in these areas.



Recommendation

The Design Team shall carry out swept path analyses to demonstrate how the vehicles anticipated to use the private drive will be able to do so without over running existing or proposed footway / build out areas or colliding with signal equipment.

Designers Response

Drawing 12006-ATR-05 Rev B attached in Appendix B illustrates a swept path analysis including all manoeuvres. The swept path analysis confirms that the largest expected vehicle (car and caravan) can be accommodated accessing and egressing the private residential dwellings. Notwithstanding this it should be noted that the vast majority



of traffic utilising these access points will be a private cars routing via Mortimer Road which can comfortably be accommodated.



A5 Road Signs, Carriageway Markings And Lighting

A5.1.1 **Problem: Signs**

Location: Approaches to proposed signals

Summary: *The proposed warning sign scheme is insufficient and confusing.*

The proposals include for the placement of warning signs advising of no kerbed footway ahead on each approach. The Audit Team assume the sign would be to Diagram 544.1 with perhaps the supplementary plate to Diagram 547.3.

The drawings provided to the Audit Team show these signs located on the poles for the primary traffic signal heads. As the footway provision ends some distance prior to these points and that the signs should be located in advance of the hazard their location provides inadequate warning of the potential for pedestrians to be walking in the carriageway and could lead to collisions with the same.

There is an existing sign to Diagram 513 located on Chapel Lane in a poor state of repair and would appear to be handed incorrectly. There is no similar sign on the Hartcliff Road approach.



Failure to adequately sign a hazard such as an “S” bend could lead to loss of control type incidents.



Recommendation:

The details and locations of the proposed signs should be made clearer on the drawings and be located at least 35m in advance of the end of the footway provision. The sign to Diagram 513 on Chapel Lane should be replaced (and corrected as necessary) and a new one provided on Hartcliff Road.

Designers Response

Appropriate signage will be included at the Detailed Design Stage. The Highway Authority will be furnished with a copy of the Safety Audit informing them of the existing signage issue.

A5.1.2**Problem: Signs****Location: Hartcliff Road Approach to proposed signals**

Summary: *The presence of vegetation will obscure visibility of proposed signals and queuing traffic.*

As mention at A1.5 above the Audit Team noted that alignment of Hartcliff Road approaching the proposed signals will result in the vegetation in the southern verge obscuring the required forward visibility afforded to drivers of the traffic signal heads and potentially of any queuing traffic. Whilst the recommendation to remove the offending vegetation may provide a short term solution it may prove to be an ongoing maintenance problem in the future.

Failure to provide adequate forward visibility of a stationary vehicle / traffic signal heads could result in shunt type incidents.

Recommendation:

A warning sign to Diagram 543 shall be provided on the Hartcliff Road approach to the new signals.

Designers Response

Appropriate signage will be included at the Detailed Design Stage.



A5.1.3**Problem: Signs****Location: Approaches to proposed signals**

Summary: *The proposed works will be an unexpected feature for some time post construction.*

The proposed highway works will create a new road layout which will be unfamiliar to motorists using Hartcliff Road / Chapel Lane.

Recommendation:

Temporary signs to Diagram 7014 (New traffic signals) shall be provided on each approach on Hartcliff Road / Chapel Lane for a period of three months after completion of the road works.

Designers Response

Appropriate signage will be included at the Detailed Design Stage.

A5.3**Problem: Traffic Signal Equipment****Location: Hartcliff Road and Chapel Lane**

Summary: *The proposed traffic signal equipment on the poles will require maintenance which places operatives working at height in potential danger. No location for the controller is shown on the drawings.*

The Audit Team note the discussions with Council Officers regarding the maintenance of the traffic signal equipment and particularly for operatives working at height (changing / replacing bulbs for example). Whilst the build outs do offer some protection the Audit Team considers that further measures could be introduced to minimise the risk to operatives and road users.

None of the drawings provided to the Audit Team indicate the proposed location for the traffic signal controller. A suitable location to allow safe access to the equipment should be determined and agreed with the Highway Authority.



