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A5 Chalk Hill NMU Crossing Improvement Study

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The statistical collision data referred to in this document was not derived from the National validated collision statistics but was sourced from HA local partner datasets. As this data has not been validated by DfT it cannot be assumed to be a complete data set as it may be found to be incomplete or contain inaccuracies. The requirement for up to date information for operational purposes was a consideration in the decision to use this data.

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CONTENTS	
SECTION	PAGE NO.

	EXECUTIVE SUMMARY	6
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1.	INTRODUCTION AND SCOPE OF REPORT	7
1.1	Site Location and Description	7
1.2	Background	8
1.3	Details of Study Brief	8
1.4	Aim of Study	9
2.	EXISTING ROAD LAYOUT AND NMU FACILITIES	10
2.1	Existing Road layout	10
2.2	Existing NMU Facilities	10
2.3	Existing Traffic Flows	11
2.4	Existing Pedestrian Flows	11
2.5	Collision Records	11
2.6	Statutory Undertakers Plant Details	12
2.7	Developer Proposals	12
3.	CONSULTATION	12
3.1	Central Bedfordshire Council Rights of Way	12
3.2	HAIL Correspondence	12
3.3	Other Correspondence	12
4.	NMU CROSSING IMPROVEMENT OPTIONS	13
4.1	Introduction	13
4.2	Options Evaluated	13
4.3	Design Standards	15
4.4	Buildability	16
4.5	Feasibility Road Safety Audit	16
4.6	NMU Context Report	16
4.7	Projected Collision Savings	16
4.8	Cost Estimates	16
5.	CONCLUSIONS	17
6.	RECOMMENDATIONS	17



SECTION	PAGE NO.
Appendix A – Rights of Way Plan Drg No. 4706667/ S4354/I/ 001	18
Appendix B – Site Photographs	19
Appendix C – Collision Details	20
Appendix D - Collision Location Plan	21
Appendix E – Statutory Undertakers Details	22
Appendix F – HAIL Correspondence	23
Appendix G – Feasibility Road Safety Audit	24
Appendix H – Non Motorised Users Audit	25
Appendix I – Improvement Option 2c Drg No. 4706667/ S4354/I/ 002	26



# **Executive Summary**

URS was commissioned by CarillionWSP (the Area 8 MAC) to undertake a study assessing the need and possible options for improvements to the NMU crossing adjacent to the Icknield Way of the A5 Chalk Hill near Dunstable, on behalf of the Highways Agency.

The following report details the findings of the assessment carried out and provides conclusions on the preferred option with recommendations for further work needed to progress an improvement scheme to upgrade the existing NMU facilities adjacent to the Icknield Way.

The Icknield Way and Chiltern Way footpaths approach the A5 from the east and west and provide a public right of way. Currently steps are provided on the trunk road cutting slopes but at the top of the embankment on the west side of the A5 an existing safety fence hinders progress for pedestrians. A wooden stile has been constructed over the safety fence but its proximity to the edge of the carriageway makes it unsuitable to use. The stile does not conform to current highway standards.

An existing uncontrolled crossing facility is provided to the south of the stile location but this cannot be reached from the western side of the A5. The petrol filling station in close proximity to the stile has raised concerns over the use of the forecourt by pedestrians and an ownership issue is still under consideration at the time of writing of this report.

Options have been considered that involve modifying the safety fence layout to create a gap for NMU's. The existing width at the top of the embankment reduces the options available and the cost of modifying the embankment has been considered to be prohibitively expensive.

The option that reduces the carriageway width by 0.6m has been found to provide sufficient width for a gap to be provided in the safety fence that follows the same design for a gap for an emergency telephone access. The existing island to the north of the stile location would need to be modified to enable pedestrian usage.

The A5 in this location is due to be de-trunked in 2015-16 and it is recommended that this option is shared with Central Bedfordshire Council as an option to consider to resolve the current provision of the stile.



# 1.0 INTRODUCTION AND SCOPE OF REPORT

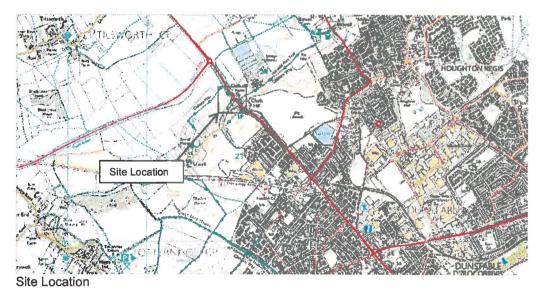
# 1.1 Site Location and Description

The A5 Trunk Road provides a north-south link from the M1 at Junction 9 in Hertfordshire through Dunstable Town, in Bedfordshire to Milton Keynes, before continuing further north beyond the limits of the Area 8 Maintaining Agent Contract area to Dow Bridge (south of Rugby) in Warwickshire. The hamlet of Chalk Hill in Bedfordshire lies to the north of Dunstable and south of Milton Keynes. A site location plan below indicates the site location.

The A5 is a single carriageway road of approximately 9.3m in width. A number of right turn lanes are provided for the local side roads and the Chalk Hill Garage. The speed limit is 40mph and just beyond the start of the speed limit the carriageway narrows to provide the right turn lanes. A splitter island is provided at the start of the speed limit to the north of Chalk Hill but it has no pedestrian facilities and an uncontrolled crossing point island is located just prior to the existing southbound bus layby.

On the eastern side of the A5 a footway exists of a nominal width of 1.2m. The footway runs from the roundabout with the A505 to the north and south beyond the junction with Sewell Lane.

To the north of the Chalk Hill two off road footpaths converge; One of which is the Icknield Way, and the other is the Chiltern Way. Icknield Way is a public right of way (see Appendix A). Wooden steps are provided on western verge but an existing road restraint system inhibits the crossing point. An unauthorised wooden stile has been constructed over the road restraint system at this location but its location does not afford a place for pedestrians to wait safely when seeking to cross the road.





# 1.2 Background

The NMU crossing at Chalk Hill on the A5 Watling Street appears in the Highways Agency's current published list of the Non Motorised User Crossings Improvement Programme.

The existing facility is identified as site 241 on the HA's NMU published list, but the existing layout of the crossing point at a public right of way present a number of difficulties for NMU's. A stile exists over the safety barrier approximately 50m to the south of the Chalk Hill garage.

HAIL 13270780 was received in February 2012 concerning lcknield Way long distance path and the Chiltern Way crossing of the A5. This was discussed briefly at the LNMS studies meeting on the 21<sup>st</sup> February 2012 and reviewed on the A5 RID on 12<sup>th</sup> March 2012. An earlier study for this location was postponed by the HA as it was awaiting the resolution of Chalk Hill garage boundary issues. It is currently understood that the owner is now looking to resolve the issues prior to marketing the property.

# 1.3 Study Brief

The brief, in the form of Non-Seconded Work Briefs (Works Order No. S04354) was issued on the 9<sup>th</sup> April 2013.

Following a start-up meeting on 10<sup>th</sup> June 2013 with the Highways Agency Asset Development Manager, it was agreed that this study should include: -

- Hold start up meeting with HA Project Sponsor.
- Undertake NMU counts to identify users types, origin/ destination and volumes over a week via video survey.
- Consider improvement options and rationalisation of the Icknield Way and Chiltern Way crossing the A5 to include:
  - Crossing the A5 at the central island to the north which would need a stagger in the verge barrier to replace the stile.
  - Divert footway along bottom of embankment and cross at roundabout to the north
  - Run footway behind barrier to garage forecourt and then cross the A5 at existing island to the south of the garage.
  - Issues identified in the HAIL's if appropriate.
- Liaise with Central Bedfordshire Council's Rights of Way team
- Determine if crossing should be upgraded and what is the most appropriate
  facility for all NMUs to comply with DDA where practicable.
- Hold Point to discuss options for improvement with HA.
- Determine NMU collisions.
- Undertake feasibility RSA and NMU context report.



- Check statutory undertakers plant.
- Determine any likely departures from standard.
- Prepare Stage 1 estimate.
- Prepare study report.
- Issue draft report to HA for comment.
- Update report in line with HA comments and issue final report to HA.

A hold point meeting was held on the 24<sup>th</sup> September 2013 with the Asset Development Manager where the progress was discussed and an outline of the options considered.

The A5 is proposed to be de-trunked in 2015-16 following the opening of the A5 - M1 Link road and the road will subsequently be managed by Central Bedfordshire Council. The report was agreed to be submitted to Central Bedfordshire Council for their consideration.

# 1.4 Aim of Study

The aim of the study is to consider and investigate the options for improvements to the NMU crossing at Chalk Hill that will overcome the difficulties presented by the existing safety barrier and remove the need to use the stile.

As the A5 is due to be de-trunked in 2015-16 the study should propose improvements that can be considered by Central Bedfordshire Council on adoption of the A5.



# 2.0 EXISTING ROAD LAYOUT

# 2.1 Existing Road Layout

The A5 trunk road is on an embankment from the roundabout with the A505 up to Sewell Lane. Visibility for drivers is good with visibility in excess of 400m. These distances are acceptable for an assumed 85<sup>th</sup> percentile speed of 40mph. Visibility of approaching vehicles for NMUs waiting to cross the trunk road is good in both directions. The A5 is lit by a system of lighting columns that extends south from the roundabout with the A505.

The road markings consist of a hatched central area with red surface dressing in the north that commences near to the reduction in speed limit from 60 to 40mph. A central splitter island is present at this location but it is not configured with dropped kerbs for pedestrian access. After approximately 50m the central hatched area is modified to become a right turn lane for the Chalk Hill garage facility. An uncontrolled crossing island is present at the end of the right turn lane just prior to the southbound bus layby. The central hatched area continues to the north where further right turn lanes are provided for Puddle Lane and Sewell Lane. An edge of carriageway marking is also present throughout this section of the A5.

The existing road restraint system on the eastern verge is located 0.6m from the kerb face and this complies with current standards. It is also positioned 1.8m from the top of the embankment and this also complies with current standards. The distance from the kerb face to the top of the embankment is 2.4m.

On the western verge the road restraint system is located at the back of the footway and at the top of the existing embankment. It does not comply with existing standards.

There are no pedestrian crossing warning signs located in this section of the A5.

# 2.2 Existing NMU Facilities

On the eastern side of the A5 a footway exists of a nominal width of 1.2m. The footway runs from the roundabout with the A505 to the north and south beyond the junction with Sewell Lane. An uncontrolled crossing location is provided to the south just prior to the bus layby, and a splitter island is provided at the start of the right turn lane for the Chalk Hill Garage.

Current users of the Icknield Way and Chiltern Way use existing steps on the western verge to climb an embankment. They then negotiate the existing road restraint system, potentially using the unauthorised wooden stile that has been placed over an open box beam safety fence on the verge. Upon crossing the A5 at this point the route continues along the footway on the A5 south to a point just prior to a bus layby, where the route heads down an embankment via existing steps and onto an unmade footpath.

At the stile, an existing automated traffic counter feeder pillar is present along with a photoelectric power supply. Lighting columns are also present behind the safety fence.



At the base of the embankment on the north eastern side an existing bridleway is provided that links up with the Icknield and Chiltern Way to the south and heads eastward across an open arable field to link up with the Chiltern Way.

An alternative route for users of Icknield and Chiltern Way is to utilise the footpath that runs along the base of the embankment northwards to the A5/ A505 roundabout. At this point the route is not classified as part of either Icknield or Chiltern Way but steps are provided on both embankments. A safety fence would also need to be negotiated on both sides of the road.

The preferred horse riders route is via Sewell Lane, as horse riders cannot access the current steps that lead up the steep embankment

Chiltern Way is managed by the Chiltern Society and is not a public right of way. Icknield Way is a public right of way and is maintained by Central Bedfordshire County Council.

Photographs of the site are shown in Appendix B of this report.

# 2.3 Existing Traffic Flows

Existing traffic flow counters are present at the site. These are sites 30013662 (Site TA6846/1) for northbound traffic and 30013663 for southbound traffic (Site TA 6846/2). The combined 24hr AADT is just under 16,100.

These traffic flows are likely to alter following the opening of the A5 to M1 Link road that is projected to be in 2015-16.

# 2.4 Existing Pedestrian Flows

No data has been collated to identify existing pedestrian flows at the site.

# 2.5 Collision Records

Some of the statistical collision data referred to in this document was not delivered from the National validated collision statistics, but was sourced from HA local partner datasets. As this data has not been validated by DfT it cannot be assumed to be a complete data set as it may be found to be incomplete or contain inaccuracies. The requirement for up to date information for operational purposes was a consideration in the decision to use this data.

Validated collision data has also been sourced and cross referenced with the unvalidated information (that contains descriptions of the collisions).

In the period from 1<sup>st</sup> January 2009 to 31st March 2013 there were nine Personal Injury collisions recorded along this section of the A5 trunk road network that were recorded as three serious and six slight in severity. The collision data from HA local partner datasets and Validated Collision Data for this period is included in Appendix C, and the collision location plan is contained in Appendix D.

In reviewing the collision data one of the recorded collisions relate to NMU's but it is not related to crossing the road.



# 2.6 Statutory Undertakers Plant Details

Preliminary C2 enquiries have been sent to all Statutory Undertakers. Plant and apparatus in the vicinity of the area affected by the proposed improvement is shown on Drawing No. 47066667/S04354/I/1600 in Appendix E.

# 2.7 Development Proposals

A significant housing development is under review to the northwest of Houghton Regis with approximately 6000 houses potentially constructed. A new link road from the A5 just to the north of the current A5/ A505 roundabout will provide access to the proposed development. The development is likely generate further demand for access to the public rights of way routes.

### 3.0 CONSULTATION

# 3.1 Central Bedfordshire Council Rights of Way

Two meeting have been held with Central Bedfordshire to discuss the current provision, its difficulties and the potential options for improvement. The first meeting was held on the 2<sup>nd</sup> May 2013 to discuss the pedestrian routes with a further site meeting held on the 30<sup>th</sup> May 2013.

They have indicated that they do not hold any records relating to the usage of the crossing points on the A5 or the Icknield Way or Chiltern Way routes. They indicated that they are likely to be very lightly used but on occasion locally organised events may generate larger pedestrian usage.

Horse Riders have indicated that they prefer to use Sewell Lane and cross the carriageway around this location before using Puddle Lane to continue their journey.

Central Bedfordshire have indicated at the meetings that they would wish to see a resolution to the current difficulties and proposals drawn up that would address the current concerns.

# 3.2 HAIL Correspondence

A HAIL was received in February 2012 reference 13270780 and is included as Appendix F. The HAIL indicates the presence of the Stile and the difficulties faced by pedestrians who wish to use Icknield and Chiltern Way.

# 3.3 Other Correspondence

No letters have been sent to local organisations, asking for any information available about the level of usage for the footpath crossing the trunk road. Central Bedfordshire have also indicated they have no formal records of current usage of the footpaths.

A HAIL was received in August 2012 reference 13508155 and is included as Appendix F. The HAIL requests the provision of DDA standard facilities for mobility scooter users in the vicinity of Puddle Lane. The works to introduce dropped kerbs at Puddle Lane, Sewell Lane and adjacent to the White Lion Public House are being programmed by the Highways Agency for 2014/15.



### 4.0 NMU CROSSING IMPROVEMENT OPTIONS

### 4.1 Introduction

The options considered seek to remove the stile crossing the safety barrier, provide a route past the safety barrier and enable a safe crossing of the A5 to provide a route to continue their journey on lcknield or Chiltern Way.

# 4.2 Options Considered

A number of options have been evaluated that follow a theme of the following four improvement options:

- 1) to run the footway behind barrier to the garage forecourt. Pedestrians could then cross the A5 at the island to the south of the garage.
- 2) to cross the A5 at the central island to the north which would need a stagger in the verge barrier to replace the stile,
- to divert foot way along bottom of embankment and cross at roundabout to the north
- 4) alter footway alignment within fields and utilise Sewell Lane

# Option 1a – Provide a footway behind safety fence to the garage forecourt and cross carriageway at existing facility to the south of the garage by utilising access across the garage forecourt

A 1.2m wide approved NMU surface would be provided behind the existing safety fence from the current steps to the garage forecourt. NMU's would then cross the garage forecourt and then cross the A5 by utilising the existing island to the south of the garage.

The existing automated traffic counter feeder pillar would need to be relocated as would a lamp column and two existing signs.

In consultation with the garage owner there is still an on-going legal dispute concerning the land ownership at this location and the public right of way across the garage forecourt.

# Option 1b – Provide a footway behind safety fence to the garage forecourt and cross carriageway with new facility

A 1.2m wide approved NMU surface would be provided behind the existing safety fence from the current steps to the garage forecourt. NMU's would then cross the A5 prior to the garage forecourt by utilising a new island to the north of the garage.

In consultation with the garage owner the location of the proposed island would be in conflict with the current swept path of HGV's that either use the facility or provide materials for the facility.



There is insufficient width at this location to enable a pedestrian island to be provided within current design parameters and land acquisition is required.

# Option 2a - Provision of footpath to the north to enable a crossing at the existing splitter island within the existing verge

To facilitate a crossing at the existing splitter island a new footpath would require construction to provide a link to the new crossing point. A gap would also need to be created within the existing safety fence.

To create a gap within the safety fence the modification would require an overlap of safety fence similar to that shown in Fig 3.14 TD 19/06 for a central reserve crossing point with a minimum gap between the barriers of 1.2m. The safety fence required would be a H2 containment level. It would need to be placed 0.6m from the edge of the kerb face and requires a working width of 0.8m. The minimum pedestrian route width is 1.2m. The total width required for this option is 3.0m.

There is insufficient width within the current verge to enable a safety fence to be provided within current design parameters.

# Option 2b – Provide a widened verge by modifying embankment to accommodate safety fence gap and cross pedestrians on modified splitter island.