Recommendation:

All signal poles shall be of the low level access pole variety to allow connection of equipment at ground level. Use shall be made of LED signal heads to reduce the need to replace them. A suitable location to allow safe access to the traffic signal controller should be determined and agreed with the Highway Authority.

Designers Response

Agreed. Several suitable locations have been identified previously. The precise location will be agreed with the signals engineer at the Detailed Design Stage.



Appendix A Stage 1 Road Safety Audit



TRANSPORT ASSESSMENT
TRAVEL PLAN
TRANSPORT STATEMENT
ROAD SAFETY AUDIT – STAGE 1
HIGHWAY STATEMENT
TRAFFIC SURVEY



PROPOSED HIGHWAY WORKS
FOR DEVELOPMENT AT HARTCLIFF ROAD / CHAPEL LANE, PENISTONE
14088 / August 2014

**HY
CONSULTING**



**PROPOSED HIGHWAY WORKS
FOR DEVELOPMENT AT HARTCLIFF ROAD / CHAPEL LANE,
PENISTONE**

STAGE 1 ROAD SAFETY AUDIT

14088 / August 2014

CONTENTS

1	INTRODUCTION	1
2	ITEMS RAISED IN STAGE 1 ROAD SAFETY AUDIT	3
3	AUDIT TEAM STATEMENT	11

APPENDICES

Appendix A	Proposed Highway Works and Location References
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1 INTRODUCTION

- 1.1 HY Consulting Ltd has been appointed to carry out a Stage 1 Road Safety Audit of the proposed highways works associated with a residential development on land at Hartcliff Road and Chapel Lane in Penistone near Barnsley.
- 1.2 The Audit Team Membership is given in Section 3 of this report. This Audit was undertaken in accordance with HD 19/03. A site visit was carried out on the 7th August 2014. The weather during the site visit was dry and sunny with broken cloud. The plans were discussed at the site meeting and were analysed in more detail at the offices of HY Consulting.
- 1.3 The scope of the Road Safety Audit is to assess the proposed access and highway works based upon the drawings 12006 - GA / 05 Rev D, 06 Rev C and a Transport Assessment and various other technical documents prepared by Optima Highway Consultants Ltd and exchanges of correspondence with Barnsley Council Highways Officers. The proposals include the introduction of a traffic signal controlled priority system on the "S" bend between Hartcliff Road and Chapel Lane and modifications to the existing lining and signing.
- 1.4 The site layout plan showing the site in relation to the local highway network, and problem location references is included at Appendix A.
- 1.5 The terms of reference of the audit are as described in HD 19/03 'Road Safety Audit' that forms part of Volume 5 of the Design Manual for Roads and Bridges. The 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.

- 1.6 The problems identified have been referenced to the Stage 1 checklist contained within Annex A of HD19/03. For instance a problem identified under List A1: General, Item – Lay-bys will be referenced A1.7.1 where A1 refers to the particular list, 7 refers to the seventh item in List 1 ie. Lay-bys and the second 1 refers to the problem number. Therefore if a second problem has been identified under the same list and item this will be numbered A1.7.2.
- 1.7 The audit considers and reports on the safety implications of the proposed works identified within paragraph 1.3. The Audit Team have considered all factors prevalent to managing risk prior to determining likely road safety problems, including on site conditions such as traffic volumes, site location, and the likelihood of a collision occurring. Recommendations are made in this report regarding problems that are considered to be worthy of attention in respect of safety. The Audit Team has not been made aware of any departures from standards.
- 1.8 At the time of writing this report it is understood that the planning application for the development proposals for which the highway works are required is yet to be determined. However detailed discussions regarding the proposals have taken place with Officers of the Council.

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Failure to provide adequate drainage to lead to localised ponding and so potential loss of control type incidents particularly in rainy or icy weather.

Recommendation

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Failure to provide adequate forward visibility of a stationary vehicle / traffic signal heads could result in shunt type incidents.

Recommendation

The Highway Authority should be asked to serve notice on the owner of the vegetation to arrange for it to be cut back / removed as necessary.

A3 **Junctions**

A3.1.1 **Problem: Layout**

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Recommendation

The Design Team shall carry out further swept path analyses to demonstrate how the vehicles anticipated to use the private drive will be able to do so without over running existing or proposed footway / build out areas or colliding with signal equipment.