To enable the modification to the safety fence to create a suitable gap for pedestrians the verge would require widening from 2.4m to 3.0m. This would be facilitated by widening the verge over the distance of the modified safety fence. The existing embankment is around 10-15 metres high in this location and has dense vegetation that would require removal to enable construction of this option.

# Option 2c – Provide a widened verge by narrowing carriageway width to accommodate safety fence gap and cross pedestrians on modified splitter island

To enable the modification of the safety fence the carriageway would be narrowed by 0.6m over the length of the modified safety fence. The new footpath could be provided to link up to the existing island near the change of speed limits. It is not possible to provide a gap at the existing top of the embankment steps. The footpath would run parallel with the carriageway. It is not possible to align the footpath so that pedestrians walk towards the flow of traffic prior to crossing the A5 carriageway.

# Option 3 - Divert footway at the base of embankment and effect a crossing at the roundabout to the north

The existing footpath and steps that heads north to the A5/A505 roundabout would be utilised and the existing section of Icknield Way and Chiltern Way that leads up the steps to the wooden stile would be abandoned. This would require a modification of the definitive map for public rights of way via the Countryside and Public Rights of Way Act 2000.



At the roundabout the verge width is 2.4m and the modification to the safety fence would encounter the same issues as discussed in Option 1.

There is insufficient width at this location to enable a safety fence to be provided within current design parameters and land acquisition is required.

### Option 4 - Alter footway alignment within fields to utilise Sewell Lane.

The existing right of way would no longer be utilised through the arable fields and the route would be re-directed to use Sewell Lane. The existing footpaths would then be utilised to enable a crossing of the A5 at the existing central island to the north of Sewell Lane.

To modify the footpath for the public right of way requires a modification to the definitive map for this location and requires a new order via the Countryside and Public Rights of Way Act 2000 to be approved.

Central Bedfordshire Council have indicated that they do not wish to close the existing route and this option would not be supported.

# 4.3 Design Standards

The following reference documents were reviewed for the design of safety fence and NMU footway provision:

- TA 90/05 The Geometric Design of Pedestrian, Cycle and Equestrian Routes;
- TD 19/06 Requirement for Road Restraint Systems

Within TD 19/06 there is no specific design guide for creating a gap within a safety fence for the provision of public right of way crossing point and as such the design standard used has been the layout for the provision of an emergency telephone on the verge. This creates a suitable gap with a safety fence on a verge.

The width of the footpath between the overlapping safety fence design meets the minimum criterion for a footpath width but its alignment runs alongside the direction of traffic flow and this is undesirable as pedestrians do not face oncoming traffic as they approach the crossing point.

In reviewing the route it is apparent that the existing embankment steps are used on an infrequent basis. The main reference document used for design information regarding ramps, steps and handrails is 'Inclusive Mobility', published by the Department for Transport. This document gives the following guidance on design of steps:

- There should be handrails on both sides of the steps. The recommended width between handrails is 1200mm, with a minimum of 1000mm.
- There should be a maximum of 12 steps in one flight. The recommended length
  of landings between flights is 1800mm, with a minimum of 1200mm. There
  should be tactile warning strips at the top and the bottom of the steps.



- The recommended step tread width is 300mm, with a minimum of 250mm. The recommended step height is between 130 and 150mm, with a maximum of 170mm.
- The nose of each step should be rounded with no overhang, and the nose should have a contrasting colour to the rest of the step (to provide edge definition for people with poor eyesight).

In reviewing the existing embankment steps against this design guide it is clear that they do not meet the criterion on the majority of the above design parameters.

# 4.4 Buildability

The scheme would be constructed within the highway boundary for the majority of the works it would be necessary to introduce traffic signal control on the A5 overnight.

During the dismantling and reinstallation of the safety barrier it will be necessary to introduce a temporary vehicle restraint system (varioguard) and narrow lane running during the daytime. It may also be necessary to remove the existing splitter island near to the stile to enable the provision of narrow lanes.

# 4.5 Feasibility Road Safety Audit

A Stage 1 Road Safety Audit has been undertaken and is included in Appendix G.

# 4.6 NMU Context Report

A Non-motorised User report has been undertaken and is included in Appendix H.

### 4.7 Projected Collision Savings

In reviewing the collision data, only one collision involved a NMU and this was unrelated to the location under investigation. Therefore, there are no projected collision savings for NMU's.

### 4.8 Cost Estimates

A works cost estimate has been provided by CWSP and a scheme cost has been calculated using PAR 6.3 and the following data has been obtained.

	Budget Year 2014-15
	£
Works	186,869.72
Detailed Design	34,775.12
Supervision	19,319.51
Optimum Bias @ 20%	48,192.87
Total	289,157.22



### 5.0 CONCLUSIONS

The existing stile that is currently placed over the safety fence is a potential hazard for those using it, but the safety fence itself is also a barrier to the users of the public right of way. The position of the wooden stile does not permit pedestrians to stand and wait having crossed the safety barrier due to its close proximity to the carriageway.

Of the options reviewed the following are considered inappropriate for the reasons given below;

Options 1a and 1b - The options for providing a facility that users of the Icknield Way and Chiltern Way can access are compromised by the existing disputed ownership difficulties being faced at the Chalk Hill Petrol Filling Station and this limits some of the potential solutions.

Option 2a – There is insufficient width in the existing verge to create a gap within the existing safety fence to enable this option to proceed.

Option 2b – The option for widening the embankment to provide sufficient verge width to create a gap in the safety fence is considered to be too expensive and not cost effective.

Options 3 – There is insufficient width at the roundabout in the existing verge to create a gap within the existing safety fence to enable this option to proceed, along with the need to revoke a section of the existing public right of way.

Option 4 – This option requires modifications to existing legal order relating to the public rights of way and Central bedfordshire Council are opposed to this option.

Of the measures reviewed the following are considered appropriate for further development;

Option 2c - The option that narrows the existing carriageway whilst providing a gap within the safety fence, affords the opportunity to provide a route for pedestrians to overcome the barrier.

# 6.0 RECOMMENDATIONS

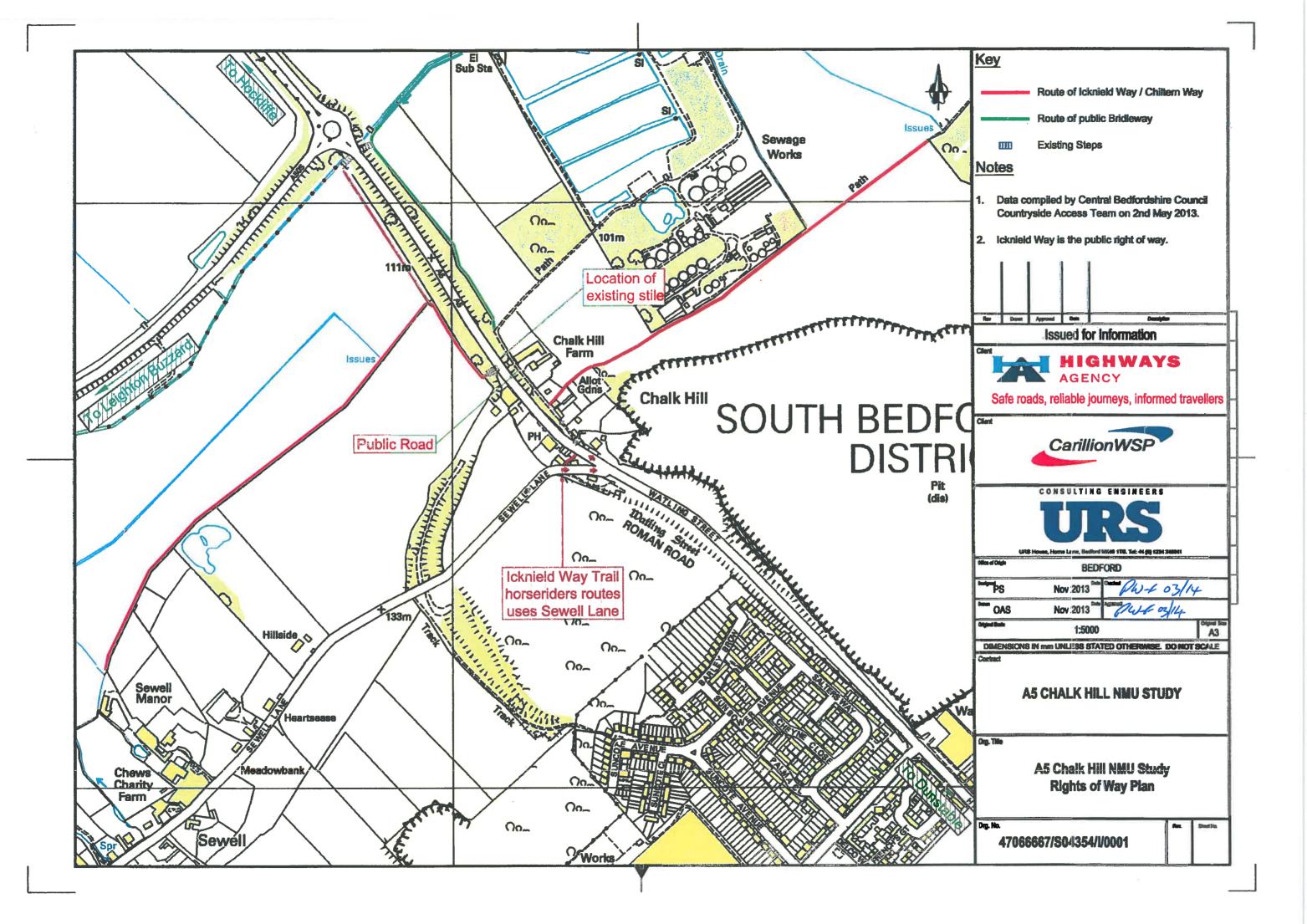
Option 2c is the only option that provides a cost effective solution to providing a gap within the existing safety fence and enable a safe crossing of the A5 carriageway. It is recommended that this Option is promoted to Central Bedfordshire Council **as** the improvement option to alleviate the current difficulties.

Consultations should be carried out with local authorities, parish councils, chiltern way society and other organisations (e.g., Horse Society, Ramblers Association) to seek opinion and comment on the proposed improvements. A local public consultation exercise should also be carried out to establish the views of local residents and users of the NMU crossing.

Finally, the proposed scheme would not need to progress through the Value Management process to secure funding for detailed design and construction, as this process is likely to be undertaken by Central Bedfordshire Council.



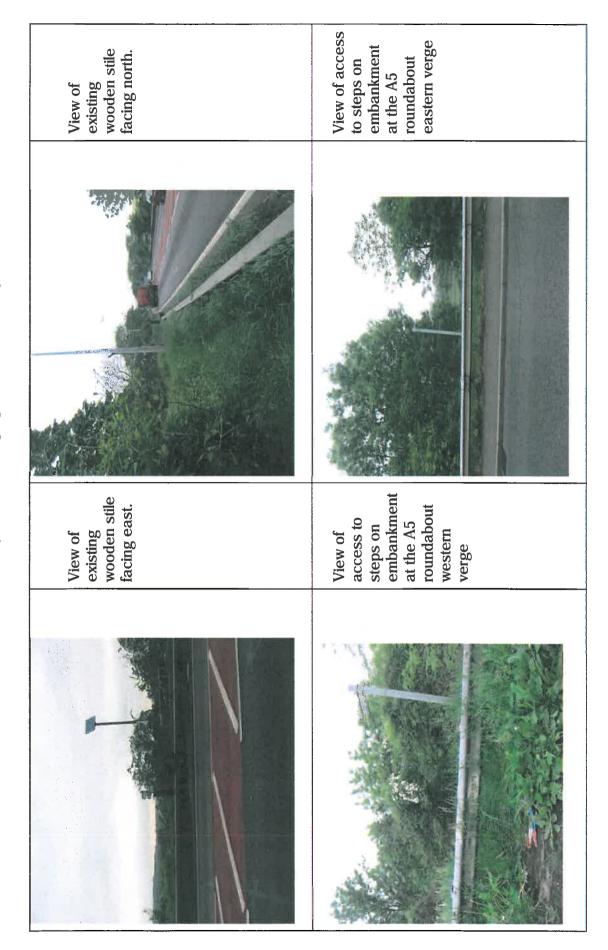
# Appendix A - Rights of Way Plan Drg. No. 47066667/S04354/I/001

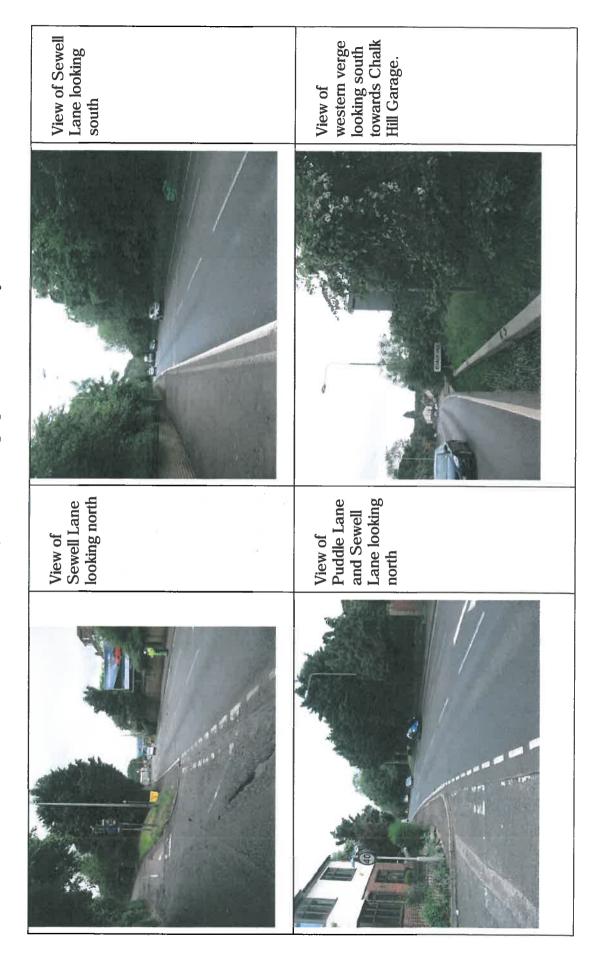




# Appendix B - Site Photographs

# A5 Chalk Hill NMU Study – Site Photographs of the 30<sup>th</sup> May 2013







# **Appendix C - Collision Data**





URS Severity 51261 Slight	Weekday Wednesday	Route Location	Road Surface Dry	Conditions Fine (without	Road Lighting Daylight: Street	Junction  Give way	Detail Roundabout	Casualties	Vehicle E	1 - No. 1 - 1 - 1 - 1 - 1 - 1 - 1	Northin 224155	12.5		
47885 Serious	Thursday	HOUCHTON REGIS, REPEORDSHIPE A5 A5 CHALK HILL METRES UC GARAGE FORECOURT	р <sub>гу</sub>	Fine (without			Private drive/entrance		1 2	500121	223667			
		ENTRANCE, HOUGHTON CONQUEST, BEDFORDSHIRE A5 A5 CHALK HILL, HOUGHTON	Dry	Fine (without	Daylight: Street	Not at junction	Not at or within		1 2	499983	223876			
49624 Serious	Saturday	REGIS, BEDFORDSHIRE	Piy	ihigh winds)			20m of junction							
53928 Slight	Tuesday	A5 A5 METRES A505, HOUGHTON REGIS, BEDFORDSHIRE	р <sub>гу</sub>		Daylight: Street Lights Present	Give way sign/markings	Roundabout	-	1 2	4 <b>99</b> 770	224138			
53939 Serious	Wednesday	A5 A5. DUNSTABLE, BFDEORDSHIRE	Dry		Daylight: Street	Not at junciton	Not at or within 20m of junction		1		223596			
55376 Slight	Monday	A5 A5, HOUGHTON HALL, BEDFORDSHIRE	Dry	Fine (without high winds)	Daylight: Street Lights Present	Not at junciton	Not at or within 20m of junction	desired and an analysis of the second		4 <b>99</b> 854	224062			
55405 Slight	Monday	A5 A5. DUNSTABLE, BEDFORDSHIRE	Wet/Damp	(without high winds)	Dark: Street Lights Present & Lit	Not at junciton	Not at or within 20m of junction		1 2	5 <b>00</b> 110	223685			
56284 Slight	Thursday	A5 METRES A505, DUNSTABLE, BEDFORDSHIRE	Dry	Fine (without	Lights Present &	sign/markings	Roundabout		1 2	4 <b>99</b> 811				
56335 Slight	Saturday	A5 AT HOUSE NAME HILLSIDE, DUNSTABLE, BEDFORDSHIRE	Dry		Dark: Street Lights Present &	Not at junciton	Not at or within 20m of junction		1 1	500236	223567			