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3 AUDIT TEAM STATEMENT

3.1 I certify that this Audit has been carried out in accordance with HD 19/03.

AUDIT TEAM LEADER
Eric Appleton BEng DMS CEng MICE MCIHT
Associate Director
HY Consulting
Unit 2 The Office Campus
Paragon Business Village
Red Hall Court
Wakefield WF1 2UY



Signed.....
Date..... 12th August 2014

AUDIT TEAM MEMBER
Louise Hewlett MEng MIHE
Principal Engineer (Signals)
HY Consulting
Unit 2 The Office Campus
Paragon Business Village
Red Hall Court
Wakefield WF1 2UY

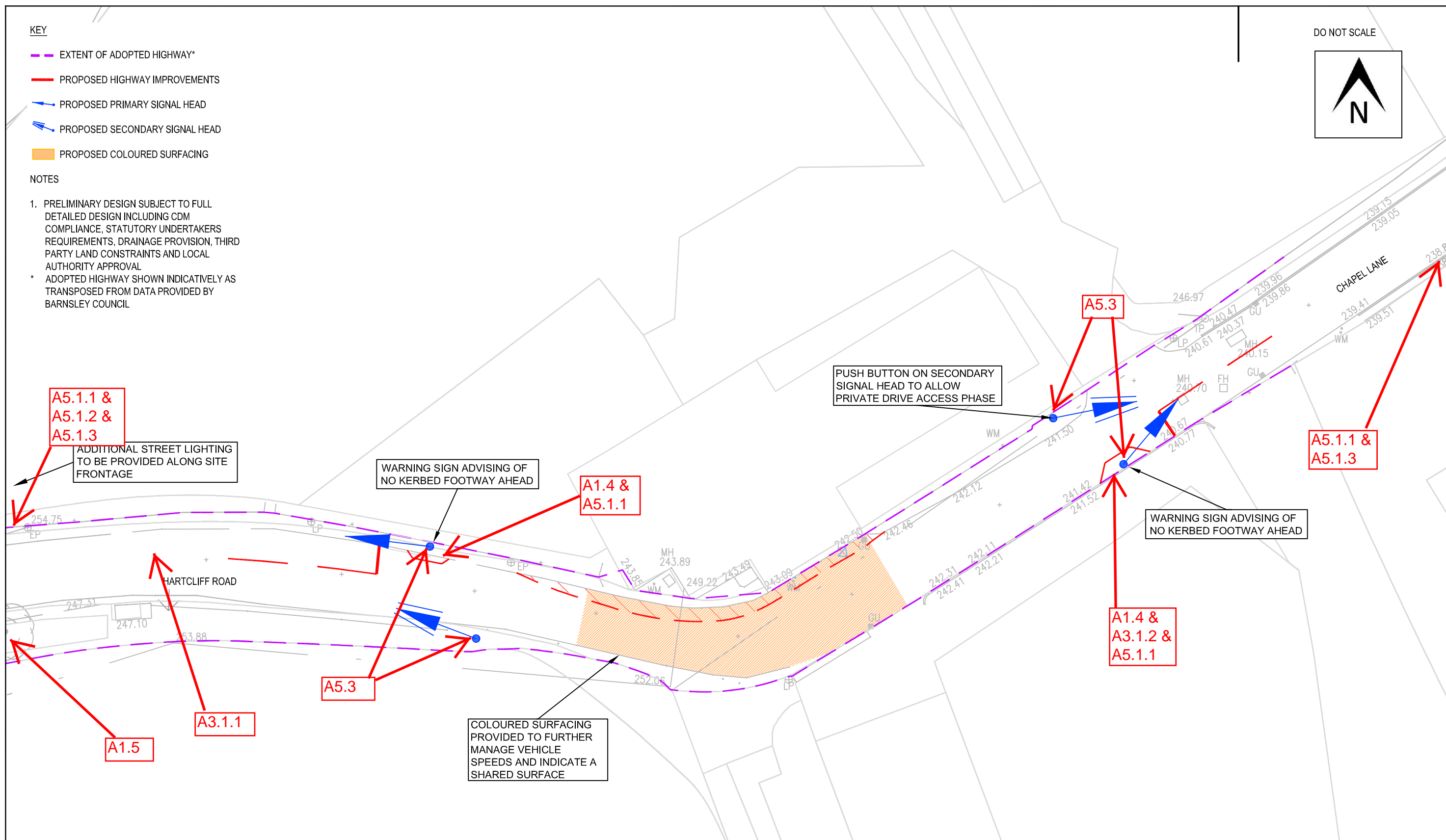
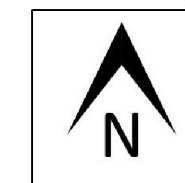
KEY