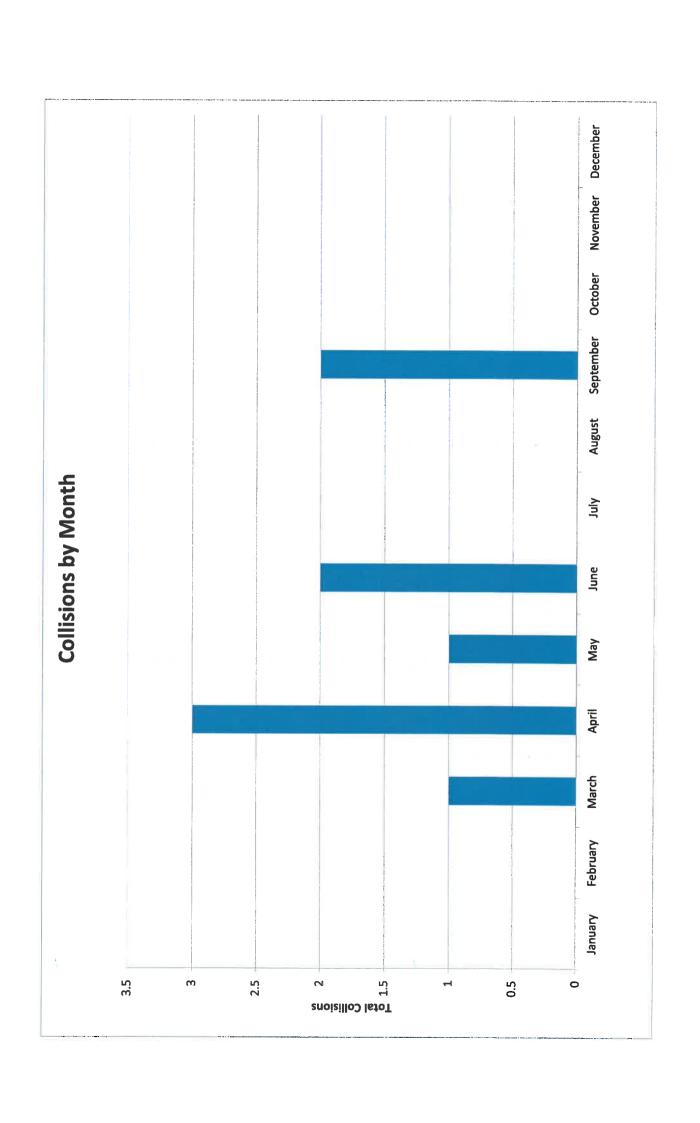
SW	NW	MM	SE	SE	SE	SE	MN	MN	NN	SE	NW	SE	SE	S	S	MM	NW	SE
Irom	SE	MN	NN	NN	MN	SW	SE	SE	SE	NW	SE	NN	NM	Z	<u>z</u>	SE	SE	NM
Manoer vres	Going ahead other	U Turn	Overtaking Sta veh on its offside	Waiting to go ahead but held up	Waiting to go ahead but held up	Turning Right	Overtaking moving vehicle on its	Going ahead other	Overtaking moving vehicle on its	Going ahead other	Going ahead other	Going ahead other	Slowing or Stopping	Going ahead other	Going ahead other	Slowing or Stopping	Moving Off	Reversing
Vehicle Leaving	Did not leave carriageway	Did not leave carriageway	Oid not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Left carriageway nearside	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway	Did not leave carriageway
Hit Object	None	None	None	None	None	None	None		None	None I	None I	None	None	None	None (I	None	None	None
Vehicle Pype St. Idding and Goods vehicle <=3.51;No skidding, Jack-Kniling or	No skidding, Jack-knifing or	Goods vehicle <=3.5t No skidding, Jack-knifing or	No skidding, jack-knifing or	3 Goods vehicle <=3.5t No skidding, jack-knifing or	No skidding, jack-knifing or	No skidding, jack-knifing or	No skidding, jack-knifing or	ot Overturned	Skidded	No skidding, jack-knifing or	Other motor vehicle No skidding, jack-knifing or	Skidded	No skidding, jack-knifing or	No skidding, jack-knifing or				
le Ref   Vehicle Type   1 Goods vehicle <=3.5	2 Motorcycle over	I Goods vehicle <=3.5	2 Motorcycle over	3 Goods vehicle <=3.5	2 Car	I Car	1 Car	2 Goods vehicle >=7.5t Overturned	1 Motorcycle over	2 Car	1 Other motor vehicle	2 Car	3 Motorcycle over	1 Car	2, Car	1 Car	2, Car	1 Car
ins 1d Vehicle Ref. 1	47885	49624	49624	51261	51261	51261	53928	53928	53939	53939	55376	55376	55376	55405	55405	56284	56284	56335

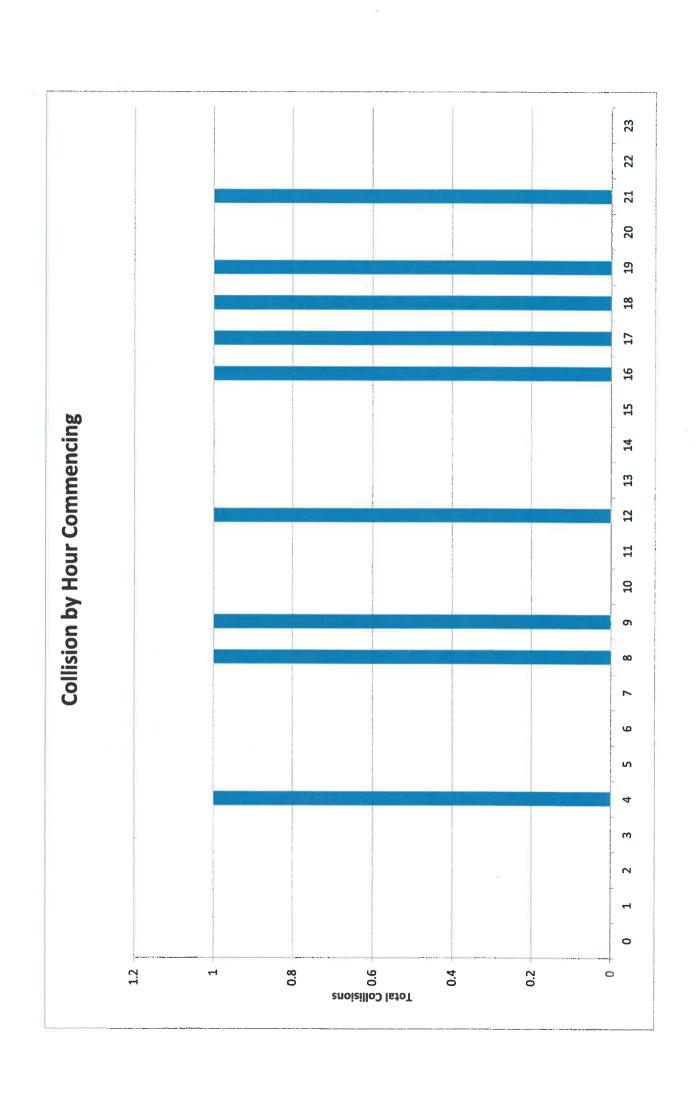
**ARN1844** 

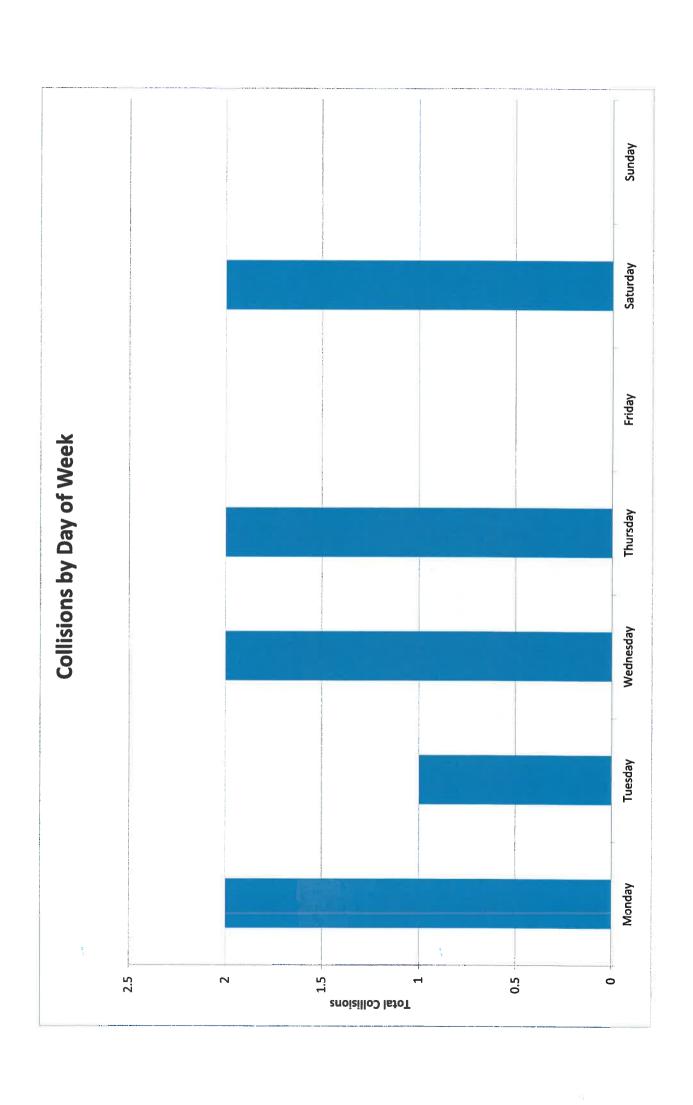


# **ARN1844**

	Vehicle Ref.	Casualty Ref	severity	Casualty Class	
47885	2	1	Serious	Driver or rider	
49624	2	i l	!	Driver or rider	
51261	1	1	Slight	Driver or rider	
53928	2	1	Slight	Driver or rider	
53939	2	1	Serious	Driver or rider	
53939	1	2	Serious	Driver or rider	
55376	3	1	Slight	Driver or rider	
55405	1	1	Slight	Driver or rider	
56284	2	1	Slight	Driver or rider	
56335	1	1	Slight	Pedestrian	









# ARN1844

Count of URS ID	
Weather Conditions	Total
Fine (without high winds)	8
Raining (without high winds)	1
Grand Total	9

Hour & Cou	mt 2
Commencia Cara	- ma
0	0
1	0
2	0
3	0
4	1
5	0
6	0
7	0
8	1
9	1
10	0
11	0
12	1
13	0
14	0
15	0
16	1
17	1
18	1
19	1
20	0
21	1
22	0
23	0
Total	9



Mon	ths	
1	January	0
2	February	0
3	March	1
4	April	3
5	May	1
6	June	2
7	July	0
8	August	0
	September	2
10	October	0
11	November	0
12	December	0
	Total	9
Days		
1	Monday	2
2	Tuesday	1
3	Wednesday	2 2
4	Thursday	2
5	Friday	0
6	Saturday	2
7	Sunday	0
	Total	9

Road Surface	Total
Dry	8
Wet/Damp	1
Grand Total	9

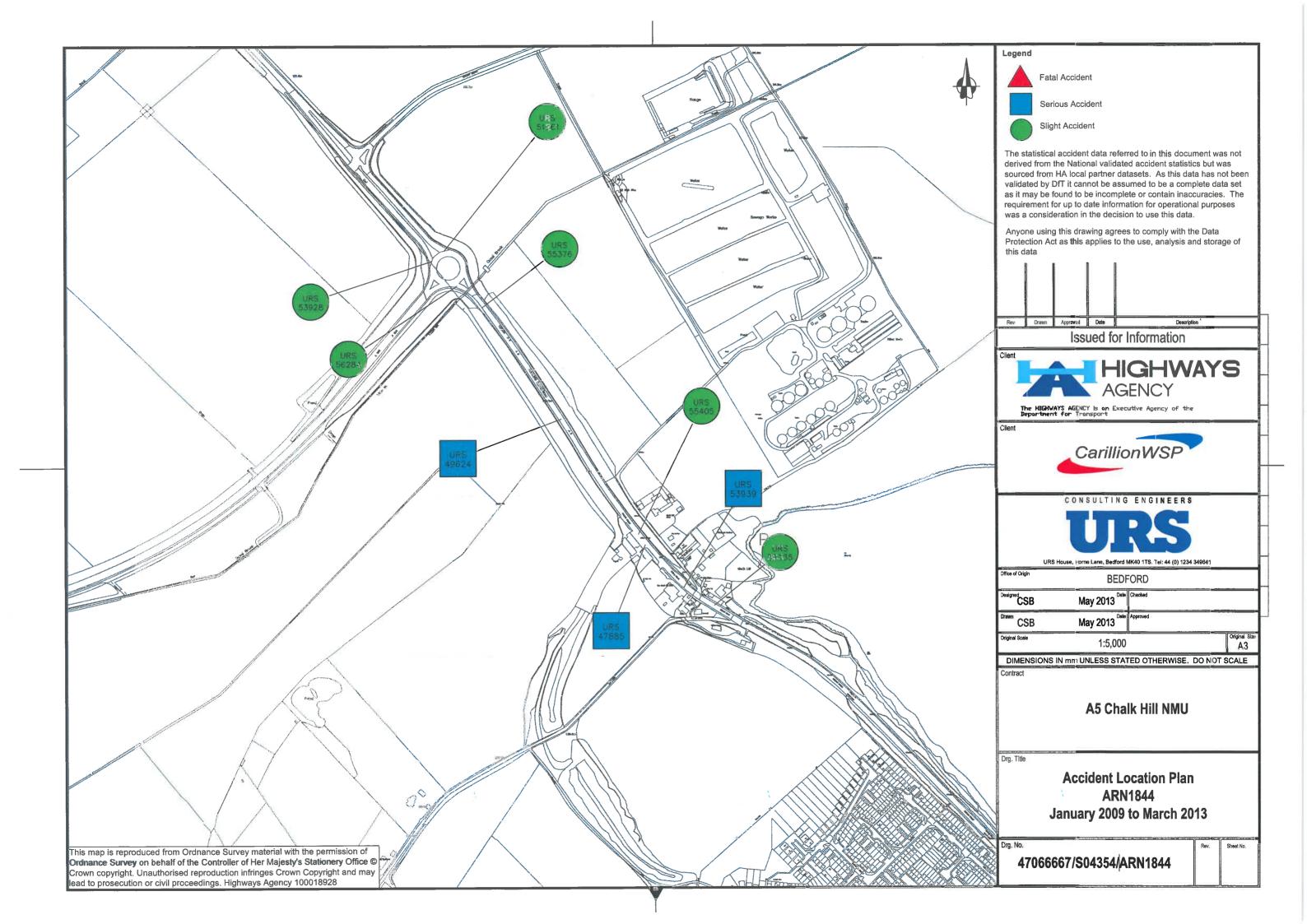
Count of URS ID	
Road Lighting	Total
Dark: Street Lights Present &	3
Daylight: Street Lights Prese	6
Grand Total	9

Count of URS ID	
Weekday	Total
Monday	2
Tuesday	1
Wednesday	2
Thursday	2
Friday	0
Sunday	0
Saturday	. 2
Grand Total	9

Count of URS ID	
Severity	Total
Serious	3
Slight	6
Grand Total	9

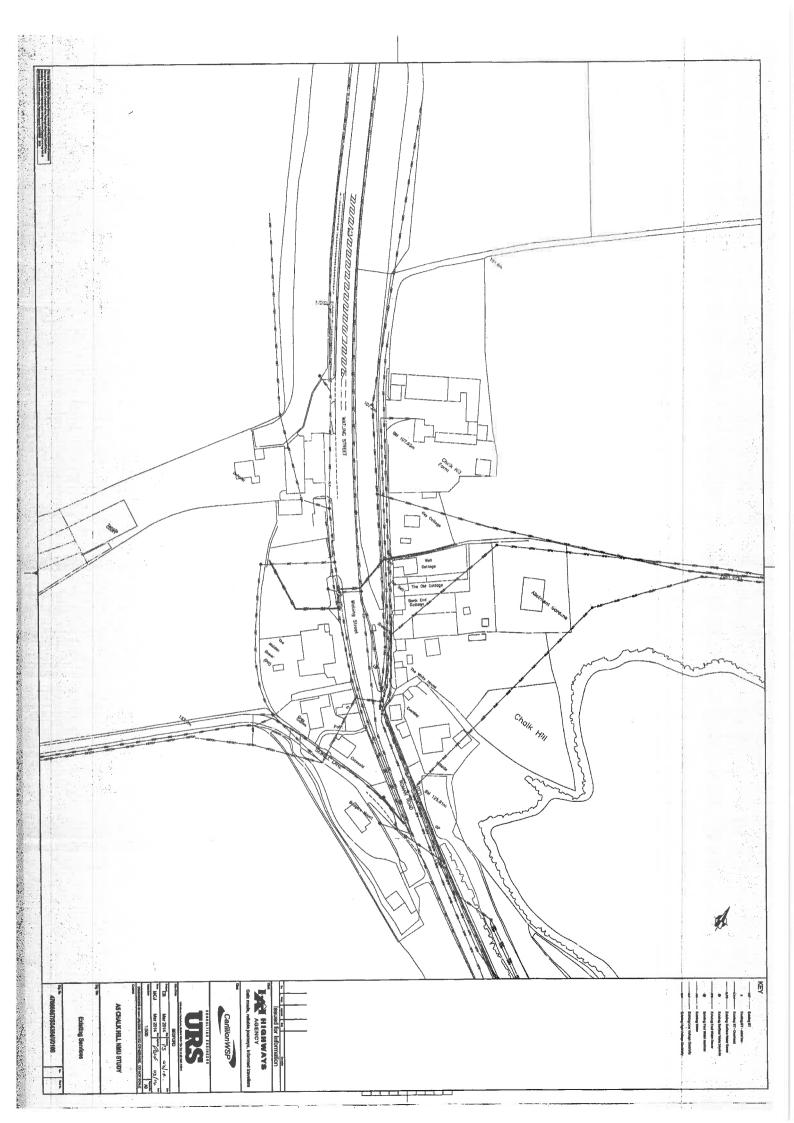


# **Appendix D - Collision Location Plan**





# **Appendix E - Statutory Undertakers Details**





# Appendix F - HAIL Correspondence

# HIGHWAYS AGENCY INFORMATION LINE CALL REFERENCE: 13270780

To:

customercare@carillionwsp.com

Also Advised:

area8HAIL@highways.gsi.gov.uk; E\_RIU@highways.gsi.gov.uk;

Area

MAC 8 (OD)

Team:

Callers Details: Tom Chevalier	Motorway/Trunk Road Details: M/way,TR: Junction: Nr. Town: Direction:
Phone: eMail: tom@chevalier.me.uk	
Date and Time of Journey (if known):	Call details last saved: 19 February 2012 07:40
Reply to Customer by: Email	(for HAIL Use only)

### Comments/Remarks:

On the A5, just north of Dunstable there is a small hamlet called 'chalk hills' http://binged.it/zibXly

At this point the Icknield Way long distance path, and the Chiltern Way, both emerge to cross the A5. They then go slightly south, cross the road using the traffic island, and descend away from the A5. Where the path joins north of the garage there is no paved footway. The following link should show the arrangement using Google street view:

http://maps.google.co.uk/maps?q=dunstable&hl=en&ll=51.903243,-0.546923&spn=0.001187,0.00284&sll=53.800651,-4.064941&sspn=18.566626,46.538086&hnear=Dunstable,+Central+Bedfordshire,+United+Kingdom&t=m&z=19&layer=c&cbll=51.903243,-0.546923&panoid=2MK5MDGLxyr\_S7A1zhrPxQ&cbp=12,281.55,,0,9.6

Originally walkers were able to use the grass verge, but I understand that some years ago the barrier was installed, as a result of complaints the stile was erected. The current arrangements are totally unacceptable. It is not reasonable to expect someone (with dog and/or children) to cross over the stile to wait directly on the narrow carriageway of a road with a 40mph limit, but all recognise that the average traffic speed here is much higher. Then wait while attempting to cross the road to the footway on the other side. The addition of this stile by the HA has probably made the situation worse.