- EXTENT OF ADOPTED HIGHWAY*
- PROPOSED HIGHWAY IMPROVEMENTS
- ▶ PROPOSED PRIMARY SIGNAL HEAD
- ◀ PROPOSED SECONDARY SIGNAL HEAD
- PROPOSED COLOURED SURFACING

NOTES

1. PRELIMINARY DESIGN SUBJECT TO FULL DETAILED DESIGN INCLUDING CDM COMPLIANCE, STATUTORY UNDERTAKERS REQUIREMENTS, DRAINAGE PROVISION, THIRD PARTY LAND CONSTRAINTS AND LOCAL AUTHORITY APPROVAL
- * ADOPTED HIGHWAY SHOWN INDICATIVELY AS TRANPOSED FROM DATA PROVIDED BY BARNSELY COUNCIL

DO NOT SCALE



C	26/06/14	SJP	CHANGES FOLLOWING BMBC COMMITTEE OF 19/6/14	PMO	PMO	PROJECT HARTCLIFF ROAD, PENISTONE	CLIENT PERSIMMON HOMES			
B	03/06/14	SJP	MINOR WHITE LINING/SIGNAL PROTECTION CHANGES FOLLOWING BMBC MEETING OF 3/6/14	PMO	PMO		DRAWING TITLE POTENTIAL HARTCLIFF ROAD/CHAPEL LANE SIGNALISED HIGHWAY IMPROVEMENTS (EXTRACT OF GA-05)	CHECKED PMO	APPROVED PMO	DRG No. 12006-GA-06
A	18/02/14	SJP	INITIAL ISSUE	PMO	PMO	DRAWN BY: SJP		SCALE @ A3 1:250	DATE FEBRUARY 2014	REV. C
REV	DATE	BY	DESCRIPTION	CHK	APP	STATUS PRELIMINARY				

Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
T 0113 245 1679 F 0113 245 9042