Going south, there is space between the barrier and the side of the hill to walk up to the garage. But to make the path usable the vegetation needs cutting back, regularly. Ideally more space could be created if the signs were moved, and some arrangement made to adjust the barrier by the garage, so it is possible to get out onto the garage forecourt.

I would welcome consideration of the HA to agreeing to regular cutting of the vegetation, and any improvements t hrough moving signs.

Holding reply sent to customer, fwd to Area 8, IR, 19/02/2012

#### HIGHWAYS AGENCY INFORMATION LINE CALL REFERENCE: 13270780

Please advise quoting the Reference 13270780 when the call has been satisfactorily closed by clicking on this link.

Traffic Management Directorate 3 Ridgeway Quinton Business Park Birmingham B32 1AF GTN 6186 8356

FAX

Tel 0121 335 8356

19 February 2012

#### HIGHWAYS AGENCY INFORMATION LINE **CALL REFERENCE: 13508155**

To:

customercare@carillionwsp.com

Also Advised:

area8HAlL@highways.gsi.gov.uk;

Area

Area 8 (CarillionWSP)

Team:

Callers Details:	Motorway/Trunk Road Details: M/way,TR: A5 Junction: Nr. Town: Sewell Lane Direction:
Phone: eMail:	
Date and Time of Journey (if known):	Call details last saved:
19 August 2013 13:45	19 August 2013 13:51
Reply to Customer by:	
Phone	(for HAII. Use only)
Comments/Remarks:	
College cover visibility is impoined if you try to exit for	rom Sowell I and onto the A.F. to turn right there are

Caller says visibility is impaired if you try to exit from Sewell Lane onto the A5 to turn right ,there are some trees in the way which you have to pull out past to see. Caller says these have been cut back in the past and caller thinks they need to be cut back again please.

Caller says he would also like to discuss with someone about the possibiklty of dropped kerbs on the A5 and the caller and his wife are considering getting mobility scooters but there access into Dunstable and getting across the A5 is limited,

FWD to Area 8 for attention and response please

\_\_\_\_\_

CA 190813

Please advise quoting the Reference 13508155 when the call has been satisfactorily closed by clicking on this link.

**Traffic Management Directorate** 

3 Ridgeway **Quinton Business Park** Birmingham **B32 1AF** 

GTN

6186 8340

FAX

0121 335 8370

Tel

0121 335 8340

19 August 2013



## **Appendix G - Feasibility Safety Audit**



### A5 Chalk Hill NMU Study

Stage 1 Road Safety Audit

February 2014

47066667

Prepared for: Highways Agency

UNITED KINGDOM & IRELAND





Project Title:

A5 Chalk Hill NMU Study

Report Title:

Stage 1 Road Safety Audit

Project No:

47066667

Report Ref:

S04354

Status:

Final

**Client Contact Name:** 

**Client Company Name:** 

**Highways Agency** 

Issued By:

**URS Infrastructure & Environment UK Limited** 

URS House, Horne Lane Bedford MK40 1TS

**United Kingdom** 

Tel: +44 (0)1234 349 64 1Fax: +44 (0)1234 216 268

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Document Production / Approval Record

Issue No: 1	Name	Signature	Date	Position
Prepared by			21/2/14	Audit Team Member
Checked by			21/2/14	Audit Team Leader
Approved by			21/2/14	Associate

REVIS	SION SCHEDU	JLE			
Rev	Date	Details	Prepared by	Reviewed by	Approved by
0		Report issued to Client			7 14 -27
2014		Audit Team Member	Audit Team Leader	Associate	



#### Limitations

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The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by URS has not been independently verified by URS, unless otherwise stated in the Report.

The methodology adopted and the sources of information used by URS in providing its services are outlined in this Report. The work described in this Report was undertaken during January and February 2014 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances.

Where assessments of works or costs identified in this Report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

URS disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to URS' attention after the date of the Report.

Certain statements made in the Report that are not historical facts may constitute estimates, projections or other forward-looking statements and even though they are based on reasonable assumptions as of the date of the Report, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. URS specifically does not guarantee or warrant any estimate or projections contained in this Report.

The statistical collision data referred to in this document was not derived from the National validated collision statistics but was sourced from local authority datasets. As this data has not been validated by DfT it cannot be assumed to be a complete data set as it may be found to be incomplete or contain inaccuracies. The requirement for up to date information for operational purposes was a consideration in the decision to use this data.

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#### 1. INTRODUCTION

#### 1.1 Brief

This report, , completed in accordance with the URS Infrastructure & Environment UK Ltd (URS) / Carillion WSP Contract for the provision of professional services, results from a Stage 1 Road Safety Audit carried out on the proposed works to upgrade the existing NMU facilities in the area of A5 Chalk Hill, Dunstable.

The audit was requested by the state of URS, Bedford office on behalf of the Assistant Project Sponsor from the Highways Agency, Woodlands, Manton Lane, Manton Industrial Estate, Bedford MK41 7LW.

The Audit Team membership was as follows: -

MSc (Road Safety Engineering) FCIHT, FSoRSA, CoC

Audit Team Leader URS Infrastructure & Environment UK Limited, Bedford

HNC (Civ. Eng), MCIHT, MSoRSA

Audit Team Member URS Infrastructure & Environment UK Limited, Bedford

The audit comprised of a review of the drawings provided, which are listed in Appendix A. A site visit was carried out by both members of the Road Safety Audit team together on Thursday 13 February 2014 between 15.00 and 15.30hrs. The weather was fine, with high winds. Road surfaces were dry.

The terms of reference of the audit are as described in HD19/03. The team has examined and reported only the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other 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. Any audit comments should not be considered as implying that a technical audit has been undertaken in any respect.

Therefore only the items raised as PROBLEM are relevant to the scheme as presented and audited in accordance with HD19/03. Furthermore, any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with HD 19/03, and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.



#### 1.2 Scheme Description

The scheme aimed to upgrade the existing access to trinity Hall Farm to enable biodegradable waste to be delivered to a digester from sites local to the leading.

#### 2 ITEMS RAISED AT PREVIOUS ROAD SAFETY AUDITS

The Road Safety Audit Team is not aware of any previous audits having been carried out on this scheme.

#### 3 ITEMS RAISED AT THIS STAGE 1 AUDIT

#### 3.1 PROBLEM

Location: A (See Dwg. No. 47066667/RSA1)

Summary - sign location may obscure 40 mph speed limit terminal sign - inappropriate speed.

**Details** - The position shown for the sign to Diag. No. 544.1 on the southbound footway is such that it may obscure the existing 40mph speed limit terminal sign. This may lead to vehicles travelling through the hamlet of Chalk Hill at inappropriate speeds resulting in collisions with turning traffic or pedestrians.

#### RECOMMENDATION

When the sign is being installed great care is taken not to obscure the 40mph speed limit sign.

#### **Design Team Response**

Agreed. The detail design will need to take into account the position of the existing speed limit signs. The A5 in this location is proposed to be detrunked after the completion of the A5 - M1 Link Road in 2015-16. The A5 will be managed by Central Bedfordshire Council and it is proposed to share the findings of this report with this authority.

#### **Highways Agency Comment**

Agreed – Email sent by

on 5<sup>th</sup> March 2014.



#### 4 AUDIT TEAM STATEMENT

A5 Chalk Hill NMU Study

Stage 1 Road Safety Audit

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

#### **AUDIT TEAM LEADER**

**MK40 1TS** 

Audit Team Leader	Signed
URS Infrastructure & Environment UK Limited	Date
URS House	21 February 2014
Horne Lane	21 1 2010 2014
Redford	



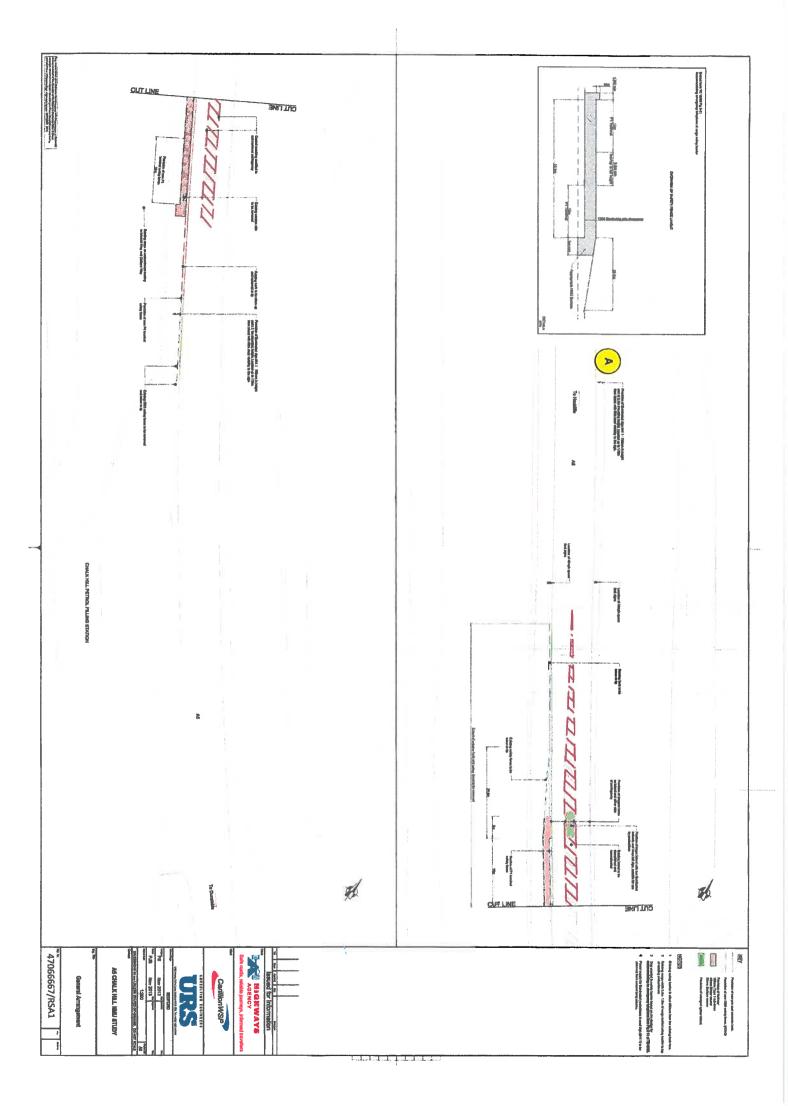
## Appendix A List of drawings

Number	Title	Scale	Original Size
47066667/S04354/I/0002	General Arrangement.	1:200	A0
47066667/S04354/I/0001	A5 Chalk Hill NMU Study Rights of Way	1:5000	A3



### **Appendix B – Problem Location Plan**

8





### **Appendix H - NMU Context Report**





## AREA 8 TRUNK ROADS & MOTORWAYS

## A5 Chalk Hill NMU Study Project Number – S04454

**NMU Context Report** 

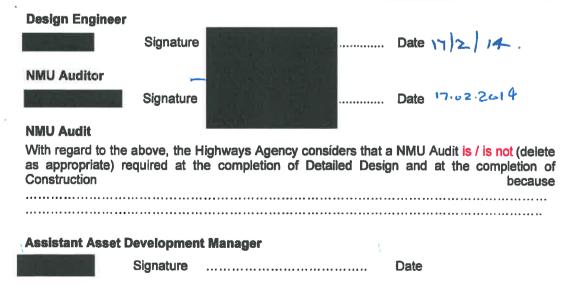
February 2014





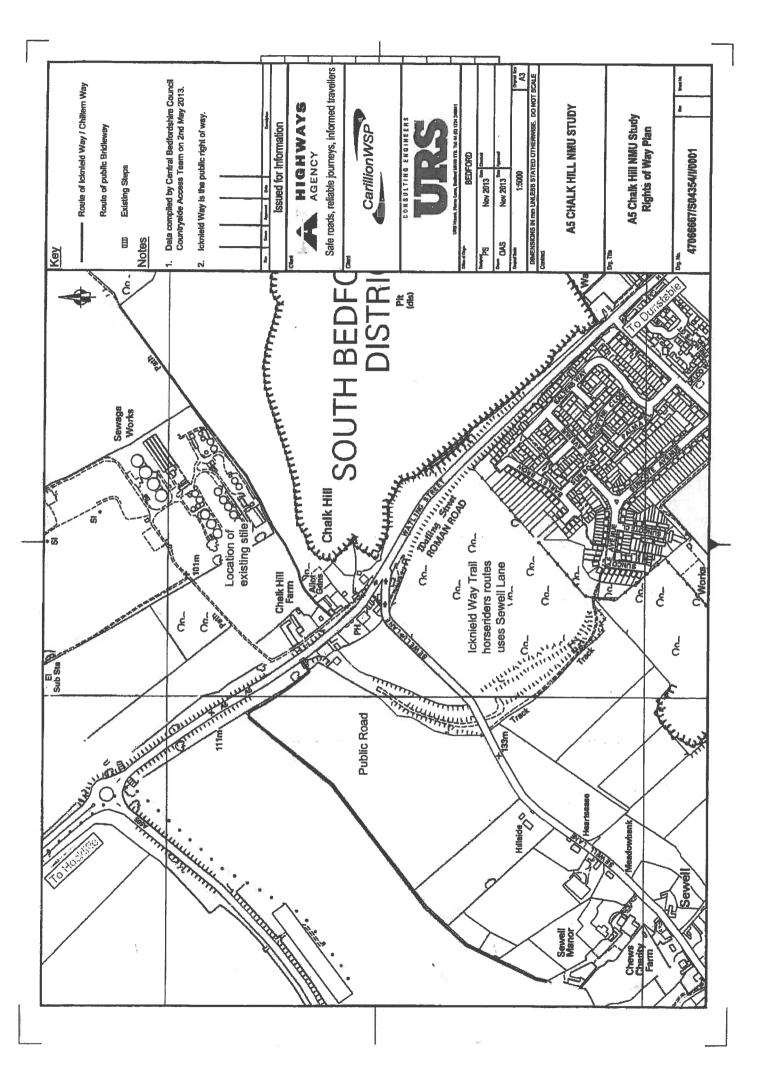
#### **Non Motorised User Context Report**

Scheme Name:	A5 Chalk Hill – Non-Motorised User Study
Scheme Description:	Scheme results from the findings of an assessment carried out to review and upgrade the existing NMU facility.  The Icknield Way and Chiltern Way footpaths approach the A5 from the east and west and provide a public right of way. Currently, steps are provided on the trunk road cutting slopes, but at the top of the embankment an existing safety fence hinders progress for pedestrians. A wooden stile has been constructed over the safety fence but its proximity to the edge of the carriageway makes it unsuitable for use. The stile does not conform to current highway standards.  An existing uncontrolled crossing facility is provided to the south of the stile location, but this cannot be reached from the western side of the A5. The petrol filling station in close proximity to the stile has raised concerns over the use of the forecourt by pedestrians and this legal issue is still under consideration.  Options have been considered that involve modifying the safety fence layout to create a gap for NMU's. The existing width at the top of the embankment reduces the options available and the cost of modifying the embankment has been considered to be prohibitively expensive.  This section of the A5 is proposed to be de-trunked following the opening of the M1 – A5 Link Road projected in 2015 – 2016 and it is therefore unlikely that the proposed measures will be constructed by the Highways Agency.
NMU Activity:	Whilst no NMU surveys have been carried out, it is considered that NMU usage is likely to be very limited.
NMU Objectives:	Based on the background that there the scheme is directly for the benefit of NMUs and any potential improvements for these vulnerable road users have been considered as part of this scheme, there is no further scope within the scheme brief to provide any improvement to NMU facilities in the area.
NMU Audit:	Based on these objectives it is proposed that no further NMU Audit's are required.





## Appendix A Location Plan



From:

Sent:

05 March 2014 08:47

To:

Cc:

**Subject:** 

RE: A5 Chalk Hill NMU Study

I agree that no further NMU audits are required.

Asset Manager - Area 8

Highways Agency | Woodlands | Manton Lane | Bedford | MK41 7LW

Tel: +44 (0) 1234 796590

Web: http://www.highways.gov.uk

GTN: 3013 6590

Safe roads, reliable journeys, informed travellers

Highways Agency, an executive agency of the Department for Transport.

From:

Sent: 17 February 2014 10:00

To:

Cc:

Subject: A5 Chalk Hill NMU Study

Dear

Attached is a NMU Nil Return Context report in relation to the above scheme.

Please indicate your agreement with the recommendation that no further NMU Audits should be carried out due to the scheme being designed relates to improving facilities for NMUs and therefore no further improvements are likely to be identified.

#### Regards

MSc (Road Safety Eng), FCIHT, FSoRSA Associate, Director of Road Safety (South) URS Infrastructure & Environment UK Limited

URS House, Horne Lane, Bedford, MK40 1TS, United Kingdom

Direct: +44 (0)1234 373 602 Fax: +44 (0)1234 216 268 Mobile: +44 (0)7785 727662

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# Appendix I - Improvement Option 2c Drg. No. 47066667/S04354/I/002