Appendix B

Optima Drawing 12006-ATR-05 Rev B



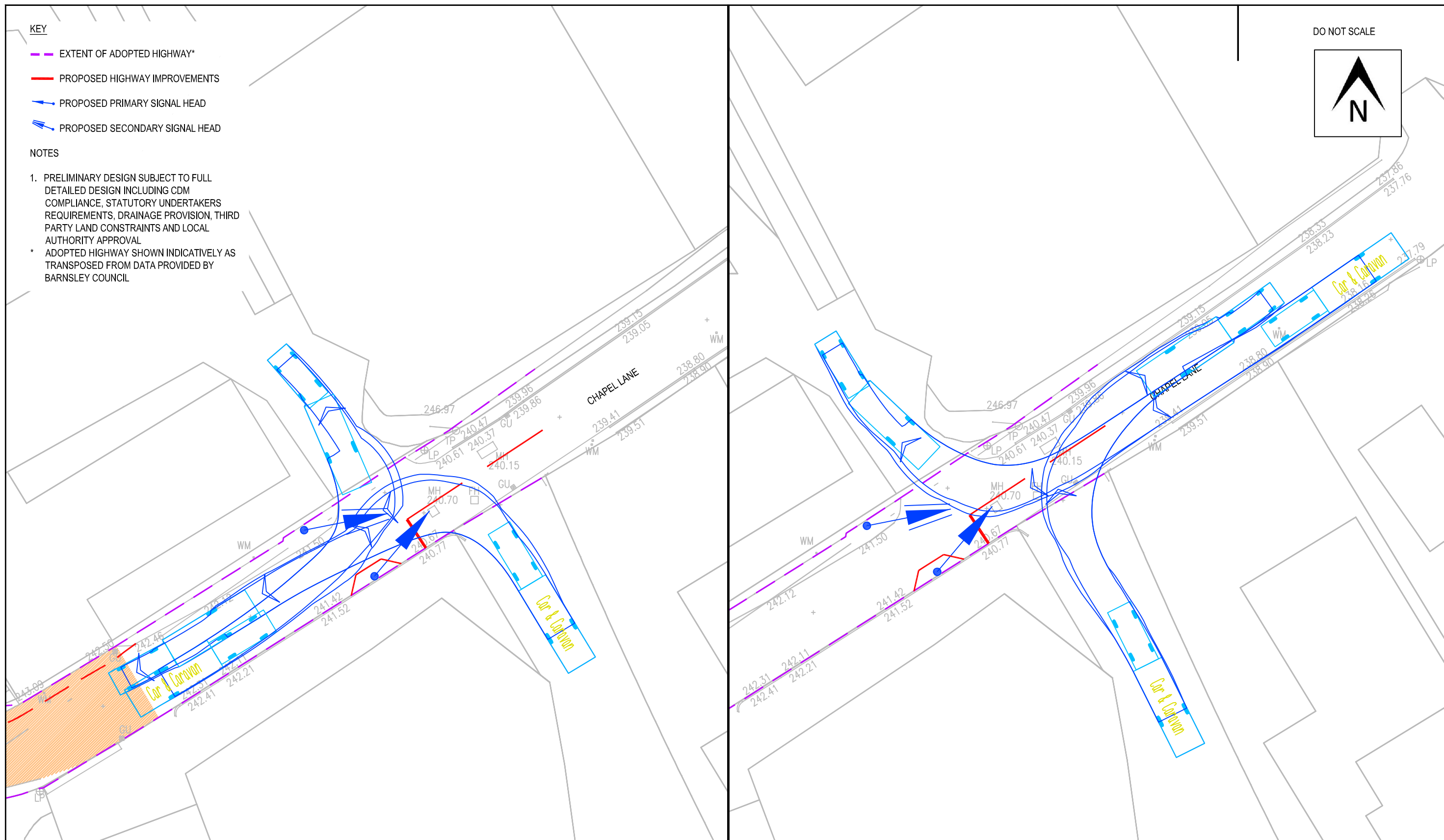
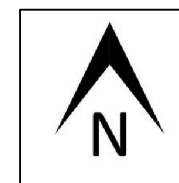
KEY

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NOTES

1. PRELIMINARY DESIGN SUBJECT TO FULL DETAILED DESIGN INCLUDING CDM COMPLIANCE, STATUTORY UNDERTAKERS REQUIREMENTS, DRAINAGE PROVISION, THIRD PARTY LAND CONSTRAINTS AND LOCAL AUTHORITY APPROVAL
- * ADOPTED HIGHWAY SHOWN INDICATIVELY AS TRANSPPOSED FROM DATA PROVIDED BY BARNSELY COUNCIL

DO NOT SCALE



REV	DATE	BY	DESCRIPTION	CHK	APP
B	13/08/14	TP	ADDITIONAL SWEEP PATHS	SJP	PMO
A	29/04/14	SJP	INITIAL ISSUE	PMO	PMO
STATUS: PRELIMINARY					

PROJECT	HARTCLIFF ROAD, PENISTONE
DRAWING TITLE	HARTCLIFF ROAD/CHAPEL LANE SIGNALISED HIGHWAY IMPROVEMENTS VEHICULAR TRACKING ANALYSIS (EXTRACT OF GA-05 Rev D)

CLIENT	PERSIMMON HOMES			
CHECKED	APPROVED	DRG No.		
PMO	PMO	12006-ATR-05		
DRAWN BY:	SCALE @ A3	DATE	REV.	
SJP	1:250	APRIL 2014	B	

Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
T 0113 245 1679 F 0113 245 9042